Float Glass Products from China and Malaysia

Investigation Nos. 701-TA-748–749 and 731-TA-1726–1727 (Preliminary)

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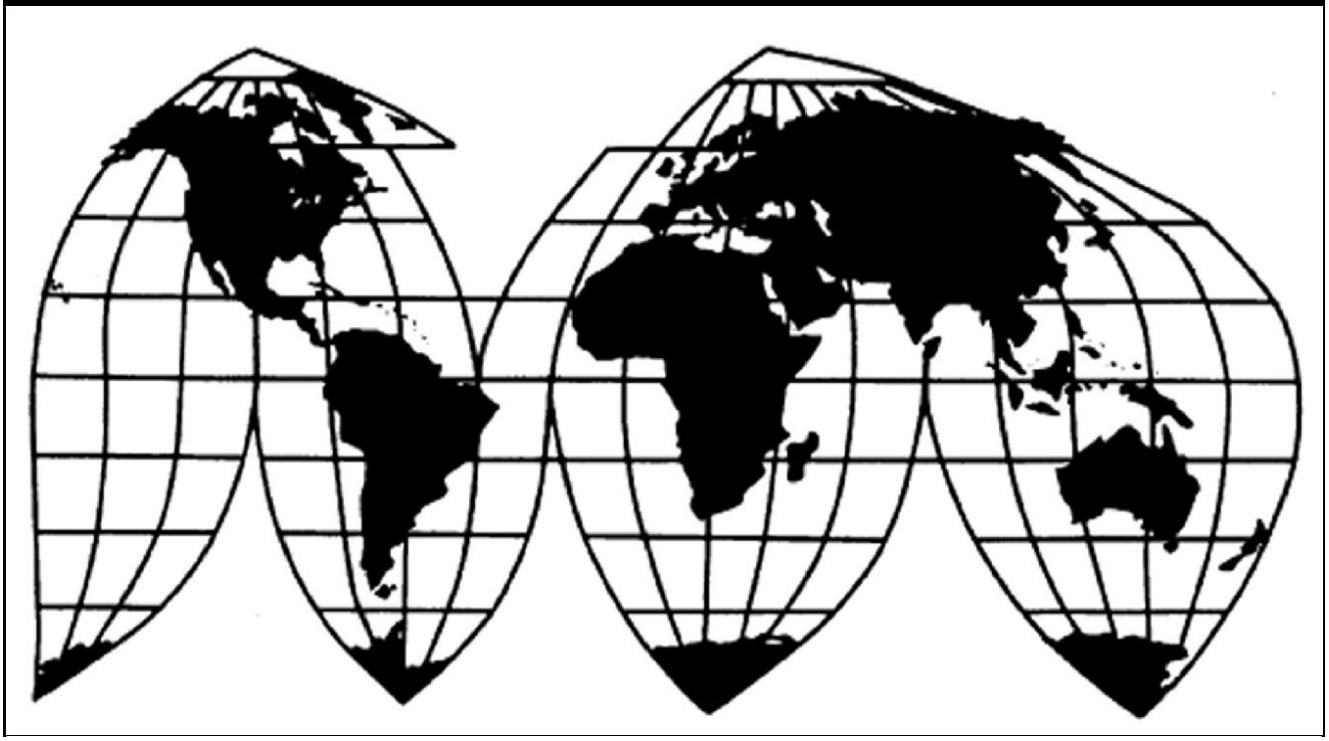
U.S. International Trade Commission



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U.S. International Trade Commission

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Note.—Information that would reveal confidential operations of individual firms may not be published. Such information is identified by brackets ([ ]) in confidential reports and is deleted and replaced with asterisks (***) in public reports. Zeroes, null values, and undefined calculations are suppressed and shown as em dashes (—) in tables. If using a screen reader, we recommend increasing the verbosity setting.

UNITED STATES INTERNATIONAL TRADE COMMISSION

Investigation Nos. 701-TA-748-749 and 731-TA-1726-1727 (Preliminary)

Float Glass Products from China and Malaysia

DETERMINATIONS

On the basis of the record[1] developed in the subject investigations, the United States International Trade Commission ("Commission") determines, pursuant to the Tariff Act of 1930 ("the Act"), that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of float glass products from China and Malaysia, provided for in subheadings 7005.10.80, 7005.21.10, 7005.21.20, 7005.29.18, 7005.29.25, 7006.00.40, 7007.19.00, 7007.29.00, 7008.00.00, 7009.91.50, and 7009.92.50 of the Harmonized Tariff Schedule of the United States, that are alleged to be sold in the United States at less than fair value ("LTFV") and imports of the subject merchandise from China and Malaysia that are alleged to be subsidized by the governments of China and Malaysia.[2] [3]

COMMENCEMENT OF FINAL PHASE INVESTIGATIONS

Pursuant to section 207.18 of the Commission's rules, the Commission also gives notice of the commencement of the final phase of its investigations. The Commission will issue a final phase notice of scheduling, which will be published in the *Federal Register* as provided in § 207.21 of the Commission's rules, upon notice from the U.S. Department of Commerce ("Commerce") of affirmative preliminary determinations in the investigations under §§ 703(b) or 733(b) of the Act, or, if the preliminary determinations are negative, upon notice of affirmative final determinations in those investigations under §§ 705(a) or 735(a) of the Act. Parties that filed entries of appearance in the preliminary phase of the investigations need not enter a separate appearance for the final phase of the investigations. Any other party may file an entry of appearance for the final phase of the investigations after publication of the final

[1] The record is defined in § 207.2(f) of the Commission's Rules of Practice and Procedure (19 CFR 207.2(f)).

[2] 90 FR 1435 and 90 FR 1443, January 8, 2025.

[3] Commissioner Johanson determined that there is a reasonable indication that a U.S. industry is threatened with material injury by reason of subject imports. Commissioner Schmidtlein did not participate in the vote.

phase notice of scheduling. Industrial users, and, if the merchandise under investigation is sold at the retail level, representative consumer organizations have the right to appear as parties in Commission antidumping and countervailing duty investigations. The Secretary will prepare a public service list containing the names and addresses of all persons, or their representatives, who are parties to the investigations. As provided in section 207.20 of the Commission's rules, the Director of the Office of Investigations will circulate draft questionnaires for the final phase of the investigations to parties to the investigations, placing copies on the Commission's Electronic Document Information System (EDIS, https://edis.usitc.gov), for comment.

BACKGROUND

On November 21, 2024, Vitro Flat Glass, LLC, Cheswick, Pennsylvania, and Vitro Meadville Flat Glass, LLC, Cochranton, Pennsylvania (collectively "Vitro"), filed petitions with the Commission and Commerce, alleging that an industry in the United States is materially injured or threatened with material injury by reason of subsidized and LTFV imports of float glass products from China and Malaysia. Accordingly, effective November 21, 2024, the Commission instituted countervailing duty investigation Nos. 701-TA-748-749 and antidumping duty investigation Nos. 731-TA-1726-1727 (Preliminary).

Notice of the institution of the Commission's investigations and of a public conference to be held in connection therewith was given by posting copies of the notice in the Office of the Secretary, U.S. International Trade Commission, Washington, DC, and by publishing the notice in the *Federal Register* of November 27, 2024 (89 FR 93651).[4] The Commission conducted its conference on December 12, 2024. All persons who requested the opportunity were permitted to participate.

[4] The Commission published a revised schedule on December 23, 2024 (89 FR 104562) to conform with Commerce's new schedule after Commerce extended the deadline for its initiation determinations from December 11, 2024 to December 31, 2024 (89 FR 102113, December 17, 2024).

Views of the Commission

Based on the record in the preliminary phase of these investigations, we determine that there is a reasonable indication that an industry in the United States is materially injured by reason of imports of float glass products ("FGP") from China and Malaysia that are allegedly sold in the United States at less than fair value and that are allegedly subsidized by the governments of China and Malaysia.[1]

I. The Legal Standard for Preliminary Determinations

The legal standard for preliminary antidumping and countervailing duty determinations requires the Commission to determine, based upon the information available at the time of the preliminary determinations, whether there is a reasonable indication that a domestic industry is materially injured or threatened with material injury, or that the establishment of an industry is materially retarded, by reason of the allegedly unfairly traded imports.[2] In applying this standard, the Commission weighs the evidence before it and determines whether "(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of such injury; and (2) no likelihood exists that contrary evidence will arise in a final investigation."[3]

II. Background

Vitro Flat Glass, LLC and Vitro Meadville Flat Glass, LLC (collectively "Vitro" or "Petitioner"), a U.S. producer of FGP, filed the petitions in these investigations on November 21, 2024.[4] Petitioner appeared at the staff conference accompanied by counsel and submitted

[1] Commissioner Johanson determines that there is a reasonable indication that an industry in the United States is threatened with material injury by reason of subject imports. *See* Concurring Views of Commissioner Johanson. He joins sections I through VI and VII.A and B of the majority opinion except to the extent indicated in his concurring opinion. Commissioner Schmidtlein did not participate in the vote.

[2] 19 U.S.C. §§ 1671b(a), 1673b(a) (2000); *see also American Lamb Co. v. United States*, 785 F.2d 994, 1001-04 (Fed. Cir. 1986); *Aristech Chem. Corp. v. United States, 2*0 CIT 353, 354-55 (1996). No party argues that the establishment of an industry in the United States is materially retarded by the allegedly unfairly traded imports.

[3] *American Lamb Co*., 785 F.2d at 1001; *see also Texas Crushed Stone Co. v. United States*, 35 F.3d 1535, 1543 (Fed. Cir. 1994).

[4] Petitions, EDIS Doc. 837757 (Nov. 21, 2024).

a postconference brief.[5] No respondent entities participated in the preliminary phase of these investigations.[6]

U.S. industry data are based on the questionnaire responses of seven U.S. producers that accounted for all known U.S. production of primary FGP in 2023, but only a fraction of downstream fabricated FGP.[7] U.S. import data are based on the questionnaire responses of 42 importers, accounting for *** percent of subject imports from China, *** percent of subject imports from Malaysia, *** percent of imports from subject sources, *** percent of imports from nonsubject sources, and *** percent of U.S. imports from all sources in 2023, as calculated from proprietary, Census-edited Customs records.[8] The Commission issued foreign

[5] *See generally* Transcript of Preliminary Staff Conference, EDIS Doc. 840556 (Dec. 12, 2024) ("Conf. Tr."); *see also* Postconference Brief on Behalf of Vitro Flat Glass, LLC & Vitro Meadville Flat Glass, LLC, EDIS Doc. 839552 (Dec. 18, 2024) ("Petitioner Postconf. Br."). Carlex Glass America, LLC, a U.S. producer of FGP, filed an appearance but did not appear at the staff conference or submit a postconference brief. *See* Entry of Appearance of Carlex Glass America, LLC, EDIS Doc. 838599 (Dec. 5, 2024). Carlex submitted a response to the Commission's U.S. producers' questionnaire and indicated that it *** the petitions. *See* Confidential Staff Report ("CR"), INV-XX-003 at Table 3.1, Public Report, *Float Glass Products from China and Malaysia*, Inv. Nos. 701-TA-748-749 and 731-TA-1726-1727 (Preliminary), USITC Pub. 5579 (Feb. 2025) ("PR") at Table 3.1.

[6] Therma-Tru Corp. and Larson Manufacturing, and Fashion Glass & Mirror, LLC, importers of subject merchandise, filed notices of appearance but did not appear at the staff conference or submit postconference briefs. *See* Entry of Appearance of Therma-Tru Corp. and Larson Manufacturing, EDIS Doc. 838440 (Dec. 3, 2024); *see also* Entry of Appearance of Fashion Glass & Mirror, LLC, EDIS Doc. 838565 (Dec. 4. 2024).

[7] CR/PR at 1.4. Eight U.S. fabricators also responded to the U.S. producer questionnaires. Fabrication they performed on domestically produced FGP accounted for *** percent of U.S. produced FGP in 2023. Fabrication they performed on imported FGP from subject sources accounted for *** percent of reported subject imports, and the fabrication they performed on imported FGP from nonsubject sources accounted for *** percent of nonsubject imports in 2023. CR/PR at 1.4 n.7.

[8] CR/PR at 1.4; CR/PR at 4.1. Official import statistics are for primary HTS subheadings 7005.10.8000, 7005.21.1010, 7005.21.1030, 7005.21.2000, 7005.29.1810, 7005.29.1850, 7005.29.2500, 7007.29.0000, 7008.00.0000, 7009.91.5010, 7009.91.5095 and 7009.92.5010, which are "basket" categories that may include out-of-scope merchandise. CR/PR at 4.1. Staff calculated subject import coverage by comparing the volume of subject imports reported in the questionnaire responses with the volume of imports entering under the listed HTS subheadings adjusted to remove out-of-scope merchandise. Because information was unavailable to remove all out-of-scope merchandise entered under the listed HTS subheadings, the estimated coverage of subject imports as reported in the questionnaire responses may be understated. Although questionnaire responses only cover *** percent of subject imports, we have based our calculations of subject import volumes for these preliminary investigations on questionnaire responses rather than official import statistics because (1) the unit of quantity varies among HTS statistical reporting numbers under which FGP are imported, and (2) the HTS statistical reporting numbers contain out-of-scope merchandise. *Id*.

producers' questionnaires to thirteen firms believed to produce and/or export FGP from China and Malaysia but none responded.[9] [10]

III. Domestic Like Product

In determining whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of imports of the subject merchandise, the Commission first defines the "domestic like product" and the "industry."[11] Section 771(4)(A) of the Tariff Act of 1930, as amended ("the Tariff Act"), defines the relevant domestic industry as the "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[12] In turn, the Tariff Act defines "domestic like product" as "a product which is like, or in the absence of like, most similar in characteristics and uses with, the article subject to an investigation."[13]

By statute, the Commission's "domestic like product" analysis begins with the "article subject to an investigation," *i.e.*, the subject merchandise as determined by Commerce.[14] Therefore, Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value is "necessarily the starting point of the Commission's like product analysis."[15] The Commission then defines the domestic like product in light of the imported articles Commerce has identified.[16] The decision regarding the

[9] CR/PR at 7.3.

[10] Commissioner Kearns notes at the outset that the data coverage (for the domestic industry, for subject and non-subject imports, and for foreign producers) appears to be very low in these investigations, and does not include "clear and convincing evidence" that there is no material injury or threat of such injury.

[11] 19 U.S.C. § 1677(4)(A).

[12] 19 U.S.C. § 1677(4)(A).

[13] 19 U.S.C. § 1677(10).

[14] 19 U.S.C. § 1677(10). The Commission must accept Commerce's determination as to the scope of the imported merchandise that is subsidized and/or sold at less than fair value. *See*, *e.g.*, *USEC, Inc. v. United States*, 34 Fed. App'x 725, 730 (Fed. Cir. 2002) ("The ITC may not modify the class or kind of imported merchandise examined by Commerce."); *Algoma Steel Corp. v. United States,* 688 F. Supp. 639, 644 (Ct. Int'l Trade 1988), *aff'd*, 865 F.3d 240 (Fed. Cir.), *cert. denied*, 492 U.S. 919 (1989).

[15] *Cleo Inc. v. United States*, 501 F.3d 1291, 1298 (Fed. Cir. 2007); *see also Hitachi Metals, Ltd. v. United States*, 949 F.3d 710, 717 (Fed. Cir. 2020) (the statute requires the Commission to start with Commerce's subject merchandise in reaching its own like product determination).

[16] *Cleo*, 501 F.3d at 1298 n.1 ("Commerce's {scope} finding does not control the Commission's {like product} determination."); *Hosiden Corp. v. Advanced Display Mfrs.,* 85 F.3d 1561, 1568 (Fed. Cir. 1996) (the Commission may find a single like product corresponding to several different classes or kinds (Continued…)

appropriate domestic like product in an investigation is a factual determination, and the Commission has applied the statutory standard of "like" or "most similar in characteristics and uses" on a case-by-case basis.[17] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[18] The Commission looks for clear dividing lines among possible like products and disregards minor variations.[19] The Commission may, where appropriate, include domestic articles in the domestic like product in addition to those described in the scope.[20]

A. Scope Definition

In its notice of initiation, Commerce defined the imported merchandise within the scope of these investigations as follows:

> The scope of these investigations covers float glass products (FGP), which are articles of sodalime-silica glass that are manufactured by floating a continuous strip of molten glass over a smooth bath of tin (or another liquid metal with a density greater than molten glass), cooling the glass in an annealing lehr, and cutting it to appropriate dimensions. For purposes of the investigations, float glass products have an actual

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defined by Commerce); *Torrington Co. v. United States*, 747 F. Supp. 744, 748–52 (Ct. Int'l Trade 1990), *aff'd*, 938 F.2d 1278 (Fed. Cir. 1991) (affirming the Commission's determination defining six like products in investigations where Commerce found five classes or kinds).

[17] *See*, *e.g.*, *Cleo Inc. v. United States*, 501 F.3d 1291, 1299 (Fed. Cir. 2007); *NEC Corp. v. Department of Commerce*, 36 F. Supp. 2d 380, 383 (Ct. Int'l Trade 1998); *Nippon Steel Corp. v. United States*, 19 CIT 450, 455 (1995); *Torrington Co. v. United States*, 747 F. Supp. 744, 749 n.3 (Ct. Int'l Trade 1990), *aff'd*, 938 F.2d 1278 (Fed. Cir. 1991) ("every like product determination 'must be made on the particular record at issue' and the 'unique facts of each case'"). The Commission generally considers a number of factors including the following: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) customer and producer perceptions of the products; (5) common manufacturing facilities, production processes, and production employees; and, where appropriate, (6) price. *See Nippon*, 19 CIT at 455 n.4; *Timken Co. v. United States*, 913 F. Supp. 580, 584 (Ct. Int'l Trade 1996).

[18] *See*, *e.g.*, S. Rep. No. 96-249 at 90-91 (1979).

[19] *See*, *e.g.*, *Nippon*, 19 CIT at 455; *Torrington*, 747 F. Supp. at 748-49*; see also* S. Rep. No. 96-249 at 90-91 (Congress has indicated that the like product standard should not be interpreted in "such a narrow fashion as to permit minor differences in physical characteristics or uses to lead to the conclusion that the product and article are not 'like' each other, nor should the definition of 'like product' be interpreted in such a fashion as to prevent consideration of an industry adversely affected by the imports under consideration.").

[20] *See*, *e.g.*, *Pure Magnesium from China and Israel*, Inv. Nos. 701-TA-403 and 731-TA-895-96 (Final), USITC Pub. 3467 at 8 n.34 (Nov. 2001); *Torrington,* 747 F. Supp. at 748-49 (holding that the Commission is not legally required to limit the domestic like product to the product advocated by the petitioner, co-extensive with the scope).

thickness of at least 2.0 mm (0.0787 inches) and an actual surface area of at least 0.37 square meters (4.0 square feet).

The country of origin of each float glass product is determined by the location where the sodalime-silica glass is first manufactured by floating a continuous strip of molten glass over a smooth bath of tin and cooling the glass in an annealing lehr, regardless of the location of any downstream finishing or fabrication operations.

Prior to being subjected to further treatment, finishing, or fabrication, float glass products meet the requirements of Type I under ASTM-C1036 of the American Society for Testing and Materials (ASTM).

Float glass products may be clear, stained, tinted, or coated with one or more materials. Examples of coated float glass products include Low-E architectural glass (i.e., glass with a low emissivity coating to limit the penetration of radiant heat energy) and frameless mirrors (i.e., flat glass with a silver, aluminum, or other reflective layer) such as mirror stock sheet.

Float glass products may be annealed, chemically strengthened, heat strengthened, or tempered to achieve a desired surface compression, pursuant to ASTM-C1048, ASTM-C1422/C1422M, or other similar specifications.

Float glass products include tub and shower enclosures (i.e., doors and panels) made of tempered glass, which may be sold with attached or unattached hardware. In such cases, the scope covers only the tempered glass, to the exclusion of any non-glass hardware.
The only float glass product assemblies included within the scope are: (1) articles consisting of two of more sheets of float glass that are bonded together using a polymer interlayer (i.e., laminated glass); (2) insulating glass units (IGUs), which consist of two or more sheets of float glass separated by a spacer material and hermetically sealed together at the edge in order to create a thermal barrier using air or one or more gases;

and (3) LED mirrors (i.e., float glass mirrors with one or more light-emitting diodes integrated with the mirror, as well as framed float glass mirrors with one or more light-emitting diodes integrated with the mirror or the mirror frame, but without other electronic functionality).

Float glass products covered by the scope may meet one or more of the ASTM-C162, ASTMC1036, ASTM-C1048, ASTM-C1172, ASTM-C1349, ASTM-C1376, ASTM-C1422/C1422M, ASTM-C1464, ASTM-C1503, ASTM-C1651, ASTM-E1300, and ASTM-E2190 specifications, definitions, and/or standards.

Float glass products may be further worked, including, but not limited to, operations such as: cutting; beveling; edging; notching; drilling; etching; bending; curving; chipping; embossing; engraving; surface grinding; or polishing; and sandblasting (i.e., using high velocity air to stream abrasive particles and thereby impart a frosted aesthetic to the glass surface). A float glass product which undergoes further work remains within the scope so long as the soda-lime-silica glass originally satisfied the requirements of ASTM-C1036 Type I and was first manufactured in a subject country, regardless of where it is further worked.

Excluded from the scope are: (1) wired glass (*i.e.*, glass with a layer of wire mesh embedded within); (2) patterned flat glass (i.e., rolled glass with a pattern impressed on one or both sides) meeting the requirements of Type II under ASTM-C1036, including greenhouse glass and patterned solar glass (*i.e.*, photovoltaic glass with a textured surface); (3) safety glazing materials for vehicles certified to American National Standards Institute (ANSI) Standard Z26.1; (4) vacuum insulating glass (VIG) units, which consist of two or more sheets of float glass separated by a spacer material, with at least one hermetically sealed compartment that uses a gas-free vacuum as a thermal barrier; (5) framed mirrors without any LEDs integrated with the mirror or the mirror frame; (6) unframed "over-the-door" mirrors that are ready for use as imported without undergoing after importation any processing, finishing, or fabrication; and (7) heat

strengthened washing machine lid glass with an actual surface area less than 6.0 square feet (0.56 square meters).

Also excluded from the scope of the investigations are: (1) soda-lime-silica glass containing less than 0.01 percent iron oxide by weight, annealed with a surface compression less than 3,500 pounds per square inch (PSI), having a transparent conductive oxide base coating (e.g., tin oxide), and with an actual thickness less than or equal to 4.0 mm (0.1575 inches) (*i.e.*, "coated solar glass"); and (2) heat treated soda-lime-silica glass with a surface compression between 3,500 and 10,000 PSI, containing two or more drilled holes, and having an actual thickness less than 2.5 mm (0.0984 inches) (*i.e.*, "clear back solar glass"). Solar glass products (also known as photovoltaic glass) are designed to facilitate the conversion of solar energy into electricity.

Also excluded from the scope of the investigations are any products already covered by the scope of any extant antidumping and/or countervailing duty orders, including Aluminum Extrusions from the People's Republic of China: Antidumping Duty Order, 76 FR 30650 (May 26, 2011), and Aluminum Extrusions from the People's Republic of China: Countervailing Duty Order, 76 FR 30653 (May 26, 2011).[21]

Float glass is created by floating molten glass over a bed of molten tin in a manufacturing process that requires heavy-duty machinery, strict raw material formulas, and strict tolerances.[22] Once the producer pulls the initial glass ribbon, the manufacturing process is continuous, lasting 24 hours a day, seven days a week for the next 12 to 15 years, at almost 100 percent capacity utilization.[23] FGP is made primarily from silica (silicon dioxide) sand, soda ash (sodium carbonate), limestone (calcium carbonate), dolomite (calcium-magnesium carbonate), salt cake (sodium sulfate), and cullet (recycled or waste glass).[24] There are six

[21] *Float Glass Products From the People's Republic of China and Malaysia: Initiation of Less-Than-Fair Value Investigations*, 90 Fed. Reg. 1435 (Jan. 8, 2025); *Float Glass Products From the People's Republic of China and Malaysia: Initiation of Countervailing Duty Investigations*, 90 Fed. Reg. 1443 (Jan. 8, 2025).

[22] CR/PR at 1.11.

[23] CR/PR at 1.12.

[24] CR/PR at 1.12.

stages of FGP production: (1) batching and mixing raw materials, (2) melting, refining, and conditioning, (3) floating the molten glass in a float bath, (4) annealing, (5) inspection and cutting, and (6) finishing.[25] After the inspection and cutting stage, FGP meets the requirements of Type I under ASTM-C1036.[26] FGP then undergoes further treatment, finishing, or fabrication operations that impart certain characteristics to the final product. Further processing includes chemical strengthening, heat strengthening, tempering, working, laminating, and other fabrication processes such as assembly into IGUs or mirrors.[27]

While the final specifications for FGP vary according to their end uses, all FGP share the same basic physical characteristics in that they are produced with smooth surfaces, uniform thickness, and relatively high optical quality and clarity.[28] FGP is used in various downstream applications, including in architectural, automotive and non-automotive transportation, electronics, furniture, and construction applications.[29]

B. Arguments of the Parties

Petitioner argues that the Commission should include primary float glass and fabricated downstream FGP within a single domestic like product pursuant to a semi-finished products analysis and define a single domestic like product coextensive with the scope because there are no clear dividing lines between different types of in-scope FGP under the six like product factors.[30]

Petitioner contends that the vast majority of primary float glass is processed into downstream, in-scope merchandise, and relatively little primary float glass is sold to end users without any further processing."[31] Petitioner argues that market participants perceive there to be a single market for primary float glass and downstream FGP because the majority of primary

[25] CR/PR at 1.13-14.

[26] CR/PR at 1.11. ASTM-C1036 is the "Standard Specification for Flat Glass." *Id.* at 1.11 n.19. Type I glass is transparent flat glass and Type II is patterned and wired flat glass, which is excluded from the scope in these investigations. Type I glass is always clear while Type II glass can be clear or tinted. *Id*. In the U.S. market, the standard stock sizes of float glass are 96 x 130 inches and 100 x 144 inches, and jumbo size sheets are also available with dimensions of 130 x 204 inches. *Id.* at 1.12.

[27] CR/PR at 1.17-18.

[28] CR/PR at 1.11.

[29] CR/PR at 1.11.

[30] Petitioner Postconf. Br. at I-6. Primary float glass manufacturers are engaged in the most basic form of flat glass production. Petitioners' Hearing Testimony and Exhibits, EDIS Doc. 839053 (Dec. 11, 2024) at Exh. 3. They produce annealed glass that may be clear, color/tinted, or contain low-iron. *Id*. The float glass may also have online-coating, which is a process that includes applying a thin layer of inorganic material to a glass ribbon during the production process. *Id*.

[31] Petitioner Postconf. Br. at I-8.

float glass is intended for further processing.[32] Petitioner asserts that all FGP share the same fundamental characteristics, including a smooth surface, consistent thickness, and high levels of undistorted transparency and/or reflectivity.[33] Petitioner contends that FGP are sold at a range of prices which depend on the type of further processing the glass undergoes.[34] Petitioner asserts that, although the value added by specific finishing processes can vary, the value of fabricated downstream FGP is generally twice that of the underlying primary float glass.[35]

Under the Commission's traditional six-factor analysis, Petitioner further argues, the Commission should define a single domestic like product comprising all FGP within the scope, including IGUs. Petitioner contends that all FGP share similar physical characteristics that are imparted during the float production process and thus FGP have a "significant degree of interchangeability along the continuum of float glass products."[36] It also claims that FGP are sold through overlapping channels of distribution.[37] Depending on their level of vertical integration, Petitioner argues, primary FGP producers may perform a range of processing operations within the same facility using the same employees.[38] Regarding consumer and producer perceptions, Petitioner argues that customers perceive FGP as a continuum of products with no clear dividing line.[39] Petitioner also argues that FGP range in price depending upon the extent of further processing applied to the primary float glass, *e.g.*, IGUs are priced higher than unprocessed glass, and IGUs with a coated surface or laminated or tempered glass are priced higher than an IGU of simple annealed glass.[40]

C. Analysis

Based on the current record, we define a single domestic like product consisting of FGP, coextensive with the scope.

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[32] Petitioner Postconf. Br. at I-9.

[33] Petitioner Postconf. Br. at I-10.

[34] *See* Amendments to Antidumping and Countervailing Duty Petitions, EDIS Doc. 838222, at SI-14 ("Petition Amendments"); *see also* Petitioner Postconf. Br. at I-10.

[35] *See* Petitioner Postconf. Br. at I-10.

[36] Petitioner Postconf. Br. at I-12.

[37] Petitioner Postconf. Br. at I-14-15. Petitioner argues that the channels of distribution for all FGP include original equipment manufacturers ("OEMs"), contractors/installers, and retailers. *Id*. at I-15.

[38] Petitioner Postconf. Br. at I-15.

[39] Petitioner Postconf. Br. at I-15.

[40] Petitioner Postconf. Br. at I-15.

1. Whether to Include Primary Float Glass and FGP within a Single Domestic Like Product

We consider whether primary float glass and downstream in-scope FGP should comprise a single domestic like product under the Commission's semi-finished products analysis.[41] As an initial matter, we note that there is limited information on the record concerning the Commission's semi-finished like product factors.[42] Based on an analysis of the information available pertaining to those factors, we define the domestic like product to include primary float glass and downstream in-scope FGP for purposes of these preliminary phase investigations.

Dedication for Use. According to Petitioner, most primary float glass is dedicated to the production of downstream FGP.[43] Witness testimony from the staff conference supports that primary float glass has only certain niche applications, such as one-off direct sales to consumers for picture frame repair or residential pane replacement.[44]

Separate Markets. According to Petitioner, there are no substantial, independent markets for primary float glass, as it is used almost exclusively in the production of downstream FGP.[45] Vitro estimates that only five percent of primary float glass is sold unfinished to end users, with the rest processed into downstream FGP.[46]

Differences in Physical Characteristics and Functions of the Upstream and Downstream Articles. According to Petitioner, primary float glass and downstream FGP have the same

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[41] In a semi-finished products analysis, the Commission examines the following: (1) the significance and extent of the processes used to transform the upstream into the downstream articles; (2) whether the upstream article is dedicated to the production of the downstream article or has independent uses; (3) differences in the physical characteristics and functions of the upstream and downstream articles; (4) whether there are perceived to be separate markets for the upstream and downstream articles; and (5) differences in the costs or value of the vertically differentiated articles. *See*, *e.g*., *Glycine from India*, *Japan*, *and Korea*, Inv. Nos. 731-TA-1111-1113 (Preliminary), USITC Pub. No. 3921 at 7 (May 2007); *Artists' Canvas from China*, Inv. No. 731-TA-1091 (Final), USITC Pub. No. 3853 at 6 (May 2006); *Live Swine from Canada*, Inv. No. 731-TA-1076 (Final), US1TC Pub. 3766 at 8 n.40 (Apr. 2005); *Certain Frozen Fish Fillets from Vietnam*, Inv. No. 731-TA-1012 (Preliminary), USITC Pub. No. 3533 at 7 (Aug. 2002).

[42] The Commission did not request information on the semi-finished product factors in the preliminary phase questionnaires because Petitioner addressed this issue, after it had filed the petitions, in response to questions received from Commerce. *See* Petition Amendments at SI-13. We intend to further investigate this issue in any final phase investigations.

[43] Petitioner Postconf. Br. at I-8.

[44] Conf. Tr. at 62 (Burg).

[45] Petitioner Postconf. Br. at I-9.

[46] Petitioner Postconf. Br. at I-8 n.25.

underlying physical characteristics and thus share similar functionality.[47] A witness on behalf of the Petitioner testified at the staff conference that "{f}loat glass is remarkable for its smooth surface and its consistent thickness, without the need for grinding or polishing. All the other float glass products identified in the scope of this case are derived from this float glass manufacturing process."[48] The current record indicates that all FGP share the same basic physical characteristics in that they are produced with smooth surfaces, uniform thickness, and relatively high optical quality and clarity.[49]

Differences in Value. Petitioner claims that because of the additional processing required to impart the specific characteristics required of FGP destined for particular end uses, the value of downstream FGP is generally twice that of the underlying primary float glass.[50] At the staff conference, a witness on behalf of a U.S. fabricator testified that additional processing adds value to FGP, stating that "heat treatment is level one value add at the lowest value-add as a percentage of the product, lamination is two, and IG is three."[51]

Extent of Processes Used to Transform Downstream Product into Upstream Product. Petitioner contends that primary float glass production is complex and capital intensive. Regarding downstream processing, Petitioner claims that the "significance and extent of processes that can be applied to float glass can vary depending on the type/number of processes need to achieve the desired specifications."[52] These finishing processes can range from "simple and inexpensive" processes such as cutting, to more complex processes such as heat treatment, lamination, and fabrication into mirrors and IGUs.[53]

Conclusion. Although the evidence is mixed, the current record indicates that primary float glass and downstream in-scope FGP belong in a single domestic like product.

The record indicates that the vast majority of primary float glass is dedicated to the production of downstream FGP, with only a limited separate market for primary float glass. The record also indicates that primary float glass and downstream FGP share essential physical characteristics and have similar end uses. On the other hand, the record indicates that the value of primary float glass is substantially less than that of downstream FGP and that transforming primary float glass into FGP can require substantial processing, depending on the

[47] *See* Petition Amendments at SI-14.
[48] Conf. Tr. at 10 (Bush).
[49] CR/PR at 1.11.
[50] Petitioner Postconf. Br. at I-10.
[51] Conf. Tr. at 67 (Burg).
[52] Petitioner Postconf. Br. at I-10.
[53] Petitioner Postconf. Br. at I-10.

product. On balance, and in the absence of any contrary argument, we find that primary float glass belongs in the same domestic like product as downstream in-scope FGP.

2. Whether to Define a Single Domestic Like Product Comprised of All FGP

We next consider whether all FGP belong in a single domestic like product. Based on the following analysis, we define a single domestic like product including all in-scope FGP.

Physical Characteristics and Uses. There are similarities between all in-scope FGP in terms of physical characteristics and uses. While the final specifications for FGP vary according to their intended end uses, all FGP share the same basic physical characteristics in being produced with smooth surfaces, uniform thicknesses, and relatively high optical quality and clarity.[54] Different in-scope FGP products also overlap in various downstream architectural, transportation, electronics, furniture, and construction industry applications.[55]

On the other hand, FGP undergo further processing to impart the specific characteristics required of their intended end use applications. For example, coating can impart characteristics such as mirror coatings that affect heat insulation and the transmission of light,[56] or decorations and etchings to make architectural glass "bird-friendly",[57] whereas laminating of FGP results in bonding two or more glass sheets together to enhance the glass' safety and reduce the risk of injury in the event of breakage.[58] There are also differences in the strength of FGP depending upon the strengthening process it undergoes. For example, heat strengthening results in FGP with a surface compression of more than 3,500 pounds per square inch ("PSI"), whereas tempering results in FGP with a minimum surface compression of 10,000 PSI.[59]

In the questionnaires, the Commission obtained producers', fabricators', and importers' responses comparing a specific FGP, *i.e.*, in-scope IGUs, with other in-scope FGP with respect to the Commission's domestic like product factors. A plurality (six of 13) of U.S. producers and fabricators indicated that in-scope IGUs are mostly or always comparable with all other in-scope float glass products in terms of physical characteristics, while a majority (nine of 16) of

[54] CR/PR at 1.11.

[55] CR/PR at 1.11.

[56] CR/PR at 1.17.

[57] Conf. Tr. at 10 (Bush). A witness from Vitro testified that an estimated two billion birds die in the United States each year when they collide with glass windows, and that the domestic industry is working to develop special coatings to prevent bird collisions. *Id*. at 11.

[58] CR/PR at 1.18.

[59] CR/PR at 1.19. Witnesses at the staff conference testified that because of its high strength, building codes generally require tempered glass in applications such as interior partitions or shower doors. *See* Conf. Tr. at 12 (Bush), 18 (Burg).

importers indicated that in-scope IGUs are never comparable with all other in-scope float glass products in terms of this factor.[60]

Manufacturing Facilities, Production Processes, and Employees. Petitioner claims that vertically integrated float glass producers may perform a range of processing operations within the same facility.[61] In their narrative responses, several producers indicated that they produce different in-scope FGP in the same production facilities and with the same employees. For example, *** indicated ***.[62] *** responded that ***.[63] *** also produces ***.[64] *** responded that ***.[65] *** indicated that ***, and *** indicated that manufacturing processes are *** for different in-scope FGP.[66]

In their questionnaire responses, a slight majority (seven of 13) of U.S. producers and fabricators indicated that in-scope IGUs are mostly or always comparable with all other in-scope float glass products in terms of manufacturing facilities, processes, and employees, while a slight majority (seven of 13) of importers indicated that in-scope IGUs are only somewhat or never comparable with all other in-scope float glass products in terms of this factor.[67]

Channels of Distribution. The record indicates that U.S. producers sold FGP primarily to fabricators, and smaller volumes to transportation OEMs, distributors, and other end users, while fabricators sold FGP primarily to contractors/builders, and smaller volumes to distributors and other end users.[68] In their questionnaire responses, a majority of U.S producers and fabricators (nine of 13) and a majority of U.S. importers (eight of 12) reported that in-scope IGUs and all other in-scope FGP are mostly or always comparable in terms of channels of distribution.[69]

Interchangeability. The current record indicates that in-scope FGP are generally interchangeable, depending on the end users' specific requirements. For example, a majority of responding U.S. producers and fabricators (eight of 13) indicated that in-scope IGUs are mostly or always interchangeable with other in-scope FGP,[70] although half of responding U.S. importers (seven of 14) indicated that in-scope IGUs are never interchangeable with other in-

[60] CR/PR at Table 1.2.
[61] Petitioner Postconf. Br. at I-14.
[62] CR/PR at D.4.
[63] CR/PR at D.4.
[64] CR/PR at Table 3.5.
[65] CR/PR at D.4.
[66] CR/PR at D.4.
[67] CR/PR at Table 1.2.
[68] CR/PR at Table 2.2.
[69] CR/PR at 1.19 & Table 1.2.
[70] CR/PR at Table 1.2.

scope FGP.[71] U.S. producers' narrative responses regarding interchangeability are mixed. For example, ***.[72] Similarly, ***.[73] On the other hand *** and ***.[74]

Producer and Customer Perceptions. The record evidence is mixed with respect to this factor. Petitioner claims that customers perceive all in-scope FGP as a continuum of products with no clear dividing lines between different types of FGP.[75] A majority of responding U.S. producers and fabricators (seven of 12) reported that IGUs are mostly or fully comparable to all other in-scope float glass products in terms of producer and customer perceptions.[76] However, a majority of responding U.S. importers (six of 11) reported that IGUs are never comparable to all other in-scope float glass products in terms of this factor.[77]

Price. Petitioner claims that "prices for FGP exist along a continuum, overlap with one another, and otherwise vary depending upon extent of further processing."[78] For example, the record indicates that IGUs are generally higher priced than other in-scope FGP. In the narrative responses, several responding U.S. producers and fabricators (***)[79] and U.S. importers (***) indicated that ***.[80] At the staff conference, the CEO of U.S. fabricator Glass Enterprises characterized fabrication of IGUs as the finishing process that adds the highest value to primary float glass.[81] Nevertheless, some producers/fabricators and importers indicated that prices vary by product, and ***.[82] A majority of responding U.S. producers and fabricators (eight of 12) and a majority of responding U.S. importers (eight of 11) responded that IGUs and other in-scope FGP are only never comparable in terms of price.[83]

Conclusion. While the current record indicates that there are both similarities and differences between different types of FGP the preponderance of similarities between all in-scope FGP support their inclusion in a single domestic like product. All FGP share the same fundamental physical characteristics, although specific FGP products possess physical characteristics tailored to their intended end use applications. Vertically integrated U.S. producers of FGP produce multiple types of FGP in the same facilities with the same employees,

[71] CR/PR at Table 1.2
[72] CR/PR at D.3.
[73] CR/PR at D.3.
[74] CR/PR at D.3.
[75] Petitioner Postconf. Br. at I-1.
[76] CR/PR at Table 1.2.
[77] CR/PR at Table 1.2.
[78] Petitioner Postconf. Br. at I-15.
[79] *See* CR/PR at D.4.
[80] *See* CR/PR at D.9.
[81] *See* Conf. Tr. at 67 (Levy).
[82] *See* CR/PR at D.5.
[83] *See* CR/PR at Table 1.2.

although production processes can differ depending on the product. All types of FGP are sold through the same channels of distribution, primarily to fabricators but also to transportation OEMs, distributors, and other end users. While the record indicates that interchangeability between specific types of FGP may be limited, given that each product has been produced for a specific end use application, this is typical for products that exist on a continuum.[84] Furthermore, a majority of fabricators and producers indicated that all in-scope FGP are mostly interchangeable.[85] On the other hand, the current record indicates that there may be differences between types of FGP in terms of producer and customer perceptions and price. On balance, and in the absence of any contrary argument, the record of the preliminary phase of these investigations indicates that there are no clear dividing lines separating different types of in-scope FGP in terms of the Commission's domestic like product factors.

We therefore define a single domestic like product encompassing all primary float glass and FGP, coextensive with the scope.

IV. Domestic Industry

The domestic industry is defined as the domestic "producers as a whole of a domestic like product, or those producers whose collective output of a domestic like product constitutes a major proportion of the total domestic production of the product."[86] In defining the domestic industry, the Commission's general practice has been to include in the industry producers of all domestic production of the like product, whether toll-produced, captively consumed, or sold in the domestic merchant market.

These investigations raise two sets of domestic issues. The first concerns whether U.S. fabricators engage in sufficient production-related activities to qualify as domestic producers of FGP. The second concerns whether appropriate circumstances exist to exclude any domestic producers from the domestic industry pursuant to the related parties provision.

[84] *See*, *e.g.*, *Carbon and Certain Alloy Steel Wire Rod from Belarus, Russia, and the United Arab Emirates*, Inv. Nos. 731-TA-1349, 1352, and 1357 (Final), USITC Pub. 4752 at 14-15 (Jan. 2018) (differences between grade 1080 tire cord and other types of wire rod within the scope do not warrant separate domestic like product treatment); *Carbon and Certain Alloy Steel Wire Rod from China, Germany, and Turkey*, Inv. Nos. 731-TA-1099-1101 (Preliminary), USITC Pub. 3832 at 10 (Jan. 2006) ("a lack of interchangeability among products comprising a continuum is not unexpected and not inconsistent with finding a single like product.")

[85] CR/PR at Table 1.2.

[86] 19 U.S.C. § 1677(4)(A).

A. Sufficient Production-Related Activities

In deciding whether a firm qualifies as a domestic producer of the domestic like product, the Commission generally analyzes the overall nature of a firm's U.S. production-related activities, although production-related activity at minimum levels could be insufficient to constitute domestic production.[87]

1. Petitioner's Arguments

Petitioner argues that any domestic fabricator of U.S.-origin primary float glass is engaged in sufficient production-related activities to be a producer of the domestic like product if the firm engages in: (1) coating (*e.g.*, Low-E coating, mirror coating), (2) heat strengthening or tempering, (3) laminating, and/or (4) assembly of insulating glass units and/or assembly of LED mirrors on a commercial scale.[88]

Petitioner contends that those four types of float glass processing operations require significant capital investments, technical expertise, and specially trained employees, and that domestic fabricators' operations add significant value to primary float glass.[89] As to employment levels, Petitioner contends that while fabricators generally ***, they still account for significant levels of domestic employment, especially considering the potentially large number of independent domestic float glass processors.[90] Petitioner acknowledges that domestic fabricators vary in the degree to which they source domestically produced primary float glass for use in their finishing operations, but argues that under the country-of-origin rule

[87] The Commission generally considers six factors: (1) source and extent of the firm's capital investment; (2) technical expertise involved in U.S. production activities; (3) value added to the product in the United States; (4) employment levels; (5) quantity and type of parts sourced in the United States; and (6) any other costs and activities in the United States directly leading to production of the like product. No single factor is determinative and the Commission may consider any other factors it deems relevant in light of the specific facts of any investigation. *Crystalline Silica Photovoltaic Cells and Modules from China*, Inv. Nos. 701-TA-481 and 731-TA-1190 (Final), USITC Pub. 4360 at 12-13 (Nov. 2012).

[88] Petitioner Postconf. Br. at I-17.

[89] Petitioner Postconf. Br. at I-18-19. Petitioner asserts that fabricators' start-up costs can be in the tens of millions of dollars. *Id*. Petitioner asserts that the value added to primary float glass by fabricators can exceed 100 percent. *Id*.

[90] Petitioner Postconf. Br. at I-20. The Commission issued a U.S. Producer/Fabricator questionnaire to 89 firms identified as potential U.S. fabricators based on information contained in the petitions. CR/PR at 3.2. Eight U.S. fabricators provided usable data on their operations. *Id*. At the staff conference, Vitro's Vice President for Sustainability, Technical Services, and Government Affairs estimated that there are more than 100 independent domestic FGP fabricators. Conf. Tr. at 11 (Bush).

in the scope language, only those fabricators that use domestically produced primary float glass to process into FGP should be included in the domestic industry.[91]

2. Analysis

Based on the record in these preliminary phase investigations, we find that domestic fabricators that process primary float glass into downstream FGP engage in sufficient production-related activities to qualify as domestic producers.

As an initial matter, the record of the preliminary phase of these investigations contains limited information regarding the extent of U.S. fabricators production-related activities,[92] given that only eight U.S. fabricators responded to the Commission's questionnaires.[93]

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[91] Petitioner Postconf. Br. at I-20-21. Petitioner argues that "any U.S. processor engaged in solely processing imported float glass is, by function of the scope language, not engaged in production of domestically produced float glass products." We disagree. The scope in these investigations includes both primary and finished FGP. Under the statute, the Commission must define a domestic like product that corresponds to the articles subject to investigation. *See* 19 U.S.C. § 1677(10). Although the Commission must accept Commerce's scope, the Commission is not bound by that scope in defining the domestic like product and, by extension, the domestic industry. In prior investigations, we have determined that "the country-of-origin requirement . . . in the scope does not control our definition of the domestic industry, which encompasses all entities that engage in sufficient production operations to produce the domestic like product." *Stainless Steel Flanges from China and India,* Inv. Nos. 701-TA-585-586 and 731-TA-1383-1384 (Preliminary), USITC Pub. 4734 (Oct. 2017), at 11 n. 34; *see also Certain Iron Mechanical Transfer Drive Components from Canada and China*, Inv. Nos. 701-TA-550 and 731-TA-1304-1305, USITC Pub. 4652 (Final) (Dec. 2016). Accordingly, the country of origin of a fabricator's float glass is not determinative for the Commission's analysis. As detailed below, based on an analysis of all factors the Commission normally considers, the Commission finds that U.S. fabricators engage in sufficient production-related activities to qualify as domestic producers.

[92] As defined in the staff report, "U.S. fabricators" encompass firms that perform numerous processing steps on FGP, including annealing, chemical strengthening, heat strengthening, tempering, and further working (*e.g.*, sandblasting, etching, bending, curving, beveling, edging, notching, drilling, chipping, embossing, and engraving). CR/PR at 3.1 n.1. "U.S. producers" encompass firms that produce articles of soda-lime-silica glass by floating a continuous strip of molten glass over a smooth bath of tin (or another liquid metal with a density greater than molten glass), cooling the glass in an annealing lehr, and cutting it to appropriate dimensions. CR/PR at 3.1 n.1.

[93] CR/PR at Table 3.5. In their narrative responses, the eight responding U.S. fabricators described the nature of their fabrication operations. Seven responding U.S. fabricators appear to perform some of the finishing processes that Petitioner believes should qualify them as domestic producers of FGP: Electric Mirror manufactures and sells ***, Hartung processes float glass ***, Mr. Glass engages ***, Thompson IG engages in ***, Tristar produces ***, Vectra ***; *see* CR/PR at Table 3.5; and Wholesale Glass engages in ***. *See* Wholesale Glass Response to U.S. Producer Questionnaire, at VI-10c, EDIS Doc. 839848 (Dec. 17, 2024). One U.S. fabricator, Mr. Glass, does not appear to perform such finishing operations, stating that it ***.[93] CR/PR at Table 3.5. Petitioner argues that Fashion Glass' production-related activities are not sufficient to warrant inclusion in the domestic industry definition. *See* Petitioner Postconf. Br. at I-18 n.57. Fashion Glass, however, has similar (Continued…)

Petitioner provided a list of 31 U.S. fabricators,[94] and one of Petitioner's witnesses estimated that there may be more than 100 U.S. fabricators.[95] By contrast, the seven U.S. producers that responded to the Commission's questionnaire accounted for all known domestic FGP production in 2023.[96]

Source and Extent of Firms' Capital Investment. The eight responding U.S. fabricators reported that $*** in greenfield investments would be required to replicate their current float glass operations.[97] From 2021 to 2023, they reported between $*** and $*** in assets, and between $*** and $*** in capital expenditures.[98] At the staff conference, the CEO of Glass Enterprises, Inc., a U.S. fabricator, testified that cutter machines used in fabrication can range from $150,000 to $400,000 per machine, and tempering furnaces can range from $1 million to $4 million.[99]

By comparison, in 2023, the seven responding U.S. producers reported that $*** in greenfield investments would be required to replicate their current float glass operations.[100] From 2021 to 2023, they reported between $*** and $*** in assets, and between $*** and $*** in capital expenditures.[101] U.S. producer ***.[102]

Technical Expertise. The eight responding U.S. fabricators reported aggregate research and development ("R&D") expenses of $*** to $*** from 2021 to 2023.[103] U.S. fabricators rated the complexity and importance of their operations, on average, as a *** out of 5, with 5

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production-related activities indicators as several of the other responding U.S. fabricators that appear to engage in the four categories of FGP finishing that Petitioner asserts constitute sufficient-production related activities so as to warrant inclusion in the domestic industry definition. *See* CR/PR at Table 3.7.

[94] Petitioner Postconf. Br. Responses to Staff Questions at II-2-3.

[95] Conf. Tr. at 11 (Bush).

[96] CR/PR at 3.1.

[97] CR/PR at Table 3.7.

[98] Electric Mirror reported $*** in greenfield investments, between $*** to *** in assets, and $*** in capital expenditures. Fashion Glass reported $*** in greenfield investments, between $*** in assets, and $*** in capital expenditures. Hartung reported $*** in greenfield investments, between $*** in assets, and $*** in capital expenditures. Mr. Glass reported $*** in greenfield investments, between $*** in assets, and $*** in capital expenditures. Thompson IG reported $*** in greenfield investments, between $*** in assets, and $*** in capital expenditures. Tristar reported $*** in greenfield investments, between $*** in assets, and $*** in capital expenditures. Vectra reported $*** in greenfield investments, between $*** in assets, and $*** in capital expenditures. Wholesale Glass reported $*** in greenfield investments, between $*** in assets, and $*** in capital expenditures. CR/PR at Table 3.7.

[99] Conf. Tr. at 68-69 (Burg).

[100] CR/PR at Table 3.7.

[101] CR/PR at Table 3.7.

[102] CR/PR at Table 3.6

[103] CR/PR at Table 3.7.

being the most complex and important. Fashion Glass and Hartung gave a rating of ***, Electric Mirror, Thompson IG, Tristar, and Wholesale Glass gave a rating of ***, Mr. Glass gave a rating of ***, and Vectra gave a rating of ***.[104] Hartung reported that its ***.[105] Thompson IG explained that its rating of ***.[106] Mr. Glass described its operations as ***. Vectra reported that it is ***.[107]

By comparison, U.S. producers generally reported substantially greater R&D expenses than fabricators, and a slightly higher average degree of technical expertise. The seven responding U.S. producers reported R&D expenses between $*** and $*** from 2021 to 2023.[108] U.S. producers rated the complexity and importance of their operations, on average, as a *** out of 5. AGC America, Cardinal, Fuyao, and Vitro each gave a rating of ***, Guardian and Pilkington gave a rating of ***, and Carlex gave a rating of ***.[109]

Vitro reported that ***.[110] Guardian stated that the ***.[111] Carlex stated that ***.[112] The record also indicates that FGP production is more intensive than FGP fabrication in that once a producer begins operation on a float line, the process is continuous, lasting 24 hours a day, seven days a week for the next 12 to 15 years, at almost 100 percent capacity utilization.[113]

Value Added. As calculated by the aggregate annual total conversion costs (including direct labor and other factory costs) divided by total cost of goods sold ("COGS"), the value added in 2023 by U.S. fabricators was *** percent.[114] By comparison, the value added by U.S. producers in 2023 was *** percent.[115]

[104] CR/PR at Table 3.8.
[105] CR/PR at Table 3.8.
[106] CR/PR at Table 3.8.
[107] CR/PR at Table 3.8.
[108] CR/PR at Table 3.7.
[109] CR/PR at Table 3.8.
[110] CR/PR at Table 3.8.
[111] CR/PR at Table 3.8.
[112] CR/PR at Table 3.8.
[113] CR/PR at 1.12.
[114] CR/PR at Table 3.7. In 2023, Electric Mirror reported value added of *** percent, Fashion Glass reported value added of *** percent, Hartung reported value added of *** percent, Mr. Glass reported value added of *** percent, Thompson IG reported value added of *** percent, Tristar reported value added of *** percent, Vectra reported value added of *** percent, and Wholesale Glass reported value added of *** percent. CR/PR at Table 3.7.
[115] CR/PR at Table 3.7.

Employment Levels. The eight responding U.S. fabricators reported that their average number of production related workers ("PRWs") ranged between *** PRWs in 2023.[116] By comparison, the seven U.S. producers reported between *** PRWs in 2023.[117]

Quantity and Type of Parts Sourced in United States. In 2023, domestic fabricators sourced their primary float glass as follows: *** percent from domestic producers, *** percent from subject foreign producers, *** percent from nonsubject foreign producers, and *** percent from other sources.[118] By comparison, U.S. producers sourced *** percent of their primary float glass raw materials domestically and imported *** percent in 2023.[119]

Other Costs and Activities. The record indicates that there is some overlap in the processes that U.S. producers and U.S. fabricators perform. U.S. producers are the only firms that produced primary float glass, but *** of the six responding U.S. producers on this issue also reported that they perform some further processing or fabrication. Both U.S. producers and fabricators reported performing ***. *** was the process reported by the most U.S. producers and *** was the process reported by the most fabricators.[120]

Conclusion. As noted above, there were only a limited number of questionnaire responses, by eight fabricators, in the preliminary phase of these investigations. Therefore, in the record of these preliminary phase investigations, U.S. fabricators' aggregated assets, capital expenditures, and R&D expenses appear much smaller than that of U.S. producers.[121]

Notwithstanding these data limitations, the record indicates that the production-related activities of U.S. fabricators are substantial in several respects. On average, U.S. fabricators reported that their operations were only slightly less complex and important than those of U.S. producers, with six of eight U.S. fabricators rating the complexity and importance of their operations as a 4 or 5 out of 5. Indeed, there is some overlap between the processes that U.S. producers and fabricators perform, as a majority of U.S. producers reported some degree of

[116] CR/PR at Table 3.7. In 2023, Electric Mirror reported *** PRWs, Fashion Glass reported *** PRWs, Hartung reported *** PRWs, Mr. Glass reported *** PRWs, Thompson IG reported *** PRWs, Tristar reported *** PRWs, Vectra reported *** PRWs, and Wholesale Glass reported *** PRWs. CR/PR at Table 3.7.

[117] CR/PR at Table 3.7.

[118] CR/PR at Table 3.7. In 2023, Electric Mirror sourced *** percent of its FGP from domestic sources, Fashion Glass sourced *** percent of its FGP from domestic sources, Hartung sourced *** percent of its FGP from domestic sources, Mr. Glass sourced *** percent of its FGP from domestic sources, Thompson IG sourced *** percent of its FGP from domestic sources, Tristar sourced *** percent of its FGP from domestic sources, Vectra sourced *** percent of its FGP from domestic sources, and Wholesale Glass sourced *** percent of its FGP from domestic sources. CR/PR at Table 3.7.

[119] CR/PR at Table 3.7.

[120] CR/PR at 6.1 n.3.

[121] *See* CR/PR at Table 3.7.

vertical integration that allows them to engage in fabrication of FGP.[122] U.S. fabricators also reported substantial employment levels, ranging between *** PRWs in 2023, though lower than U.S. producers.[123]

Importantly, the record also indicates that the value-added by U.S. fabricators is high, ranging from *** percent, though lower than the value-added by U.S. producers, which ranged from *** percent.[124] And, just as importantly, U.S. fabricators source the *** majority, *** percent, of their primary float glass from domestic sources.[125]

On balance, and in the absence of any contrary argument, we find that U.S. fabricators engage in sufficient production-related activities to qualify as domestic producers for purposes of the preliminary phase of the investigations.

B. Related Parties

We must determine whether any producer of the domestic like product should be excluded from the domestic industry pursuant to Section 771(4)(B) of the Tariff Act. This provision allows the Commission, if appropriate circumstances exist, to exclude from the domestic industry producers that are related to an exporter or importer of subject merchandise, or which are themselves importers.[126] Exclusion of such a producer is within the Commission's discretion based upon the facts presented in each investigation.[127]

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[122] CR/PR at 6.1 n.3.

[123] CR/PR at Table 3.7.

[124] CR/PR at Table 3.7.

[125] CR/PR at Table 3.7.

[126] *See Torrington Co. v. United States*, 790 F. Supp. 1161, 1168 (Ct. Int'l Trade 1992), *aff'd without opinion*, 991 F.2d 809 (Fed. Cir. 1993); *Sandvik AB v. United States*, 721 F. Supp. 1322, 1331-32 (Ct. Int'l Trade 1989), *aff'd mem.,* 904 F.2d 46 (Fed. Cir. 1990); *Empire Plow Co. v. United States*, 675 F. Supp. 1348, 1352 (Ct. Int'l Trade 1987).

[127] The primary factors the Commission has examined in deciding whether appropriate circumstances exist to exclude a related party include the following:

(1) the percentage of domestic production attributable to the importing producer;

(2) the reason the U.S. producer has decided to import the product subject to investigation (whether the firm benefits from the LTFV sales or subsidies or whether the firm must import in order to enable it to continue production and compete in the U.S. market);

(3) whether inclusion or exclusion of the related party will skew the data for the rest of the industry;

(4) the ratio of import shipments to U.S. production for the imported product; and

(5) whether the primary interest of the importing producer lies in domestic production or importation. *Changzhou Trina Solar Energy Co. v. USITC*, 100 F. Supp.3d 1314, 1326-31 (Ct. Int'l. Trade 2015); see *also Torrington Co. v. United States*, 790 F. Supp. at 1168.

1. Arguments of the Parties

Petitioner argues that no firm should be excluded under the related parties provision.[128]

2. Analysis

There are two domestic producers subject to possible exclusion under the related party provision. Domestic producer *** qualifies as a related party because it shares a common parent company, ***, with a subject Chinese producer.[129] Another domestic producer, *** is subject to possible exclusion under the related parties provision because it imported subject merchandise during the POI, and is also affiliated with two exporters of subject merchandise in China, ***.[130] We find that appropriate circumstances do not exist for exclusion of *** or *** from the domestic industry based on the following analysis.

***. *** was the *** responding U.S. producer, accounting for *** percent of U.S. production of FGP in 2023, and ***.[131] *** imported no subject merchandise during the POI.[132] *** reported that it sold ***, but ***.[133]

Although *** shares a common parent company with a subject Chinese producer, there is no information on the record that would establish a control relationship between the Chinese producer and ***, and there is no information in the record that *** was shielded from import competition by virtue of this relationship such that its inclusion in the domestic industry would skew industry data.[134] In light of this, and in the absence of any contrary argument, we find that appropriate circumstances do not exist to exclude *** from the domestic industry.

[128] CR/PR at Table 3.2. *** did not provide the name of its parent company's affiliate in China that is a subject producer. *See* *** Response to U.S. Producer Questionnaire, at I-7, EDIS Doc. 838953 (Dec. 9, 2024).

[129] CR/PR at Table 3.2.

[130] CR/PR at Tables 3.2 & 3.23. There is no information on the record concerning the extent of any control relationship between *** and its Chinese affiliates.

[131] CR/PR at Table 3.1. ***. *Id*. at 6.1 n.3.

[132] *See* CR/PR at 3.5.

[133] *See* CR/PR at 3.9, Table 3.4. ***. *Id*. at Table 3.4.

[134] In the view of Commissioner Kearns, the existence of a common parent may itself indicate a control relationship between these firms, but he sees no need to reach a finding of control here. Even if a control relationship exists, there is no information in the record, and no party has argued, that inclusion of *** in the definition of the domestic industry would mask injury. Therefore, appropriate circumstances do not exist to exclude *** from the domestic industry.

***. *** was the fourth largest responding U.S. producer, accounting for *** percent of U.S. production of FGP in 2023.[135] It ***.[136] *** imported subject merchandise from *** only in 2021, when its ratio of subject imports to domestic production was ***.[137]

Given that *** imported subject merchandise only in 2021, when its ratio of subject imports to domestic production was *** low, its primary interest appears to be in domestic production. There is no information in the record that *** domestic production operations benefitted from its subject imports such that its inclusion in the domestic industry would skew industry data. Furthermore, there is no information in the record that *** was shielded from import competition by virtue of its relationship to Chinese affiliates. In light of this, and in the absence of any contrary argument, we find that appropriate circumstances do not exist to exclude *** from the domestic industry.

In sum, consistent with our definition of the domestic like product, we define the domestic industry as all domestic producers of FGP, coextensive with the scope.

V. Negligible Imports

Pursuant to Section 771(24) of the Tariff Act, imports from a subject country of merchandise corresponding to a domestic like product that account for less than 3 percent of all such merchandise imported into the United States during the most recent 12 months for which data are available preceding the filing of the petition shall be deemed negligible.[138] The statute further provides that subject imports from a single country which comprise less than 3 percent of total such imports of the product may not be considered negligible if there are several countries subject to investigation with negligible imports and the sum of such imports from all those countries collectively accounts for more than 7 percent of the volume of all such merchandise imported into the United States.[139] In the case of countervailing duty investigations involving developing countries (as designated by the United States Trade Representative ("USTR")), the statute indicates that the negligibility limits are 4 percent and 9 percent, rather than 3 percent and 7 percent.[140]

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[135] *See* CR/PR at Table 3.1; Figure 6.1.

[136] CR/PR at Table 3.1.

[137] *Derived from* CR/PR at Table 3.23. In 2021, *** subject imports totaled *** pounds, compared with domestic production of *** pounds.

[138] 19 U.S.C. §§ 1671b(a), 1673b(a), 1677(24)(A)(i), 1677(24)(B); *see also* 15 C.F.R. § 2013.1 (developing countries for purposes of 19 U.S.C. § 1677(36)).

[139] 19 U.S.C. § 1677(24)(A)(ii).

[140] 19 U.S.C. § 1677(24)(B). The USTR has deemed neither of the subject countries in these investigations a developing country. *See Designations of Developing and Least Developed Countries Under the Countervailing Duty Law*, 85 Fed. Reg. 7613 (Feb. 10, 2020).

During the 12-month period preceding the filing of the petition (November 2023-October 2024), subject imports from China accounted for *** percent of total imports of FGP and subject imports from Malaysia accounted for *** percent of total imports of FGP.[141] Because subject imports from China and Malaysia each exceed the three percent negligibility threshold, we find that imports of FGP from China and Malaysia subject to the antidumping and countervailing duty investigations are not negligible.

VI. Cumulation

For purposes of evaluating the volume and effects for a determination of reasonable indication of material injury by reason of subject imports, section 771(7)(G)(i) of the Tariff Act requires the Commission to cumulate subject imports from all countries as to which petitions were filed and/or investigations self-initiated by Commerce on the same day, if such imports compete with each other and with the domestic like product in the U.S. market. In assessing whether subject imports compete with each other and with the domestic like product, the Commission generally has considered four factors:

(1) the degree of fungibility between subject imports from different countries and between subject imports and the domestic like product, including consideration of specific customer requirements and other quality related questions;

(2) the presence of sales or offers to sell in the same geographic markets of subject imports from different countries and the domestic like product;

(3) the existence of common or similar channels of distribution for subject imports from different countries and the domestic like product; and

(4) whether the subject imports are simultaneously present in the market.[142]

While no single factor is necessarily determinative, and the list of factors is not exhaustive, these factors are intended to provide the Commission with a framework for

[141] CR/PR at Table 4.5. The volumes of imports from China and Malaysia subject to the antidumping and countervailing duty investigations are the same.

[142] *See Certain Cast-Iron Pipe Fittings from Brazil, the Republic of Korea, and Taiwan*, Inv. Nos. 731-TA-278-80 (Final), USITC Pub. 1845 (May 1986), *aff'*d, *Fundicao Tupy, S.A. v. United States*, 678 F. Supp. 898 (Ct. Int'l Trade), *aff'd*, 859 F.2d 915 (Fed. Cir. 1988).

determining whether the subject imports compete with each other and with the domestic like product.[143] Only a "reasonable overlap" of competition is required.[144]

A. Petitioner's Argument

Petitioner argues that imports of FGP from China and Malaysia should be cumulated for purposes of assessing material injury by reason of subject imports.[145] Petitioner asserts there is a reasonable overlap of competition between and among subject imports from China and Malysia and the domestic like product because they are fungible, compete in the same geographic markets, are sold in the same channels of distribution, and are simultaneously present in the U.S. market.[146]

B. Analysis and Conclusion

We consider subject imports from China and Malaysia on a cumulated basis as we find that the statutory criteria for cumulation are satisfied. As an initial matter, Petitioner filed the antidumping and countervailing duty petitions with respect to both countries on the same day, November 21, 2024.[147]

Fungibility. The record indicates that domestically produced FGP and imports of FGP from each subject country are generally fungible.[148] A majority of U.S. producers and importers reported that domestically produced FGP, subject imports from China, and subject imports from Malaysia, were always or frequently interchangeable with one another.[149]

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[143] *See*, *e.g.*, *Wieland Werke, AG v. United States*, 718 F. Supp. 50 (Ct. Int'l Trade 1989).

[144] The Statement of Administrative Action (SAA) to the Uruguay Round Agreements Act (URAA), expressly states that "the new section will not affect current Commission practice under which the statutory requirement is satisfied if there is a reasonable overlap of competition." H.R. Rep. No. 103-316, Vol. I at 848 (1994) (*citing Fundicao Tupy*, 678 F. Supp. at 902); *see Goss Graphic Sys., Inc. v. United States*, 33 F. Supp. 2d 1082, 1087 (Ct. Int'l Trade 1998) ("cumulation does not require two products to be highly fungible"); *Wieland Werke, AG*, 718 F. Supp. at 52 ("Completely overlapping markets are not required.").

[145] Petitioner Postconf. Br. at I-25.

[146] Petitioner Postconf. Br. at I-26.

[147] *See* Petitions. None of the statutory exceptions to cumulation applies. We observe that these investigations involve dumping and subsidy allegations regarding FGP from both China and Malaysia. Consequently, any decision to cumulate imports from all subject sources in these investigations will involve "cross-cumulating" dumped imports with subsidized imports. The Commission has previously explained why it continues its longstanding practice of cross-cumulating. *See Polyethylene Terephthalate (PET) Resin from Canada, China, India, and Oman*, Inv. Nos. 701-TA-531-532 and 731-TA-1270-1273 (Final), USITC Pub. 4604 at 9-11 (April 2016).

[148] CR/PR at Table 2.8.

[149] CR/PR at 2.11; CR/PR at Table 2.9.

The record also indicates that U.S. shipments of domestically produced FGP, subject imports from China, and subject imports from Malaysia overlapped with respect to product type. Specifically, in 2023, domestically produced FGP and subject imports from China overlapped with respect to U.S. shipments of IGUs and non-IGU laminated products, while domestically produced FGP and subject imports from China and Malaysia overlapped with respect to U.S. shipments of non-IGU mirrored products.[150]

U.S. purchasers' responses to the Commission's lost sales and lost revenue survey also indicate that domestically produced FGP are fungible with subject imports from China and Malaysia. Seven of eight responding purchasers reported purchasing FGP from China instead of domestically produced FGP, and three reported purchasing FGP from Malaysia instead of domestically produced FGP, during the POI.[151]

Channels of Distribution. U.S. producers sold to fabricators, distributors, transportation OEMs, and other end users, but the vast majority of their sales were to fabricators.[152] U.S. fabricators sold to distributors, contractors/builders, and other end users, but the vast majority of their sales were to contractors/builders.[153] Subject imports from China were sold to distributors, fabricators, contractors/builders, and other end users, with the largest share of sales to fabricators.[154] Subject imports from Malaysia were sold to fabricators, contractors/builders, and other end users.[155]

Geographic Overlap. U.S. producers and importers of subject merchandise from China and Malaysia reported selling FGP to all regions of the contiguous United States, as well as to other U.S. markets, such as Alaska, Hawaii, Puerto Rico, and the U.S. Virgin Islands.[156] Official

[150] CR/PR at Table 4.6.

[151] CR/PR at 5.26 & Table 5.19.

[152] CR/PR at Table 2.2.

[153] CR/PR at Table 2.2.

[154] CR/PR at Table 2.2.

[155] CR/PR at Table 2.2. U.S. shipments to fabricators accounted for *** percent of domestic producers' U.S. shipments in 2021, *** percent in 2022, *** percent in 2023, *** percent in interim 2023, and *** percent in interim 2024. *Id.* U.S. shipments to contractors/builders accounted for *** percent of domestic fabricators' U.S. shipments in 2021, *** percent in 2022, *** percent in 2023, *** percent in interim 2023, and *** percent in interim 2024. *Id.*

Importers sold *** percent of imports from China to fabricators in 2021, *** percent in 2022, *** percent in 2023, *** percent in interim 2023, and *** percent in interim 2024. *Id.* Importers sold *** percent of imports from Malaysia to contractors/builders in 2021, *** percent in 2022, *** percent in 2023, *** percent in interim 2023, and *** percent in interim 2024. *Id.* Importers sold *** percent of imports from Malaysia to fabricators in 2021, *** percent in 2022, *** percent in 2023, *** percent in interim 2023, and *** percent in interim 2024. *Id*

[156] CR/PR at Table 2.3.

import statistics indicate that subject imports from China and Malaysia entered the United States through ports located in all four regions.[157]

Simultaneous Presence in Market. The domestic like product was present in the U.S. market throughout the POI. Imports from each of the subject sources were present in the U.S. market in all months from January 2023 through October 2024.[158]

Conclusion. The record indicates that subject imports from China and Malaysia are generally fungible with the domestic like product and each other. It also shows that subject imports from both countries and the domestic like product were sold through similar channels of distribution. Furthermore, subject imports from both countries and the domestic like product were sold in overlapping geographic markets and were simultaneously present in the U.S. market. Because there appears to be a reasonable overlap of competition between and among subject imports from China and Malaysia and the domestic like product, we consider subject imports from China and Malaysia on a cumulated basis in our analysis of whether there is a reasonable indication of material injury by reason of subject imports.

VII. Reasonable Indication of Material Injury by Reason of Subject Imports

A. Legal Standard

In the preliminary phase of antidumping and countervailing duty investigations, the Commission determines whether there is a reasonable indication that an industry in the United States is materially injured or threatened with material injury by reason of the imports under investigation.[159] In making this determination, the Commission must consider the volume of subject imports, their effect on prices for the domestic like product, and their impact on domestic producers of the domestic like product, but only in the context of U.S. production operations.[160] The statute defines "material injury" as "harm which is not inconsequential, immaterial, or unimportant."[161] In assessing whether there is a reasonable indication that the domestic industry is materially injured by reason of subject imports, we consider all relevant economic factors that bear on the state of the industry in the United States.[162] No single factor

[157] CR/PR at Table 4.7. These official import statistics may include out-of-scope products. *Id*. at 4.13.

[158] CR/PR at Table 4.8; *see also* CR/PR at Table 5.5.

[159] 19 U.S.C. §§ 1671b(a), 1673b(a).

[160] 19 U.S.C. § 1677(7)(B). The Commission "may consider such other economic factors as are relevant to the determination" but shall "identify each {such} factor ... and explain in full its relevance to the determination." 19 U.S.C. § 1677(7)(B).

[161] 19 U.S.C. § 1677(7)(A).

[162] 19 U.S.C. § 1677(7)(C)(iii).

is dispositive, and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[163]

Although the statute requires the Commission to determine whether there is a reasonable indication that the domestic industry is "materially injured or threatened with material injury by reason of" unfairly traded imports,[164] it does not define the phrase "by reason of," indicating that this aspect of the injury analysis is left to the Commission's reasonable exercise of its discretion.[165] In identifying a causal link, if any, between subject imports and material injury to the domestic industry, the Commission examines the facts of record that relate to the significance of the volume and price effects of the subject imports and any impact of those imports on the condition of the domestic industry. This evaluation under the "by reason of" standard must ensure that subject imports are more than a minimal or tangential cause of injury and that there is a sufficient causal, not merely a temporal, nexus between subject imports and material injury.[166]

In many investigations, there are other economic factors at work, some or all of which may also be having adverse effects on the domestic industry. Such economic factors might include nonsubject imports; changes in technology, demand, or consumer tastes; competition among domestic producers; or management decisions by domestic producers. The legislative history explains that the Commission must examine factors other than subject imports to ensure that it is not attributing injury from other factors to the subject imports, thereby inflating an otherwise tangential cause of injury into one that satisfies the statutory material injury threshold.[167] In performing its examination, however, the Commission need not isolate

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[163] 19 U.S.C. § 1677(7)(C)(iii).

[164] 19 U.S.C. §§ 1671b(a), 1673b(a).

[165] *Angus Chemical Co. v. United States*, 140 F.3d 1478, 1484-85 (Fed. Cir. 1998) ("{T}he statute does not 'compel the commissioners' to employ {a particular methodology}."), *aff'g,* 944 F. Supp. 943, 951 (Ct. Int'l Trade 1996).

[166] The Federal Circuit, in addressing the causation standard of the statute, observed that "{a}s long as its effects are not merely incidental, tangential, or trivial, the foreign product sold at less than fair value meets the causation requirement." *Nippon Steel Corp. v. USITC*, 345 F.3d 1379, 1384 (Fed. Cir. 2003). This was further ratified in *Mittal Steel Point Lisas Ltd. v. United States*, 542 F.3d 867, 873 (Fed. Cir. 2008), where the Federal Circuit, quoting *Gerald Metals, Inc. v. United States*, 132 F.3d 716, 722 (Fed. Cir. 1997), stated that "this court requires evidence in the record 'to show that the harm occurred "by reason of" the LTFV imports, not by reason of a minimal or tangential contribution to material harm caused by LTFV goods.'" *See also Nippon Steel Corp. v. United States*, 458 F.3d 1345, 1357 (Fed. Cir. 2006); *Taiwan Semiconductor Industry Ass'n v. USITC*, 266 F.3d 1339, 1345 (Fed. Cir. 2001).

[167] SAA at 851-52 ("{T}he Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports."); S. Rep. 96-249 at 75 (1979) (the Commission "will consider information which indicates that harm is caused by factors other than less-
(Continued…)

the injury caused by other factors from injury caused by unfairly traded imports.[168] Nor does the "by reason of" standard require that unfairly traded imports be the "principal" cause of injury or contemplate that injury from unfairly traded imports be weighed against other factors, such as nonsubject imports, which may be contributing to overall injury to an industry.[169] It is clear that the existence of injury caused by other factors does not compel a negative determination.[170]

Assessment of whether material injury to the domestic industry is "by reason of" subject imports "does not require the Commission to address the causation issue in any particular way" as long as "the injury to the domestic industry can reasonably be attributed to the subject imports."[171] The Commission ensures that it has "evidence in the record" to "show that the

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than-fair-value imports."); H.R. Rep. 96-317 at 47 (1979) ("in examining the overall injury being experienced by a domestic industry, the ITC will take into account evidence presented to it which demonstrates that the harm attributed by the petitioner to the subsidized or dumped imports is attributable to such other factors;" those factors include "the volume and prices of nonsubsidized imports or imports sold at fair value, contraction in demand or changes in patterns of consumption, trade restrictive practices of and competition between the foreign and domestic producers, developments in technology and the export performance and productivity of the domestic industry"); *accord Mittal Steel*, 542 F.3d at 877.

[168] SAA at 851-52 ("{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports."); *Taiwan Semiconductor Industry Ass'n,* 266 F.3d at 1345 ("{T}he Commission need not isolate the injury caused by other factors from injury caused by unfair imports ... . Rather, the Commission must examine other factors to ensure that it is not attributing injury from other sources to the subject imports." (emphasis in original)); *Asociacion de Productores de Salmon y Trucha de Chile AG v. United States*, 180 F. Supp. 2d 1360, 1375 (Ct. Int'l Trade 2002) ("{t}he Commission is not required to isolate the effects of subject imports from other factors contributing to injury" or make "bright-line distinctions" between the effects of subject imports and other causes.); *see also Softwood Lumber from Canada*, Inv. Nos. 701-TA-414 and 731-TA-928 (Remand), USITC Pub. 3658 at 100-01 (Dec. 2003) (Commission recognized that "{i}f an alleged other factor is found not to have or threaten to have injurious effects to the domestic industry, *i.e*., it is not an 'other causal factor,' then there is nothing to further examine regarding attribution to injury"), *citing Gerald Metals,* 132 F.3d at 722 (the statute "does not suggest that an importer of LTFV goods can escape countervailing duties by finding some tangential or minor cause unrelated to the LTFV goods that contributed to the harmful effects on domestic market prices.").

[169] S. Rep. 96-249 at 74-75; H.R. Rep. 96-317 at 47.

[170] *See Nippon Steel Corp*., 345 F.3d at 1381 ("an affirmative material-injury determination under the statute requires no more than a substantial-factor showing. That is, the 'dumping' need not be the sole or principal cause of injury.").

[171] *Mittal Steel*, 542 F.3d at 876 &78; *see also id.* at 873 ("While the Commission may not enter an affirmative determination unless it finds that a domestic industry is materially injured 'by reason of' subject imports, the Commission is not required to follow a single methodology for making that determination ... {and has} broad discretion with respect to its choice of methodology.") *citing United States Steel Group v. United States*, 96 F.3d 1352, 1362 (Fed. Cir. 1996) and S. Rep. 96-249 at 75. In its (Continued…)

harm occurred 'by reason of' the LTFV imports," and that it is "not attributing injury from other sources to the subject imports." [172] The Federal Circuit has examined and affirmed various Commission methodologies and has disavowed "rigid adherence to a specific formula."[173]

The question of whether the material injury threshold for subject imports is satisfied notwithstanding any injury from other factors is factual, subject to review under the substantial evidence standard.[174] Congress has delegated this factual finding to the Commission because of the agency's institutional expertise in resolving injury issues.[175]

B. Conditions of Competition and the Business Cycle

The following conditions of competition inform our analysis of whether there is a reasonable indication of material injury by reason of subject imports.

1. Captive Production

The domestic industry captively consumes and internally transfers a portion of its FGP production.[176] We therefore consider the applicability of the statutory captive production provision, and whether the Commission should focus its analysis primarily on the merchant market when assessing market share and the factors affecting the financial performance of the domestic industry.[177]

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decision in *Swiff-Train v. United States*, 793 F.3d 1355 (Fed. Cir. 2015), the Federal Circuit affirmed the Commission's causation analysis as comporting with the Court's guidance in *Mittal*.

[172] *Mittal Steel*, 542 F.3d at 873 (quoting from *Gerald Metals*, 132 F.3d at 722), 877-79. We note that one relevant "other factor" may involve the presence of significant volumes of price-competitive nonsubject imports in the U.S. market, particularly when a commodity product is at issue. In appropriate cases, the Commission collects information regarding nonsubject imports and producers in nonsubject countries in order to conduct its analysis.

[173] *Nucor Corp. v. United States*, 414 F.3d 1331, 1336, 1341 (Fed. Cir. 2005); *see also Mittal Steel*, 542 F.3d at 879 ("*Bratsk* did not read into the antidumping statute a Procrustean formula for determining whether a domestic injury was 'by reason' of subject imports.").

[174] We provide in our discussion below a full analysis of other factors alleged to have caused any material injury experienced by the domestic industry.

[175] *Mittal Steel*, 542 F.3d at 873; *Nippon Steel Corp*., 458 F.3d at 1350, *citing U.S. Steel Group*, 96 F.3d at 1357; S. Rep. 96-249 at 75 ("The determination of the ITC with respect to causation is ... complex and difficult, and is a matter for the judgment of the ITC.").

[176] CR/PR at 3.30, Table 3.18; *see also* Petitioner Postconf. Br., Responses to Staff Questions at II-2.

[177] The captive production provision, 19 U.S.C. § 1677(7)(C)(iv), as amended by the Trade Preferences Extension Act of 2015, provides:

(Continued…)

a. Petitioner's Argument

While petitioner notes that there are varying degrees of vertical integration within the domestic industry, it did not directly address in its postconference brief whether the captive production provision should apply in these investigations.[178] At the staff conference, however, Petitioner's counsel testified that "the short answer is that . . .we're not asking the Commission for purposes of the preliminary phase investigations to focus exclusively on the merchant market."[179]

b. Analysis

Threshold Criterion. The captive production provision can be applied only if, as a threshold matter, significant production of the domestic like product is internally transferred and significant production is sold in the merchant market. During the POI, between *** and *** percent of the U.S. producer's U.S. shipments of FGP, by quantity, were internally consumed or transferred to related firms.[180] The domestic industry sold between *** percent and *** percent of its FGP production, by quantity, on the merchant market in this period.[181] These ratios indicate that a significant portion of production of FGP is both internally transferred and sold on the merchant market, satisfying the threshold criterion.

(iv) CAPTIVE PRODUCTION – If domestic producers internally transfer significant production of the domestic like product for the production of a downstream article and sell significant production of the domestic like product in the merchant market, and the Commission finds that-

(I) the domestic like product produced that is internally transferred for processing into that downstream article does not enter the merchant market for the domestic like product, and

(II) the domestic like product is the predominant material input in the production of that downstream article,

then the Commission, in determining market share and the factors affecting financial performance set forth in clause (iii), shall focus primarily on the merchant market for the domestic like product.

The SAA indicates that where a domestic like product is transferred internally for the production of another article coming within the definition of the domestic like product, such transfers do not constitute internal transfers for the production of a "downstream article" for purposes of the captive production provision. SAA at 852-53.

[178] Petitioner Postconf. Br. at II-1-3.

[179] Conf. Tr. at 72 (Levy).

[180] *Calculated from* CR/PR at Tables 3.18 & 3.19. ***, reported transfers of FGP to related firms for processing into ***. *Id*. at 3.32. These transfers totaled *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, *** million pounds in interim 2023, and *** pounds in interim 2024, accounting for between *** and *** percent of the domestic industry's total internal consumption and internal transfers during the POI. CR/PR at Table 3.19; ***. These transfers do not constitute internal transfers for purposes of the application of the captive production provision. *See* SAA at 852-53.

[181] *Calculated from* CR/PR at Tables 3.18 & 3.19.

First Statutory Criterion. The first criterion tests whether the domestic like product produced that is internally transferred for processing into downstream articles does not enter the merchant market for the domestic like product.[182] *** U.S. producers reported internal consumption of FGP for the production of downstream automotive glass and *** reported internal consumption of FGP for production of ***.[183] No U.S. producer reported diverting FGP for internal consumption to the merchant market.[184] Thus, the first criterion is satisfied.

Second Statutory Criterion. In applying the second statutory criterion, the Commission generally considers whether the domestic like product is the predominant material input into a downstream product by referring to its share of the raw material cost of the downstream product, but has also construed "predominant" material input to mean the main or strongest element, and not necessarily a majority, of the inputs by value.[185] In these investigations, responding domestic producers reported that FGP accounted for *** percent of the cost of the downstream articles produced from the FGP and *** percent of the quantity of the downstream products.[186] Based on the limited information in these preliminary phase investigations and the lack of any contrary argument, the Commission finds that the second criterion is not satisfied.[187]

Based on the record in the preliminary phase of these investigations, we find that all the criteria for the captive production provision are not satisfied and thus consider the total U.S. market for FGP in our analysis.

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[182] *See*, *e.g.*, *Hot-Rolled Steel Products from Argentina and South Africa*, Inv. Nos. 701-TA-404, 731-TA-898, 905 (Final), USITC Pub. 3446 at 15-16 (Aug. 2001); *Certain Cold-Rolled Steel Products from Argentina, Brazil*, *China*, *Indonesia*, *Japan*, *Russia*, *Slovakia*, *South Africa*, *Taiwan*, *Turkey and Venezuela*, Inv. Nos. 701-TA-393 and 731-TA-829-40 (Final) (Remand), USITC Pub. 3691 at 2 & n.19 (May 2004).

[183] CR/PR at 3.32.

[184] CR/PR at 3.32.

[185] *See generally, e.g., Polyethylene Terephthalate Film, Sheet and Strip from Brazil, China, Thailand, and the United Arab Emirates*, Inv. Nos. 731-TA-1131-1134 (Final), USITC Pub. 4040 at 17 n.103 (Oct. 2008); *Polyethylene Terephthalate Film, Sheet, and Strip from India and Taiwan*, Inv. Nos. 701-TA-415 and 731-TA-933-934 (Final), USITC Pub. 3518 at 11 & n.51 (June 2002); *Polyvinyl Alcohol from Germany and Japan*, Inv. Nos. 731-TA-1015-16 (Final), USITC Pub. 3604 at 15 n.69 (June 2003).

[186] CR/PR at Table 3.20.

[187] Chair Karpel intends to further investigate in any final phase investigation whether to determine that the domestic like product is the predominant material input in a downstream product should be made in this investigation by reference to the cost or the quantity of raw materials in the downstream product. The SAA states that "{u}nder the second factor, the domestic like product will be considered "predominant" only where it is the primary material used in the production of a downstream article" and does not indicate whether the determination of primary material is to be judge by cost or quantity. SAA at 853. As noted, while by cost the value of the primary raw material in FGP accounts for *** percent of the downstream articles, by quantity FGP accounts for *** percent of the downstream articles.

2. Demand Conditions

Domestic demand for FGP is primarily tied to downstream applications in construction and transportation, and to a lesser extent, in electronics, furniture, and interior design.[188] In response to questionnaires, most U.S. producers (five of seven) and a plurality of importers (16 of 36) reported that overall U.S. demand for FGP has increased since January 1, 2021.[189] The record shows that U.S. total monthly construction spending steadily increased, from $1.6 trillion in January 2021 to $2.2 trillion in October 2024, an overall increase of 35.8 percent.[190] Domestic auto production also increased from 1.6 million vehicles in 2021 to 1.7 million vehicles in 2023, a 10.8 percent increase, but was 233,100 vehicles lower during interim 2024 compared to interim 2023, a 16.0 percent decline.[191] U.S. producers made most of their U.S. shipments to fabricators and automobile/transportation OEMs,[192] while U.S. fabricators made most of their U.S. shipments to contractors/builders and other end users.[193]

All seven responding U.S. producers and 19 of 37 importers indicated that demand for FGP is subject to business cycles.[194] Several U.S. producers and importers reported increased demand during the construction season, with U.S. producer *** and U.S. importer *** specifically noting increased demand during April through November.[195] All responding U.S.

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[188] CR/PR at 2.1, 2.8.

[189] CR/PR at Table 2.6. One domestic producer reported that overall demand steadily increased during the POI, four reported that demand fluctuated up, and two reported that demand fluctuated down. *Id.* Of the 36 U.S. importers that provided a response regarding demand, 11 reported that overall demand steadily increased during the POI, five reported that demand fluctuated up, seven reported that demand fluctuated down, four reported that demand steadily decreased, and nine reported no change in demand. *Id.*

[190] CR/PR at 2.8.

[191] CR/PR at 2.8.

[192] CR/PR at Table 2.2. Shipments to fabricators accounted for *** percent of domestic producers' U.S. shipments in 2021, *** percent in 2022, and *** percent in 2023; they accounted for *** percent of domestic producers' U.S. shipments in interim 2024 and interim 2023. *Id*. Shipments to auto/transportation OEMs accounted for *** percent of domestic producers' U.S. shipments in 2021, *** percent in 2022, and *** percent in 2023; they accounted for *** percent of domestic producer's U.S. shipments in interim 2024 and interim 2023. *Id*.

[193] CR/PR at Table 2.2. Shipments to contractors/builders accounted for *** percent of domestic fabricators' U.S. shipments in 2021, *** percent in 2022, and *** percent in 2023; they accounted for *** percent of fabricators' U.S. shipments in interim 2024, compared to *** percent in interim 2023. *Id.* Shipments to other end users accounted for *** percent of domestic fabricators' U.S. shipments in 2021, *** percent in 2022, and *** percent in 2023; they accounted for *** percent of fabricators U.S. shipments in interim 2024, compared to *** percent in interim 2023. *Id*.

[194] CR/PR at 2.9.

[195] CR/PR at 2.9.

producers (six of six) and nearly all responding U.S. importers (35 of 36) reported that there are no substitute products for FGP.[196]

Apparent U.S. consumption of FGP increased from 7.8 billion pounds in 2021 to 9.1 billion pounds in 2022, before declining to 8.2 billion pounds in 2023, for an overall increase of 5.1 percent.[197] Apparent U.S. consumption of FGP was 1.1 percent higher in interim 2024, at 6.24 billion pounds, than in interim 2023, at 6.17 billion pounds.[198]

3. Supply Conditions

The domestic industry was the largest source of supply in the U.S. market during the POI.[199] The industry's share of apparent U.S. consumption declined irregularly during the POI, increasing from 97.0 percent in 2021 to 97.4 percent in 2022, before decreasing to 96.6 percent in 2023; it was 96.5 percent in interim 2024, down from 96.6 percent in interim 2023.[200]

The domestic industry consists of seven producers of primary FGP, some of whom perform fabrication operations, as well as numerous fabricators. Although only eight U.S. fabricators responded to the Commission's questionnaire, Petitioner provided a list of 31 U.S. fabricators,[201] and one industry witness at the staff conference estimated that there may be more than 100 U.S. fabricators.[202] Accordingly, data concerning U.S. fabricators, and therefore data concerning the domestic industry as a whole, are likely understated, and the understated data likely has an impact on other data in these investigations, such as the market share of the domestic industry. In any final phase of the investigations, we will seek to collect additional data concerning U.S. fabricators.

There were several changes to the domestic industry during the POI. U.S. producers ***, Cardinal, Pilkington, and Tristar each announced expansions to their float glass production facilities.[203] U.S. producers Cardinal and Hartung, and U.S. fabricators Guardian and OldCastle Building Development, each announced acquisitions during the POI.[204] U.S. producer Vitro Architectural Glass closed its Oregon glass-coating facility in 2024.[205]

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[196] CR/PR at 2.9.

[197] CR/PR at Tables 4.9 & C.1.

[198] CR/PR at Tables 4.9 & C.1.

[199] CR/PR at Tables 4.9 & C.1.

[200] CR/PR at Tables 4.9 & C.1. The domestic industry's share of apparent U.S. consumption by value was 93.8 percent in 2021, 94.7 percent in 2022, and 93.5 percent in 2023; it was lower in interim 2024, at 93.3 percent, than in interim 2023, at 93.9 percent. CR/PR at Table 4.11.

[201] Petitioner Postconf. Br. Responses to Staff Questions at II-2-3.

[202] Conf. Tr. at 11 (Bush).

[203] CR/PR at Tables 3.3 & 3.4.

[204] CR/PR at Table 3.3.

[205] CR/PR at Table 3.3.

Domestic producers' practical FGP capacity increased from 9.4 billion pounds in 2021 to 10.8 billion pounds in 2022, and then slightly decreased to 10.5 billion pounds in 2023, for an overall increase of 11.7 percent.[206] U.S. producers' practical FGP capacity was 0.5 percent higher in interim 2024, at 7.97 billion pounds, than in interim 2023, at 7.93 billion pounds.[207] U.S. producers' FGP capacity utilization decreased from 91.6 percent in 2021 to 91.3 percent in 2022 and 81.9 percent in 2023, for an overall decrease of 9.7 percentage points.[208] U.S. producers' capacity utilization was higher in interim 2024, at 80.9 percent, compared to interim 2023, at 80.8 percent.[209]

U.S. fabricators' practical capacity increased from 232.7 million pounds in 2021 to 234.5 million pounds in 2022 and 240.3 million pounds in 2023, for an overall increase of 3.3 percent.[210] U.S. fabricators' practical capacity was 6.9 percent higher in interim 2024, at 192.7 million pounds, than in interim 2023, at 180.2 million pounds.[211] U.S. fabricators' capacity utilization increased from 84.4 percent in 2021 to 91.3 percent in 2022, before decreasing to 86.4 percent in 2023, for an overall increase of 2.0 percentage points.[212] U.S. fabricators' capacity utilization was 12.2 percentage points lower in interim 2024, at 74.3 percent, than in interim 2023, at 86.5 percent.[213]

Cumulated subject imports were the smallest source of supply throughout the POI, although their share of apparent U.S. consumption by quantity increased in each full year of the POI, from 0.7 percent in 2021 to 1.0 percent in 2022 and 1.3 percent in 2023.[214] Cumulated subject imports' share of apparent U.S. consumption was lower in interim 2024, at 1.2 percent, than in interim 2023, at 1.4 percent.[215] Given that responding importers accounted for only *** percent of subject imports from China and Malaysia, cumulated subject import volume and market share are likely significantly understated, and this understatement likely impacts other data in this investigations, including market shares and trends in market shares.[216] In any final

[206] CR/PR at Tables 3.9 & C.1.
[207] CR/PR at Tables 3.9 & C.1.
[208] CR/PR at Tables 3.9 & C.1.
[209] CR/PR at Tables 3.9 & C.1.
[210] CR/PR at Tables 3.12 & C.1.
[211] CR/PR at Tables 3.12 & C.1.
[212] CR/PR at Tables 3.12 & C.1.
[213] CR/PR at Tables 3.12 & C.1.
[214] CR/PR at Tables 4.9 & C.1.
[215] CR/PR at Tables 4.9 & C.1.
[216] *See* CR/PR at 1.4. As noted above, the HTS categories for purposes of calculating subject import coverage are basket categories that contain out of scope merchandise and therefore may understate subject import coverage in the questionnaire responses.

phase of the investigations, we will seek to collect more thorough data concerning the volume of subject imports.

Nonsubject imports were the second largest source of supply throughout the POI, although their share of apparent U.S. consumption by quantity decreased irregularly during the 2021-2023 period, declining from 2.3 percent in 2021 to 1.7 percent in 2022, before increasing to 2.1 percent in 2023.[217] Nonsubject imports' share of apparent U.S. consumption was higher in interim 2024, at 2.3 percent, than in interim 2023, at 2.0 percent.[218] The largest sources of nonsubject imports during the POI were Mexico, Germany, and Canada.[219]

Three of seven U.S. producers and three of 36 responding importers reported that they had experienced supply constraints since January 1, 2021.[220] U.S. producers ***, ***, and *** reported demand outpacing capacity during 2021 and 2022, while U.S. importers ***, ***, and *** reported similar supply constraint issues during the same time period.[221] *** and *** reported ***.[222] U.S. importer *** and U.S. producer *** reported extended lead times during 2021 and 2022, respectively, but did not note these as having impacted customer commitments.[223] The number of responding U.S. producers and importers that reported supply constraints declined as the POI progressed, particularly in 2023 and the interim 2024 period.[224] We intend to further investigate the duration and causes of the domestic industry's supply constraints in any final phase of these investigations.

4. Substitutability and Other Conditions

Based on the record in the preliminary phase of these investigations, we find that there is a high degree of substitutability between domestically produced FGP and subject imports.[225] A majority of U.S. producers reported that domestically produced FGB, subject imports from China, and subject imports from Malaysia were always or frequently interchangeable with one

[217] CR/PR at Tables 4.9 & C.1. The data concerning nonsubject imports, including market share data, are understated due to the limited data coverage of such imports afforded by importer questionnaire responses.

[218] CR/PR at Tables 4.9 & C.1. Given that nonsubject import market share was higher than cumulated subject import market share throughout the POI, we intend to collect pricing data concerning nonsubject imports in any final phase of these investigations.

[219] CR/PR at 2.7.

[220] CR/PR at 2.7; CR/PR at Table 2.5.

[221] CR/PR at 2.7.

[222] CR/PR at Table 3.10.

[223] CR/PR at 2.7 n.5.

[224] CR/PR at Table 2.5.

[225] CR/PR at 2.10.

another.[226] Similarly, most importers reported domestically produced FGP were either always or frequently interchangeable with FGP from subject sources.[227] The record also indicates that there was overlap between domestically produced FGP and subject imports from China and Malaysia with respect to U.S. shipments of IGUs and "all other products" during the POI.[228] Factors that may limit the degree of substitution between domestically produced FGP and subject imports include the extent of product differentiation and end uses of the domestic and imported products.[229]

The current record indicates that price is an important factor in purchasing decisions for FGP, among other important factors. Of the eight purchasers that responded to the Commission's lost sales/lost revenues survey, the purchasing factors that responding purchasers ranked most frequently were price/cost (eight firms), followed by availability/supply (seven firms) and quality (six firms).[230] Five responding purchasers ranked price as their most important purchasing factor.[231]

All U.S. producers reported that differences other than price between domestically produced FGP and subject imports were either sometimes or never significant in their sales of FGP.[232] Among U.S. importers, a majority reported that factors other than price were either always or frequently significant when comparing domestically produced FGP to imports from subject sources, but only sometimes or never significant for the remaining country pairs.[233]

U.S. producers reported that *** percent of their commercial shipments were produced-to-order, with lead times averaging *** days.[234] The remaining *** percent of their commercial shipments came from inventories, with lead times averaging *** days.[235] U.S. importers reported that *** percent of their commercial shipments were produced-to-order, with lead times averaging *** days.[236] Their remaining commercial shipments came from inventories, *** percent from U.S. inventories and *** percent from foreign inventories, with lead times averaging *** days and *** days, respectively.[237]

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[226] CR/PR at Table 2.8.
[227] CR/PR at Table 2.9.
[228] CR/PR at Table 4.6.
[229] CR/PR at 2.10.
[230] CR/PR at Table 2.7.
[231] CR/PR at Table 2.7.
[232] CR/PR at Table 2.10.
[233] CR/PR at Table 2.11.
[234] CR/PR at 2.11.
[235] CR/PR at 2.11.
[236] CR/PR at 2.11.
[237] CR/PR at 2.11.

In 2023, domestic producers primarily sold FGP through long term contracts (*** percent) and spot sales (*** percent), but also through annual contracts (*** percent) and short-term contracts (*** percent).[238] The vast majority of imports (*** percent) were sold through spot market sales in 2023.[239] Nearly half of U.S. producers reported that the typical contract allowed for price renegotiation and fixed both price and quantity.[240] All responding U.S. producers reported their contracts do not typically index prices to raw materials.[241] Most responding U.S. producers (five of seven) reported that they do not offer discounts, and the U.S. producers that do offer discounts reported offering quantity and annual total volume discounts.[242] Most responding U.S. importers (19 of 33) reported offering no discount policies. Among the importers that do offer discount policies, nine reported offering quantity discounts, five reported annual total volume discounts, and nine reported offering other discounts such as customer-specific discounts and rebates.[243]

As noted in sections III and IV.A.2 above, once a U.S. producer commences production with a new furnace by pulling the initial glass ribbon, the manufacturing process is continuous, lasting 24 hours a day, seven days a week for the next 12 to 15 years, at almost 100 percent capacity utilization.[244] In any final phase of these investigations, we intend to further investigate the nature of the domestic industry's continuous production, including whether and how furnace maintenance is performed.[245]

The main raw materials used in the production of FGP are silica (sand), soda ash (sodium carbonate), limestone, dolomite, salt cake (sodium sulfate), and cullet (recycled or waste glass).[246] Prices of sand increased five percent from January 2021 to April 2022, the most recent period for which data are available, and prices for sodium carbonates, which includes soda ash, increased by 13.6 percent during the same period.[247] The FGP industry is energy intensive because it involves continuous production, and the record shows that electricity and natural gas prices increased over the POI.[248] U.S. producers' and fabricators' raw materials as a

[238] CR/PR at Table 5.4. U.S. producers reported that the average duration for a long-term contract was either two or five years.
[239] CR/PR at Table 5.4.
[240] CR/PR at 5.6.
[241] CR/PR at 5.6.
[242] CR/PR at 5.6.
[243] CR/PR at 5.6.
[244] CR/PR at 1.12.
[245] CR/PR at Table 3.11.
[246] CR/PR at 5.1.
[247] CR/PR at 5.1; CR/PR at Figure 5.1.
[248] CR/PR at 5.1; CR/PR at Figure 5.2.

share of total COGS declined from 23.0 percent in 2021 to 22.3 percent in 2022, before increasing to and 22.8 percent in 2023; it was higher in interim 2024, at 24.0 percent, than in interim 2023, at 23.1 percent.[249]

Effective September 24, 2018, FGP originating in China became subject to an additional 10 percent *ad valorem* duty under section 301 of the Trade Act of 1974.[250] Effective May 10, 2019, the section 301 duty for FGP imported from China was increased to 25 percent.[251] Five of seven responding U.S. producers reported they did not know what impact the section 301 duty had on the FGP industry since 2021, while the remaining two U.S. producers reported that the duty has had no impact on the FGP industry.[252] Among responding U.S. importers, a plurality (17 out of 36) reported that the 301 duty has had an impact on the FGP industry, 5 out of 36 reported that the duty has not impacted the industry, and 14 out of 36 responding importers reported they did not know what impact the duty has had on the industry.[253]

C. Volume of Subject Imports

Section 771(7)(C)(i) of the Tariff Act provides that the "Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States, is significant."[254]

The volume of cumulated subject imports increased 80.7 percent from 2021 to 2023, increasing from 58.3 million pounds in 2021, to 90.6 million pounds in 2022, and 105.4 million pounds in 2023.[255] The volume of cumulated subject imports was 3.8 percent lower in interim 2024, at 76.8 million pounds, than in interim 2023, at 79.9 million pounds.[256] Cumulated subject imports as a share of apparent U.S. consumption increased by 0.7 percentage points from 2021 to 2023, increasing from 0.7 percent in 2021, to 1.0 percent in 2022, and to 1.3 percent in 2023.[257] Cumulated subject imports share of apparent U.S. consumption in interim 2024, at 1.2 percent, was lower than in interim 2023, at 1.4 percent, but remained at a higher level than at the beginning of the POI.[258] We note that, as the volume and share of apparent

[249] CR/PR at Table 6.5. *** reported that its raw materials as a share of total COGS was *** percent in 2023. CR/PR at 5.1.
[250] CR/PR at 1.10.
[251] CR/PR at 1.10.
[252] CR/PR at 2.2.
[253] CR/PR at 2.2.
[254] 19 U.S.C. § 1677(7)(C)(i).
[255] CR/PR at Tables 4.2 & 4.3.
[256] CR/PR at Tables 4.2 & 4.3.
[257] CR/PR at Tables 4.9 & C.1.
[258] CR/PR at Tables 4.9 & C.1.

U.S. consumption for subject imports are based on U.S. importers' questionnaire responses, they are understated in this preliminary phase of the investigations.

Based on the record of the preliminary phase of these investigations, we find that the volume of cumulated subject imports and the increase in that volume are significant in absolute terms. Although the market share held by subject imports was low, the record of these preliminary investigations only has low coverage of subject imports' presence in the U.S. market during the POI of *** percent.[259] We, therefore, cannot conclude that the volume of cumulated subject imports or the increase in that volume is not significant relative to U.S. consumption.

D. Price Effects of the Subject Imports

Section 771(7)(C)(ii) of the Tariff Act provides that, in evaluating the price effects of subject imports, the Commission shall consider whether –

> (I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and
>
> (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.[260]

As discussed in section V.B.3. above, we find that there is a high degree of substitutability between subject imports and domestically produced FGP of the same type and that price is an important factor in purchasing decisions, among other factors.

The Commission collected quarterly quantity and f.o.b. pricing data from U.S. producers and importers for five pricing products shipped to unrelated customers during the POI.[261] Four

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[259] CR/PR at 1.4 & 4.1. As noted above, the HTS categories for purposes of calculating subject import coverage are basket categories that contain out of scope merchandise and therefore may understate subject import coverage in the questionnaire responses.

[260] 19 U.S.C. § 1677(7)(C)(ii).

[261] The five pricing products were:

Product 1.-- Annealed float glass with a nominal thickness of 6.0 mm; clear; uncoated.

Product 2.-- Annealed float glass with a nominal thickness of 6.0 mm; with a double silver low- emissive ("Low-E") coating.

Product 3.-- Annealed float glass with a nominal thickness of 6.0 mm; mirror stock sheet with a silver reflective coating.

(Continued…)

U.S. producers and five U.S. importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[262] Pricing data reported by these firms accounted for approximately 9.6 percent of U.S. producers' U.S. shipments of FGP, 1.5 percent of U.S. shipments of subject imports from China, and 4.5 percent of U.S. shipments of subject imports from Malaysia in 2023.[263] We recognize that the pricing data coverage of subject imports from China and Malaysia reflects in part the low data coverage of subject imports afforded by importer questionnaire responses, and will seek additional pricing data coverage in any final phase of these investigations.

These pricing data show that cumulated subject imports undersold the domestic like product in 12 of 58 quarterly comparisons, at margins ranging from *** to *** percent and averaging *** percent, corresponding to reported subject import sales of *** square feet.[264] Cumulated subject imports oversold the domestic like product in the remaining 46 quarterly comparisons, at margins ranging from *** to *** percent and averaging *** percent, corresponding to reported subject import sales of *** square feet.[265] Thus, even though cumulated subject imports undersold the domestic like product in only 20.7 percent of quarterly comparisons, these quarters of underselling accounted for *** percent of reported subject import sales volume.

We have also considered purchasers' responses to the Commission's lost sales/lost revenue survey. Commission staff contacted *** purchasers identified by domestic producers

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Product 4.-- Laminated sheet stock with a nominal thickness between 6.0mm and 6.5mm, consisting of two clear annealed float glass substrates and a clear polyvinyl butyral (PVB) interlayer.

Product 5.-- Tempered float glass with a nominal thickness of 8mm (or 5/16") for use in bath/shower doors or enclosures; clear; uncoated.

CR/PR at 5.7.

[262] CR/PR at 5.7.

[263] CR/PR at 5.7.

[264] CR/PR at Table 5.13.

[265] CR/PR at Table 5.13. Petitioner argues that the comparison of subject imports' average unit value ("AUV") to the AUVs of the domestic like product supports a finding that subject imports undersold the domestic like product. The limited available data, however, do not indicate that subject imports' AUVs were lower than the AUVs of U.S. producers' and U.S. fabricators' U.S. shipments. U.S. producers' and U.S. fabricators' shipments were $*** per pound in 2021, $*** in 2022, and $*** in 2023; they were lower in interim 2024 at $*** per pound, than in interim 2023, at $*** per pound. CR/PR at Table C.1. Subject imports' AUVs were $1.03 per pound in 2021, $0.85 in 2022, and $0.69 in 2023; they were $0.77 per pound in interim 2024 and $0.67 per pound in interim 2023. CR/PR at Table 4.2. In their comments on the draft final phase questionnaires, we invite any participating parties to comment on how the Commission may obtain more comprehensive pricing data for subject imports.

and received responses from eight.[266] Of the eight responding purchasers, seven reported that, since 2021, they had purchased FGP from China instead of domestically produced FGP and three reported that they had purchased FGP from Malaysia instead of domestically produced FGP. Six of these purchasers reported that subject imports were priced lower than domestically produced FGP, and five reported that price was a primary reason for purchasing subject imports instead of domestically produced FGP. Four of these purchasers estimated that they purchased *** pounds of subject imports instead of domestically produced FGP due to price, equivalent to *** percent of total reported purchases and *** percent of cumulated subject import volume during the POI.[267]

Given the high degree of substitutability between subject imports and the domestic like product, the importance of price to purchasing decisions, the pricing data showing subject import underselling with respect to a majority of reported subject import sales volume, and purchaser reports of purchasing subject imports instead of the domestic like product on the basis of price, we find that cumulated subject imports significantly undersold the domestic like product during the POI. The available data in these preliminary investigations appear to indicate that subject imports gained some slight market share at the expense of the domestic industry during the POI. It is likely that additional data and information collected in any final phase investigations will allow the Commission to further evaluate and substantiate the degree by which subject imports gained U.S. market share at the expense of the domestic industry through lower prices.

We have also considered price trends. Between the first quarter of 2021 and the third quarter of 2024, U.S. producers' sales prices increased for all four pricing products for which data were available, products 1-3 and 5, by *** to *** percent, depending on the product.[268] At the same time, between the first and last quarters for which data are available, U.S. importers' sales prices increased for product 1 from China and Malaysia and product 3 from Malaysia, by *** to *** percent depending on the product, but declined for products 4 and 5 from China, by *** and *** percent, respectively.[269] Nevertheless, U.S. producers' sales prices for at least three of the four pricing products for which domestic prices were reported decreased irregularly from the fourth quarter of 2022 through the third quarter of 2024.[270] We

[266] *See* CR/PR at Tables 5.16 & 5.18.

[267] *Calculated* from CR/PR at Tables 5.19, 5.16, and 4.10.

[268] CR/PR at 5.18.

[269] CR/PR at Table 5.10.

[270] CR/PR at Table 5.11. The domestic weighted-average f.o.b. prices of product 1 decreased irregularly overall from $*** per square foot in the second quarter of 2023 to $*** per square foot in (Continued…)

note these price declines occurred as apparent U.S. consumption in the merchant market declined by *** percent between 2022 and 2023 (with a slight increase, *** percent, over the interim periods). Given the reported price declines in 2023 and interim 2024, the high degree of substitutability between subject imports and the domestic like product and the importance of price, as well as the evidence that cumulated subject imports undersold the domestic like product, we cannot conclude that cumulated subject imports did not depress domestic prices to a significant degree during the POI.[271]

We have also considered whether cumulated subject imports prevented price increases which otherwise would have occurred to a significant degree. U.S. producers' and fabricators' ratio of COGS to net sales declined during the 2021 to 2023 period, from 69.3 percent in 2021, to 69.2 percent in 2022, and 68.7 percent in 2023, but was higher in interim 2024, at 70.6 percent, than in interim 2023, at 68.6 percent.[272] The domestic industry's total net sales average unit value ("AUV") increased by $0.06 per pound (17.4 percent) over the POI, increasing from $0.33 per pound in 2021 to $0.38 per pound in 2022 and 2023.[273] Unit COGS increased by just $0.04 per pound (16.3 percent) over the POI, increasing from $0.23 per pound in 2021 to $0.26 per pound in 2022 and 2023.[274] Comparing interim 2024 to interim 2023, the domestic industry's total net sales AUV was $0.01 per pound (3.3 percent) lower, at $0.38 per pound in interim 2024 compared to $0.39 per pound in interim 2023.[275] Unit COGS was less than $0.005 per pound (0.4 percent) lower, at $0.26 per pound in interim 2024 compared to $0.27 per pound in interim 2023.[276] [277] Apparent U.S. consumption increased 5.1 percent from 2021 to 2023 and was 1.1 percent higher in interim 2024 than in interim 2023.[278]

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the third quarter of 2024. See CR/PR at 5.5. The domestic weighted average f.o.b. prices of product 5 decreased irregularly overall from $*** in the second quarter of 2023 to $*** in the third quarter of 2024. See CR/PR at Table 5.9.

[271] We intend to further investigate the impact of demand on domestic producer prices in any final phase of these investigations.

[272] CR/PR at Tables 6.5 & C.1.

[273] CR/PR at Tables 6.5, 6.6, & C.1.

[274] CR/PR at Tables 6.5, 6.6, & C.1.

[275] CR/PR at Tables 6.5, 6.6, & C.1.

[276] CR/PR at Tables 6.5, 6.6, & C.1.

[277] Further, we note that of the fifteen responding U.S. producers and fabricators, five reported that they had to reduce prices, four reported that they had to roll back announced price increases, and five reported that they had lost sales. CR/PR at 5.23. Of the eight responding purchasers, three reported that U.S. producers had reduced prices in order to compete with lower-priced subject imports, two reported that they had not, and three reported that they did not know. CR/PR at 5.25 and Table 5.20.

[278] CR/PR at Table C.1.

In sum, based on the record of the preliminary phase of these investigations, we cannot find that cumulated subject imports did not have significant price effects during the POI.

E. Impact of the Subject Imports[279]

Section 771(7)(C)(iii) of the Tariff Act provides that the Commission, in examining the impact of the subject imports on the domestic industry, "shall evaluate all relevant economic factors which have a bearing on the state of the industry." These factors include output, sales, inventories, capacity utilization, market share, employment, wages, productivity, gross profits, net profits, operating profits, cash flow, return on investment, return on capital, ability to raise capital, ability to service debt, research and development, and factors affecting domestic prices. No single factor is dispositive, and all relevant factors are considered "within the context of the business cycle and conditions of competition that are distinctive to the affected industry."[280]

As described above, the coverage of FGP fabricators is limited in the preliminary phase of these investigations. The limited record indicates that the domestic industry's performance improved irregularly by many measures from 2021 to 2023, including U.S. shipments, employment, net sales value, operating income, net income, and operating and net income margins, although its capacity utilization, and market share declined over the period. Nevertheless, the industry's performance generally declined after 2022, when underselling volumes began to predominate in 2023 and interim 2024, and was weaker in interim 2024 than in interim 2023 according to most measures, despite apparent U.S. consumption being 1.1 percent higher in interim 2024 compared to interim 2023.[281]

U.S. producers' practical capacity increased irregularly by 11.7 percent from 2021 to 2023, increasing from 9.4 billion pounds in 2021 to 10.7 billion pounds in 2022, before declining to 10.5 billion pounds in 2023; it was 0.5 percent higher in interim 2024, at 7.97 billion pounds, than in interim 2023, at 7.93 billion pounds.[282] U.S. fabricators' practical capacity increased 3.3 percent from 2021 to 2023, from 232.7 million pounds in 2021 to 234.5 million pounds in 2022 and 240.3 million pounds in 2023; it was 6.9 percent higher in interim 2024, at 192.7 million

[279] Commerce initiated antidumping duty investigations for subject imports from China based on estimated dumping margins of 181.54 to 311.81 percent, and for subject imports from Malaysia based on estimated dumping margins of 66.24 to 1,180.00 percent. *Float Glass Products From the People's Republic of China and Malaysia: Initiation of Less-Than-Fair Value Investigations*, 90 Fed. Reg. 1435 (Jan. 8, 2025).

[280] 19 U.S.C. § 1677(7)(C)(iii). This provision was amended by the Trade Preferences Extension Act of 2015, Pub. L. 114-27.

[281] CR/PR at Table C.1.

[282] CR/PR at Tables 3.9 & C.1.

pounds, than in interim 2023, at 180.2 million pounds.[283] U.S. producers' production by quantity fluctuated over the 2021-2023 period but ended the period where it began, increasing from 8.6 billion pounds in 2021 to 9.8 billion pounds in 2022, before decreasing to 8.6 billion pounds in 2023; it was 0.6 percent higher in interim 2024, at 6.5 billion pounds, than in interim 2023, at 6.4 billion pounds.[284] U.S. fabricators' production increased irregularly by 5.7 percent from 2021 to 2023, increasing from 196.4 million pounds in 2021 to 214.1 million in 2022, before decreasing to 207.6 million pounds in 2023; it was 8.1 percent lower in interim 2024, at 143.3 million pounds, than in interim 2023, at 155.9 million pounds.[285]

U.S. producers' capacity utilization decreased 9.7 percentage points from 2021 to 2023, decreasing from 91.6 percent in 2021 to 91.3 percent in 2022 and 81.9 percent in 2023; it was 0.1 percentage points higher in interim 2024, at 80.9 percent, than in interim 2023 at 80.8 percent.[286] U.S. fabricators' capacity utilization increased irregularly by 2.0 percent from 2021 to 2023, increasing from 84.4 percent in 2021 to 91.3 percent in 2022, before decreasing to 86.4 percent in 2023; it was 12.2 percentage points lower in interim 2024, at 74.3 percent, than in interim 2023 at 86.5 percent.[287]

The domestic industry's employment-related indicia generally improved from 2021 to 2023, but were weaker in interim 2024 compared to interim 2023. The domestic industry's employment increased by 14.3 percent from 2021 to 2023, from 5,708 PRWs in 2021 to 6,472 PRWs in 2022 and 6,527 PRWs; employment was 9.7 percent lower in interim 2024, at 5,844 PRWs, than in interim 2023, at 6,473 PRWs.[288] The domestic industry's hours worked increased irregularly by 13.6 percent from 2021 to 2023, from 12.3 million in 2021, to 14.2 million in 2022, and to 14.0 million in 2023; they were 3.0 percent lower in interim 2024, at 10.3 million, than in interim 2023 at 10.7 million.[289] The domestic industry's wages paid increased by 26.9 percent from 2021 to 2023, from $299.5 million in 2021 to $371.8 million in 2022 and to $380.1 million in 2023; wages paid were 0.8 percent lower in interim 2024, at $285.4 million, than in interim 2023 at $287.6 million.[290] The domestic industry's average hourly wages paid increased by *** percent from 2021 to 2023, from $*** per hour in 2021 to $*** per hour in 2022 and to

[283] CR/PR at Tables 3.12 & C.1.
[284] CR/PR at Tables 3.9 & C.1.
[285] CR/PR at Tables 3.12 & C.1.
[286] CR/PR at Tables 3.9 & C.1.
[287] CR/PR at Tables 3.12 & C.1.
[288] CR/PR at Tables 3.27 & C.1.
[289] CR/PR at Tables 3.27 & C.1.
[290] CR/PR at Tables 3.27 & C.1.

$*** per hour in 2023; average hourly wages were higher in interim 2024, at $*** per hour, than in interim 2023 at $*** per hour.[291]

U.S. producers' productivity decreased from 2021 to 2023 by 13.2 percent, decreasing from 912.9 pounds per hour in 2021 to 882.3 pounds per hour in 2022 and 792.5 pounds per hour in 2023; it was 3.4 percent higher in interim 2024, at 807.3 pounds per hour, than in interim 2023, at 781.1 pounds per hour.[292] U.S. fabricators' productivity decreased irregularly overall from 2021 to 2023 by 2.9 percent, increasing from 67.2 pounds per hour in 2021 to 68.0 pounds per hour in 2022, and decreasing to 65.3 pounds per hour in 2023; it was 3.8 percent lower in interim 2024, at 61.2 pounds per hour, than in interim 2023, at 63.6 pounds per hour.[293]

The domestic industry's U.S. shipments increased irregularly by 4.7 percent from 2021 to 2023, increasing from 7.6 billion pounds in 2021, to 8.9 billion pounds in 2022, before declining to 7.9 billion pounds in 2023; they were 0.9 percent higher in interim 2024, at 6.02 billion pounds, than in interim 2023, at 5.97 billion pounds.[294] The domestic industry's share of apparent U.S. consumption by quantity decreased irregularly by 0.4 percent from 2021 to 2023, increasing from 97.0 percent in 2021 to 97.4 percent in 2022 before declining to 96.6 percent in 2023; it was lower in interim 2024, at 96.5 percent, than in interim 2023, at 96.6 percent.[295]

U.S. producers' end-of-period inventories increased by 13.5 percent overall from 2021 to 2023, increasing from 1.2 billion pounds in 2021 to 1.3 billion pounds in 2022 and 2023; they were 10.5 percent lower in interim 2024, at 1.2 billion pounds, than in interim 2023, at 1.4 billion pounds.[296] U.S. fabricators' end-of-period inventories increased *** percent overall from 2021 to 2023, increasing from *** pounds in 2021 to *** pounds in 2022, before declining

[291] CR/PR at Tables 3.27 & C.1.

[292] CR/PR at Tables 3.24 & C.1.

[293] CR/PR at Tables 3.26 & C.1.

[294] CR/PR at Tables 3.17 & C.1.

[295] CR/PR at Tables 4.11 & C.1. The domestic industry's share of apparent U.S. consumption (by fully domestic value) decreased overall by *** percentage points from 2021 to 2023, increasing from *** percent in 2021, to *** percent in 2022, before declining to *** percent in 2023; it was lower by *** percentage points in interim 2024, at *** percent, than in interim 2023 at *** percent. The domestic industry's share of apparent U.S. consumption (by total value, including the incremental domestic value added to imports by fabricators) decreased overall by 0.3 percentage points from 2021 to 2023, increasing from 93.8 percent in 2021, to 94.7 percent in 2022, before declining to 93.5 percent in 2023; it was 0.6 percentage points lower in interim 2024, at 93.3 percent, than in interim 2023, at 93.9 percent. CR/PR at Tables 4.11 & C.1.

[296] CR/PR at Tables 3.21 & C.1.

slightly to *** pounds in 2023; they were *** percent lower in interim 2024, at *** pounds, than in interim 2023, at *** pounds.[297]

The domestic industry's financial performance increased irregularly from 2021 to 2023, generally improving from 2021 to 2022 before weakening in 2023, but was generally weaker in interim 2024 compared to interim 2023. The domestic industry's net sales value increased irregularly by 21.3 percent from 2021 to 2023, increasing from $2.6 billion in 2021 to $3.5 billion in 2022, before decreasing to $3.2 billion in 2023; net sales value was 7.8 percent lower in interim 2024, at $2.2 billion, than in interim 2023, at $2.4 billion.[298] The domestic industry's gross profit increased from $797.4 million in 2021, to $1.1 billion in 2022, before declining to $987.2 million in 2023, for an overall increase of 23.8 percent.[299] The domestic industry's gross profit was 13.8 percent lower in interim 2024, at $650.3 million, than in interim 2023 at $754.6 million.[300]

The domestic industry's operating income increased irregularly by 28.9 percent from 2021 to 2023, increasing from $343.1 million in 2021 to $458.3 million in 2022, before declining to $442.1 million in 2023.[301] The domestic industry's operating income was 26.5 percent lower in interim 2024, at $263.7 million, than in interim 2023 at $358.6 million.[302] The domestic industry's operating income as a ratio of net sales increased from 13.2 percent in 2021 and 2022, to 14.0 percent in 2023; it was lower in interim 2024, at 11.9 percent, than in interim 2023, at 14.9 percent.[303]

The domestic industry's net income increased irregularly by *** percent from 2021 to 2023, increasing from $*** in 2021, to $*** in 2022, before declining to $*** in 2023; the domestic industry's net income was *** percent lower in interim 2024, at $***, than in interim 2023, at $***.[304] The domestic industry's net income as a ratio of net sales increased from *** percent in 2021 to *** percent in 2022 and *** percent in 2023; it was lower in interim 2024, at *** percent, than in interim 2023, at *** percent.[305]

The domestic industry's capital expenditures decreased irregularly by *** percent from 2021 to 2023, declining from $*** in 2021 to $*** in 2022 before increasing to $*** in 2023; it

[297] CR/PR at Tables 3.22 & C.1.
[298] CR/PR at Tables 6.5 & C.1.
[299] CR/PR at Tables 6.5 & C.1.
[300] CR/PR at Tables 6.5 & C.1.
[301] CR/PR at Tables 6.5 & C.1.
[302] CR/PR at Tables 6.5 & C.1.
[303] CR/PR at Tables 6.5 & C.1.
[304] CR/PR at Tables 6.5 & C.1.
[305] CR/PR at Tables 6.5 & C.1.

was lower by *** percent in interim 2024, at $*** than in interim 2023, at $***.[306] The domestic industry's research and development ("R&D") expenditures decreased irregularly by ***percent from 2021 to 2023, from $*** in 2021 to $*** in 2022 and $*** in 2023; they were *** percent lower in interim 2024, at $***, than in interim 2023, at $***.[307] The domestic industry's return on assets increased from 10.1 percent in 2021 to 13.3 percent in 2022, before declining to 11.5 percent in 2023, a level 1.4 percentage points higher than in 2021.[308] Several U.S. producers and U.S. fabricators reported negative effects on their investments that they attributed to subject imports, including the inability to obtain financing or invest in production equipment maintenance and upgrades.[309]

Based on the current record, we have found that cumulated subject import volume and the increase in that volume was significant and cannot find that cumulated subject imports did not have significant price effects during the POI. Given this, as well as the domestic industry's generally declining performance after 2022, we cannot conclude that cumulated subject imports did not have a significant adverse impact on the domestic industry.

We have also considered whether there are other factors that may have had an impact on the domestic industry, to ensure that we are not attributing injury from such other factors to subject imports. The current record indicates that nonsubject imports were the second largest source of supply to the U.S. market throughout the POI. Nonsubject imports' share of apparent U.S. consumption decreased irregularly by 0.2 percentage points from 2021 to 2023, declining from 2.3 percent in 2021 to 1.7 percent in 2022 before increasing to 2.1 percent in 2023, but was higher in interim 2024, at 2.3 percent, than in interim 2023, at 2.0 percent.[310] Given that nonsubject import market share declined irregularly as cumulated subject import market share increased from 2021 to 2023, we cannot conclude that nonsubject imports explain the domestic industry's declining performance after 2022. Nor can some indicators of a decline in the domestic industry's performance after 2022 be attributed to changes in demand. For example, despite a 10.2 percent decline in apparent consumption between 2022 and 2023, U.S. shipments of subject imports increased by 23.9 percent during that period.[311]

In sum, the record as a whole in the preliminary phase of these investigations does not contain clear and convincing evidence that there is no reasonable indication of material injury

[306] CR/PR at Tables 6.12 & C.1.
[307] CR/PR at Tables 6.12 & C.1
[308] CR/PR at Table 6.17.
[309] CR/PR at Table 6.20.
[310] CR/PR at Tables 4.2 & C.1.
[311] CR/PR at Table C.1.

to the domestic industry by reason of cumulated subject imports. We have therefore reached affirmative preliminary determinations.

VIII. Conclusion

For the reasons stated above, we determine that the record in these preliminary investigations does not contain clear and convincing evidence that there is no material injury, and there is a likelihood that evidence will arise in any final investigations that an industry in the United States is materially injured by reason of subject imports of FGP from China and Malaysia that are allegedly sold in the United States at less than fair value and that are allegedly subsidized by the governments of China and Malaysia. Therefore, we determine that there is a reasonable indication that an industry in the United States is materially injured by reason of subject imports of FGP from China and Malaysia that are allegedly sold in the United States at less than fair value and that are allegedly subsidized by the governments of China and Malaysia.

SEPARATE AND CONCURRING VIEWS OF COMMISSIONER DAVID S. JOHANSON

I write separately as I find that there is a reasonable indication that an industry in the United States is threatened with material injury by reason of imports of float glass products from China and Malaysia, rather than finding that there is a reasonable indication that an industry in the United States is materially injured by such imports. I thus do not join Sections VII.C through the end of the majority opinion. In other respects, I join the opinion of the majority unless otherwise indicated below.

I. Cumulation for Threat Analysis

As an initial matter, I must decide whether to consider subject imports from China and Malaysia separately or cumulatively for purposes of a threat analysis.[1]

As discussed above in Section VI, I find that the statutory requirements for cumulation are met. The preliminary record suggests that trends in import volumes and underselling by subject imports from China and Malaysia are different, however, and that there are differences in AUV and product types.[2] These differences may indicate that imports from these sources are likely to compete under different conditions of competition in the U.S. market.

Yet, in light of the current record's limited information on such distinctions, including the lack of any respondent participation or foreign producer questionnaire responses from either country under investigation, I do not find it appropriate at this stage to consider imports from those countries separately. Rather, I consider subject imports from both subject sources cumulatively. If threat of injury is an issue in any final phase, I will examine the available evidence as to foreign industry capacity, export propensity and pricing, product mix, or other relevant factors.

II. Threat of Material Injury by Reason of Cumulated Subject Imports

In assessing whether a domestic industry is threatened with material injury by reason of imports from China and Malaysia for purposes of determining whether to cumulate, I apply the standards provided by Section 771(7)(F)(i) of the Act for determining whether an industry in the United States is threatened with material injury.[3] As this is a preliminary determination under Sections 1671b(a) and 1673b(a) of the Act,[4] I apply the standard the Federal Circuit enunciated

[1] 19 U.S.C. § 1677(7)(H).
[2] *See* CR/PR at Tables 4.6, 5.4, & C.1.
[3] 19 U.S.C. § 1677(7)(F).
[4] 19 U.S.C. §§ 1671b(a) & 1673b(a).

in *American Lamb Co. v. United States* to determine whether a "reasonable indication" of threat of injury exists.[5]

Section 771(7)(F) of the Tariff Act directs the Commission to determine whether the domestic industry is threatened with material injury by reason of the subject imports by analyzing whether "further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted."[6] The Commission may not make such a determination "on the basis of mere conjecture or supposition" and considers the threat factors "as a whole" in making its determination whether dumped or subsidized imports are imminent and whether material injury by reason of subject imports would occur unless an order is issued.[7] In considering the existence of threat of material injury for purposes of Section 771(7)(G)(ii)(IV), I consider all factors set forth as relevant in Section 771(7)(F).[8]

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[5] 785 F.2d 994 (Fed. Cir. 1986). Under *American Lamb*, the "reasonable indication" standard requires more than the mere possibility of injury or threat of injury; rather, the Commission weighs the evidence before it to determine whether "(1) the record as a whole contains clear and convincing evidence that there is no material injury or threat of such injury; and (2) no likelihood exists that contrary evidence will arise in a final investigation." 785 F.2d at 1001, 1004.

[6] 19 USC 1677(7)(F)(ii).

[7] 19 USC 1677(7)(F)(ii).

[8] *See* 19 USC 1677(F)(i). These factors are as follows:

(I) if a countervailable subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement), and whether imports of the subject merchandise are likely to increase,

(II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,

(III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,

(IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices and are likely to increase demand for further imports,

(V) inventories of the subject merchandise,

(VI) the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products,

...

(VIII) the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and

(IX) any other demonstrable adverse trends that indicate the probability that there is likely to be

(Continued...)

A. Likely Volume

U.S. importers' U.S. shipments of subject imports increased steadily over the POI from 52.0 million pounds in 2021 to 108.6 million pounds in 2023, an increase of 109.1 percent; U.S. shipments of subject imports measured 76.0 million pounds in interim 2024, 9.5 percent less than their volume of 83.9 million in interim 2023.[9] Subject imports' share of U.S. apparent consumption increased steadily from 0.7 percent in 2021 to 1.3 percent in 2023, an increase of 0.7 percentage points; it was 1.4 percent in interim 2023 and 1.2 percent in interim 2024.[10]

The volumes of subject imports and the increase in volumes are both small in relation to U.S. consumption, even allowing for the fact that subject import data are based on questionnaire responses that account for a minority of imports of float glass in the primary HTS categories for in-scope merchandise imports.[11] Furthermore, the increase in subject import volumes appears to have abated or reversed in interim 2024, which was prior to the filing of the Petitions on November 21, 2024.[12] Moreover, as discussed below, there is scant evidence that import volumes have had a significant impact on the domestic industry so far.

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material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).

19 U.S.C. § 1677(7)(F)(i). To organize my analysis, I discuss the applicable statutory threat factors using the same volume/price/impact framework that applies to our material injury analysis. Thus, I discuss factors (I), (II), (III), (V), and (VI) primarily in the analysis of subject import volume; factor (IV) primarily in the analysis of import price effects; and factors (VIII) and (IX) primarily in the analysis of impact. Factor (VII) concerning agricultural products does not apply in this investigation.

[9] CR/PR at Table C.1.

[10] CR/PR at Table C.1.

[11] U.S. import data are based on questionnaire responses of 42 importers that in 2023 represented an estimated *** percent of imports from subject sources and *** percent of imports from nonsubject sources that entered under the primary HTS subheadings in which float glass imports primarily enter the United States. CR/PR at 1.4 to 1.5 & n.8. In contrast, U.S. industry data are based on questionnaire responses from seven firms that account for all known U.S. production of float glass (although not all fabrication of float glass from domestic and imported sources). CR/PR at 1.4 & n.6. Thus, U.S. producers' U.S. shipment data are relatively complete. As market share data are relatively complete for shipments of U.S.-produced float glass but are substantially incomplete for imports (particularly imports from China and nonsubject sources), these data possibly understate the market share of imports.

I note, however, that some of the apparent increase in subject imports may result from having more complete coverage later in the POI. To the extent the Commission must rely on import questionnaire data, and questionnaire coverage is relatively limited, I will examine in any final phase how data incompleteness may affect market share and other trends.

[12] CR/PR at 1.1.

Nevertheless, I do not find that there is no likelihood that evidence will emerge in any final phase that the volume and increase in volume will become significant in the imminent future for several reasons.

First, as discussed above, the preliminary record indicates that import volumes did increase during the POI, both in absolute terms and relative to U.S. consumption.[13] Second, the preliminary record also indicates that underselling by subject imports increased as the POI progressed. Subject imports undersold domestic like products in 8.3 percent of comparisons in 2021, 18.8 percent in 2022, 33.3 percent in 2023, and 20.0 percent in interim 2024, while in volume terms, underselling represented *** percent of pricing product volume in 2021, *** percent in 2022, *** percent in 2023, and *** percent in 2024.[14] Pricing data were limited and the correlation between subject import underselling and subject import volumes was imperfect, but there is likely to be additional evidence in any final phase regarding underselling. Further increases in underselling could accelerate the increase in subject import volume in the imminent future.

Third, while the record lacks much data regarding industry capacity in China and Malaysia, there is evidence that the industries in both countries export substantial and increasing amounts to other markets, and that in the case of China at least these exports were likely substantial in relation to the total U.S. market.[15] From 2021 to 2023, approximately 78 percent of exports from China in the HTS categories that include float glass and approximately 99 percent of exports from Malaysia were shipped to other countries.[16] Exports in these categories from China and Malaysia increased irregularly by 11.5 percent by value from 2021 through 2023.[17]

Thus, while the record does not include evidence showing that subject producers have or are likely imminently to develop excess capacity allowing or inducing them to expand exports to the United States, the record does not preclude that possibility, and also indicates that even if they will not have more capacity there is at least potential that they could shift exports from

[13] The record also indicates that U.S. importers have already imported or arranged to import *** pounds of float glass from the fourth quarter of 2024 through the third quarter of 2025. Although this volume is small in relation to recent apparent U.S. consumption of 6.2 billion pounds in interim 2024 and *** has been arranged past the first quarter of this year, given incomplete questionnaire coverage and the filing of the Petitions, this evidence does not rule out any likelihood that imports will increase substantially in the imminent future. CR/PR at Tables 7.4 and C.1.

[14] Derived from CR/PR at Table 5.15.

[15] CR/PR at Table 7.2. In 2023, China exported $1.1 billion in these categories compared to U.S. apparent consumption of float glass of $3.1 billion. CR/PR at Tables 7.2 & C.1.

[16] Derived from CR/PR at Table 7.2.

[17] CR/PR at 7.4.

other markets to the United States.[18] Both China and Malaysia are also subject to third-country trade actions.[19]

Accordingly, I find that there is some likelihood that additional evidence will emerge in any final phase demonstrating that subject imports will be sold in significant and significantly increasing volumes in the United States in the imminent future.

B. Likely Price Effects

As just discussed, the preliminary record indicates that subject imports increasingly undersold domestic like products over the course of the POI and that by the second half of the POI underselling predominated. Domestic producers' prices for the four pricing products increased over the POI, but for the most part peaked in late 2022 or early 2023.[20] Three purchasers (***) reported that importers had lowered their prices in response to competing subject import prices, although volumes were not reported.[21] The U.S. industry's COGS/net sales ratio improved from 2021 to 2023, falling from 69.3 percent in 2021 to 68.7 percent in 2023 but this ratio was higher in interim 2024 at 70.6 percent than in interim 2023 when it was 68.6 percent, even though apparent consumption was slightly greater in interim 2024 than in interim 2023.[22]

The preliminary record offers no clarity as to whether subject import prices had any significant effect on domestic industry prices. Price changes from 2021 to 2023 generally tracked changes in apparent consumption, while the domestic industry's COGS/net sales ratio improved in 2023 despite increased subject imports and decreased consumption.[23] The slight deterioration of the domestic industry's COGS/net sales ratio in interim 2024 occurred while consumption slightly increased but subject import market share slightly decreased as well.[24] The preliminary record also does not well explain how prices of small volumes of imports would be transmitted broadly in the industry, how annual or long-term contract terms may have affected trends in pricing, or the role that prices of relatively more numerous nonsubject imports may have played.

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[18] I note that there is little evidence that product shifting is common in U.S. float glass production, CR/PR at 3.27, although there is likely some ability to shift between in-scope and out-of-scope fabricated products, some of which are quite similar such as different varieties or sizes of mirrors, *see* CR/PR at I.8. The available evidence does not indicate that there have been large changes in importers' U.S. inventories. CR/PR at Table C.1.

[19] CR/PR at 7.8.

[20] CR/PR at Table 5.11 & Fig. 5.8.

[21] CR/PR at 2.8, 5.25 & Tables 3.1 & 5.20.

[22] CR/PR at Tables 6.1 & C.1.

[23] CR/PR at Table C.1.

[24] CR/PR at Table C.1.

Nevertheless, a combination of rising subject import volume and increased underselling by subject imports could be expected under appropriate circumstances to have significant effect on domestic prices, so I do not find that the record excludes any reasonable likelihood that evidence may emerge in any final phase that subject imports will significantly depress or suppress U.S. industry prices in the imminent future.

C. Likely Impact

As an initial matter, I do not find the domestic industry vulnerable. Its net income, which can fund investments, increased from 2021 through 2023.[25] The domestic industry's net income was lower in interim 2024 than in interim 2023 but even in interim 2024 the industry's ratio of net income to sales was positive, at *** percent.[26] Domestic producers have not reported *** rejection of loans, reductions in credit rating, or problems relating to issuance of stocks or bonds as a result of subject imports, and *** reported operating losses at any time during the POI.[27] Apparent consumption in 2023 was lower than during the peak year of 2022 but was higher than in 2021, and consumption in interim 2024 was slightly higher than in interim 2023.[28] The domestic industry's workforce in interim 2024, similarly, was larger than in 2021 although smaller than in interim 2023.[29]

As discussed above, the preliminary record does not exclude any reasonable likelihood that subject imports will increasingly undersell domestic like products, increase in volume and U.S. market share in the imminent future, and have significant effects on U.S. industry pricing. Such increases would have some degree of impact on the U.S. industry if they come at the expense of the domestic industry.

I also consider whether there is a reasonable indication such an increase in subject import volume or price effects is likely to be material.[30] As noted above, the domestic industry is not vulnerable and in the most recent period for which data are available, the first three quarters of 2024, subject imports remained small and appear to have lost market share to nonsubject imports despite predominantly underselling domestic like products.

Yet, if the U.S. industry were to lose sales, its sales revenues would not only decrease but its capacity utilization would be lower, at least incrementally, resulting in higher unit costs and the loss of some economies of scale. I have also found that the record does not establish

[25] CR/PR at Table C.1.
[26] CR/PR at Table C.1.
[27] CR/PR at Tables 6.7 and 6.19.
[28] CR/PR at Table C.1.
[29] CR/PR at Table C.1.
[30] The statute defines "material injury" as "harm which is not inconsequential, immaterial or unimportant." 19 USC § 1677(7)(A).

that there is no likelihood that evidence of a threat of significant price suppression or depression will emerge in any final phase.

To be sure, other factors may contribute to any decline in the domestic industry's performance. For example, the preliminary record indicates that nonsubject imports were consistently greater in volume than subject imports and may have gained market share in interim 2024 at the expense of subject imports as well as the domestic industry. Further, the domestic industry increased its practical float glass capacity by 11.7 percent from 2021 to 2023, while apparent consumption increased only 5.1 percent; Petitioners have described float glass demand since 2022 as "anemic."[31] When capacity increases ahead of consumption, one may expect some adverse impact on some measures of industry performance.

Particularly where declines in domestic industry performance are small, any harm likely to be attributable to subject imports may be inconsequential, immaterial or unimportant. In any final phase, I will assess the impact these or other factors may have had or may imminently have on domestic industry performance.

Yet based on the preliminary record, I find that there is not clear and convincing evidence that the overall impact on the domestic industry of subject imports in the imminent future would likely be inconsequential, immaterial, or unimportant. I thus conclude that the record does not exclude any likelihood that further investigation will yield evidence that a domestic industry is threatened with material injury by reason of cumulated subject imports.

Accordingly, I find that there is a reasonable indication that an industry in the United States is threatened with material injury by reason of imports of float glass products from China and Malaysia

[31] CR/PR at Table C.1; Petitioners' Postconference Brief at I-1.

Part 1: Introduction

Background

These investigations result from petitions filed with the U.S. Department of Commerce ("Commerce") and the U.S. International Trade Commission ("USITC" or "Commission") by Vitro Flat Glass, LLC, Cheswick, Pennsylvania, and Vitro Meadville Flat Glass, LLC, Cochranton, Pennsylvania (collectively "Vitro"), on November 21, 2024, alleging that an industry in the United States is materially injured and threatened with material injury by reason of subsidized and less-than-fair-value ("LTFV") imports of float glass products ("FGP")[1] from China and Malaysia. Table 1.1 presents information relating to the background of these investigations.[2] [3]

Table 1.1 FGP: Information relating to the background and schedule of this proceeding

Effective date	Action
November 21, 2024	Petitions filed with Commerce and the Commission; institution of the Commission investigations (89 FR 93651, November 27, 2024)
December 11, 2024	Commerce's extension of the deadline for determining the adequacy of the antidumping and countervailing duty petitions (89 FR 102113, December 17, 2024)
December 12, 2024	Commission's conference
December 17, 2024	Commission's revised schedule (89 FR 104561, December 23, 2024)
December 31, 2024	Commerce's notices of initiation (90 FR 1435 (AD) and 90 FR 1443 (CVD), January 8, 2025)
January 17, 2025	Commission's vote
January 27, 2025	Commission's determinations
February 3, 2025	Commission's views

[1] See the section entitled "The subject merchandise" in Part 1 of this report for a complete description of the merchandise subject in this proceeding.

[2] Pertinent Federal Register notices are referenced in appendix A and may be found at the Commission's website (www.usitc.gov).

[3] A list of witnesses appearing at the conference is presented in appendix B of this report.

Statutory criteria

Section 771(7)(B) of the Tariff Act of 1930 (the "Act") (19 U.S.C. § 1677(7)(B)) provides that in making its determinations of injury to an industry in the United States, the Commission--

> *shall consider (I) the volume of imports of the subject merchandise, (II) the effect of imports of that merchandise on prices in the United States for domestic like products, and (III) the impact of imports of such merchandise on domestic producers of domestic like products, but only in the context of production operations within the United States; and. . . may consider such other economic factors as are relevant to the determination regarding whether there is material injury by reason of imports.*

Section 771(7)(C) of the Act (19 U.S.C. § 1677(7)(C)) further provides that--[4]

> *In evaluating the volume of imports of merchandise, the Commission shall consider whether the volume of imports of the merchandise, or any increase in that volume, either in absolute terms or relative to production or consumption in the United States is significant.. . .In evaluating the effect of imports of such merchandise on prices, the Commission shall consider whether. . .(I) there has been significant price underselling by the imported merchandise as compared with the price of domestic like products of the United States, and (II) the effect of imports of such merchandise otherwise depresses prices to a significant degree or prevents price increases, which otherwise would have occurred, to a significant degree.. . . In examining the impact required to be considered under subparagraph (B)(i)(III), the Commission shall evaluate (within the context of the business cycle and conditions of competition that are distinctive to the affected industry) all relevant economic factors which have a bearing on the state of the industry in the United States, including, but not limited to. . . (I) actual and potential decline in output, sales, market share, gross profits, operating profits, net profits, ability to service debt, productivity, return on investments, return on assets, and utilization of capacity, (II) factors affecting domestic prices, (III) actual and potential negative effects on cash flow, inventories, employment, wages, growth, ability to raise capital, and investment, (IV) actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and (V) in {an antidumping investigation}, the magnitude of the margin of dumping.*

[4] Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

In addition, Section 771(7)(J) of the Act (19 U.S.C. § 1677(7)(J)) provides that—[5]

(J) EFFECT OF PROFITABILITY.—The Commission may not determine that there is no material injury or threat of material injury to an industry in the United States merely because that industry is profitable or because the performance of that industry has recently improved.

Organization of report

Part 1 of this report presents information on the subject merchandise, alleged subsidy rates and dumping margins, and domestic like product. Part 2 of this report presents information on conditions of competition and other relevant economic factors. Part 3 presents information on the condition of the U.S. industry, including data on capacity, production, shipments, inventories, and employment. Parts 4 and 5 present the volume of subject imports and pricing of domestic and imported products, respectively. Part 6 presents information on the financial experience of U.S. producers. Part 7 presents the statutory requirements and information obtained for use in the Commission's consideration of the question of threat of material injury as well as information regarding nonsubject countries.

Market summary

FGP can be used in various downstream applications including: (1) architectural applications such as windows, doors, partitions, facades, and other building elements, (2) automotive and non-automotive transportation, including front windshields, door windows, sunroofs, and rear windows, (3) electronics, (4) furniture, and (5) interior design applications. The leading U.S. producers of FGP are ***, while leading producers of FGP outside the United States are believed to include *** of China and *** of Malaysia. The leading U.S. importers of FGP from China are ***, while the leading importers of FGP from Malaysia are ***. Leading importers of product from nonsubject countries (primarily Colombia, Mexico, and Turkey) include ***. U.S. purchasers of FGP include fabricators which purchase glass for secondary processing, such as heat strengthening, tempering, or laminating, or assembling glass into

[5] Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

products such as insulating glass units ("IGUs") or mirrors; leading purchasers include ***.

Apparent U.S. consumption of FGP totaled approximately 8.2 billion pounds ($3.1 billion) in 2023. Currently, seven firms are known to produce FGP in the United States. U.S. producers' and U.S. fabricators' U.S. shipments of FGP totaled 7.9 billion pounds ($2.9 billion)[6] in 2023 and accounted for 96.6 percent of apparent U.S. consumption by quantity and 93.5 percent by value. U.S. imports from subject sources totaled 108.6 million pounds ($92.0 million) in 2023 and accounted for 1.3 percent of apparent U.S. consumption by quantity and 3.0 percent by value. U.S. imports from nonsubject sources totaled 168.2 million pounds ($111.1 million) in 2023 and accounted for 2.1 percent of apparent U.S. consumption by quantity and 3.6 percent by value.

Summary data and data sources

A summary of data collected in these investigations is presented in appendix C, tables C.1 (total market) and C.2 (merchant market). The Commission's questionnaires collected data for the years 2021 to 2023 and interim periods January to September of 2023 ("interim 2023") and January to September of 2024 ("interim 2024"). Except as noted, U.S. industry data are based on questionnaire responses of seven firms that accounted for all known U.S. production of FGP during 2023.[7] U.S. imports are based on questionnaire responses of 42 companies, representing an estimated *** percent of U.S. imports from China, *** percent of U.S. imports from Malaysia, *** percent of U.S. imports from subject sources, *** percent of U.S. imports from nonsubject sources, and *** percent of U.S. imports from all import sources in 2023 under primary HTS subheadings 7005.10.8000, 7005.21.1010, 7005.21.1030, 7005.21.2000,

[6] The quantity presented reflects only U.S. producers' U.S. shipment quantities to avoid double counting. The value presented represents U.S. shipment value reported by U.S. producers and the value added by U.S. fabricators to both domestically manufactured and imported FGP. This value includes U.S. producers' U.S. shipment value and the value added by U.S. fabricators to both domestically produced and imported FGP.

[7] Eight U.S. fabricators also responded to the U.S. producer questionnaire. Fabrication they performed on domestically produced FGP accounted for *** percent of U.S. produced FGP in 2023. *Derived from* tables 3.13 and 3.11. Fabrication they performed on imported FGP from subject sources accounted for *** percent of reported subject imports, and the fabrication they performed on imported FGP from nonsubject sources accounted for *** percent of nonsubject imports in 2023. *Derived from* tables 3.13 and 4.2.

7005.29.1810, 7005.29.1850, 7005.29.2500, 7007.29.0000, 7008.00.0000, 7009.91.5010, 7009.91.5095 and 7009.92.5010.[8]

Previous and related investigations

Unprocessed float glass, a subset of float glass products, from Belgium and Italy has been the subject of prior countervailing duty investigations in the United States.[9] The U.S. Department of the Treasury issued countervailing duty orders on imports of unprocessed float glass from Belgium and Italy in 1976.[10] On October 8, 1982, the Commission instituted investigation Nos. 104-TAA-11 and 104-TAA-12 to determine whether an industry in the United States would be materially injured or threatened with material injury, or the establishment of an industry in the United States would be materially retarded, by reason of imports of unprocessed float glass from Belgium and Italy if the countervailing duty orders were to be revoked.[11] Following negative determinations by the Commission in February 1983,[12] the countervailing duty orders were revoked.[13]

[8] The coverage estimates presented were calculated based on proprietary, Census-edited Customs records using the primary HTS numbers (quantity of imports accounted by firms that responded to the Commission's questionnaire or certified that they did not import subject merchandise in 2023 divided by total quantity of imports).

[9] Unprocessed float glass was defined as float glass in rectangles, not containing wire, whether or not colored, that has not been laminated, tempered, bent, frosted, sanded, enameled, beveled, etched, embossed, engraved, flashed, stained, painted, coated, ornamented, or decorated. Unprocessed Float Glass from Belgium and Italy, USITC Publication 1344, February 1988 ("Publication 1344"), p. 3, fn. 2.

[10] Publication 1344, pp. 8 and 11.

[11] 47 FR 46775, October 20, 1982.

[12] 48 FR 6794, February 15, 1983.

[13] 48 FR 11307, March 19, 1983 and 48 FR 25255, June 6, 1983.

Nature and extent of alleged subsidies and sales at LTFV

Alleged subsidies

On January 8, 2025, Commerce published a notice in the Federal Register of the initiation of its countervailing duty investigations on float glass products from China and Malaysia.[14]

Alleged sales at LTFV

On January 8, 2025, Commerce published a notice in the Federal Register of the initiation of its antidumping duty investigations on float glass products from China and Malaysia.[15] Commerce has initiated antidumping duty investigations based on estimated dumping margins of 181.54 to 311.81 percent for FGP from China and 66.24 to 1,180.00 percent for FGP from Malaysia.

[14] For further information on the alleged subsidy programs see Commerce's notice of initiation and related CVD Initiation Checklist. 90 FR 1443, January 8, 2025.

[15] 90 FR 1435, January 8, 2025.

The subject merchandise

Commerce's scope

In the current proceeding, Commerce has defined the scope as follows:[16]

> *The scope of these investigations covers float glass products (FGP), which are articles of sodalime-silica glass that are manufactured by floating a continuous strip of molten glass over a smooth bath of tin (or another liquid metal with a density greater than molten glass), cooling the glass in an annealing lehr, and cutting it to appropriate dimensions. For purposes of the investigations, float glass products have an actual thickness of at least 2.0 mm (0.0787 inches) and an actual surface area of at least 0.37 square meters (4.0 square feet).*
>
> *The country of origin of each float glass product is determined by the location where the sodalime-silica glass is first manufactured by floating a continuous strip of molten glass over a smooth bath of tin and cooling the glass in an annealing lehr, regardless of the location of any downstream finishing or fabrication operations.*
>
> *Prior to being subjected to further treatment, finishing, or fabrication, float glass products meet the requirements of Type I under ASTM-C1036 of the American Society for Testing and Materials (ASTM).*
>
> *Float glass products may be clear, stained, tinted, or coated with one or more materials. Examples of coated float glass products include Low-E architectural glass (i.e., glass with a low emissivity coating to limit the penetration of radiant heat energy) and frameless mirrors (i.e., flat glass with a silver, aluminum, or other reflective layer) such as mirror stock sheet.*
>
> *Float glass products may be annealed, chemically strengthened, heat strengthened, or tempered to achieve a desired surface compression, pursuant to ASTM-C1048, ASTM-C1422/C1422M, or other similar specifications.*
>
> *Float glass products include tub and shower enclosures (i.e., doors and panels) made of tempered glass, which may be sold with attached or unattached hardware. In such cases, the scope covers only the tempered glass, to the exclusion of any non-glass hardware.*

[16] 90 FR 1435 and 90 FR 1443, January 8, 2025.

The only float glass product assemblies included within the scope are: (1) articles consisting of two of more sheets of float glass that are bonded together using a polymer interlayer (i.e., laminated glass); (2) insulating glass units (IGUs), which consist of two or more sheets of float glass separated by a spacer material and hermetically sealed together at the edge in order to create a thermal barrier using air or one or more gases; and (3) LED mirrors (i.e., float glass mirrors with one or more light-emitting diodes integrated with the mirror, as well as framed float glass mirrors with one or more light-emitting diodes integrated with the mirror or the mirror frame, but without other electronic functionality).

Float glass products covered by the scope may meet one or more of the ASTM-C162, ASTMC1036, ASTM-C1048, ASTM-C1172, ASTM-C1349, ASTM-C1376, ASTM-C1422/C1422M, ASTM-C1464, ASTM-C1503, ASTM-C1651, ASTM-E1300, and ASTM-E2190 specifications, definitions, and/or standards.

Float glass products may be further worked, including, but not limited to, operations such as: cutting; beveling; edging; notching; drilling; etching; bending; curving; chipping; embossing; engraving; surface grinding; or polishing; and sandblasting (i.e., using high velocity air to stream abrasive particles and thereby impart a frosted aesthetic to the glass surface). A float glass product which undergoes further work remains within the scope so long as the soda-lime-silica glass originally satisfied the requirements of ASTM-C1036 Type I and was first manufactured in a subject country, regardless of where it is further worked.

Excluded from the scope are: (1) wired glass (i.e., glass with a layer of wire mesh embedded within); (2) patterned flat glass (i.e., rolled glass with a pattern impressed on one or both sides) meeting the requirements of Type II under ASTM-C1036, including greenhouse glass and patterned solar glass (i.e., photovoltaic glass with a textured surface); (3) safety glazing materials for vehicles certified to American National Standards Institute (ANSI) Standard Z26.1; (4) vacuum insulating glass (VIG) units, which consist of two or more sheets of float glass separated by a spacer material, with at least one hermetically sealed compartment that uses a gas-free vacuum as a thermal barrier; (5) framed mirrors without any LEDs integrated with the mirror or the mirror frame; (6) unframed "over-the-door" mirrors that are ready for use as imported without undergoing after importation any processing, finishing, or fabrication; and (7) heat strengthened washing machine lid glass with an actual surface area less than 6.0 square feet (0.56 square meters).

Also excluded from the scope of the investigations are: (1) soda-lime-silica glass containing less than 0.01 percent iron oxide by weight, annealed with a surface compression less than 3,500 pounds per square inch (PSI), having a transparent conductive oxide base coating (e.g., tin oxide), and with an actual thickness less than or equal to 4.0 mm (0.1575 inches) (i.e., "coated solar glass"); and (2) heat treated soda-lime-silica glass with a surface compression between 3,500 and 10,000 PSI, containing two or more drilled holes, and having an actual thickness less than 2.5 mm (0.0984 inches) (i.e., "clear back solar glass"). Solar glass products (also known as photovoltaic glass) are designed to facilitate the conversion of solar energy into electricity.

Also excluded from the scope of the investigations are any products already covered by the scope of any extant antidumping and/or countervailing duty orders, including Aluminum Extrusions from the People's Republic of China: Antidumping Duty Order, 76 FR 30650 (May 26, 2011), and Aluminum Extrusions from the People's Republic of China: Countervailing Duty Order, 76 FR 30653 (May 26, 2011).

Tariff treatment

Float glass products ("FGP") are currently imported under Harmonized Tariff Schedule of the United States ("HTS") statistical reporting numbers 7005.10.8000, 7005.21.1010, 7005.21.1030, 7005.21.2000, 7005.29.1810, 7005.29.1850, 7005.29.2500, 7007.29.0000, 7008.00.0000, 7009.91.5010, 7009.91.5095, and 7009.92.5010. These HTS statistical reporting numbers may contain some out-of-scope products such as FGP with a nominal thickness of less than 2.0 mm (0.079 inches) and a nominal surface area of less than 0.37 square meters (4.0 square feet). The general rate of duty is 4.4 percent ad valorem for HTS subheading 7005.10.80, 14.5 cents per meter squared plus 0.4 percent ad valorem for subheading 7005.21.10, 5.6 percent ad valorem for subheading 7005.21.20, 14.5 cents per meter squared for subheading 7005.29.18, 4.9 percent ad valorem for subheadings 7005.29.25 and 7007.29.00, 3.9 percent ad valorem for subheading 7008.00.00, and 6.5 percent ad valorem for subheadings 7009.91.50 and 7009.92.50.[17] Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

Effective September 24, 2018, FGP originating in China was subject to an additional 10 percent ad valorem duty under section 301 of the Trade Act of 1974. Effective May 10, 2019, the section 301 duty for FGP was increased to 25 percent.[18]

[17] The merchandise subject to these investigations may also be imported under the following HTS statistical reporting numbers: 7006.00.4010, 7006.00.4050, and 7007.19.0000. USITC, HTS (2024) Revision 9, Publication 5548, September 2024, pp. 70.6 to 70.11.

[18] 83 FR 47974, September 21, 2018; 84 FR 20459, May 9, 2019. See also HTS headings 9903.88.03 and 9903.88.04 and U.S. notes 20(e)–20(g) to subchapter III of chapter 99 and related tariff provisions for this duty treatment. USITC, HTS (2024) Revision 9, Publication 5548, September 2024, pp. 99.III.28 to 99.III.52, 99.III.317. Goods exported from China to the United States prior to May 10, 2019, and entering the United States prior to June 1, 2019, were not subject to the escalated 25 percent duty (84 FR 21892, May 15, 2019).

The product

Description and applications

FGP is created by floating molten glass over a bed of molten tin in a manufacturing process that requires heavy-duty machinery, strict raw material formulas, and strict tolerances. At this stage, prior to being subjected to further treatment, finishing, or fabrication operations, FGP meets the requirements of Type I under ASTM-C1036.[19] While the final specifications for FGP may vary to meet the requirements of certain end uses, all FGP share the same basic physical characteristics in that they are produced with smooth surfaces, uniform thickness, and relatively high optical quality and clarity.

FGP can also undergo further processing operations which impart certain characteristics on the final product. FGP can be:

- clear, stained, tinted, or coated with one or more materials to affect heat insulation properties, electrical conductivity, sound reduction, strength, durability, color, and/or the transmission of light;
- annealed, chemically strengthened, heat strengthened, or tempered to achieve a desired surface compression;
- further worked, including but not limited to finishing operations such as sandblasting, etching, bending, curving, beveling, edging, notching, drilling, chipping, embossing, and engraving; and
- assembled into laminates, mirrors with LEDs, or insulated glass units.

FGP is used in various downstream applications including: (1) architectural;[20] (2) automotive and non-automotive transportation;[21] (3) electronics; (4) furniture; and (5) construction applications.[22]

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[19] ASTM-C1036 is the "Standard Specification for Flat Glass." Type I glass is transparent flat glass and Type II is patterned and wired flat glass the latter type is excluded from the scope in these investigations. Type I glass is only clear while Type II glass can be clear or tinted. ASTM International, "ASTM C1036-21: Standard Specification for Flat Glass," https://www.astm.org/c1036-21.html, accessed November 25, 2024.

[20] Architectural applications are a leading end use for FGP and include windows, doors, partitions, facades, and other building elements.

[21] Automotive applications include the front windshields, door windows, sunroofs, and rear windows.

[22] A key market segment for float glass is construction, which can be separated into exterior architectural applications and interior applications. The terminology commercial and residential construction segments refer to the customer base. For example, if a fabricator makes tempered shower doors for resale at Home Depot, that would be considered a residential product and if the fabricator (continued...)

Manufacturing processes

FGP is made primarily from silica (silicon dioxide) sand, soda ash (sodium carbonate), limestone (calcium carbonate), dolomite (calcium-magnesium carbonate), salt cake (sodium sulfate), and cullet (recycled or waste glass).[23] Silica sand and cullet generally comprise a majority of the raw material mix by weight. Cullet is a particularly desirable input for FGP production because it lowers the melting point of the mix, thereby reducing energy costs and carbon emissions.[24] Other raw materials are typically controlled for (e.g., iron oxide, graphite) to affect the chemical or physical characteristics of the glass. Once the initial glass ribbon is pulled, the process is continuous, lasting 24 hours a day, seven days a week for the next 12 to 15 years, at almost 100 percent capacity utilization.[25] In the U.S. market, the standard stock sizes of float glass are 96 x 130 inches and 100 x 144 inches. Jumbo size sheets are also available with dimensions of 130 x 204 inches.

As noted previously, FGP are manufactured on a line where a molten ribbon of glass is formed by floating the liquid glass over a bed of molten tin, allowing it to spread evenly in all directions.[26] The tin bath is heated with electrodes to keep the tin in a molten state and is also

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makes the same tempered shower door for sale into a large construction project like a hotel, then it would be considered a commercial product. Petitioner's postconference brief, pp. 12-13.

[23] The manufacturing process for float glass is the same in all countries. However, in Europe, manufacturers do have the ability to recycle outside glass as cullet during the manufacturing process. European manufacturers use a process called heat-soaked testing for any tempered glass to reduce the risk of breakage from contamination. In the United States, heat-soaked testing is typically available from fabricators as the domestic manufacturers do not have the capacity to heat-soaked test all the tempered glass. Conference transcript, p. 128 (Burg); and Guardian Glass, "Heat-Soaking," ©2024, accessed December 30, 2025, https://www.guardianglass.com/us/en/tools-and-resources/resources/glossary/heat-soaking.

[24] Glass manufacturers can achieve approximately 2–3 percent reduction in energy consumption for every 10 percent of recycled cullet used in the batch. Also, adding 40 percent cullet allows manufacturers to reduce the melting temperature to 1,150 degrees Celsius, down from 1,600 degrees Celsius, which provides significant cost savings. Delvin, F. "Flat Glass Recycling," *Glass Magazine*, March 22, 2022, https://www.glassmagazine.com/article/flat-glass-recycling#:~:text=For%20the%20glass%20industry%20to,easiest%20way%2C%E2%80%9D%20he%20says.

[25] Float glass furnaces theoretical output ranges from 600–1,200 tons daily. For the company to operate on a sustainable basis, the continuous process requires close to 100 percent capacity utilization. If the furnace is shutdown it needs to be rebuilt because the molten glass will harden in place. Rebuilding a glass furnace requires a substantial amount of investment. Conference transcript, pp. 12 (Bush), 20 (Stipetich), 42 (Levy), and 108 (Bush).

[26] Since molten tin is denser, the molten glass forms a continuous ribbon on top of the heaver tin when the batch is fed into the furnace for melting. Conference transcript, p. 12 (Bush).

continuously replenished with tin.[27] The molten glass can be applied ("pulled") from the furnace at various rates onto the bed of molten tin.[28] While lying on the bed of molten tin, the upper surface of the glass is polished with fire and is called the "air side" or "score side" and the low surface is not polished with fire and is called the "tin side."[29] As it floats over the tin and into an annealing oven (lehr), it gradually cools, solidifies, and is ready for inspection and cutting (figure 1.1). This process makes FGP ideal for applications requiring high transparency and minimal distortion.

Figure 1.1 FGP: Float glass ready for inspection and cutting

Source: Vitro Architectural Glass, Glass Education Center, "Float Glass Process," August 25, 2023, https://glassed.vitroglazings.com/topics/float-glass-process, accessed December 11, 2024.

FGP production is highly energy-intensive, with energy costs accounting for a substantial portion of the total cost of production. Because the equipment involved in the production process is costly to purchase and maintain, it is also capital intensive.

Production of FGP has 6 stages: (1) batching and mixing raw materials, (2) melting, refining, and conditioning, (3) floating the molten glass in a float bath, (4) annealing, (5)

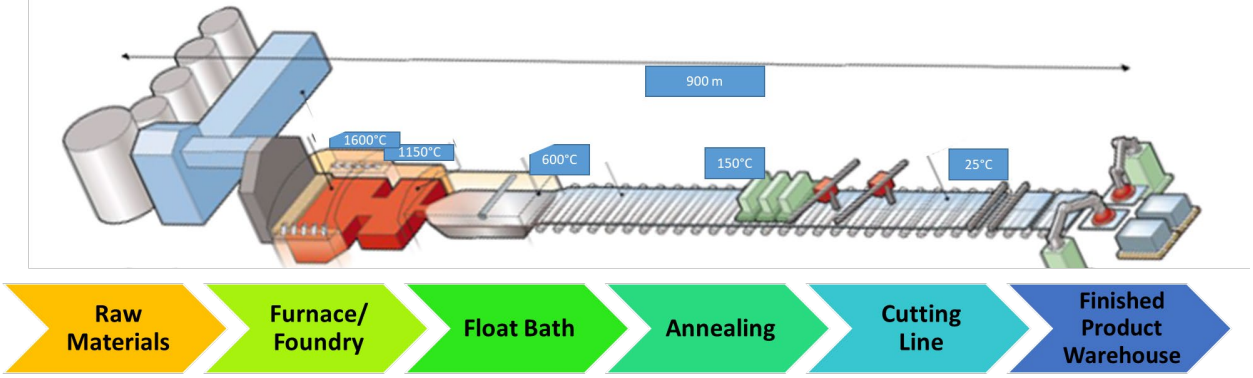
[27] Conference transcript, p. 109 (Bush).

[28] The rate of which the molten glass is removed from the furnace is called the "pull rate." The pull rate can be adjusted to change the thickness of the glass. The faster the pull rate, the thinner the glass. Likewise, the slower the pull rate, the thicker the glass. Conference transcript, p. 12 (Bush).

[29] Polished with fire refers to the smoothness and shininess of glass after being exposed to flames. The flame causes the surface to melt slightly then harden with a smooth finish.

inspection and cutting, and (6) finishing. Figure 1.2 provides an overview of the manufacturing process for FGP.

Figure 1.2 FGP: Manufacturing process

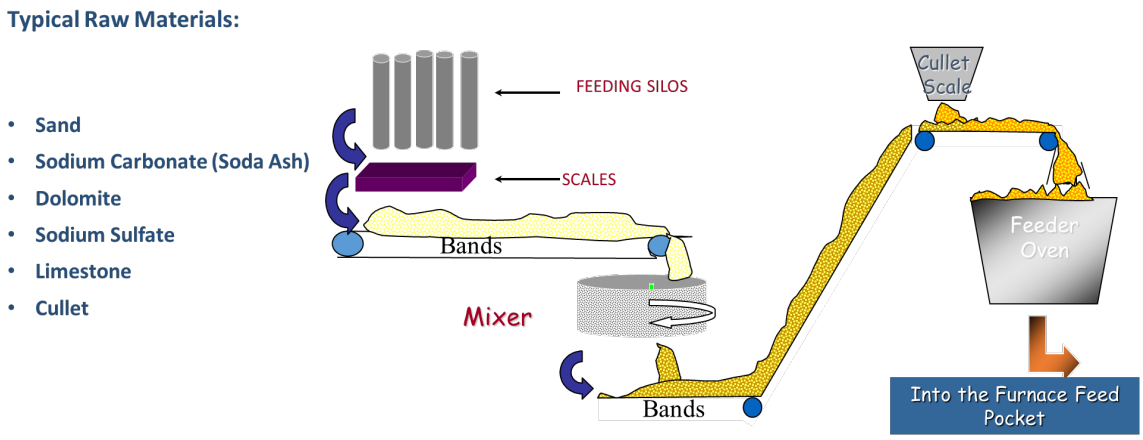


Source: Petition, p. I.12.

Batching and mixing raw materials

The "batch" refers to the measured mixture of sand, soda ash, sodium sulfate, dolomite, limestone, cullet, and small quantities of other chemicals that are fed into the furnace for melting. Raw materials are weighed prior to mixing to ensure consistent batch proportions. Cullet is weighed and added to the batch after the other raw materials are mixed together. Once the cullet is fully mixed with the other raw materials, the batch is transported to the furnace, also known as the "melting tank." Figure 1.3 provides an overview of the process for batching and mixing raw materials.

Figure 1.3 FGP: Batching and mixing raw materials

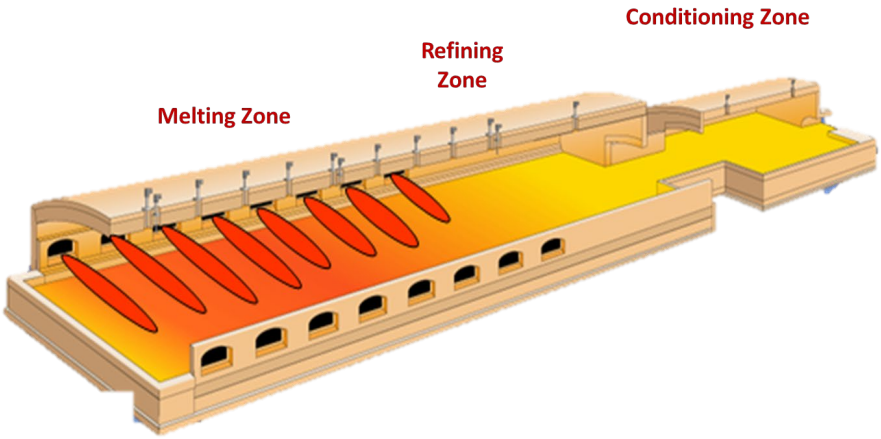


Source: Petition, p. I.12.

Melting, refining, and conditioning

The batch is fed into the furnace or melt tank where it is heated to approximately 1,500°C. In this stage, the batch undergoes several processes known as "melting, refining, and homogenizing" to form molten glass. In the melting process, the solid particulates are heated until molten. In the refining processes, gas bubbles are released that would otherwise cause distortions or impurities in the finished product. Finally, the homogenizing (conditioning) process makes uniform the thermal profile of the molten glass before it flows onto the tin bath, ensuring the appropriate viscosity for the float process. These processes occur in a continuous melting process that feeds molten glass onto the tin bath smoothly, consistently, and at 1,100°C, and virtually free of inclusions or bubbles. Figure 1.4 shows the stages of melting, refining, and conditioning (homogenizing).

Figure 1.4 FGP: Melting, refining, and conditioning processes

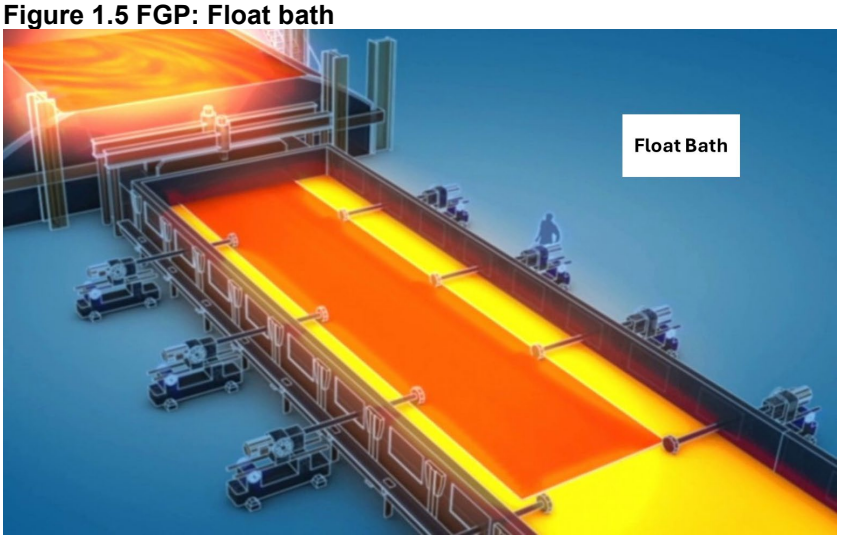


Source: Petition, p. I.13.

Floating the molten glass in a float bath

Following the melting, refining, and conditioning processes, the molten glass flows in a continuous ribbon onto a bath of molten tin (which has a higher density). This floating process creates smooth, uniform surfaces of high optical clarity, allowing the glass to form a flat sheet without the need for grinding or polishing. As the glass floats, its thickness is controlled by the speed at which the glass ribbon is pulled through the bath by edge rollers. In most manufacturing processes, the float glass naturally spreads to a thickness of approximately 6 millimeters; to attain a different thickness, the manufacturers will typically modify the draw rate of the glass ribbon flowing from the furnace. Figure 1.5 shows the float bath.

Figure 1.5 FGP: Float bath

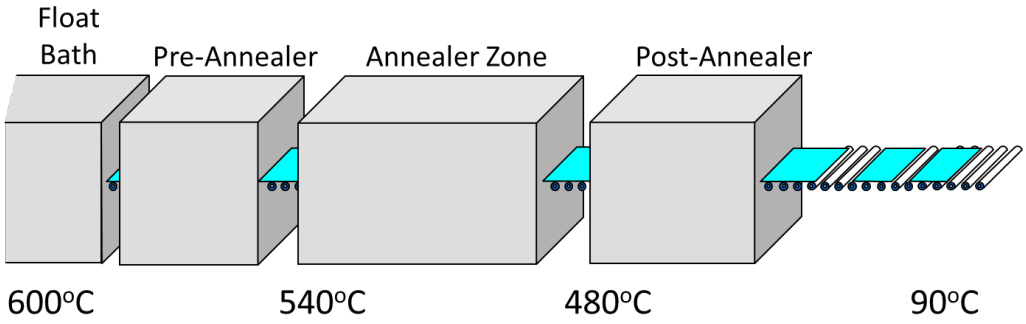


Source: Petition, p. I.14.

Annealing

Once the desired thickness has been achieved, the glass ribbon enters an annealing lehr. Within the lehr, the glass is gradually cooled from 600°C to room temperature. This controlled cooling process prevents deformities, flaws, and internal stresses that can result from a more rapid cooling process. Figure 1.6 shows the annealing process.

Figure 1.6 FGP: Annealing process



Source: Petition, p. I.14.

Inspection and cutting

Once the glass is sufficiently cooled, it is ready for inspection and cutting. The glass is electronically scanned for defects, such as bubbles, cracks, or imperfections that can arise during production.[30] After inspection, the cooled glass is cut into sheets. The cutting is done using diamond-tipped cutters or other high-precision tools. The glass can be sold in this form or variously finished by further processing.

Finishing (Further processing)

Depending on the desired product characteristics, the FGP may undergo additional processing, for example:[31]

Coating: Coatings typically involves applying a thin layer or layers of material(s) to the cleaned surface of the glass within a vacuum chamber to affect heat insulation, electrical conductivity, sound reduction, strength, durability, color, and/or the transmission of light. Examples of coated FGP include low emissivity ("Low-E") architectural glass and frameless mirrors (*i.e.*, flat glass with a silver, aluminum, or other reflective layers) such as mirror stock sheet and mirror lehr end.[32]

Chemical strengthening: Chemical strengthening, or ion exchange, enhances glass by submerging it in a molten potassium salt bath, where larger potassium ions replace the smaller sodium ions, thereby imparting compressive stress on the surface and tension in the core. This process can be tailored through variations in the bath's composition, enabling the production of high-performance glass with minimal distortion and a strengthened, alkali-rich layer. The result is a glass that is highly durable, ideal for demanding environments and advanced applications in fields like energy, medicine, and semiconductors.

Heat strengthening: Heat-strengthened glass is heated and cooled similarly to tempered glass, however, heat-strengthened glass has a slower cooling process, which results in lower strength, with a surface compression more than 3,500 pounds per square inch ("PSI"). It is commonly used when moderate strength is needed to resist wind or thermal stress without requiring the higher strength or breakage pattern of fully tempered glass. When broken, its

[30] For example, a particulate might not fully melt during the melting process, a bubble might not have properly escaped the molten glass during the refining process, and ripples might be imparted in the glass ribbon by a tremor in the tin float surface.

[31] Besides cutting and breaking FGP to the desired dimension, any further processing requires a significant amount of capital investment such as equipment purchases, capacity to accommodate in equipment, storage, and specially trained employees. Some facilities may require tens of millions of dollars as capital investment. Conference transcript, p. 23 (Burg).

[32] Mirror lehr end is intended for recutting into smaller sizes.

larger fragments stay in place longer and minimize injury risk, although it does not meet safety glazing standards.

Tempering: Tempered glass, or toughened glass, is a type of safety glass designed for enhanced strength and durability. It is manufactured by heating the glass to a high temperature and quickly cooling it with air, a process that significantly improves its resistance to breakage. Fully tempered glass typically has a minimum surface compression of 10,000 PSI.

Working: FGP may be further worked by means of bending, beveling, curving, edging, notching, drilling, chipping, sanding, embossing, engraving, etching, and other similar operations to impart certain desired physical characteristics.

Lamination: Lamination is a process that involves bonding two or more glass sheets (also known as "lites"), typically using a polymer interlayer. Lamination can enhance the safety performance of glass by binding glass fragments to the interlayer to reduce the risk of injury in the event of breakage.

Other fabrication processes: Assembled FGP can also take the form of IGUs. An IGU commonly consists of two or more lites of glass separated by a spacer material and sealed together at the edge. The insulating airspace can be filled with air, or an inert gas such as argon or krypton, to provide a thermal barrier. Another common example of a fabricated float glass product is a mirror (*i.e.*, flat glass coated with a silver, aluminum, or another reflective layer) with one or more LEDs integrated with the mirror, as well as framed mirrors with one or more LEDs integrated with the mirror or the mirror frame.

Finally, it is noted that the manufacturing process of primary FGP production comes with a high amount of yield loss.[33] It typically occurs as the following: (1) transitioning between batch production,[34] (2) the cutting of glass,[35] (3) damage from breaking or scratching,[36] and (4) surface corrosion during inventory.[37]

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[33] Yield loss occurs for both primary manufactures and fabricators when they are fulfilling an order. Yield loss for some fabricators can range from 25 percent to 40 percent depending on the specialty product. Conference transcript, p. 47 (Burg).

[34] It may take a while to produce the molten glass with the desired chemistry in the furnace because transitional glass produced in the interim if is off-spec. The transition can range from a couple of hours to couple of days. Conference transcript, pp. 41 (Levy) and 43 (Bush).

[35] There is a loss of width when certain standard dimensions are produced which becomes cullet. Conference transcript, p. 41 (Levy).

[36] Conference transcript, p. 41 (Levy).

[37] Keeping inventory of FGP is very limited because it is not economical to do so further. At a certain point, manufacturers have no choice but to use the already produced glass as cullet. This is because sodium ions, change the surface of the glass to an alkaline surface. So, the glass producers will typically (continued...)

Domestic like product issues

Information was collected from respondents in these investigations to explore two domestic like product alternatives, including (1) whether IGUs should be considered a separate like product and (2) whether out-of-scope auto glass (i.e., safety glazing materials for vehicles certified to American National Standards Institute ("ANSI") Standard Z26.1) should be included in the definition of the domestic like product. The petitioner proposes a single domestic like product coterminous with the product scope.[38]

The Commission's decision regarding the appropriate domestic product(s) that are "like" the subject imported product is based on a number of factors including: (1) physical characteristics and uses; (2) interchangeability; (3) channels of distribution; (4) common manufacturing facilities, production processes, and production employees; (5) customer and producer perceptions; and (6) price. Comparability ratings for each of these factors are presented in table 1.2 for IGUs vs. all other in-scope FGP and in table 1.3 for out-of-scope auto glass versus in-scope fabricated FGP. Respondents' narrative explanations of their rankings are presented in appendix D.

coat the surface of the glass with food-grade adipic acid to neutralize alkaline migration after it is produced. However, surface corrosion occurs if acid coating is depleted when it's been in place too long, or if there's too much moisture in the environment where the glass is stored. Washing the glass for the first time stops that migration process and takes away the alkalinity at the surface. Hence, customers wash the FGP before they begin further processing. It takes approximately *** depending on specifications but may be *** depending on surface treatment and storage conditions. Conference transcript, pp. 37-38 (Bush) and Petitioner's postconference brief pp. II-3-4.

[38] Petitioner's postconference brief, p. I-1.

Table 1.2 FGP: Count of firm's responses regarding the domestic like product factors comparing in-scope insulating glass units (IGUs) vs. all other in-scope float glass products

Count in number of firms reporting

Firm type	Factor	Fully	Mostly	Somewhat	Never
U.S. producers and U.S. fabricators	Physical characteristics	2	4	4	3
U.S. producers and U.S. fabricators	Interchangeability	1	7	2	3
U.S. producers and U.S. fabricators	Channels	2	7	2	2
U.S. producers and U.S. fabricators	Manufacturing	2	5	5	1
U.S. producers and U.S. fabricators	Perceptions	1	6	2	3
U.S. producers and U.S. fabricators	Price	1	3	3	5
U.S. importers	Physical characteristics	0	4	3	9
U.S. importers	Interchangeability	0	4	3	7
U.S. importers	Channels	1	7	3	1
U.S. importers	Manufacturing	1	5	2	5
U.S. importers	Perceptions	1	3	1	6
U.S. importers	Price	0	3	0	8

Source: Compiled from data submitted in response to Commission questionnaires.

Table 1.3 FGP: Count of firm's responses regarding the domestic like product factors comparing out-of-scope auto glass vs. in-scope fabricated float glass products

Count in number of firms reporting

Firm type	Factor	Fully	Mostly	Somewhat	Never
U.S. producers and U.S. fabricators	Physical characteristics	1	0	1	8
U.S. producers and U.S. fabricators	Interchangeability	0	2	0	8
U.S. producers and U.S. fabricators	Channels	1	1	0	8
U.S. producers and U.S. fabricators	Manufacturing	0	2	3	5
U.S. producers and U.S. fabricators	Perceptions	0	1	1	7
U.S. producers and U.S. fabricators	Price	0	1	2	5
U.S. importers	Physical characteristics	0	0	0	9
U.S. importers	Interchangeability	0	0	0	7
U.S. importers	Channels	0	0	0	7
U.S. importers	Manufacturing	0	0	1	7
U.S. importers	Perceptions	0	0	0	6
U.S. importers	Price	0	0	1	4

Source: Compiled from data submitted in response to Commission questionnaires.

Part 2: Conditions of competition in the U.S. market

U.S. market characteristics

FGP can undergo a wide range of processing operations such as heat treatment, tempering, lamination, and coating. Some producers of FGP are vertically integrated and perform these additional processing operations in-house, while other producers sell to independent fabricators.[1] According to Vitro, demand for FGP is primarily tied to downstream applications in construction and transportation, and to a lesser extent in electronics, furniture, and interior design.[2]

Four of six U.S. producers and 15 of 36 importers indicated that the market was subject to distinctive conditions of competition. U.S. producer *** noted that low-priced subject imports injure both fabricators and upstream producers of FGP. Conditions of competition noted by other firms include potential impacts to supply during repairs of FGP furnaces/lines, increased demand in 2021 during the COVID-19 pandemic, and limits in the quality, supply and range of FGP offered by domestic producers.[3]

Apparent U.S. consumption of FGP fluctuated during January 2021 through September 2024, increasing by *** percent during 2021 to 2022 but then decreasing by *** percent during 2022 to 2023. Overall, apparent U.S. consumption in 2023 was *** percent higher than in 2021.

[1] Conference transcript, p. 13 (Bush).
[2] Conference transcript, p. 73 (Levy).
[3] *** importer questionnaire response, section III-17.

Impact of section 301 tariffs

U.S. producers and importers were asked to report the impact of section 301 tariffs on overall demand, supply, prices, or raw material costs since 2021 (table 2.1). Five of seven responding U.S. producers reported they did not know what impact the section 301 tariffs have had on the FGP industry since 2021, while the remaining two U.S. producers reported the tariffs have not had an impact on the FGP industry. Among responding U.S. importers, a plurality reported that the 301 tariffs have had an impact on the FGP industry, 5 out of 36 reported that the tariffs have not impacted the industry, and 14 out of 36 responding importers reported they did not know what impact the tariffs have had on the industry.

According to U.S. importer ***, the 301 tariffs had not changed the industry since 2021 since they were already in place at the start of the time period. According to importer ***, a combination of increased demand for FGP, limited capacity from domestic producers, and the 301 tariffs on Chinese imports resulted in increased imports from Malaysia.

Table 2.1 FGP: Count of firms' responses regarding whether there was an impact of section 301 tariffs, by firm type

Count in number of firms reporting

Firm type	Yes	No	Don't Know
U.S. producers	0	2	5
Importers	17	5	14

Source: Compiled from data submitted in response to Commission questionnaires.

Channels of distribution

As shown in table 2.2, the market segments supplied by U.S. producers, U.S. fabricators, and imports from China remained relatively steady during January 2021 through interim 2024. U.S. producers' shipments to fabricators ranged from *** percent to *** percent, U.S. fabricator's shipments to contractors/builders ranged from *** percent to *** percent, and shipments of imports from China to fabricators and distributors ranged from *** percent to *** percent and *** percent to *** percent, respectively. During the same time period, *** reported U.S. shipments to auto/transportation OEMs.

Table 2.2 FGP: Share of U.S. shipments by source, channel of distribution, and period

Share in percent; Interim period is January through September

Source	Channel	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Distributors	***	***	***	***	***
U.S. producers	Fabricators	***	***	***	***	***
U.S. producers	Auto/transportation OEMs	***	***	***	***	***
U.S. producers	Contractors / builders	***	***	***	***	***
U.S. producers	Other end users	***	***	***	***	***
U.S. fabricators	Distributors	***	***	***	***	***
U.S. fabricators	Fabricators	***	***	***	***	***
U.S. fabricators	Auto/transportation OEMs	***	***	***	***	***
U.S. fabricators	Contractors / builders	***	***	***	***	***
U.S. fabricators	Other end users	***	***	***	***	***
China	Distributors	***	***	***	***	***
China	Fabricators	***	***	***	***	***
China	Auto/transportation OEMs	***	***	***	***	***
China	Contractors / builders	***	***	***	***	***
China	Other end users	***	***	***	***	***
Malaysia	Distributors	***	***	***	***	***
Malaysia	Fabricators	***	***	***	***	***
Malaysia	Auto/transportation OEMs	***	***	***	***	***
Malaysia	Contractors / builders	***	***	***	***	***
Malaysia	Other end users	***	***	***	***	***

Table continued.

Table 2.2 (Continued) FGP: Share of U.S. shipments by source, channel of distribution, and period

Shares in percent

Source	Channel	2021	2022	2023	Interim 2023	Interim 2024
Subject sources	Distributors	***	***	***	***	***
Subject sources	Fabricators	***	***	***	***	***
Subject sources	Auto/transportation OEMs	***	***	***	***	***
Subject sources	Contractors / builders	***	***	***	***	***
Subject sources	Other end users	***	***	***	***	***
Nonsubject sources	Distributors	***	***	***	***	***
Nonsubject sources	Fabricators	***	***	***	***	***
Nonsubject sources	Auto/transportation OEMs	***	***	***	***	***
Nonsubject sources	Contractors / builders	***	***	***	***	***
Nonsubject sources	Other end users	***	***	***	***	***
All import sources	Distributors	***	***	***	***	***
All import sources	Fabricators	***	***	***	***	***
All import sources	Auto/transportation OEMs	***	***	***	***	***
All import sources	Contractors / builders	***	***	***	***	***
All import sources	Other end users	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Geographic distribution

U.S. producers and U.S. importers of FGP from China and Malaysia reported selling FGP to all regions in the contiguous United States (table 2.3). For U.S. producers, *** percent of sales were within 100 miles of their production facility, *** percent were between 101 and 1,000 miles, and *** percent were over 1,000 miles. Importers sold *** percent within 100 miles of their U.S. point of shipment, *** percent between 101 and 1,000 miles, and *** percent over 1,000 miles.

Table 2.3 FGP: Count of U.S. producers' and U.S. importers' geographic markets

Count in number of firms reporting

Region	U.S. producers	China	Malaysia	Subject sources
Northeast	5	22	2	22
Midwest	6	21	1	21
Southeast	6	23	4	24
Central Southwest	6	25	5	25
Mountains	4	20	1	20
Pacific Coast	5	21	2	21
Other	1	13	1	13
All regions (except Other)	4	19	0	19
Reporting firms	6	29	9	29

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Other U.S. markets include AK, HI, PR, and VI.

Supply and demand considerations

U.S. supply

Table 2.4 provides a summary of the supply factors regarding FGP from U.S. producers.

Table 2.4 FGP: Supply factors that affect the ability to increase shipments to the U.S. market, by country

Quantity in 1,000 pounds; ratio and share in percent; count in number of firms reporting

Factor	Measure	United States
Capacity 2021	Quantity	***
Capacity 2023	Quantity	***
Capacity utilization 2021	Ratio	***
Capacity utilization 2023	Ratio	***
Inventories to total shipments 2021	Ratio	***
Inventories to total shipments 2023	Ratio	***
Home market shipments 2023	Share	***
Non-US export market shipments 2023	Share	***
Ability to shift production	Count	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Data are for U.S. producers of FGP and do not include data for fabricators. Responding U.S. producers accounted for *** U.S. production of FGP in 2023. No responses to the Commission's foreign producer questionnaire were received. For additional data on the number of responding firms and their share of U.S. production and of U.S. imports from each subject country, please refer to Part 1, "Summary Data and Data Sources."

Domestic production

Based on available information, U.S. producers of FGP have the ability to respond to changes in demand with moderate to large changes in the quantity of shipments of U.S.-produced FGP to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of unused capacity and inventories. Factors mitigating responsiveness of supply include limited ability to shift shipments from alternate markets and limited ability to shift production to or from alternate products.

During 2021 and 2022, the domestic industry's capacity utilization rate ranged from *** to *** percent and three U.S. producers reported difficulties meeting demand during this time period; however, by 2023 only one U.S. producer reported supply constraints in 2023 and the domestic industry's capacity utilization rate declined to *** percent.

Subject imports from China and Malaysia

No responses to the Commission's foreign producer questionnaire were received. For information regarding the industry in China and Malaysia please see Part 7.

Imports from nonsubject sources

According to official import statistics, nonsubject imports accounted for 74.8 percent of total U.S. imports in 2023, by value.[4] The largest sources of nonsubject imports during January 2021 through September 2024 were Mexico, Germany, and Canada. Combined, these countries accounted for 70.5 percent of nonsubject imports in 2023.

Supply constraints

Three of seven U.S. producers and three of 36 importers reported that they had experienced supply constraints since January 1, 2021. U.S. producers ***, ***, and *** reported demand outpacing capacity during 2021 and 2022, while U.S. importers ***, ***, and *** reported similar supply constraint issues during the same time period.[5]

Table 2.5 FGP: Count of firms' responses with supply constraints, by firm type and period

Count in number of firms reporting

Firm type	2021	2022	2023	2024 to present
U.S. producers	3 of 7	3 of 7	1 of 7	1 of 7
Importers	3 of 35	2 of 36	2 of 36	1 of 36

Source: Compiled from data submitted in response to Commission questionnaires.

[4] Official import statistics are for the primary HTS statistical reporting numbers, 7005.10.8000, 7005.21.1010, 7005.21.1030, 7005.21.2000, 7005.29.1810, 7005.29.1850, 7005.29.2500, 7007.29.0000, 7008.00.0000, 7009.91.5010, 7009.91.5095, and 7009.92.5010, which include out-of-scope merchandise and are therefore likely overstated.

[5] U.S. importer *** and U.S. producer *** reported extended lead times during 2021 and 2022, respectively, but did not note these as having impacted customer commitments.

U.S. demand

Based on available information, the overall demand for FGP is likely to experience small to moderate changes in response to changes in price. The main contributing factors are the lack of substitute products and wide range of cost shares for FGP in end-use products.

Overall demand for FGP is largely tied to demand in downstream construction and automotive/transportation applications. Throughout a majority of the period during January 2021 to October 2024, total monthly construction spending in the United States has steadily increased, increasing from $1.6 trillion in January 2021 to $2.2 trillion in October 2024, an overall increase of 35.8 percent.[6] Domestic auto production fluctuated during the same time period, increasing from 1.6 million vehicles in 2021 to 1.7 million vehicles in 2023, a 10.8 percent increase, but was 233,100 vehicles lower during interim 2024 compared to interim 2023, a 16.0 percent decline.[7]

End uses and cost share

Responding U.S. producers and U.S. importers reported a wide range of downstream applications for FGP and, depending on the downstream product, a wide range in estimates of the share of cost accounted for by FGP. Reported cost shares for some end uses were as follows:

- *** percent for automotive applications[8]
- *** percent for construction applications, such as windows, doors, and glazing
- *** percent for mirrors

Most U.S. producers, five out of six, reported cost share estimates for FGP in downstream products ranging from *** to *** percent. According to Glass Enterprises, a fabricator, float glass makes up 90 to 95 percent of the material cost that goes into an IGU and can vary between 80 to 85 percent of the material cost that goes into other products.[9]

[6] U.S. Census Bureau, Total Construction Spending: Total Construction in the United States TTLCONS, retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/TTLCONS, December 20, 2024.

[7] U.S. Bureau of Economic Analysis, Domestic Auto Production DAUPSA, retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/DAUPSA, January 8, 2025.

[8] U.S. producer *** reported cost share of FGP in automotive end uses was *** percent while the remaining firms reported cost shares ranging from *** to *** percent.

[9] Conference transcript, p. 80 (Burg).

Business cycles

Seven of seven responding U.S. producers and 19 of 37 importers indicated that the market was subject to business cycles. Several U.S. producers and importers reported increased demand during the construction season, with U.S. producer *** and U.S. importer *** specifically noting increased demand during April through November.

Demand trends

Most U.S. producers (5 of 7) and a plurality (16 of 36) of U.S. importers reported increased demand for domestically produced FGP since January 1, 2021.

Table 2.6 FGP: Count of firms' responses regarding overall domestic and foreign demand, by firm type

Market	Firm type	Steadily Increase	Fluctuate Up	No change	Fluctuate Down	Steadily Decrease
Domestic demand	U.S. producers	1	4	0	2	0
Domestic demand	Importers	11	5	9	7	4
Foreign demand	U.S. producers	1	3	1	0	0
Foreign demand	Importers	2	3	6	1	2

Source: Compiled from data submitted in response to Commission questionnaires.

Substitute products

All responding U.S. producers (six of six) and almost all responding U.S. importers (35 of 36) reported there were no substitute products for FGP.

Substitutability issues

This section assesses the degree to which U.S.-produced FGP and imports of FGP from subject countries can be substituted for one another by examining the importance of certain purchasing factors and the comparability of FGP from domestic and imported sources based on those factors. Based on available data, staff believes that there is a high degree of substitutability between domestically produced FGP and FGP imported from subject sources.[10] Factors contributing to this level of substitutability include the high degree of interchangeability reported by firms between U.S.-produced FGP and FGP imported from subject sources, limited significant factors other than price, and minor differences in lead times for product sold from inventory.

Factors affecting purchasing decisions

Purchasers responding to lost sales lost revenue allegations[11] were asked to identify the main purchasing factors their firm considered in their purchasing decisions for FGP. The major purchasing factors identified by firms include price/cost, quality, availability/supply, lead times, and size.

Most important purchase factors

The most often cited top three factors firms consider in their purchasing decisions for FGP were price/cost (eight firms), availability/supply (seven firms), and quality (six firms) as shown in table 2.7. Price/cost was the most frequently cited first-most important factor (cited by five firms), followed by availability/supply (two firms); quality was the most frequently reported second-most important factor (four firms); and availability/supply was the most frequently reported third-most important factor (three firms).[12]

[10] The degree of substitution between domestic and imported FGP depends upon the extent of product differentiation between the domestic and imported products and reflects how easily purchasers can switch from domestically produced FGP to the FGP imported from subject countries (or vice versa) when prices change. The degree of substitution may include such factors as quality differences (e.g., grade standards, defect rates, etc.), and differences in sales conditions (e.g., lead times between order and delivery dates, reliability of supply, product services, etc.).

[11] This information is compiled from responses by purchasers identified by Petitioners to the lost sales lost revenue allegations. See Part 5 for additional information.

[12] Purchaser Glass Enterprises stated that quality and lead times are important to the industry, however subject imports can compete on this basis and therefore competition for sales revolves around pricing. Conference transcript, pp. 77-78 (Burg).

Table 2.7 FGP: Count of ranking of factors used in purchasing decisions as reported by purchasers, by factor

Factor	First	Second	Third	Total
Price / Cost	5	2	1	8
Quality	1	4	1	6
Availability / Supply	2	2	3	7
All other factors	0	0	2	NA

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Other factors include size and lead time.

Lead times

FGP is frequently produced-to-order and sold from inventory. U.S. producers reported that *** percent of their commercial shipments were produced-to-order, with lead times averaging *** days. The remaining *** percent of their commercial shipments came from inventories, with lead times averaging *** days. U.S. importers reported that *** percent of their commercial shipments were produced-to-order, with lead times averaging *** days. Their remaining commercial shipments came from inventories, *** percent from U.S. inventories and *** percent from foreign inventories, with lead times averaging *** days and *** days, respectively.

Comparison of U.S.-produced and imported FGP

In order to determine whether U.S.-produced FGP can generally be used in the same applications as imports from China and Malaysia, U.S. producers and importers were asked whether the products can always, frequently, sometimes, or never be used interchangeably (tables 2.8 and 2.9). A majority of U.S. producers and U.S. importers reported that FGP from all country pairs are either always or frequently interchangeable, however several U.S. importers also reported that FGP are only sometimes interchangeable between each country pair.

Table 2.8 FGP: Count of U.S. producers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. China	3	3	1	0
United States vs. Malaysia	3	3	1	0
China vs. Malaysia	3	1	0	0
United States vs. Other	3	3	1	0
China vs. Other	3	1	0	0
Malaysia vs. Other	3	1	0	0

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.9 FGP: Count of importers reporting the interchangeability between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. China	10	11	12	1
United States vs. Malaysia	3	8	7	0
China vs. Malaysia	3	6	3	0
United States vs. Other	7	8	10	1
China vs. Other	6	7	4	0
Malaysia vs. Other	5	4	3	0

Source: Compiled from data submitted in response to Commission questionnaires.

In addition, U.S. producers and importers were asked to assess how often differences other than price were significant in sales of FGP from the United States, subject, or nonsubject countries. As seen in tables 2.10 and 2.11, all U.S. producers reported that differences other than price between domestic and imported product were either sometimes or never significant in their sales. Among U.S. importers, a majority reported that factors other than price were either always or frequently significant when comparing domestically produced FGP to imports from subject sources, but only sometimes or never significant for the remaining country pairs.

Table 2.10 FGP: Count of U.S. producers reporting the significance of differences other than price between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. China	0	0	3	3
United States vs. Malaysia	0	0	3	3
China vs. Malaysia	0	0	2	2
United States vs. Other	0	0	3	3
China vs. Other	0	0	2	2
Malaysia vs. Other	0	0	2	2

Source: Compiled from data submitted in response to Commission questionnaires.

Table 2.11 FGP: Count of importers reporting the significance of differences other than price between product produced in the United States and in other countries, by country pair

Country pair	Always	Frequently	Sometimes	Never
United States vs. China	12	6	10	3
United States vs. Malaysia	7	3	4	3
China vs. Malaysia	2	2	4	4
United States vs. Other	8	3	9	4
China vs. Other	2	4	8	2
Malaysia vs. Other	1	3	5	2

Source: Compiled from data submitted in response to Commission questionnaires.

Part 3: U.S. producers' and U.S. fabricators' production, shipments, and employment

The Commission analyzes a number of factors in making injury determinations (see 19 U.S.C. §§ 1677(7)(B) and 1677(7)(C)). Information on the subsidies and dumping margins was presented in Part 1 of this report and information on the volume and pricing of imports of the subject merchandise is presented in Part 4 and Part 5. Information on the other factors specified is presented in this section and/or Part 6 and (except as noted) is based on the questionnaire responses of seven firms that accounted for all known U.S. production of FGP during 2023.

Eight U.S. fabricators[1] also responded to the U.S. producer questionnaire. Fabrication they performed on domestically produced FGP accounted for *** percent of U.S. produced FGP in 2023.[2] Fabrication they performed on imported FGP from subject sources accounted for *** percent of reported subject imports, and fabrication they performed on imported FGP from nonsubject sources accounted for *** percent of nonsubject imports in 2023.[3] [4] [5]

[1] Petitioner's counsel explained that there is a family of independent processors that perform a variety of processing operations on FGP such as heat-strengthening, laminating, coating, further work, and further assembly, and are referred to in the industry as fabricators. Conference transcript, p. 28 (Levy). For the purposes of this preliminary phase staff report, "U.S. producers" are defined as firms that produce articles of soda-lime-silica glass by floating a continuous strip of molten glass over a smooth bath of tin (or another liquid metal with a density greater than molten glass), cooling the glass in an annealing lehr, and cutting it to appropriate dimensions. "U.S. fabricators" are defined as firms that perform processing steps on FGP, including annealing, chemical strengthening, heat strengthening, tempering, and further working (e.g., sandblasting, etching, bending, curving, beveling, edging, notching, drilling, chipping, embossing, and engraving). Petitions, pp. I-7 to I-8.

[2] *Derived from* tables 3.13 and 3.11.

[3] *Derived from* tables 3.13 and 4.2.

[4] These percentages should not be interpreted as coverage figures for total U.S. fabrication in 2023, as some fabrication is performed by FGP producers, which is incorporated in their questionnaire responses, and some imported FGP may not undergo further processing operations in the United States.

[5] The petitioner estimates there are more than 100 fabricators across the United States. Conference transcript, p. 11 (Bush). Two companies were identified by the petitioner as being large fabricators, OldCastle Building Envelope and Trulite. Conference transcript, p. 33 (Martinez). ***. See email from ***, December 11, 2024.

U.S. producers and U.S. fabricators

The Commission issued a U.S. producer/fabricator questionnaire to seven firms identified as potential FGP producers and 89 firms identified as potential U.S. fabricators based on information contained in the petitions. All seven U.S. producers and eight U.S. fabricators provided usable data on their operations.[6] Table 3.1 lists U.S. producers and U.S. fabricators of FGP, their production locations, positions on the petitions, and shares of total production.

Table 3.1 FGP: U.S. producers and U.S. fabricators, their positions on the petitions, production locations, and shares of reported production/fabrication, 2023

Shares in percent

Firm	Position on petitions	Production location(s)	Share of production	Share of fabricating
AGC America	***	Richmond, KY	***	***
Cardinal	***	Menomonie, WI Portage, WI Mooresville, NC Durant, OK Winlock, WA Spring Hill, KS Church Hill, TN Spring Green, WI Northfield, MN Greenfield, IA Spring Green, WI Buckeye, AZ Fargo, ND Tomah, WI Ocala, FL	***	***
Carlex	***	Nashville, TN	***	***

Table continued.

[6] *** submitted questionnaire responses with data that was not usable. ***. ***. Six firms identified as potential U.S. fabricators, ***, certified that they have not processed FGP since January 1, 2021.

Table 3.1 (Continued) FGP: U.S. producers and U.S. fabricators, their positions on the petitions, production locations, and shares of reported production/fabrication, 2023

Shares in percent

Firm	Position on petitions	Production location(s)	Share of production	Share of fabricating
Electric Mirror	***	Everett, WA	***	***
Fashion Glass	***	Desoto, TX Lockhart, TX Katy, TX	***	***
Fuyao	***	Decatur, IL	***	***
Guardian	***	Kingsburg, CA DeWitt, IA Corsicana, TX Carleton, MI Geneva, NY Richburg, SC	***	***
Hartung	***	Tukwila, WA Renton, WA Wilsonville, OR Salt Lake City, UT Pueblo, CO Farmers Branch, TX Phoenix, AZ	***	***
Mr. Glass	***	Brooklyn, NY	***	***
Pilkington	***	Rossford, OH Laurinburg, NC	***	***
Thompson IG	***	Fenton, MI	***	***
Tristar	***	Catoosa, OK Grand Prairie, TX Houston, TX	***	***
Vectra	***	Atlanta, GA	***	***
Vitro	Petitioner	Wichita Falls, TX Carlisle, PA Fresno, CA Meadville, PA Salem, OR	***	***
Wholesale Glass	Petitioner	Memphis, TN	***	***
All firms	Various	Various	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: In 2023, U.S. producer production totaled *** pounds while total U.S. fabricator production was *** pounds. Zeroes, null values, and undefined calculations are suppressed and shown as —.

Table 3.2 presents information on U.S. producers' and U.S. fabricators' ownership, related and/or affiliated firms.

Table 3.2 FGP: U.S. producers' and U.S. fabricators' ownership, related and/or affiliated firms

Reporting firm	Relationship type and related firm	Details of relationship
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***

Table continued on next page.

Table 3.2 (Continued) FGP: U.S. producers' and U.S. fabricators' ownership, related and/or affiliated firms

Reporting firm	Relationship type and related firm	Details of relationship
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***
***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

As indicated in table 3.2, one U.S. producer, ***, is related to foreign producers of the subject merchandise and one U.S. producer, ***, is related to U.S. importers of the subject merchandise. In addition, as discussed in greater detail below, one U.S. producer directly imported the subject merchandise, and *** purchased the subject merchandise from U.S. importers.

Table 3.3 presents events in the U.S. industry since January 1, 2021.

Table 3.3 FGP: Important industry events since 2021

Item	Firm	Event
Investment	OldCastle BuildingEnvelope	On February 23, 2021, OldCastle BuildingEnvelope announced the acquisition of certain assets and liabilities of Graham Architectural Products Company located in York, PA. Graham Architectural Products Company is a manufacturer of engineered, commercial, window, door, and window wall systems specializing in energy efficient, historical, blast protection and high-performance products and solutions.
Firm Acquisition	Cardinal	In August 2021, AGC Inc. completed its sale of its North American architectural glass operations to Cardinal for $450 million. The sale included three flat glass furnaces and two coaters at AGC's three facilities in Kansas, Tennessee, and Virginia.
Firm acquisition	Hartung	On August 1, 2021, Hartung Glass Industries acquired All Weather Glass & Aluminum, a company that produced custom glass and aluminum windows and doors. The newly acquired facility is located in Phoenix, AZ.
Plant acquisition	Cardinal	In October 2021, Apogee Enterprises announced an agreement to sell its Statesboro, GA architectural glass facility to Cardinal. After Apogee announced a closure of the Statesboro plant in August 2021, the purchase reportedly preserved 200 jobs at the facility, which was repurposed to serve Cardinal's residential glass production.
Plant investment and expansion	Cardinal	In Fall 2021, Cardinal completed a $25 million expansion of its Durant, OK facility. The investment included a new tempering furnace and facility expansion resulting in higher production throughput and creation of 16 jobs.
Plant investment and expansion	Cardinal	In January 2023, the U.S. Economic Development Administration announced a $1.5 million federal infrastructure grant to upgrade a waterline in Church Hill, TN. The utility investment allowed Cardinal to further invest in its Church Hill, TN glass plant and create an expected 75 jobs over five years.
Operation expansion	Tristar	In March 2023, Tristar leased the old Coca-Cola bottling plant located in Grand Prairie, TX to expand its operations by increasing the production of architectural glass in North Texas.
Plant investment and expansion	Cardinal	In April 2023, Cardinal initiated a $40 million investment to expand its Abingdon, VA coating glass plant, set to complete in early 2025 and create upwards of 30 jobs.

Item	Firm	Event
Plant investment and expansion	Pilkington	In April 2023, Pilkington announced an investment of more than $86 million at its float glass facility in Laurinburg, NC. The investment targeted expansion of coating capabilities and reconstruction of one of its float glass lines, creating 20 jobs.
Firm acquisition	OldCastle BuildingEnvelope	On June 20, 2023, OldCastle BuildingEnvelope Inc. announced that it has completed the acquisition of Syracuse Glass Company (“SCG”) located in Syracuse, NY. SGC offers custom fabricated products, including tempered, laminated, and insulating glass, shower enclosures, glass entrances.
Plant acquisition	Guardian	In March 2024, Guardian purchased a 180,000 square foot facility in Norwich, CT to process jumbo glass, digitally printed glass, bird-friendly glass, and laminated glass. The facility was last owned by Naverra Glass (formerly Solar Seal which closed its operations in June 2022) and was only fully operational for one year (August 2022 to August 2023).
Firm acquisition	OldCastle BuildingEnvelope	On February 5, 2024, OldCastle BuildingEnvelope Inc. announced that it has completed the acquisition of Midwest Glass Fabricators, Inc. located in Highland, Michigan. Midwest Glass is a leading glass fabricator in the Midwest which specializes in manufacturing commercial and consumer architectural glass products.
Plant closure	Vitro Architectural Glass	In April 2024, Vitro Architectural Glass announced its Salem, OR glass-coating facility ceased production on June 28, 2024, resulting in 37 layoffs.
Emerging Technology Investment	Vitro Architectural Glass	In June 2024, Vitro Architectural Glass was one of several companies selected to receive a federal government investment on sustainable technologies related to building performance and energy savings.
Homeland Security Investigation	Fuyao Glass America	In July 2024, U.S. Department of Homeland Security agents raided several Fuyao Glass America locations investigating reports of financial crimes and labor exploitation. The investigation is ongoing with no further developments.
Firm Acquisition	Trulite Glass & Aluminum Solutions	On July 9, 2024, Trulite Glass & Aluminum Solutions, an architectural glass and aluminum manufacturer, acquired American Insulated Glass (“AIG”). AIG has seven regional locations in Conley, GA; Pensacola, FL; Birmingham, AL; Detroit, MI; Ijamsville, MD; Knoxville, TN and Denver, NC. The acquisition of AIG will allow Trulite Glass & Aluminum Solutions to offer a wider range of products, especially for residential applications.

Item	Firm	Event
Machinery acquisition	Tristar	In September 2024, Tristar increased production capacity and operational efficiency at its Dallas, TX plant by acquiring smart machinery from the company Turomas. The three smart machines that were acquired are used for the storage, loading and cutting of glass.

Sources: Alexander, Rachel, "Salem glass plant closes," May 30, 2024, https://www.salemreporter.com/2024/05/30/salem-glass-plant-closes-laying-off-37-workers/; Bales, Evan, "Investigation into Fuyao Glass America," July 29, 2024. https://www.yahoo.com/news/investigation-fuyao-glass-america-financial-220532623.html; Brandes, Heide, "Cardinal Glass nears completion on $25M Durant plant expansion," September 28, 2021, https://journalrecord.com/2021/09/28/cardinal-glass-nears-completion-on-25m-durant-plant-expansion/; CoreOne Industrial, "Tristar Glass leases 3405 Roy Orr Blvd in Grand Prairie, Texas from CoreOne Industrial," March 8, 2023, retrieved December 26, 024, https://coreoneind.com/tristar-glass-leases-3405-roy-orr-blvd-in-grand-prairie-texas-from-coreone-industrial/; Glass Magazine, "Hartung Glass Industries Acquires All Weather Glass & Aluminum's Phoenix Facility," August 3, 2021, retrieved December 24, 2024, https://www.glassmagazine.com/news/hartung-glass-industries-acquires-all-weather-glass-aluminums-phoenix-facility; GlassonWeb, "Tristar Glass opts for Turomas to expand its production capacity at its plant in Dallas, Texas," September 25, 2024, retrieved December 26, 2024, https://www.glassonweb.com/news/tristar-glass-opts-turomas-expand-its-production-capacity-its-plant-dallas-texas; Grice, DeWayne, "Cardinal Glass purchasing Viracon," October 19, 2021, https://www.griceconnect.com/business/cardinal-glass-purchasing-viracon-saving-hundreds-of-statesboro-jobs-6503699; Keeling, Jeff, "$1.5 million grant to help Cardinal Glass add 75 jobs," January 17, 2023, https://www.wjhl.com/news/local/1-5-million-grant-to-help-cardinal-glass-add-75-jobs/; Lee, Murry and Overbay, Ted, "Cardinal Glass to add 30+ jobs," April 28, 2023, https://www.wjhl.com/news/local/cardinal-glass-to-add-30-jobs-with-abingdon-expansion/; Lewis, George, "AGC completes sale of NA architectural glass," August 9, 2021, https://www.glass-international.com/news/agc-completes-sale-of-na-architectural-glass-business; Morris, Greg, "Pilkington to invest $86 million in US float glass facility," April 12, 2023, https://www.glass-international.com/news/pilkington-to-invest-86-million-in-us-float-glass-facility; ; OldCastle BuildingEnvelope, "Oldcastle BuildingEnvelope®, Inc. Acquires Certain Assets of Graham Architectural Products Company," February 23, 2021, retrieved December 26, 2024, https://obe.com/oldcastle-buildingenvelope-acquires-certain-assets-of-graham-architectural-products/; OldCastle BuildingEnvelope.

Note: OldCastle BuildingEnvelope and Trulite Glass & Aluminum Solutions did not submit a questionnaire response but industry events related to these two companies are presented in this table, as they were identified by petitioners as major U.S. fabricators of FGP. Conference transcript, p. 33 (Martinez).

Producers in the United States were asked to report any change in the character of their operations or organization relating to the production of FGP since 2021. *** producers indicated in their questionnaire responses that they had experienced such changes. Table 3.4 presents the changes identified by these producers.

Table 3.4 FGP: U.S. producers' reported changes in operations, since January 1, 2021

Type of change	Firm name and narrative response on changes in operations
Expansions	***
Acquisitions	***
Weather-related or force majeure events	***
Weather-related or force majeure events	***
Other	***
Other	***
Other	***
Other	***

Source: Compiled from data submitted in response to Commission questionnaires.

Production related activities

These investigations raise the issue of whether the activities of U.S. fabricators in the United States engage in sufficient production-related activities to qualify as domestic producers. The Commission generally considers six factors: (1) source and extent of the firm's capital investment; (2) technical expertise involved in U.S. production activities; (3) value added to the product in the United States; (4) employment levels; (5) quantity and type of parts sourced in the United States; and (6) any other costs and activities in the United States directly leading to production of the like product.

Table 3.5 presents U.S. producers' and U.S. fabricators' description of their domestic FGP production operations.

Table 3.5 FGP: U.S. producers' and U.S. fabricators' reported domestic production operations

Firm	Narrative response on domestic production operations
AGC America	***
Cardinal	***
Carlex	***
Electric Mirror	***
Fashion Glass	***
Fuyao	***
Guardian	***
Hartung	***
Mr. Glass	***
Pilkington	***
Thompson IG	***
Tristar	***
Vectra	***
Vitro	***
Wholesale Glass	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.6 presents U.S. producers' and U.S. fabricators' reported narratives regarding capital investments; technical expertise; value-added; employment; quantity, type, and source of parts; and costs and activities.

Table 3.6 FGP: U.S. producers' and U.S. fabricators' reported narratives regarding domestic production operations, by factor

Factor	Firm name and narrative response on domestic production operations
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Capital investments	***
Technical expertise	***
Technical expertise	***
Technical expertise	***
Technical expertise	***
Technical expertise	***
Technical expertise	***

Table continued on next page.

Table 3.6 (Continued) FGP: U.S. producers' and U.S. fabricators' reported narratives regarding domestic production operations, by factor

Factor	Firm name and narrative response on domestic production operations
Technical expertise	***
Technical expertise	***
Technical expertise	***
Technical expertise	***
Technical expertise	***
Technical expertise	***
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Value added	***
Employment	***
Employment	***
Employment	***

Table continued.

Table 3.6 (Continued) FGP: U.S. producers' and U.S. fabricators' reported narratives regarding domestic production operations, by factor

Factor	Firm name and narrative response on domestic production operations
Employment	***
Employment	***
Employment	***
Employment	***
Employment	***
Employment	***
Employment	***
Employment	***
Employment	***
Employment	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***
Quantity, type, and source of parts	***

Continued on next page.

Table 3.6 (Continued) FGP: U.S. producers' and U.S. fabricators' reported narratives regarding domestic production operations, by factor

Factor	Firm name and narrative response on domestic production operations
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***
Costs and activities	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.7 presents U.S. producers' and U.S. fabricators' reported data on domestic production operations, by factor and firm.

Table 3.7 FGP: U.S. producers' and U.S. fabricators' reported data on domestic production operations, by factor

Value in 1,000 dollars, value added in percent, employment in average number of PRWs

Factor	U.S producers	Electric Mirror	Fashion Glass	Hartung	Mr. Glass	Thompson IG
Capital investments: Greenfield	***	***	***	***	***	***
Capital investments: Assets	***	***	***	***	***	***
Capital investments: Capital expenditures	***	***	***	***	***	***
Technical expertise: R & D expenses	***	***	***	***	***	***
Value added	*** percent	*** percent	*** percent	*** percent	*** percent	*** percent
Employment	*** PRWs	*** PRWs	*** PRWs	*** PRWs	*** PRWs	*** PRWs
Quantity, type, and source of parts	Domestic: *** percent, Imported *** percent	Domestic FGP: *** percent; Subject FGP *** percent; Nonsubject FGP *** percent; Other raw materials *** percent	Domestic FGP: *** percent; Subject FGP *** percent; Nonsubject FGP *** percent; Other raw materials *** percent	Domestic FGP: *** percent; Subject FGP *** percent; Nonsubject FGP *** percent; Other raw materials *** percent	Domestic FGP: *** percent; Subject FGP *** percent; Nonsubject FGP *** percent; Other raw materials *** percent	Domestic FGP: *** percent; Subject FGP *** percent; Nonsubject FGP *** percent; Other raw materials *** percent

Table continued.

Table 3.7 (Continued) FGP: U.S. producers' and U.S. fabricators' reported data on domestic production operations, by factor

Value in 1,000 dollars, value added in percent, employment in average number of PRWs

Factor	U.S producers	Tristar	Vectra	Wholesale Glass	All U.S. fabricators	
Capital investments: Greenfield	***	***	***	***	***	***
Capital investments: Assets	***	***	***	***	***	***
Capital investments: Capital expenditures	***	***	***	***	***	***
Technical expertise: R & D expenses	***	***	***	***	***	***
Value added	*** percent	*** percent	*** percent	*** percent	*** percent	
Employment	*** PRWs	*** PRWs	*** PRWs	*** PRWs	*** PRWs	
Quantity, type, and source of parts	Domestic: *** percent, Imported *** percent	Domestic FGP: *** percent; Subject FGP *** percent; Nonsubject FGP *** percent; Other raw materials *** percent	Domestic FGP: *** percent; Subject FGP *** percent; Nonsubject FGP *** percent; Other raw materials *** percent	Domestic FGP: *** percent; Subject FGP *** percent; Nonsubject FGP *** percent; Other raw materials *** percent	Domestic FGP: *** percent; Subject FGP *** percent; Nonsubject FGP *** percent; Other raw materials *** percent	

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Value added is calculated as the share conversion costs (direct labor and other factory costs for U.S. producers and raw materials other than float glass, direct labor and other factory costs for U.S. fabricators) out of cost of goods sold (COGS). Quantity, type and source of parts reflects 2023 data collected on raw materials by source. For additional firm level data on responding fabricators, see appendix E. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table 3.8 presents U.S. producers' and U.S. fabricators' rating of the complexity and importance of their operations.

Table 3.8 FGP: U.S. producers' and U.S. fabricators' reported complexity and importance of operations

Ratings of 1 are minimally complex, intense, or important; Ratings of 5 are extremely complex, intense, or important

Firm	Rating	Narrative response on complexity and importance rating
AGC America	***	***
Cardinal	***	***
Carlex	***	***
Electric Mirror	***	***
Fashion Glass	***	***
Fuyao	***	***
Guardian	***	***
Hartung	***	***

Table continued.

Table 3.8 (Continued) FGP: U.S. producers' and U.S. fabricators' reported complexity and importance of operations

Ratings of 1 are minimally complex, intense, or important; Ratings of 5 are extremely complex, intense, or important

Firm	Rating	Narrative response on complexity and importance rating
Mr. Glass	***	***
Pilkington	***	***
Thompson IG	***	***
Tristar	***	***
Vectra	***	***
Vitro	***	***
Wholesale Glass	***	***
U.S. producers	***	NA
U.S. fabricators	***	NA
All firms	***	NA

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. production and fabrication, capacity, and capacity utilization

Table 3.9 presents U.S. producers' installed and practical capacity and production on the same equipment. Installed overall capacity increased by 10.5 percent from 2021 to 2023 and was 0.4 percent higher in interim 2024 than in interim 2023.[7] Overall production on the same machinery decreased by *** percent from 2021 to 2023 but was *** percent higher in interim 2024 than in interim 2023. Overall capacity utilization decreased by *** percentage points from 2021 to 2023 but was *** percentage points higher in interim 2024 than in interim 2023. Practical overall capacity increased by 11.6 percent from 2021 to 2023 and was 0.6 percent higher in interim 2024 than in interim 2023. Practical overall production decreased by *** percent from 2021 to 2023 but was *** percent higher in interim 2024 than in interim 2023. Practical overall capacity utilization decreased by *** percentage points from 2021 to 2023 and was equal during the interim periods.

Table 3.9 FGP: U.S. producers' installed and practical capacity and production on the same equipment as in-scope production, by period

Capacity and production in 1,000 pounds; utilization in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Installed overall	Capacity	11,058,148	12,217,486	12,217,486	9,156,006	9,192,911
Installed overall	Production	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***
Practical overall	Capacity	9,450,060	10,766,208	10,545,696	7,965,057	8,014,719
Practical overall	Production	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***
Practical FGP	Capacity	9,391,612	10,718,331	10,493,745	7,928,593	7,966,393
Practical FGP	Production	8,598,825	9,788,276	8,590,383	6,406,210	6,447,708
Practical FGP	Utilization	91.6	91.3	81.9	80.8	80.9

Source: Compiled from data submitted in response to Commission questionnaires.

[7] Cardinal purchased three float lines and two coaters from AGC America in August 2021. ***.

Table 3.10 presents U.S. producers' reported narratives regarding practical capacity constraints.

Table 3.10 FGP: U.S. producers' reported capacity constraints since January 1, 2021

Type of constraint	Firm name and narrative response on constraints to practical overall capacity
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***
Production bottlenecks	***
Other constraints	***
Other constraints	***
Other constraints	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.11 and figure 3.1 present U.S. producers' production, capacity, and capacity utilization. Practical FGP capacity increased from 2021 to 2022 by 14.1 percent, then decreased by 2.1 percent from 2022 to 2023, for an overall 11.7 percent increase from 2021 to 2023 and was 0.5 percent higher in interim 2024 than in interim 2023.[8] FGP production increased by 13.8 percent from 2021 to 2022,[9] then decreased by 12.2 percent from 2022 to 2023, for an overall 0.1 percent decrease from 2021 to 2023, but was 0.6 percent higher in interim 2024 than in interim 2023.[10] As FGP capacity increased while FGP production decreased, FGP capacity utilization decreased by 9.7 percentage points from 2021 to 2023, but was 0.1 percentage points higher in interim 2024 than in interim 2023.

*** was the largest U.S. producer in 2021, accounting for *** percent of 2021 production, followed by *** with *** percent, then *** with *** percent. Following ***, it became the largest U.S. producer and remained so throughout the remainder of the period of investigation, accounting for approximately *** of production.

Table 3.11 FGP: U.S. producers' output, by firm and period

Practical capacity

Capacity in 1,000 pounds; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	9,391,612	10,718,331	10,493,745	7,928,593	7,966,393

Table continued.

[8] As with overall capacity, the increase in practical FGP capacity from 2021 to 2023 was largely due to ***.

[9] The increase in FGP production from 2021 to 2022 was largely driven by *** but *** also reported increased production during this period.

[10] All U.S. producers reported decreases in production from 2022 to 2023, except for ***. While all producers reported higher production in interim 2024 than in interim 2023, except ***.

Table 3.11 (Continued) FGP: U.S. producers' output, by firm and period

Production

Production in 1,000 pounds; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	8,598,825	9,788,276	8,590,383	6,406,210	6,447,708

Table continued.

Table 3.11 (Continued) FGP: U.S. producers' output, by firm and period

Capacity utilization

Capacity utilization in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	91.6	91.3	81.9	80.8	80.9

Note: Capacity utilization ratio represents the ratio of the U.S. producer's production to its production capacity.

Table continued.

Table 3.11 (Continued) FGP: U.S. producers' output, by firm and period

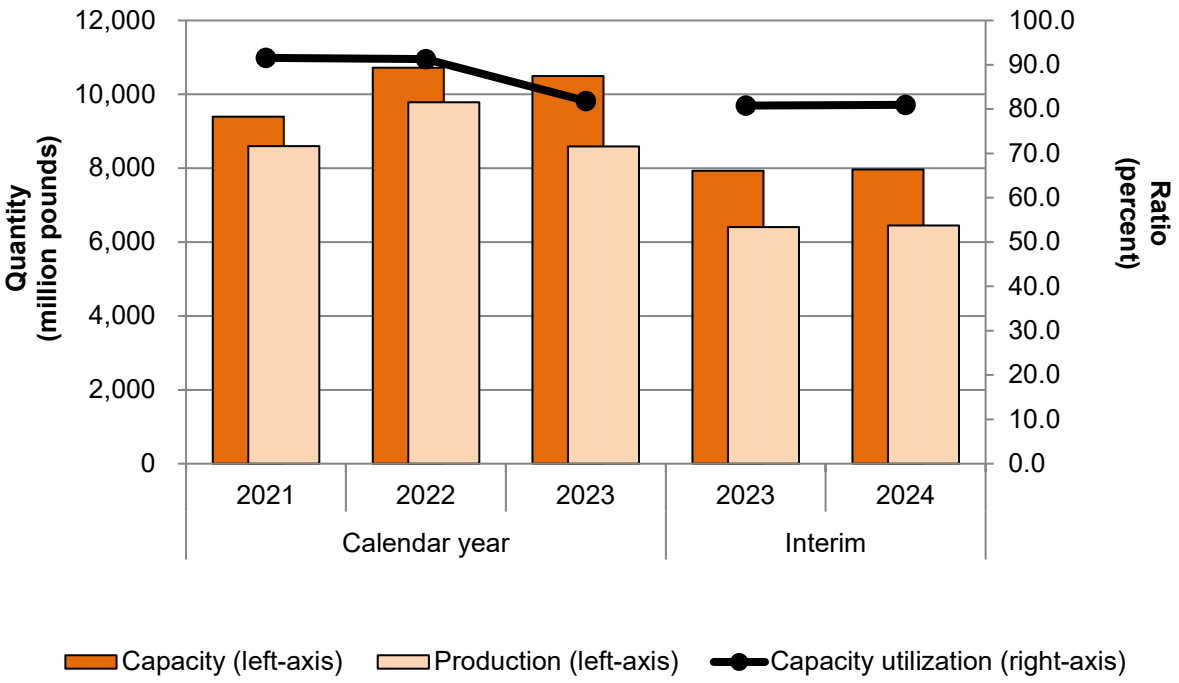
Share of production

Share in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Figure 3.1 FGP: U.S. producers' capacity, production, and capacity utilization, by period



Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.12 and figure 3.2 present U.S. fabricators' production, capacity, and capacity utilization. Practical FGP fabrication capacity increased by 3.3 percent from 2021 to 2023 and was 6.9 percent higher in interim 2024 than in interim 2023.[11] Fabrication production increased by 9.0 percent from 2021 to 2022, then decreased by 3.0 percent from 2022 to 2023, for an overall 5.7 percent increase from 2021 to 2023, but was 8.1 percent lower in interim 2024 than in interim 2023. Fabrication capacity utilization increased by 6.9 percentage points from 2021 to 2022, then decreased from 2022 to 2023 by 4.9 percentage points, for an overall 2.0 percentage point increase. Interim 2024 fabrication capacity utilization was 12.2 percentage points lower than in interim 2023.

*** accounted for the largest share of fabrication throughout the period of investigation, followed by ***, but *** share of fabrication decreased by *** percentage points from 2021 to 2023, while *** increased by *** percentage points.

Table 3.12 FGP: U.S. fabricators' output, by firm and period

Practical capacity

Capacity in 1,000 pounds; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Electric Mirror	***	***	***	***	***
Fashion Glass	***	***	***	***	***
Hartung	***	***	***	***	***
Mr. Glass	***	***	***	***	***
Thompson IG	***	***	***	***	***
Tristar	***	***	***	***	***
Vectra	***	***	***	***	***
Wholesale Glass	***	***	***	***	***
All U.S. fabricators	232,731	234,511	240,311	180,233	192,733

Table continued.

[11] The higher interim 2024 capacity was driven by ***, which ***.

Table 3.12 (Continued) FGP: U.S. fabricators' output, by firm and period

Fabrication

Fabrication in 1,000 pounds; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Electric Mirror	***	***	***	***	***
Fashion Glass	***	***	***	***	***
Hartung	***	***	***	***	***
Mr. Glass	***	***	***	***	***
Thompson IG	***	***	***	***	***
Tristar	***	***	***	***	***
Vectra	***	***	***	***	***
Wholesale Glass	***	***	***	***	***
All U.S. fabricators	196,363	214,071	207,646	155,886	143,278

Table continued.

Table 3.12 (Continued) FGP: U.S. fabricators' output, by firm and period

Capacity utilization

Capacity utilization in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Electric Mirror	***	***	***	***	***
Fashion Glass	***	***	***	***	***
Hartung	***	***	***	***	***
Mr. Glass	***	***	***	***	***
Thompson IG	***	***	***	***	***
Tristar	***	***	***	***	***
Vectra	***	***	***	***	***
Wholesale Glass	***	***	***	***	***
All U.S. fabricators	84.4	91.3	86.4	86.5	74.3

Note: Capacity utilization ratio represents the ratio of the U.S. fabricator's fabrication to its fabrication capacity.

Table continued.

Table 3.12 (Continued) FGP: U.S. fabricators' output, by firm and period

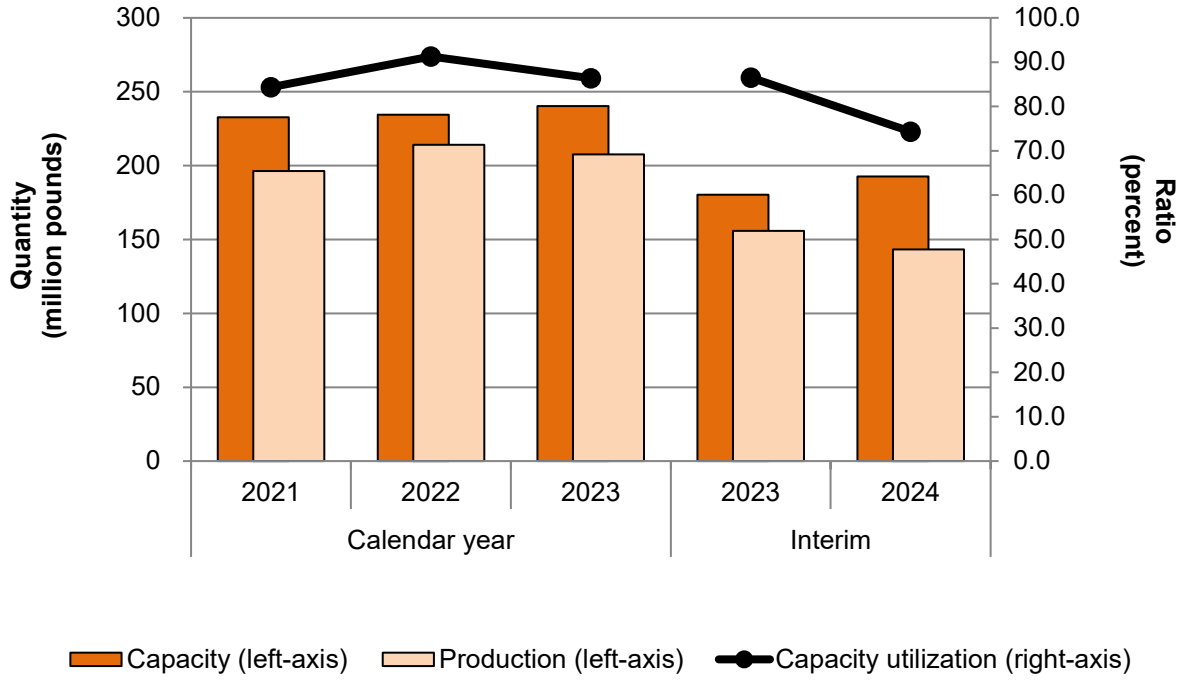
Share of fabrication

Share in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Electric Mirror	***	***	***	***	***
Fashion Glass	***	***	***	***	***
Hartung	***	***	***	***	***
Mr. Glass	***	***	***	***	***
Thompson IG	***	***	***	***	***
Tristar	***	***	***	***	***
Vectra	***	***	***	***	***
Wholesale Glass	***	***	***	***	***
All U.S. fabricators	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Figure 3.2 FGP: U.S. fabricators' capacity, fabrication, and capacity utilization, by period



Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.13 presents fabricators' fabrication by the input source of the FGP. Domestically produced FGP accounted for the majority (around *** percent) of FGP that U.S. fabricators fabricated throughout the period of investigation, although the share decreased by *** percentage points from 2021 to 2023, while the share of fabrication of FGP from subject sources increased by *** percentage points.

Table 3.13 FGP: U.S. fabricators' fabrication, by input type and period

Quantity in 1,000 pounds, share in percent; interim is January to September

Fabrication type	Measure	2021	2022	2023	Interim 2023	Interim 2024
Domestic	Quantity	***	***	***	***	***
Subject	Quantity	***	***	***	***	***
Nonsubject	Quantity	***	***	***	***	***
All fabrication types	Quantity	196,363	214,071	207,646	155,886	143,278
Domestic	Share	***	***	***	***	***
Subject	Share	***	***	***	***	***
Nonsubject	Share	***	***	***	***	***
All fabrication types	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Alternative products

As shown in table 3.14, over *** percent of the product produced during 2021 to 2023 and the interim periods by U.S. producers was FGP. *** reported producing *** on the same machinery used to produce FGP.

Table 3.14 FGP: U.S. producers' overall production on the same equipment as in-scope production, by period

Quantity in 1,000 pounds; ratio and share in percent; interim is January to September

Product type	Measure	2021	2022	2023	Interim 2023	Interim 2024
FGP	Quantity	8,598,825	9,788,276	8,590,383	6,406,210	6,447,708
Other products	Quantity	***	***	***	***	***
All products	Quantity	***	***	***	***	***
FGP	Share	***	***	***	***	***
Other products	Share	***	***	***	***	***
All products	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. producers' and U.S. fabricators' U.S. shipments and exports

Table 3.15 presents U.S. producers' U.S. shipments, export shipments, and total shipments. U.S. producers' U.S. shipments accounted for over *** percent of total shipments throughout the period of investigation. U.S. producers' U.S. shipment quantity and value increased from 2021 to 2022, then decreased from 2022 to 2023, for an overall 4.7 percent increase in quantity, and an overall 21.5 percent increase in value, from 2021 to 2023. U.S. producers' U.S. shipment quantity was *** percent higher in interim 2024 than in interim 2023, while U.S. shipment value was *** percent in quantity and *** percent in value from 2021 to 2023 but were *** percent higher in quantity and *** percent higher in value in interim 2024 than in interim 2023. Export shipment unit values were higher than U.S shipment unit values throughout the period of investigation.

Table 3.15 FGP: U.S. producers' shipments, by destination and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; shares in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. shipments	Quantity	7,564,867	8,885,883	7,919,658	5,966,686	6,021,073
Export shipments	Quantity	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***
U.S. shipments	Value	2,163,720	2,940,763	2,628,414	1,999,219	1,979,280
Export shipments	Value	***	***	***	***	***
Total shipments	Value	***	***	***	***	***
U.S. shipments	Unit value	0.29	0.33	0.33	0.34	0.33
Export shipments	Unit value	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***
U.S. shipments	Share of quantity	***	***	***	***	***
Export shipments	Share of quantity	***	***	***	***	***
Total shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
U.S. shipments	Share of value	***	***	***	***	***
Export shipments	Share of value	***	***	***	***	***
Total shipments	Share of value	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.16 presents U.S. fabricators' U.S. shipments, export shipments, and total shipments. U.S. shipments accounted for over *** percent of U.S. fabricators' total shipments throughout the period of investigations. U.S. fabricators' U.S. shipments increased by 5.6 percent in quantity and 34.2 percent in value from 2021 to 2023 but were 7.7 percent lower in quantity and 8.5 percent lower in value in interim 2024 than in interim 2023. U.S. fabricators' U.S. exports decreased by *** percent in quantity, but increased by *** percent in value, from 2021 to 2023, and were *** percent higher in quantity and *** percent lower in value in interim 2024 than in interim 2023. Fabricators' export shipment unit values were higher than U.S. shipment unit values throughout the period of investigations, except in interim 2024.

Table 3.16 FGP: U.S. fabricators' shipments, by destination and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; shares in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. shipments	Quantity	180,851	191,198	190,922	142,850	131,801
Export shipments	Quantity	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***
U.S. shipments	Value	303,650	393,405	407,454	310,710	284,206
Export shipments	Value	***	***	***	***	***
Total shipments	Value	***	***	***	***	***
U.S. shipments	Unit value	1.68	2.06	2.13	2.18	2.16
Export shipments	Unit value	***	***	***	***	***
Total shipments	Unit value	***	***	***	***	***
U.S. shipments	Share of quantity	***	***	***	***	***
Export shipments	Share of quantity	***	***	***	***	***
Total shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
U.S. shipments	Share of value	***	***	***	***	***
Export shipments	Share of value	***	***	***	***	***
Total shipments	Share of value	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.17 presents U.S. producers' and fabricators' U.S. shipments for use in apparent consumption, by period.

Table 3.17 FGP: U.S. producers' and fabricators' U.S. shipments for use in apparent consumption, by period

Quantity in 1,000 pounds; value in 1,000 dollars; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Quantity	7,564,867	8,885,883	7,919,658	5,966,686	6,021,073
U.S. producers	Value	2,163,720	2,940,763	2,628,414	1,999,219	1,979,280
U.S. fabricators: Value added to domestic	Value	***	***	***	***	***
U.S. producers and fabricators: Fully domestic	Value	***	***	***	***	***
U.S. fabricators: Valued added to imports	Value	***	***	***	***	***
U.S. producers and fabricators: Total	Value	2,364,929	3,200,300	2,904,487	2,210,319	2,178,103

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Quantity for U.S. shipments reflects only producers' U.S. shipment quantities. Value for U.S. shipments reflects float glass products sold in the United States from domestically manufactured float glass (including the value added by U.S. fabricators to domestic float glass), as well as the incremental value added by U.S. fabricators to imported float glass. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import.

Table 3.18 presents U.S. producers' U.S. shipments by type.[12] Internal consumption and transfers to related firms accounted for between *** and *** percent of U.S. shipments during the period of investigations. All U.S. producers reported internal consumption and/or transfers to related firms during the period of investigations, except ***. U.S. commercial shipments increased by *** percent in quantity and *** percent in value from 2021 to 2023, and was *** percent higher in quantity, but *** lower in value in interim 2024 than in interim 2023. U.S. producers' internal consumption increased by *** percent in quantity and *** percent in value from 2021 to 2023 and was *** percent higher in quantity and *** percent higher in value, in interim 2024 than in interim 2023. Transfers to related firms decreased by *** percent in quantity but increased *** percent in value, from 2021 to 2023, and were *** percent lower in quantity and *** percent lower in value in interim 2024 than in interim 2023.

[12] A table for U.S. fabricators' U.S. shipments by type is not presented because ***.

Table 3.18 FGP: U.S. producers' U.S. shipments, by type and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; shares in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial U.S. shipments	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
U.S. shipments	Quantity	7,564,867	8,885,883	7,919,658	5,966,686	6,021,073
Commercial U.S. shipments	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
U.S. shipments	Value	2,163,720	2,940,763	2,628,414	1,999,219	1,979,280
Commercial U.S. shipments	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
U.S. shipments	Unit value	0.29	0.33	0.33	0.34	0.33
Commercial U.S. shipments	Share of quantity	***	***	***	***	***
Internal consumption	Share of quantity	***	***	***	***	***
Transfers to related firms	Share of quantity	***	***	***	***	***
U.S. shipments	Share of quantity	100.0	100.0	100.0	100.0	100.0
Commercial U.S. shipments	Share of value	***	***	***	***	***
Internal consumption	Share of value	***	***	***	***	***
Transfers to related firms	Share of value	***	***	***	***	***
U.S. shipments	Share of value	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Captive consumption

Section 771(7)(C)(iv) of the Act states that–[13]

> *If domestic producers internally transfer significant production of the domestic like product for the production of a downstream article and sell significant production of the domestic like product in the merchant market, and the Commission finds that–*
>
> *(I) the domestic like product produced that is internally transferred for processing into that downstream article does not enter the merchant market for the domestic like product,*
> *(II) the domestic like product is the predominant material input in the production of that downstream article, and*
> *(III) then the Commission, in determining market share and the factors affecting financial performance . . ., shall focus primarily on the merchant market for the domestic like product.*

Transfers and sales

As reported in table 3.18, internal consumption accounted for between *** and *** percent of U.S. producers' U.S. shipments of FGP.

First statutory criterion in captive consumption

The first requirement for application of the captive consumption provision is that the domestic like product that is internally transferred for processing into that downstream article not enter the merchant market for the domestic like product. Table 3.19 presents U.S. producers' production used in downstream products by type of consumption. *** U.S. producers reported internal consumption of FGP for the production of downstream automotive glass and *** reported internal consumption of FGP for the production of ***. No U.S. producer reported diverting FGP intended for internal consumption to the merchant market, however, ***, reported transfers to related firms of FGP to be processed into ***, which are still within the scope of these investigations and thus enter the merchant market.

[13] Amended by PL 114-27 (as signed, June 29, 2015), Trade Preferences Extension Act of 2015.

Table 3.19 FGP: U.S. producers' production used in downstream products, by type of consumption and period

Quantity in 1,000 pounds; shares in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Internal consumption: Sold as is	Quantity	***	***	***	***	***
Internal consumption: Processed into downstream products	Quantity	***	***	***	***	***
All internal consumption	Quantity	***	***	***	***	***
Internal consumption: Sold as is	Share	***	***	***	***	***
Internal consumption: Processed into downstream products	Share	***	***	***	***	***
All internal consumption	Share	100.0	100.0	100.0	100.0	100.0
Transfers: Sold as is	Quantity	***	***	***	***	***
Transfers: Processed into downstream products	Quantity	***	***	***	***	***
All transfers to related firms	Quantity	***	***	***	***	***
Transfers: Sold as is	Share	***	***	***	***	***
Transfers: Processed into downstream products	Share	***	***	***	***	***
All transfers to related firms	Share	100.0	100.0	100.0	100.0	100.0
IC + transfers: Sold as is	Quantity	***	***	***	***	***
IC + transfers: Processed into downstream products	Quantity	***	***	***	***	***
All internal consumption and transfers	Quantity	1,096,748	1,099,796	1,183,944	880,638	894,923
IC + transfers: Sold as is	Share	***	***	***	***	***
IC + transfers: Processed into downstream products	Share	***	***	***	***	***
All internal consumption and transfers	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Second statutory criterion in captive consumption

The second criterion of the captive consumption provision concerns whether the domestic like product is the predominant material input in the production of the downstream article that is captively produced. Table 3.20 presents U.S. producers' FGP contribution to downstream products. With respect to the downstream articles resulting from captive production, FGP reportedly comprises *** percent of the finished cost of downstream product.

Table 3.20 FGP: U.S. producers' FGP contribution to downstream product

Shares in percent

Material input	Share of value	Share of quantity
Float glass	***	***
All other material inputs	***	***
All material inputs	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. producers' and U.S. fabricators' inventories

Table 3.21 presents U.S. producers' end-of-period inventories and the ratio of these inventories to U.S. producers' production, U.S. shipments, and total shipments. End-of-period inventories increased by 13.5 percent from 2021 to 2023 but were 10.5 percent lower in interim 2024 than in interim 2023.[14] The inventory ratio to U.S. production, U.S. shipments, and total shipments all increased during the 2021 to 2023 period by 1.8, 1.3, and *** percentage points, respectively. The inventory ratio to U.S. production, U.S. shipments, and total shipments, however, all decreased across the interim periods, by 1.8, 1.9, and *** percentage points, respectively.

[14] The increase in U.S. producers' end-of-period inventories from 2021 to 2023 was largely driven by ***, as its end-of-period inventories increased by *** percent from 2021 to 2023. *** end-of-period inventories also increased (by *** percent), while the *** other U.S. producers' end-of-period inventories decreased during this time.

Table 3.21 FGP: U.S. producers' inventories and their ratio to select items, by period

Quantity in 1,000 pounds; ratio in percent; interim is January to September

Item	2021	2022	2023	Interim 2023	Interim 2024
End-of-period inventory quantity	1,157,313	1,324,308	1,313,669	1,353,751	1,211,946
Inventory ratio to U.S. production	13.5	13.5	15.3	15.8	14.1
Inventory ratio to U.S. shipments	15.3	14.9	16.6	17.0	15.1
Inventory ratio to total shipments	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.22 presents U.S. fabricators' end-of-period inventories and the ratio of these inventories to U.S. fabricators' production, U.S. shipments, and total shipments**.** U.S. fabricators' end-of-period inventories increased by *** percent from 2021 to 2022, then decreased by *** percent from 2022 to 2023, for an overall *** percent increase from 2021 to 2023 and were *** percent lower in interim 2024 than in interim 2023. Inventory ratios to U.S. production, U.S. shipments, and total shipments were all under *** percent throughout the period of investigations. All of these ratios fell slightly from 2021 to 2023 and were lower in interim 2024 than in interim 2023.

Table 3.22 FGP: U.S. fabricators' inventories and their ratio to select items, by period

Quantity in 1,000 pounds; ratio in percent; interim is January to September

Item	2021	2022	2023	Interim 2023	Interim 2024
End-of-period inventory quantity	***	***	***	***	***
Inventory ratio to U.S. production	***	***	***	***	***
Inventory ratio to U.S. shipments	***	***	***	***	***
Inventory ratio to total shipments	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. producers' imports from subject sources

One U.S. producer, ***, imported FGP from a subject country during the period of investigation and its imports are presented in table 3.23. As shown, *** imported a *** volume of FGP from *** in ***.

Table 3.23 FGP: * U.S. production, subject imports, and ratio of subject imports to production, by source and period**

Quantity in 1,000 pounds; ratio in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. production	Quantity	***	***	***	***	***
Imports from ***	Quantity	***	***	***	***	***
Imports from *** to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

U.S. producers' purchases of imports from subject sources

No responding U.S. producer reported purchases of FGP from 2021 to 2023 and both interim periods.

U.S. employment, wages, and productivity

Table 3.24 shows U.S. producers' employment-related data. Production and related workers (PRWs) increased by 16.1 percent from 2021 to 2023 but were 10.6 percent lower in interim 2024 than in interim 2023. Total hours worked by PRWs increased by 15.1 percent during 2021 to 2023 but were 2.6 percent lower in interim 2024 than in interim 2023. Wages paid to PRWs increased by 26.4 percent from 2021 to 2023 and were 0.8 percent higher in interim 2024 than in interim 2023.[15] All U.S. producers reported an increase in hourly wages, for a total increase of 9.8 percent from 2021 to 2023 and hourly wages were 3.5 percent higher in interim 2024 than in interim 2023. Hours worked per PRW decreased by 19.4 hours per PRW from 2021 to 2023, but were 149.1 hours per PRW higher in interim 2024 than in interim 2023. All U.S. producers' productivity declined during 2021 to 2023, for a total of 120.4 pounds per hour, but productivity was higher by 26.3 pounds per hour in interim 2024 than in interim 2023.

Table 3.24 FGP: U.S. producers' employment related information, by item and period

Item	2021	2022	2023	Interim 2023	Interim 2024
Production and related workers (PRWs) (number)	4,277	4,926	4,966	4,900	4,381
Total hours worked (1,000 hours)	9,419	11,093	10,840	8,202	7,986
Hours worked per PRW (hours)	2,202	2,252	2,183	1,674	1,823
Wages paid ($1,000)	235,564	294,164	297,770	224,704	226,528
Hourly wages (dollars per hour)	$25.01	$26.52	$27.47	$27.40	$28.36
Productivity (pounds per hour)	912.9	882.3	792.5	781.1	807.3
Unit labor costs (dollars per pound)	$0.03	$0.03	$0.03	$0.04	$0.04

Source: Compiled from data submitted in response to Commission questionnaires.

[15] Much of the increase in PRWs, total hours worked, and wages paid was driven by the increases in these indicators reported by *** from 2021 to 2022, ***. However, *** also reported increased in PRWs, total hours worked, wages paid, and hourly wages from 2021 to 2023. *** noted that its employment trends increased in 2023, ***. ***, on the other hand, noted that their ***.

Table 3.25 shows U.S. producers' employee hours worked producing FGP and fabricating FGP. As shown, production activities accounted for the vast majority (over *** percent) of hours worked during the period of investigations.

Table 3.25 FGP: U.S. producers' employee hours worked, by type and period

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Production: Hours worked	1,000 hours	***	***	***	***	***
Fabrication: Hours worked	1,000 hours	***	***	***	***	***
Total hours worked	1,000 hours	9,419	11,093	10,840	***	7,986
Production: Hours worked	Share	***	***	***	***	***
Fabrication: Hours worked	Share	***	***	***	***	***
Total hours worked	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.26 shows U.S. fabricators' employment-related data. Production and related workers (PRWs) increased by 9.1 percent from 2021 to 2023 but were 7.0 percent lower in interim 2024 than in interim 2023. Total hours worked by PRWs increased by 8.9 percent during 2021 to 2023 but were 4.4 percent lower in interim 2024 than in interim 2023. Wages paid to PRWs increased by 28.8 percent from 2021 to 2023 but were 6.4 percent lower in interim 2024 than in interim 2023. All U.S. fabricators reported an increase in hourly wages, for a total increase of 18.3 percent from 2021 to 2023, but hourly wages were 2.1 percent lower in interim 2024 than in interim 2023. Hours worked per PRW decreased by 4.1 hours per PRW but were 43.3 hours worked per PRW higher in interim 2024 than in interim 2023. U.S. fabricators' productivity declined during 2021 to 2023 by 1.9 pounds per hour and was 2.4 pounds per hour lower in interim 2024 than in interim 2023.

Table 3.26 FGP: U.S. fabricators' employment related information, by item and period

Item	2021	2022	2023	Interim 2023	Interim 2024
Production and related workers (PRWs) (number)	1,431	1,546	1,561	1,573	1,463
Total hours worked (1,000 hours)	2,922	3,150	3,181	2,450	2,342
Hours worked per PRW (hours)	2,042	2,038	2,038	1,558	1,601
Wages paid ($1,000)	63,892	77,590	82,286	62,884	58,860
Hourly wages (dollars per hour)	$21.87	$24.63	$25.87	$25.67	$25.13
Productivity (pounds per hour)	67.2	68.0	65.3	63.6	61.2
Unit labor costs (dollars per pound)	$0.33	$0.36	$0.40	$0.40	$0.41

Source: Compiled from data submitted in response to Commission questionnaires.

Table 3.27 shows U.S. producers' and U.S. fabricators' combined employment-related data.

Table 3.27 FGP: U.S. producers' and U.S. fabricators' combined employment related information, by item and period

Item	2021	2022	2023	Interim 2023	Interim 2024
Production and related workers (PRWs) (number)	5,708	6,472	6,527	6,473	5,844
Total hours worked (1,000 hours)	12,341	14,243	14,021	10,652	10,328
Hours worked per PRW (hours)	2,162	2,201	2,148	1,646	1,767
Wages paid ($1,000)	299,456	371,754	380,056	287,588	285,388
Hourly wages (dollars per hour)	$24.26	$26.10	$27.11	$27.00	$27.63

Source: Compiled from data submitted in response to Commission questionnaires.

Part 4: U.S. imports, apparent U.S. consumption, and market shares

U.S. importers

The Commission issued importer questionnaires to 134 firms believed to be importers of subject FGP, as well as to all U.S. producers of FGP.[1] Usable questionnaire responses were received from 42 companies, representing an estimated *** percent of U.S. imports from China, *** percent of U.S. imports from Malaysia, *** percent of U.S. imports from subject sources, and *** percent of U.S. imports from nonsubject sources,[2] and *** percent of U.S. imports from all import sources in 2023 under primary HTS subheadings 7005.10.8000, 7005.21.1010, 7005.21.1030, 7005.21.2000, 7005.29.1810, 7005.29.1850, 7005.29.2500, 7007.29.0000, 7008.00.0000, 7009.91.5010, 7009.91.5095 and 7009.92.5010, which are "basket" categories.[3] [4] [5]

[1] The Commission issued questionnaires to those firms identified in the petitions; staff research; and proprietary, Census-edited Customs' import records.

[2] Coverage figures for nonsubject imports may be slightly understated as two companies ***. Call with *** on November 29, 2024, email from *** on December 4, 2024, email from *** on December 8, 2024.

[3] The coverage estimates presented were calculated based on proprietary, Census-edited Customs records using the primary HTS numbers (quantity of imports accounted by firms that responded to the Commission's questionnaire or certified that they did not import subject merchandise in 2023 divided by total quantity of imports).

[4] Ten companies certified that they have not imported FGP since January 1, 2021, including ***.

[5] Import data in part 4 are based on questionnaire data unless otherwise indicated. While questionnaire coverage is low, staff did not use official import statistics because (1) the unit of quantity varies among the HTS statistical reporting numbers under which FGP are imported and, (2) the HTS statistical reporting numbers under which FGP are imported contain out-of-scope merchandise.

Table 4.1 lists all responding U.S. importers of FGP from China and Malaysia and other sources, their locations, and their shares of U.S. imports, in 2023.

Table 4.1 FGP: U.S. importers, their headquarters, and share of imports within each source, 2023

Share in percent

Firm	Headquarters	China	Malaysia	Subject sources	Nonsubject sources	All import sources
310 Tempering	Louisville, KY	***	***	***	***	***
All Kind	Houston, TX	***	***	***	***	***
Carlex	Nashville, TN	***	***	***	***	***
Cristacurva	Houston, TX	***	***	***	***	***
Ecolookna	Saint Paul, MN	***	***	***	***	***
Electric Mirror	Everett, WA	***	***	***	***	***
E.S. Windows	Miami, FL	***	***	***	***	***
Fabbrica	Windsor, CT	***	***	***	***	***
Fashion Glass	Desoto, TX	***	***	***	***	***
Fortune Brands	Deerfield, IL	***	***	***	***	***
General Glass	Secaucus, NJ	***	***	***	***	***
Guardian	Auburn Hills, MI	***	***	***	***	***
Hartung	Tukwilla, WA	***	***	***	***	***
Home Depot	Atlanta, GA	***	***	***	***	***
Ikea	Pratteln, Switzerland, BL	***	***	***	***	***
Impressions Vanity	Tustin, CA	***	***	***	***	***
Interglass	Miami, FL	***	***	***	***	***
KBJ	San Clemente, CA	***	***	***	***	***
Kohler	Kohler, WI	***	***	***	***	***
Krugg	Marlboro, NJ	***	***	***	***	***
Lowes	Mooresville, NC	***	***	***	***	***
Madeli	Miami, FL	***	***	***	***	***
Masonite	Tampa, FL	***	***	***	***	***

Table continued.

Table 4.1 (Continued) FGP: U.S. importers, their headquarters, and share of imports within each source, 2023

Share in percent

Firm	Headquarters	China	Malaysia	Subject sources	Nonsubject sources	All import sources
Modern Mirrors	Tustin, CA	***	***	***	***	***
Mr. Glass	Brooklyn, NY	***	***	***	***	***
National Glass	Coral Gables, FL	***	***	***	***	***
New Hudson	Linwood, PA	***	***	***	***	***
Novum	Menomonee Falls, WI	***	***	***	***	***
Paris Mirror	Miami, FL	***	***	***	***	***
Pella	Pella, IA	***	***	***	***	***
Pilkington	Toledo, OH	***	***	***	***	***
Rapid	Medley, FL	***	***	***	***	***
Renin	Tupelo, MS	***	***	***	***	***
Robern	Bristol, PA	***	***	***	***	***
SGC	Commerce, CA	***	***	***	***	***
Shower Doors & More	Fort Lauderdale, FL	***	***	***	***	***
Texas Glass	Houston, TX	***	***	***	***	***
Uttermost	Rocky Mount, VA	***	***	***	***	***
Vitrazza	Golden, CO	***	***	***	***	***
Vitro Mexico	San Pedro Garza Garcia, NL	***	***	***	***	***
Washington Glass	Manassas, VA	***	***	***	***	***
Xinyi	Markham, ON	***	***	***	***	***
All firms	Various	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“.

U.S. imports

Table 4.2 presents data for U.S. imports of FGP from China and Malaysia and all other sources.[6] Imports from China and Malaysia both increased during 2021 to 2023 by quantity and value, but imports from China were higher in interim 2024 than in interim 2023, while imports from Malaysia were lower. Overall, subject imports increased by 80.7 percent in quantity and 20.4 percent in value from 2021 to 2023. They were 3.8 percent lower in quantity and 9.6 percent higher in value in interim 2024 than in interim 2023. Nonsubject imports decreased in quantity by 6.4 percent and increased in value by 15.7 percent from 2021 to 2023 and were higher in both quantity (17.1 percent) and value (13.0 percent) in interim 2024 compared to interim 2023.

Unit values of imports from both China and Malaysia decreased from 2021 to 2023 (by *** and *** percent, respectively) but were both higher in interim 2024 than in interim 2023 (by *** and *** percent, respectively), while unit values of nonsubject imports increased 23.7 percent from 2021 to 2023 but were 3.5 percent lower in interim 2024 than in interim 2023.

Imports of subject sources as a ratio to U.S. production reached a high of *** percent in full year periods.

[6] *** reported quantity in a unit other than 1,000 pounds, so staff estimated their quantities in 1,000 pounds based on average dollars per pound reported by U.S. importers that did report their quantities in 1,000 pounds.

Table 4.2 FGP: U.S. imports by source and period

Quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; interim is January to September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
China	Quantity	***	***	***	***	***
Malaysia	Quantity	***	***	***	***	***
Subject sources	Quantity	58,321	90,641	105,368	79,910	76,840
Nonsubject sources	Quantity	186,272	163,094	174,264	128,623	***
All import sources	Quantity	244,593	253,735	279,632	208,533	227,405
China	Value	***	***	***	***	***
Malaysia	Value	***	***	***	***	***
Subject sources	Value	59,979	76,886	72,192	53,689	58,826
Nonsubject sources	Value	94,744	92,938	109,607	78,464	88,654
All import sources	Value	154,723	169,824	181,799	132,153	147,480
China	Unit value	***	***	***	***	***
Malaysia	Unit value	***	***	***	***	***
Subject sources	Unit value	1.03	0.85	0.69	0.67	0.77
Nonsubject sources	Unit value	0.51	0.57	0.63	0.61	0.59
All import sources	Unit value	0.63	0.67	0.65	0.63	0.65

Table continued.

Table 4.2 (Continued) FGP: Share of U.S. imports by source and period

Share and ratio in percent; ratio represents the ratio to U.S. production of U.S. producers; interim is January to September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
China	Share of quantity	***	***	***	***	***
Malaysia	Share of quantity	***	***	***	***	***
Subject sources	Share of quantity	23.8	35.7	37.7	38.3	33.8
Nonsubject sources	Share of quantity	76.2	64.3	62.3	61.7	66.2
All import sources	Share of quantity	100.0	100.0	100.0	100.0	100.0
China	Share of value	***	***	***	***	***
Malaysia	Share of value	***	***	***	***	***
Subject sources	Share of value	38.8	45.3	39.7	40.6	39.9
Nonsubject sources	Share of value	61.2	54.7	60.3	59.4	60.1
All import sources	Share of value	100.0	100.0	100.0	100.0	100.0
China	Ratio	***	***	***	***	***
Malaysia	Ratio	***	***	***	***	***
Subject sources	Ratio	0.7	0.9	1.2	1.2	1.2
Nonsubject sources	Ratio	2.2	1.7	2.0	2.0	2.3
All import sources	Ratio	2.8	2.6	3.3	3.3	3.5

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as “—“.

Table 4.3 FGP: Changes in U.S. imports quantity, value, and unit value, by source and period

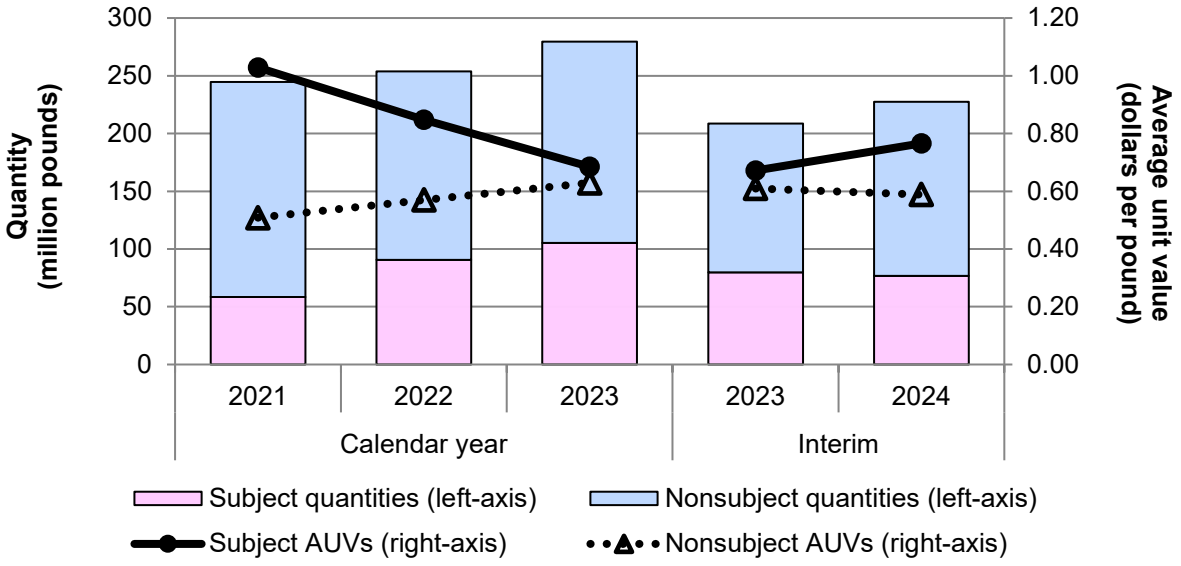
Changes in percent; interim period is January through September

Source	Measure	2021–23	2021–22	2022–23	Interim 2023–24
China	Δ% Quantity	▲***	▲***	▲***	▲***
Malaysia	Δ% Quantity	▲***	▲***	▲***	▼***
Subject sources	Δ% Quantity	▲80.7	▲55.4	▲16.2	▼(3.8)
Nonsubject sources	Δ% Quantity	▼(6.4)	▼(12.4)	▲6.8	▲17.1
All import sources	Δ% Quantity	▲14.3	▲3.7	▲10.2	▲9.0
China	Δ% Value	▲***	▲***	▼***	▲***
Malaysia	Δ% Value	▲***	▲***	▲***	▼***
Subject sources	Δ% Value	▲20.4	▲28.2	▼(6.1)	▲9.6
Nonsubject sources	Δ% Value	▲15.7	▼(1.9)	▲17.9	▲13.0
All import sources	Δ% Value	▲17.5	▲9.8	▲7.1	▲11.6
China	Δ% Unit value	▼***	▼***	▼***	▲***
Malaysia	Δ% Unit value	▼***	▼***	▼***	▲***
Subject sources	Δ% Unit value	▼(33.4)	▼(17.5)	▼(19.2)	▲13.9
Nonsubject sources	Δ% Unit value	▲23.7	▲12.0	▲10.4	▼(3.5)
All import sources	Δ% Unit value	▲2.8	▲5.8	▼(2.9)	▲2.3

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

Figure 4.1 FGP: U.S. import quantities and average unit values, by source and period



Source: Compiled from data submitted in response to Commission questionnaires.

Table 4.4 presents U.S. producers', U.S. fabricators', or their affiliates' U.S. imports.

Table 4.4 FGP: U.S. producers', U.S. fabricators' and/or their affiliates' U.S. imports

Quantity in 1,000 pounds, share and ratio in percent

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
China	Quantity	***	***	***	***	***
Malaysia	Quantity	***	***	***	***	***
Subject sources	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
China	Share	***	***	***	***	***
Malaysia	Share	***	***	***	***	***
Subject sources	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	100.0	100.0	100.0	100.0	100.0
China	Ratio	***	***	***	***	***
Malaysia	Ratio	***	***	***	***	***
Subject sources	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Ratio is to the quantity of imports by source presented in table 4.2 above. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[7] Negligible imports are generally defined in the Act, as amended, as imports from a country of merchandise corresponding to a domestic like product where such imports account for less than 3 percent of the volume of all such merchandise imported into the United States in the most recent 12-month period for which data are available that precedes the filing of the petition or the initiation of the investigation. However, if there are imports of such merchandise from a number of countries subject to investigations initiated on the same day that individually account for less than 3 percent of the total volume of the subject merchandise, and if the imports from those countries collectively account for more than 7 percent of the volume of all such merchandise imported into the United States during the applicable 12-month period, then imports from such countries are deemed not to be negligible.[8] Imports from China accounted for *** percent and Malaysia accounted for *** percent of total imports of FGP by quantity from November 2023 through October 2024.

Table 4.5 FGP: U.S. imports in the twelve-month period preceding the filing of the petition, November 2023 through October 2024

Quantity in 1,000 pounds; share of quantity in percent

Source of imports	Quantity	Share of quantity
China	***	***
Malaysia	***	***
All other sources	***	***
All import sources	***	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

[7] Sections 703(a)(1), 705(b)(1), 733(a)(1), and 735(b)(1) of the Act (19 U.S.C. §§ 1671b(a)(1), 1671d(b)(1), 1673b(a)(1), and 1673d(b)(1)).

[8] Section 771 (24) of the Act (19 U.S.C § 1677(24)).

Cumulation considerations

In assessing whether imports should be cumulated, the Commission determines whether U.S. imports from the subject countries compete with each other and with the domestic like product and has generally considered four factors: (1) fungibility, (2) presence of sales or offers to sell in the same geographical markets, (3) common or similar channels of distribution, and (4) simultaneous presence in the market. Information regarding channels of distribution, market areas, and interchangeability appear in Part 2. Additional information concerning fungibility, geographical markets, and simultaneous presence in the market is presented as follows.

Fungibility

Table 4.6 presents U.S. producers' U.S. shipments and U.S. importers' U.S. imports by product type – insulating glass units (IGUs) and mirror products, laminated products, and all other products that are not also IGUs. The vast majority of IGUs were U.S. producers' U.S. shipments (*** percent), while the vast majority of mirror products that were not IGUs were U.S. imports (*** percent, with subject imports accounting for *** percent and nonsubject imports accounting for *** percent). Nonsubject imports accounted for the majority (*** percent) of laminated products that were not IGUs. Finally, U.S. producers' U.S. shipments accounted for the vast majority of all other products (*** percent).[9]

"All other glass products" was the most common type of FGP for U.S. producers' U.S. shipments, U.S. imports from Malaysia, and U.S. imports from nonsubject sources. IGUs were the most common type of FGP for U.S. processors' U.S. shipments and non-IGU mirror products were the most common type of FGP for U.S. imports from China.

[9] "All other products" included float glass for automotive purposes; low-iron, clear, and tinted float glass of varying thicknesses, coatings, and/or other heat treatment; and vacuum coated, tempered float glass; clear and tinted float glass, LED bathroom mirrors; chair mats; fabricated glass shower doors; tempered shower glass; fabricated, tempered glass mats; decorative glass and mini-blinds; boxed shower doors; tempered door blanks; tempered monolithic float glass; specialty coated float glass; decorative glass installed into entry doors for the residential home market; glass bent, edge-worked, engraved, drilled, enameled, or otherwise worked float glass; and toughened safety glass.

Table 4.6 FGP: U.S. producers' and fabricators' U.S. shipments and U.S. importers' U.S. imports, by source and product type, 2023

Quantity in 1,000 pounds

Source	Insulating glass units (IGUs)	Non-IGU mirror products	Non-IGU laminated products	All other products	All product types
U.S. producers	***	***	***	***	7,919,658
U.S. fabricators	***	***	***	***	190,922
China	***	***	***	***	***
Malaysia	***	***	***	***	***
Subject sources	***	***	***	***	104,770
Nonsubject sources	***	***	***	***	174,814
All import sources	***	***	***	***	279,584
All sources	***	***	***	***	8,199,242

Table continued.

Table 4.6 (Continued) FGP: U.S. producers' and fabricators' U.S. shipments and U.S. importers' U.S. imports, by source and product type, 2023

Share across in percent

Source	Insulating glass units (IGUs)	Non-IGU mirror products	Non-IGU laminated products	All other products	All product types
U.S. producers	***	***	***	***	100.0
U.S. fabricators	***	***	***	***	100.0
China	***	***	***	***	100.0
Malaysia	***	***	***	***	100.0
Subject sources	***	***	***	***	100.0
Nonsubject sources	***	***	***	***	100.0
All import sources	***	***	***	***	100.0
All sources	***	***	***	***	100.0

Table continued.

Table 4.6 (Continued) FGP: U.S. producers' and fabricators' U.S. shipments and U.S. importers' U.S. imports, by source and product type, 2023

Share down in percent

Source	Insulating glass units (IGUs)	Non-IGU mirror products	Non-IGU laminated products	All other products	All product types
U.S. producers	***	***	***	***	***
U.S. fabricators	***	***	***	***	***
China	***	***	***	***	***
Malaysia	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***
All sources	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: U.S. fabricators input float glass from U.S producers and U.S. import sources and therefore their data are not included in the "All sources" total to avoid double counting. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 4.2 FGP: U.S. producers' and fabricators' U.S. shipments and U.S. importers' U.S. imports, by source and product type, 2023

* * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Geographical markets

Table 4.7 presents data on U.S. imports of FGP and other glass, a category that includes out-of-scope imports, by border of entry in 2023. Imports from each subject source entered the United States through ports in every region during 2023. Most U.S. imports from nonsubject sources entered through ports located in the South or East.

Table 4.7 FGP and other glass: U.S. imports by source and border of entry, 2023

Quantity in 1,000 dollars

Source	East	North	South	West	All borders
China	57,375	38,629	41,699	64,362	202,065
Malaysia	1,808	1,310	4,299	2,158	9,575
Subject sources	59,183	39,939	45,998	66,521	211,640
Nonsubject sources	194,231	84,638	284,896	65,412	629,178
All import sources	253,414	124,577	330,894	131,932	840,818

Table continued.

Table 4.7 (Continued) FGP and other glass: U.S. imports by source and border of entry, 2023

Share across in percent

Source	East	North	South	West	All borders
China	28.4	19.1	20.6	31.9	100.0
Malaysia	18.9	13.7	44.9	22.5	100.0
Subject sources	28.0	18.9	21.7	31.4	100.0
Nonsubject sources	30.9	13.5	45.3	10.4	100.0
All import sources	30.1	14.8	39.4	15.7	100.0

Table continued.

Table 4.7 (Continued) FGP and other glass: U.S. imports by source and border of entry, 2023

Share down in percent

Source	East	North	South	West	All borders
China	22.6	31.0	12.6	48.8	24.0
Malaysia	0.7	1.1	1.3	1.6	1.1
Subject sources	23.4	32.1	13.9	50.4	25.2
Nonsubject sources	76.6	67.9	86.1	49.6	74.8
All import sources	100.0	100.0	100.0	100.0	100.0

Source: Compiled from official U.S. import statistics of the U.S. Department of Commerce Census Bureau using HTS statistical reporting numbers 7005.10.8000, 7005.21.1010, 7005.21.1030, 7005.21.2000, 7005.29.1810, 7005.29.1850, 7005.29.2500, 7007.29.0000, 7008.00.0000, 7009.91.5010, 7009.91.5095 and 7009.92.5010, accessed December 6, 2024. Imports area based on the imports for consumption data series. Values are the landed-duty paid value.

Note: The primary HTS statistical reporting numbers includes out-of-scope products and therefore data above are likely overstated.

Presence in the market

Table 4.8 and figures 4.4 and 4.5 present monthly data for subject and nonsubject imports of FGP during January 2023 through October 2024. U.S. imports of FGP from China, Malaysia, and nonsubject sources each entered the country in all 22 months between January 2023 and October 2024.

Table 4.8 FGP: Quantity of U.S. imports, by source and month

Quantity in 1,000 pounds

Year	Month	China	Malaysia	Subject sources	Nonsubject sources	All import sources
2023	January	***	***	***	***	***
2023	February	***	***	***	***	***
2023	March	***	***	***	***	***
2023	April	***	***	***	***	***
2023	May	***	***	***	***	***
2023	June	***	***	***	***	***
2023	July	***	***	***	***	***
2023	August	***	***	***	***	***
2023	September	***	***	***	***	***
2023	October	***	***	***	***	***
2023	November	***	***	***	***	***
2023	December	***	***	***	***	***
2024	January	***	***	***	***	***
2024	February	***	***	***	***	***
2024	March	***	***	***	***	***
2024	April	***	***	***	***	***
2024	May	***	***	***	***	***
2024	June	***	***	***	***	***
2024	July	***	***	***	***	***
2024	August	***	***	***	***	***
2024	September	***	***	***	***	***
2024	October	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Figure 4.3 FGP: U.S. imports from individual subject sources, by month

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Figure 4.4 FGP: U.S. imports from aggregated subject and nonsubject sources, by month

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Apparent U.S. consumption and market shares

Quantity

Total market

Table 4.9 and figure 4.5 present data on apparent U.S. total market consumption of FGP and U.S. market shares based on quantity (1,000 pounds). Apparent U.S. total market consumption by quantity increased by 17.1 percent from 2021 to 2022, then decreased by 10.2 percent from 2022 to 2023, for an overall 5.1 percent increase from 2021 to 2023. Apparent U.S. total market consumption was 1.1 percent higher in interim 2024 than in interim 2023.[10] Like apparent U.S. total market consumption, U.S. producers' U.S. shipments by quantity increased irregularly from 2021 to 2023 and were higher in interim 2024 than in interim 2023, while U.S. importers' U.S. shipments from subject sources increased every year between 2021 and 2023 but were lower in interim 2024 than in interim 2023.

The share of the quantity of apparent U.S. total market consumption held by U.S. producers was over 96 percent throughout the period of investigations. Its share decreased by 0.4 percentage points from 2021 to 2023 and was 0.2 percentage points lower in interim 2024 than in interim 2023. From 2021 to 2023, the share of the total market held by U.S. imports from China and Malaysia increased by *** and *** percentage points, respectively, while the share of the total market held by U.S. imports from nonsubject sources decreased by 0.2 percentage points. The share of the total market held by U.S. imports from China and Malaysia were lower in interim 2024 than in interim 2023 (by ***, and *** percentage points, respectively), while the share of the total market held by U.S. imports from nonsubject sources was 0.3 percent higher in interim 2024 than in interim 2023.

[10] One of the key drivers of demand for FGP is the construction sector, and the petitioner believes demand for construction applications fluctuated downwards during the period of investigation. The petitioner believes aggregate demand for FGP was depressed in 2021 due to the lingering effects of COVID, rebounded in 2022, then became "somewhat anemic" since 2022. Transcript, pp. 13-14 (Stipetich) and p. 64 (Martinez).

Table 4.9 FGP: Apparent U.S. total market consumption and market shares based on quantity, by source and period

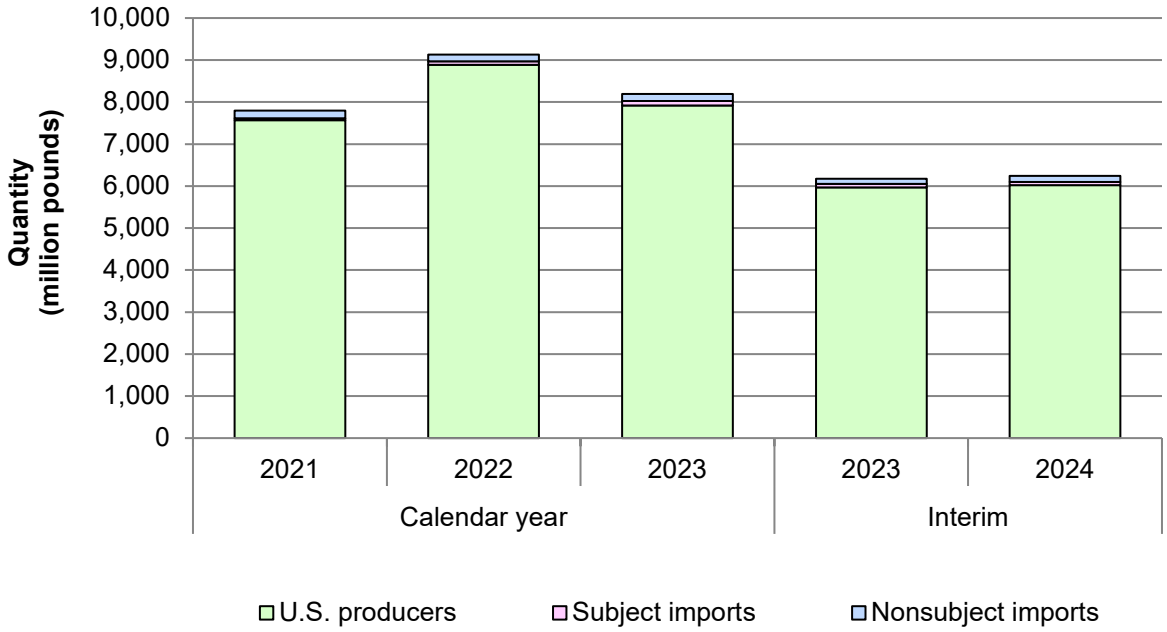
Quantity in 1,000 pounds; shares in percent; interim is January to September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Quantity	7,564,867	8,885,883	7,919,658	5,966,686	6,021,073
China	Quantity	***	***	***	***	***
Malaysia	Quantity	***	***	***	***	***
Subject sources	Quantity	51,963	87,675	108,638	83,973	75,964
Nonsubject sources	Quantity	178,407	153,953	168,184	124,158	144,478
All import sources	Quantity	230,370	241,628	276,822	208,131	220,442
All sources	Quantity	7,795,237	9,127,511	8,196,480	6,174,817	6,241,515
U.S. producers	Share	97.0	97.4	96.6	96.6	96.5
China	Share	***	***	***	***	***
Malaysia	Share	***	***	***	***	***
Subject sources	Share	0.7	1.0	1.3	1.4	1.2
Nonsubject sources	Share	2.3	1.7	2.1	2.0	2.3
All import sources	Share	3.0	2.6	3.4	3.4	3.5
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Data for all sources are based on U.S. shipments.

Figure 4.5 FGP: Apparent U.S. total market consumption based on quantity, by source and period



Source: Compiled from data submitted in response to Commission questionnaires.

Merchant market

Table 4.10 and figure 4.6 present data on apparent U.S. merchant market consumption and U.S. market shares based on quantity (1,000 pounds) for FGP. Apparent U.S. merchant market consumption by quantity increased by 19.3 percent from 2021 to 2022, then decreased by 13.0 percent from 2022 to 2023, for an overall 3.8 percent increase from 2021 to 2023. Apparent U.S. merchant market consumption was 1.0 percent higher in interim 2024 than in interim 2023. Like apparent U.S. merchant market consumption, U.S. producers' U.S. merchant market shipments by quantity increased irregularly from 2021 to 2023 and were higher in interim 2024 than in interim 2023, while U.S. importers' U.S. shipments from subject sources increased every year between 2021 and 2023, but were lower in interim 2024 than in interim 2023.

The share of the quantity of apparent U.S. merchant market consumption held by U.S. producers decreased by 0.5 percentage points from 2021 to 2023 and was 0.2 percentage points lower in interim 2024 than in interim 2023. From 2021 to 2023, the share of the merchant market held by U.S. imports from China and Malaysia increased by *** and *** percentage points, respectively, while the share of the merchant market held by U.S. imports from nonsubject sources decreased by 0.2 percentage points. The share of the merchant market held by U.S. imports from China and Malaysia were lower in interim 2024 than in interim 2023 (by ***, and *** percentage points, respectively), while the share of the merchant market held by U.S. imports from nonsubject sources were 0.4 percent higher in interim 2024 than in interim 2023.

Table 4.10 FGP: Apparent U.S. merchant market consumption and market shares based on quantity, by source and period

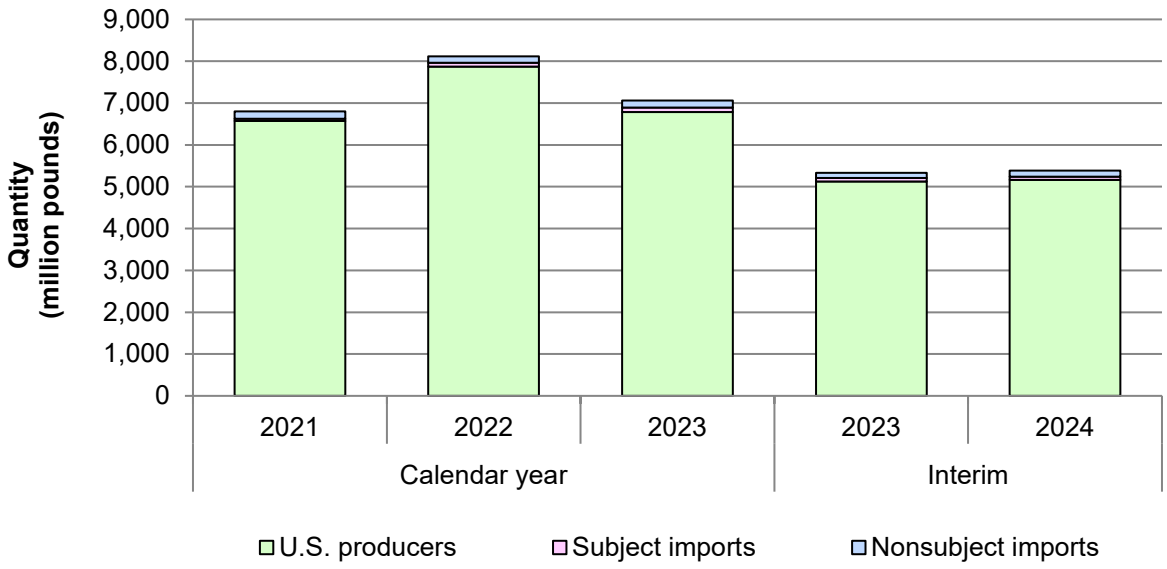
Quantity in 1,000 pounds; shares in percent; interim is January to September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Quantity	6,574,010	7,872,726	6,785,557	5,122,548	5,163,928
China	Quantity	***	***	***	***	***
Malaysia	Quantity	***	***	***	***	***
Subject sources	Quantity	51,963	87,675	108,638	83,973	75,964
Nonsubject sources	Quantity	178,407	153,953	168,184	124,158	144,478
All import sources	Quantity	230,370	241,628	276,822	208,131	220,442
All sources	Quantity	6,804,380	8,114,354	7,062,379	5,330,679	5,384,370
U.S. producers	Share	96.6	97.0	96.1	96.1	95.9
China	Share	***	***	***	***	***
Malaysia	Share	***	***	***	***	***
Subject sources	Share	0.8	1.1	1.5	1.6	1.4
Nonsubject sources	Share	2.6	1.9	2.4	2.3	2.7
All import sources	Share	3.4	3.0	3.9	3.9	4.1
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: ***.

Figure 4.6 FGP: Apparent U.S. merchant market consumption based on quantity, by source and period



Source: Compiled from data submitted in response to Commission questionnaires

Value

Total market

Table 4.11 and figure 4.7 present data on apparent U.S. total market consumption of FGP and U.S. market shares by value. Apparent U.S. total market consumption by value increased by 34.1 percent from 2021 to 2022, then decreased by 8.1 percent from 2022 to 2023, for an overall 23.2 percent increase from 2021 to 2023. Apparent U.S. total market consumption by value was 0.9 percent lower in interim 2024 than in interim 2023.[11] Like apparent U.S. total market consumption, U.S. producers' and U.S. producers' plus U.S. fabricators' U.S. shipments by value increased irregularly from 2021 to 2023 and were lower in interim 2024 than in interim 2023, while U.S. importers' U.S. shipments from subject sources and nonsubject sources increased between 2021 and 2023 and were higher in interim 2024 than in interim 2023.

The share of the value of apparent U.S. total market consumption held by U.S. producers decreased by 1.2 percentage points from 2021 to 2023 and was 0.1 percentage points lower in interim 2024 than in interim 2023, while the share of value held by U.S. producers plus U.S. fabricators decreased by 0.3 percentage points from 2021 to 2023 and was 0.6 percentage points lower in interim 2024 than in interim 2023. From 2021 to 2023, the share of value of the total market held by U.S. imports from subject sources increased by 0.4 percentage points, while the share of value of the total market held by U.S. imports from nonsubject sources decreased by 0.1 percentage points. The share of value of the total market held by U.S. imports from subject sources was 0.1 percentage points higher in interim 2024 than in interim 2023 and the share held by U.S. imports from nonsubject sources was 0.4 percentage points higher in interim 2024 than in interim 2023.

[11] The greater increase in apparent consumption by value compared to quantity from 2021 to 2023 was driven by the increased unit values of U.S. producers', U.S. processors', and U.S. imports from nonsubject sources' U.S. shipments. Unit values of U.S. shipments from subject sources decreased during 2021 to 2023.

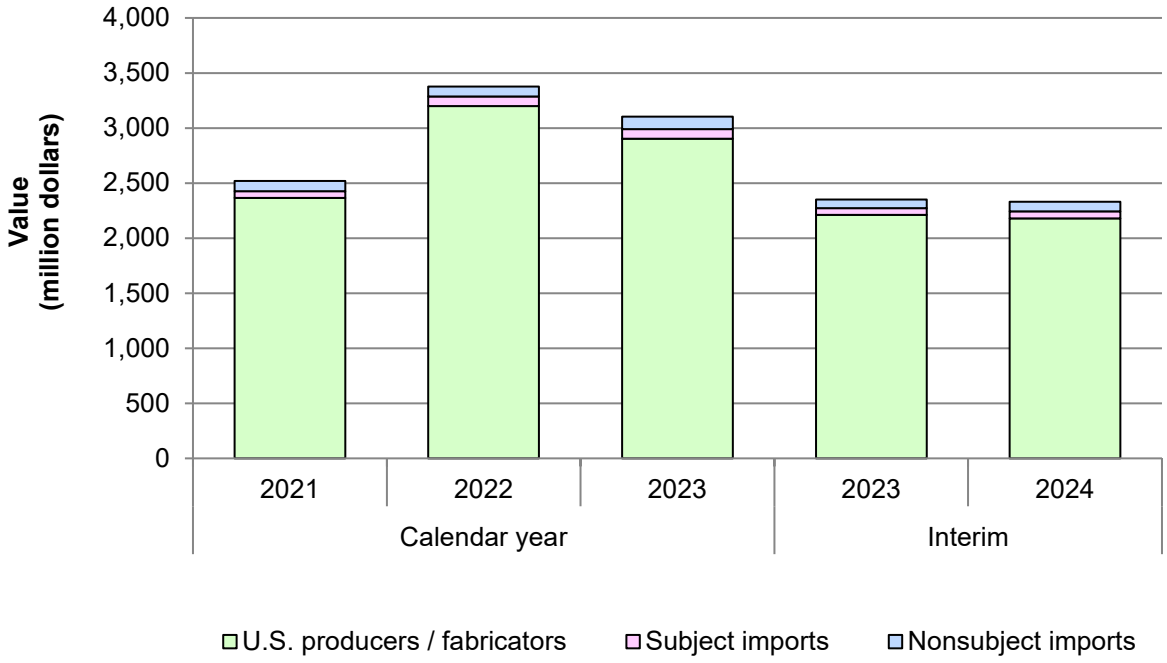
Table 4.11 FGP: Apparent U.S. total market consumption and market shares based on value, by source and period

Value in 1,000 dollars; shares in percent; interim is January to September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Value	2,163,720	2,940,763	2,628,414	1,999,219	1,979,280
U.S. fabricators: Value added to domestic	Value	***	***	***	***	***
U.S. producers and fabricators: Fully domestic	Value	***	***	***	***	***
U.S. fabricators: Valued added to imports	Value	***	***	***	***	***
U.S. producers and fabricators: Total	Value	2,364,929	3,200,300	2,904,487	2,210,319	2,178,103
China	Value	***	***	***	***	***
Malaysia	Value	***	***	***	***	***
Subject sources	Value	64,358	90,783	91,998	65,140	67,948
Nonsubject sources	Value	92,309	89,860	111,109	79,102	88,348
All import sources	Value	156,667	180,643	203,107	144,242	156,296
All sources	Value	2,521,596	3,380,943	3,107,594	2,354,561	2,334,399
U.S. producers	Share	85.8	87.0	84.6	84.9	84.8
U.S. fabricators: Value added to domestic	Share	***	***	***	***	***
U.S. producers and fabricators: Fully domestic	Share	***	***	***	***	***
U.S. fabricators: Valued added to imports	Share	***	***	***	***	***
U.S. producers and fabricators: Total	Share	93.8	94.7	93.5	93.9	93.3
China	Share	***	***	***	***	***
Malaysia	Share	***	***	***	***	***
Subject sources	Share	2.6	2.7	3.0	2.8	2.9
Nonsubject sources	Share	3.7	2.7	3.6	3.4	3.8
All import sources	Share	6.2	5.3	6.5	6.1	6.7
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Figure 4.7 FGP: Apparent U.S. total market consumption based on value, by source and period



Source: Compiled from data submitted in response to Commission questionnaires.

Merchant market

Table 4.12 and figure 4.8 present data on apparent U.S. merchant market consumption and U.S. market shares by value for FGP. Given that fabricators only reported commercial shipments, the values they added to domestically produced and imported FGP are the same for the total and merchant markets.

Apparent U.S. merchant market consumption by value increased by 36.6 percent from 2021 to 2022, then decreased by 10.2 percent from 2022 to 2023, for an overall 22.6 percent increase from 2021 to 2023. Apparent U.S. merchant market consumption by value was 0.9 percent lower in interim 2024 than in interim 2023. Like apparent U.S. merchant market consumption, U.S. producers' and U.S. producers' plus U.S. fabricators' U.S. shipments by value increased irregularly from 2021 to 2023 and were lower in interim 2024 than in interim 2023, while U.S. importers' U.S. shipments from subject sources increased every year between 2021 and 2023 and were higher in interim 2024 than in interim 2023.

The share of the value of apparent U.S. merchant market consumption held by U.S. producers decreased by *** percentage points from 2021 to 2023 and was *** percentage points lower in interim 2024 than in interim 2023, while the share of value held by U.S. producers plus U.S. fabricators decreased by 0.4 percentage points from 2021 to 2023 and was 0.6 percentage points lower in interim 2024 than in interim 2023. From 2021 to 2023, the share of value of the merchant market held by U.S. imports from subject sources increased by 0.5 percentage points, while the share of value of the total market held by U.S. imports from nonsubject sources decreased by 0.1 percentage points. The share of value of the merchant market held by U.S. imports from subject sources was 0.2 percentage points higher in interim 2024 than in interim 2023 and the share held by U.S. imports from nonsubject sources was 0.5 percentage points higher in interim 2024 than in interim 2023.

Table 4.12 FGP: Apparent U.S. merchant market consumption and market shares based on value, by source and period

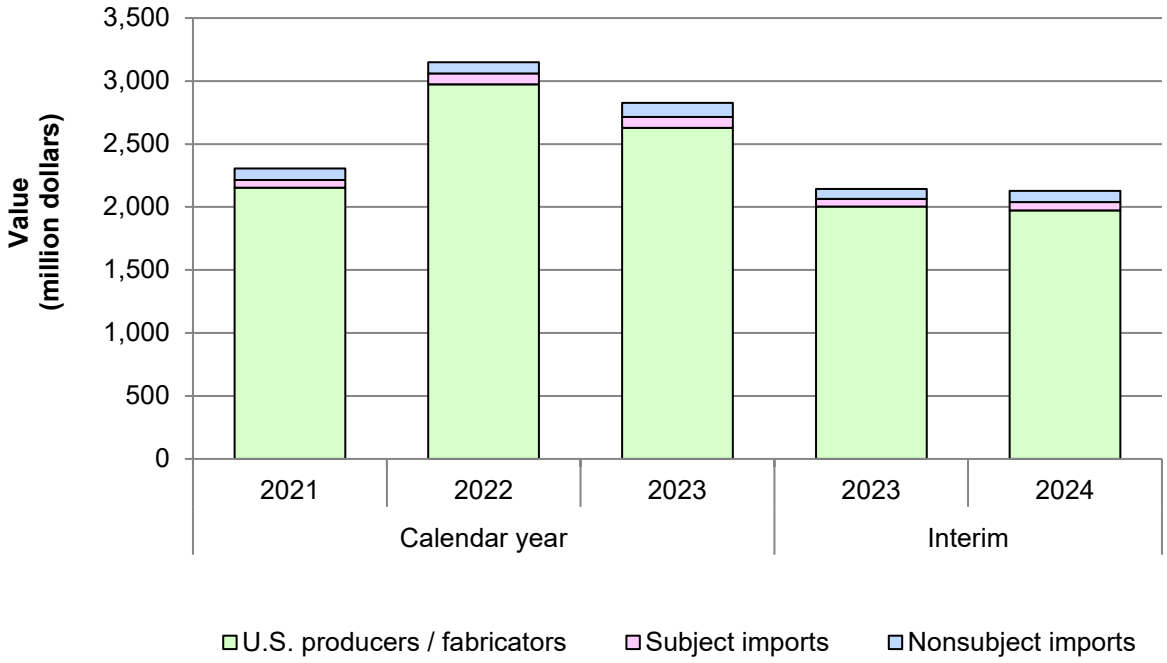
Value in 1,000 dollars; shares in percent; interim is January to September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Value	1,951,506	2,713,906	2,352,327	1,793,101	1,774,152
U.S. fabricators: Value added to domestic	Value	***	***	***	***	***
U.S. producers and fabricators: Fully domestic	Value	***	***	***	***	***
U.S. fabricators: Valued added to imports	Value	***	***	***	***	***
U.S. producers and fabricators: Total	Value	2,152,715	2,973,443	2,628,400	2,004,201	1,972,975
China	Value	***	***	***	***	***
Malaysia	Value	***	***	***	***	***
Subject sources	Value	64,358	90,783	91,998	65,140	67,948
Nonsubject sources	Value	92,309	89,860	111,109	79,102	88,348
All import sources	Value	156,667	180,643	203,107	144,242	156,296
All sources	Value	2,309,382	3,154,086	2,831,507	2,148,443	2,129,271
U.S. producers	Share	***	***	***	***	***
U.S. fabricators: Value added to domestic	Share	***	***	***	***	***
U.S. producers and fabricators: Fully domestic	Share	***	***	***	***	***
U.S. fabricators: Valued added to imports	Share	***	***	***	***	***
U.S. producers and fabricators: Total	Share	93.2	94.3	92.8	93.3	92.7
China	Share	***	***	***	***	***
Malaysia	Share	***	***	***	***	***
Subject sources	Share	2.8	2.9	3.2	3.0	3.2
Nonsubject sources	Share	4.0	2.8	3.9	3.7	4.1
All import sources	Share	6.8	5.7	7.2	6.7	7.3
All sources	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: ***.

Figure 4.8 FGP: Apparent U.S. total market consumption based on value, by source and period



Source: Compiled from data submitted in response to Commission questionnaires.

Note: ***.

Part 5: Pricing data

Factors affecting prices

Raw material costs

The major raw materials used in the production of FGP are silica (sand), soda ash (sodium carbonate), limestone, dolomite, salt cake (sodium sulfate), and cullet (recycled or waste glass).[1] *** reported that raw materials as a share of cost of goods sold was *** percent in 2023.[2]

Figure 5.1 (and table 5.1) show indexed raw materials prices over the period of investigation. Reported prices for industrial sand remained relatively constant from January 2021 through April 2022 (the most recent period for which data are available), increasing by 5 percent overall.[3] Reported prices for natural sodium carbonates and sulfates (including soda ash) fluctuated but increased by 13.6 percent overall.[4] According to Vitro, FGP manufacturing is highly energy-intensive, with energy costs accounting for a substantial portion of the total cost of production.[5] Electricity and natural gas prices generally increased over the period of investigation (figure 5.2 and table 5.2).

[1] Petition, vol. 1, p. I-11.

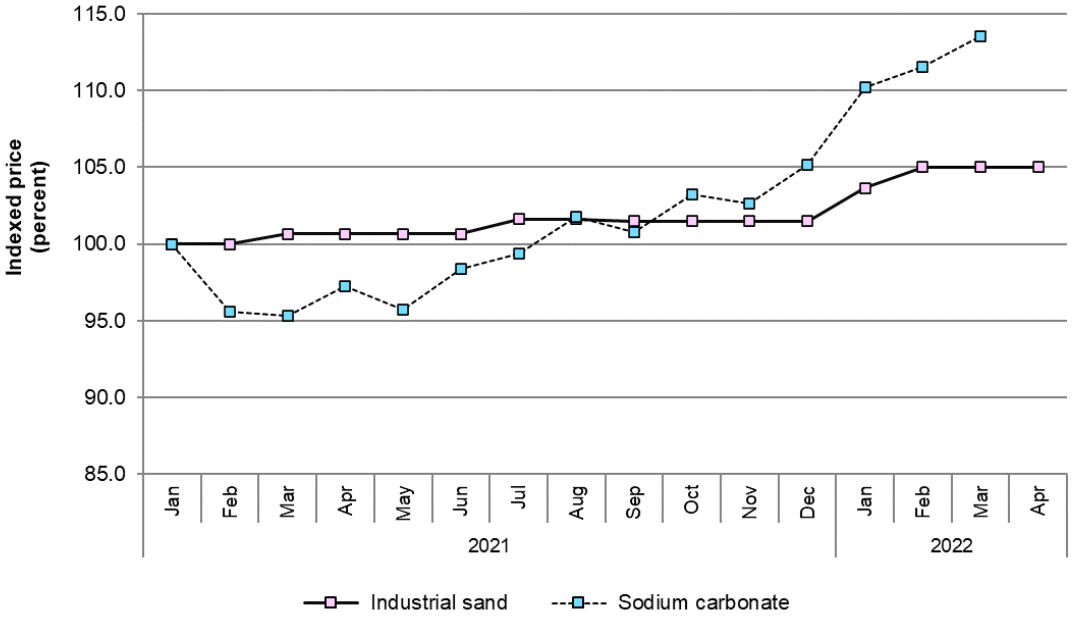
[2] *** producer questionnaire, section III-9a.

[3] U.S. Bureau of Labor Statistics, Producer Price Index by Industry: Industrial Sand Mining PCU212322212322, retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/PCU212322212322, December 20, 2024.

[4] U.S. Bureau of Labor Statistics, Producer Price Index by Industry: Other Nonmetallic Mineral Mining and Quarrying: Natural Sodium Carbonates and Sulfates PCU2123912123913, retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/PCU2123912123913, December 20, 2024.

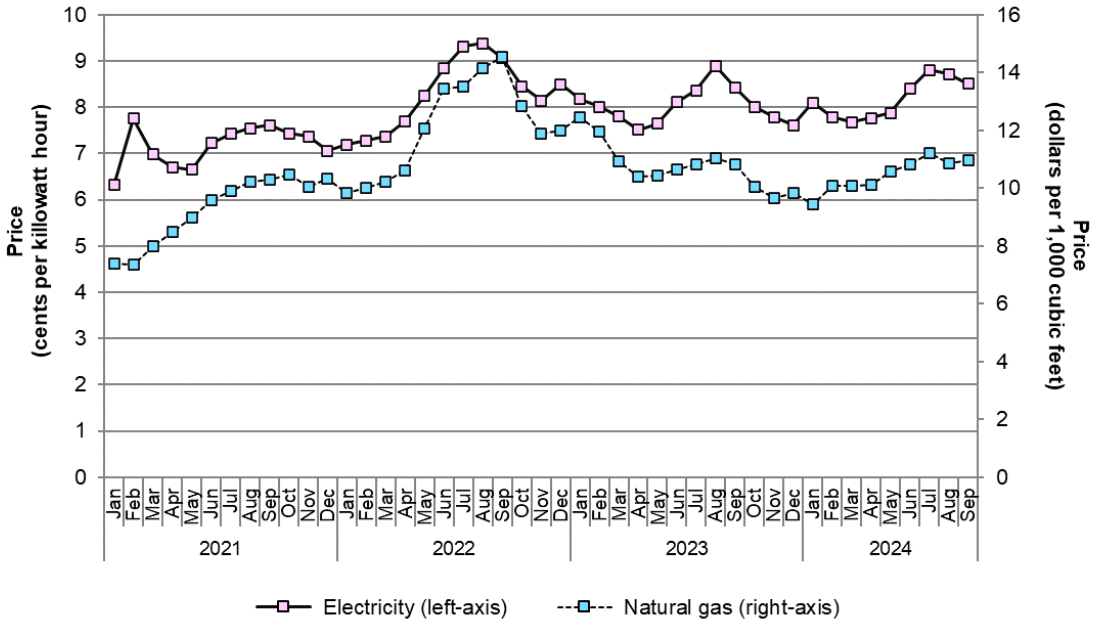
[5] Petition, vol. 1, p. I-11. Conference transcript, pp. 90-91 (Bush).

Figure 5.1 FGP raw materials: Industrial sand and sodium carbonate prices, by month



Source: U.S. Bureau of Labor Statistics, Producer Price Index by Industry: Industrial Sand Mining PCU212322212322, and Other Nonmetallic Mineral Mining and Quarrying: Natural Sodium Carbonates and Sulfates PCU2123912123913 retrieved from FRED, Federal Reserve Bank of St. Louis; https://fred.stlouisfed.org/series/PCU212322212322 and https://fred.stlouisfed.org/series/PCU2123912123913, December 20, 2024.

Figure 5.2 FGP energy costs: Electricity average retail price and commercial consumer natural gas prices, by month



Source: Energy Information Administration, "Electric Power Monthly," December 2024 Table 5.3, and https://www.eia.gov/dnav/ng/hist/n3020us3m.htm, retrieved December 20, 2024.

Table 5.1 FGP raw materials: Industrial sand and sodium carbonate producer price index, by month

Year	Month	Industrial sand price	Sodium carbonate price
2021	January	100.0	100.0
2021	February	100.0	95.6
2021	March	100.7	95.3
2021	April	100.7	97.2
2021	May	100.7	95.7
2021	June	100.7	98.4
2021	July	101.6	99.4
2021	August	101.6	101.8
2021	September	101.5	100.8
2021	October	101.5	103.2
2021	November	101.5	102.7
2021	December	101.5	105.2
2022	January	103.7	110.2
2022	February	105.0	111.5
2022	March	105.0	113.6
2022	April	105.0	—

Table 5.2 U.S. price of natural gas sold to commercial customers and average price of electricity sold to industrial customers, January 2021 to September 2024, monthly

Year	Month	Electricity price (dollars per kilowatt)	Natural gas price (dollars per 1,000 cubic feet)
2021	January	6.32	7.38
2021	February	7.75	7.35
2021	March	6.98	8.01
2021	April	6.70	8.49
2021	May	6.65	8.99
2021	June	7.22	9.59
2021	July	7.42	9.92
2021	August	7.54	10.23
2021	September	7.61	10.31
2021	October	7.44	10.48
2021	November	7.37	10.06
2021	December	7.06	10.34

Table continued

Table 5.2 (Continued) U.S. price of natural gas sold to commercial customers and average price of electricity sold to industrial customers, January 2021 to September 2024, monthly

Year	Month	Electricity price (dollars per kilowatt)	Natural gas price (dollars per 1,000 cubic feet)
2022	January	7.19	9.82
2022	February	7.28	10.02
2022	March	7.37	10.21
2022	April	7.70	10.60
2022	May	8.25	12.07
2022	June	8.85	13.45
2022	July	9.31	13.50
2022	August	9.38	14.14
2022	September	9.06	14.54
2022	October	8.45	12.84
2022	November	8.14	11.87
2022	December	8.50	11.99
2023	January	8.18	12.44
2023	February	8.01	11.97
2023	March	7.80	10.93
2023	April	7.51	10.41
2023	May	7.64	10.44
2023	June	8.11	10.65
2023	July	8.36	10.82
2023	August	8.90	11.02
2023	September	8.43	10.84
2023	October	8.01	10.05
2023	November	7.79	9.66
2023	December	7.61	9.83
2024	January	8.10	9.46
2024	February	7.79	10.08
2024	March	7.68	10.08
2024	April	7.77	10.11
2024	May	7.88	10.57
2024	June	8.40	10.83
2024	July	8.81	11.21
2024	August	8.72	10.87
2024	September	8.51	10.96

Transportation costs to the U.S. market

Transportation costs for FGP shipped from subject countries to the United States averaged 10.5 percent for China and 23.0 percent for Malaysia during 2023. These estimates were derived from official import data and represent transportation and other charges on imports.[6]

U.S. inland transportation costs

Four responding U.S. producers and 28 responding importers reported that they typically arrange transportation to their customers. U.S. inland transportation costs reported by U.S. producers ranged from *** to *** percent while most U.S. inland transportation costs reported by U.S. importers ranged from *** to *** percent.

Pricing practices

Pricing methods

U.S. producers and importers reported setting prices using transaction-by-transaction negotiations, contracts, and price lists. One U.S. importer also reported using volume-based price setting for projects (table 5.3).

Table 5.3 FGP: Count of U.S. producers' and importers' reported price setting methods

Method	U.S. producers	U.S. importers
Transaction-by-transaction	4	19
Contract	5	5
Set price list	2	19
Other	0	1
Responding firms	7	32

Source: Compiled from data submitted in response to Commission questionnaires.

Note: The sum of responses down may not add up to the total number of responding firms as each firm was instructed to check all applicable price setting methods employed.

[6] The estimated transportation costs were obtained by subtracting the customs value from the c.i.f. value of the imports for 2023 and then dividing by the customs value based on the HTS statistical reporting numbers 7005.10.8000, 7005.21.1010, 7005.21.1030, 7005.21.2000, 7005.29.1810, 7005.29.1850, 7005.29.2500, 7007.29.0000, 7008.00.0000, 7009.91.5010, 7009.91.5095 and 7009.92.5010, accessed December 6, 2024.

U.S. producers reported selling FGP primarily through long term contracts, spot sales, and annual contracts. U.S. importers reported selling primarily through spot sales (table 5.4).

Table 5.4 FGP: U.S. producers' and importers' shares of commercial U.S. shipments by type of sale, 2023

Share in percent

Sale type	U.S. producers	Subject U.S. importers
Long-term contracts	***	***
Annual contract	***	***
Short-term contracts	***	***
Spot sales	***	***
All sales types	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Because of rounding, figures may not add to the totals shown.

The average duration reported by U.S. producers for a long-term contract was either two or five years. For both annual and long-term contracts, about half of responding U.S. producers reported the typical contract allowed for price renegotiation and fixed both price and quantity, while the remaining U.S. producers reported their contracts allowed for fixed prices only. All responding U.S. producers reported their contracts do not typically index to raw materials.

Sales terms and discounts

U.S. producers typically quote prices on a delivered basis while U.S. importers were about evenly split in whether they quote their prices on a delivered or F.O.B basis. Most responding U.S. producers (five of seven) reported they offer no discount policy. Among the U.S. producers that do offer discounts, both reported offering quantity and annual total volume discounts. Most responding U.S. importers (19 of 33) reported offering no discount policies. Among the importers that do offer discount policies, nine reported offering quantity discounts, five reported annual total volume discounts, and nine reported offering other discounts such customer-specific discounts and rebates.

Price data

The Commission requested U.S. producers and importers to provide quarterly data for the total quantity and f.o.b. value of the following FGP products shipped to unrelated U.S. customers during January 2021 through September 2024.

Product 1.-- Annealed float glass with a nominal thickness of 6.0 mm; clear; uncoated.

Product 2.-- Annealed float glass with a nominal thickness of 6.0 mm; with a double silver low- emissive ("Low-E") coating.

Product 3.-- Annealed float glass with a nominal thickness of 6.0 mm; mirror stock sheet with a silver reflective coating.

Product 4.-- Laminated sheet stock with a nominal thickness between 6.0mm and 6.5mm, consisting of two clear annealed float glass substrates and a clear polyvinyl butyral (PVB) interlayer.

Product 5.-- Tempered float glass with a nominal thickness of 8mm (or 5/16") for use in bath/shower doors or enclosures; clear; uncoated.

Four U.S. producers and five importers provided usable pricing data for sales of the requested products, although not all firms reported pricing for all products for all quarters.[7] [8] Pricing data reported by these firms accounted for approximately 9.6 percent of U.S. producers' U.S. shipments of FGP, 1.5 percent of U.S. shipments of subject imports from China, and 4.5 percent of U.S. shipments of subject imports from Malaysia in 2023.[9]

Price data for products 1-5 are presented in tables 5.5 to 5.12 and figures 5.3 to 5.9.

[7] Per-unit pricing data are calculated from total quantity and total value data provided by U.S. producers and importers. The precision and variation of these figures may be affected by rounding, limited quantities, and producer or importer estimates.

[8] Pricing data reported by U.S. producers *** and ***, and U.S. importer *** were removed from the data set. *** reported pricing data for product 1, but also reported that the large majority of its U.S. shipments were of IGUs, a different product. In addition, staff could not confirm if *** value data were reported correctly as f.o.b. point of shipment. *** reported that it provided value data based on total sales income, not f.o.b. point of shipment, and did not have sufficient time to remove transportation costs. *** reported quantities and values identical to each other for each quarter.

[9] Pricing coverage is based on the value of U.S. shipments reported in questionnaires, which represent a small share of total imports.

Table 5.5 FGP: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by source and quarter

Price in dollars per square foot, quantity in square feet, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin	Malaysia price	Malaysia quantity	Malaysia margin
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***

Table continued,

Table 5.5 (Continued) FGP: Weighted-average f.o.b. prices and quantities of domestic and imported product 1 and margins of underselling/(overselling), by source and quarter

Price in dollars per square foot, quantity in square feet, margin in percent.

Period	U.S. price	U.S. quantity	Subject sources price	Subject sources quantity	Subject sources margin
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 1: Annealed float glass with a nominal thickness of 6.0 mm; clear; uncoated.

Figure 5.3 FGP: Weighted-average f.o.b. prices and quantities of domestic and imported product 1, by source and quarter

Price of product 1

* * * * * * *

Volume of product 1

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 1: Annealed float glass with a nominal thickness of 6.0 mm; clear; uncoated.

Table 5.6 FGP: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by source and quarter

Price in dollars per square foot, quantity in square feet, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin	Malaysia price	Malaysia quantity	Malaysia margin
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***

Table continued.

Table 5.6 (Continued) FGP: Weighted-average f.o.b. prices and quantities of domestic and imported product 2 and margins of underselling/(overselling), by source and quarter

Price in dollars per square foot, quantity in square feet, margin in percent.

Period	U.S. price	U.S. quantity	Subject sources price	Subject sources quantity	Subject sources margin
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 2: Annealed float glass with a nominal thickness of 6.0 mm; with a double silver low-emissive (“Low-E”) coating.

Figure 5.4 FGP: Weighted-average f.o.b. prices and quantities of domestic and imported Product 2, by source and quarter

Price of Product 2

* * * * * * *

Volume of Product 2

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 2: Annealed float glass with a nominal thickness of 6.0 mm; with a double silver low-emissive ("Low-E") coating.

Table 5.7 FGP: Weighted-average f.o.b. prices and quantities of domestic and imported Product 3 and margins of underselling/(overselling), by source and quarter

Price in dollars per square foot, quantity in square feet, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin	Malaysia price	Malaysia quantity	Malaysia margin
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***

Table continued.

Table 5.7 (Continued) FGP: Weighted-average f.o.b. prices and quantities of domestic and imported Product 3 and margins of underselling/(overselling), by source and quarter

Price in dollars per square foot, quantity in square feet, margin in percent.

Period	U.S. price	U.S. quantity	Subject sources price	Subject sources quantity	Subject sources margin
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 3: Annealed float glass with a nominal thickness of 6.0 mm; mirror stock sheet with a silver reflective coating.

Figure 5.5 FGP: Weighted-average f.o.b. prices and quantities of domestic and imported Product 3, by source and quarter

Price of Product 3

* * * * * * *

Volume of Product 3

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 3: Annealed float glass with a nominal thickness of 6.0 mm; mirror stock sheet with a silver reflective coating.

Table 5.8 FGP: Weighted-average f.o.b. prices and quantities of domestic and imported Product 4 and margins of underselling/(overselling), by source and quarter

Price in dollars per square foot, quantity in square feet, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin	Malaysia price	Malaysia quantity	Malaysia margin
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***

Table continued.

Table 5.8 (Continued) FGP: Weighted-average f.o.b. prices and quantities of domestic and imported Product 4 and margins of underselling/(overselling), by source and quarter

Price in dollars per square foot, quantity in square feet, margin in percent.

Period	U.S. price	U.S. quantity	Subject sources price	Subject sources quantity	Subject sources margin
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 4: Laminated sheet stock with a nominal thickness between 6.0mm and 6.5mm, consisting of two clear annealed float glass substrates and a clear polyvinyl butyral (PVB) interlayer.

Figure 5.6 FGP: Weighted-average f.o.b. prices and quantities of domestic and imported Product 4, by source and quarter

Price of Product 4

* * * * * * *

Volume of Product 4

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 4: Laminated sheet stock with a nominal thickness between 6.0mm and 6.5mm, consisting of two clear annealed float glass substrates and a clear polyvinyl butyral (PVB) interlayer.

Table 5.9 FGP: Weighted-average f.o.b. prices and quantities of domestic and imported Product 5 and margins of underselling/(overselling), by source and quarter

Price in dollars per square foot, quantity in square feet, margin in percent.

Period	U.S. price	U.S. quantity	China price	China quantity	China margin	Malaysia price	Malaysia quantity	Malaysia margin
2021 Q1	***	***	***	***	***	***	***	***
2021 Q2	***	***	***	***	***	***	***	***
2021 Q3	***	***	***	***	***	***	***	***
2021 Q4	***	***	***	***	***	***	***	***
2022 Q1	***	***	***	***	***	***	***	***
2022 Q2	***	***	***	***	***	***	***	***
2022 Q3	***	***	***	***	***	***	***	***
2022 Q4	***	***	***	***	***	***	***	***
2023 Q1	***	***	***	***	***	***	***	***
2023 Q2	***	***	***	***	***	***	***	***
2023 Q3	***	***	***	***	***	***	***	***
2023 Q4	***	***	***	***	***	***	***	***
2024 Q1	***	***	***	***	***	***	***	***
2024 Q2	***	***	***	***	***	***	***	***
2024 Q3	***	***	***	***	***	***	***	***

Table continued.

Table 5.9 (Continued) FGP: Weighted-average f.o.b. prices and quantities of domestic and imported Product 5 and margins of underselling/(overselling), by source and quarter

Price in dollars per square foot, quantity in square feet, margin in percent.

Period	U.S. price	U.S. quantity	Subject sources price	Subject sources quantity	Subject sources margin
2021 Q1	***	***	***	***	***
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 5: Tempered float glass with a nominal thickness of 8mm (or 5/16”) for use in bath/shower doors or enclosures; clear; uncoated.

Figure 5.7 FGP: Weighted-average f.o.b. prices and quantities of domestic and imported Product 5, by source and quarter

Price of Product 5

* * * * * * *

Volume of Product 5

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Product 5: Tempered float glass with a nominal thickness of 8mm (or 5/16”) for use in bath/shower doors or enclosures; clear; uncoated.

Price trends

In general, prices fluctuated upwards during January 2021 through September 2024. Table 5.10 summarizes the price trends, by country and by product. As shown in the table, domestic price increases ranged from *** to *** percent during January 2021 through September 2024 while import price increases (Product 1 and Product 3) ranged from *** to *** percent and import price decreases (Product 4 and Product 5) ranged from *** to *** percent.

Table 5.10 FGP: Summary of price data, by product and source, January 2021 through September 2024

Prices in dollars per square foot; Quantity in square feet; Change in percent

Product	Source	Number of quarters	Quantity	Low price	High price	First quarter price	Last quarter price	Change over period
Product 1	United States	15	***	***	***	***	***	***
Product 1	China	12	***	***	***	***	***	***
Product 1	Malaysia	15	***	***	***	***	***	***
Product 2	United States	15	***	***	***	***	***	***
Product 2	China	—	***	***	***	***	***	***
Product 2	Malaysia	—	***	***	***	***	***	***
Product 3	United States	15	***	***	***	***	***	***
Product 3	China	7	***	***	***	***	***	***
Product 3	Malaysia	14	***	***	***	***	***	***
Product 4	United States	—	***	***	***	***	***	***
Product 4	China	15	***	***	***	***	***	***
Product 4	Malaysia	—	***	***	***	***	***	***
Product 5	United States	15	***	***	***	***	***	***
Product 5	China	10	***	***	***	***	***	***
Product 5	Malaysia	—	***	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Percent change column is percentage change from the first quarter 2021 to the last quarter in 2024.

Table 5.11 FGP: Indexed U.S. producer prices, by quarter

Period	Product 1	Product 2	Product 3	Product 4	Product 5
2021 Q1	100.0	100.0	100.0	—	100.0
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 5.8 FGP: Indexed U.S. producer prices, by quarter

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Table 5.12 FGP: Indexed subject U.S. importer prices, by quarter

Period	Product 1	Product 2	Product 3	Product 4	Product 5
2021 Q1	100.0	—	100.0	100.0	100.0
2021 Q2	***	***	***	***	***
2021 Q3	***	***	***	***	***
2021 Q4	***	***	***	***	***
2022 Q1	***	***	***	***	***
2022 Q2	***	***	***	***	***
2022 Q3	***	***	***	***	***
2022 Q4	***	***	***	***	***
2023 Q1	***	***	***	***	***
2023 Q2	***	***	***	***	***
2023 Q3	***	***	***	***	***
2023 Q4	***	***	***	***	***
2024 Q1	***	***	***	***	***
2024 Q2	***	***	***	***	***
2024 Q3	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure 5.9 FGP: Indexed U.S. importer prices, by quarter

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Price comparisons

As shown in tables 5.13 to 5.15, prices for product imported from China were below those for U.S.-produced product in 5 of 29 instances (*** square feet); margins of underselling ranged from *** to *** percent. In the remaining 24 instances (*** square feet), prices for product from China were between *** and *** percent above prices for the domestic product. Prices for product imported from Malaysia were below those for U.S.-produced product in 7 of 29 instances (*** square feet); margins of underselling ranged from *** to *** percent. In the remaining 22 instances (*** square feet), prices for product from Malaysia were between *** and *** percent above prices for the domestic product.

Table 5.13 FGP: Instances of underselling and overselling and the range and average of margins, by product

Quantity in square feet; margin in percent

Products	Type	Number of instances	Quantity	Average margin	Min margin	Max margin
Product 1	Underselling	1	***	***	***	***
Product 2	Underselling	—	***	***	***	***
Product 3	Underselling	10	***	***	***	***
Product 4	Underselling	—	***	***	***	***
Product 5	Underselling	1	***	***	***	***
All products	Underselling	12	***	***	***	***
Product 1	Overselling	26	***	***	***	***
Product 2	Overselling	—	***	***	***	***
Product 3	Overselling	11	***	***	***	***
Product 4	Overselling	—	***	***	***	***
Product 5	Overselling	9	***	***	***	***
All products	Overselling	46	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Table 5.14 FGP: Instances of underselling and overselling and the range and average of margins, by source

Quantity in square feet; margin in percent

Sources	Type	Number of instances	Quantity	Average margin	Min margin	Max margin
China	Underselling	5	***	***	***	***
Malaysia	Underselling	7	***	***	***	***
All subject sources	Underselling	12	***	***	***	***
China	Overselling	24	***	***	***	***
Malaysia	Overselling	22	***	***	***	***
All subject sources	Overselling	46	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Table 5.15 FGP: Instances of underselling and overselling and the range and average of margins, by year

Quantity in square feet; margin in percent

Period	Type	Number of instances	Quantity	Average margin	Min margin	Max margin
2021	Underselling	1	***	***	***	***
2022	Underselling	3	***	***	***	***
2023	Underselling	5	***	***	***	***
January through September 2024	Underselling	3	***	***	***	***
All periods	Underselling	12	***	***	***	***
2021	Overselling	11	***	***	***	***
2022	Overselling	13	***	***	***	***
2023	Overselling	10	***	***	***	***
January through September 2024	Overselling	12	***	***	***	***
All periods	Overselling	46	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: These data include only quarters in which there is a comparison between the U.S. and subject product.

Lost sales and lost revenue

The Commission requested that U.S. producers of float glass report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of float glass from China and Malaysia during January 2021 through September 2024. Of the 15 responding U.S. producers, five producers reported that they had to reduce prices, four reported that they had to roll back announced price increases, and five reported that they had lost sales. Petitioner Vitro submitted lost sales and lost revenue allegations. It identified *** firms with which they lost sales and revenue. All the allegations were with respect to ***.

Staff contacted all *** purchasers and received responses from eight purchasers. Responding purchasers reported purchasing over *** pounds of float glass during January 2021 through September 2024 (table 5.16).

During 2023, responding purchasers purchased 93.0 percent from U.S. producers, 5.3 percent from subject sources, and 1.7 percent from nonsubject sources.[10] Purchasers were asked about changes in their purchasing patterns from different sources since 2021 (table 5.17). Two of eight purchasers reported increased purchases from U.S. producers and six reported decreased purchases. Explanations provided by the two purchasers which reported increasing purchases of domestic product included availability and price, while the explanations provided by the six purchasers which reported decreasing purchases of domestic product were related to prices and fluctuations in orders for downstream products. Five purchasers reported increased purchases from China while one reported decreased purchases. All explanations provided by purchasers for increased purchases from China were related to price, while the one purchaser that reported decreased purchases noted high ocean freight and import duty costs. One purchaser reported increased purchases from Malaysia, stating prices as the reason for increased purchases, while two reported decreased purchases and stated availability, prices, high ocean freight costs, and import duties as explanations for decreased purchases.

[10] Responding purchasers reported ***.

Table 5.16 FGP: U.S. Purchasers' reported purchases and imports, by firm and source

Quantity in 1,000 pounds, Change in shares in percentage points

Purchaser	Domestic quantity	Subject quantity	All other quantity	Change in domestic share	Change in subject country share
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
Total	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: All other includes all other sources and unknown sources. Change is the percentage point change in the share of the firm's total purchases of domestic and/or subject country imports between first and last years.

Table 5.17 FGP: Count of changes in purchase patterns from U.S., subject, and nonsubject countries

Count in number of firms reporting

Source of purchases	Steadily Increase	Fluctuate Up	No change	Fluctuate Down	Steadily Decrease	Did not purchase
United States	1	1	0	5	1	0
China	0	5	1	1	0	0
Malaysia	0	1	0	2	0	3
All other sources	0	0	0	1	0	6
Sources unknown	0	0	0	0	0	5

Source: Compiled from data submitted in response to Commission questionnaires.

Of the eight responding purchasers, seven reported that, since 2021, they had purchased imported float glass from China instead of U.S.-produced product and three reported that they had purchased float glass from Malaysia instead of U.S. produced product (table 5.18 and table 5.19). Six of these purchasers reported that subject import prices were lower than U.S.-produced product, and five of these purchasers reported that price was a primary reason for the decision to purchase imported product rather than U.S.-produced product. Four purchasers estimated the quantity of float glass from subject sources purchased instead of domestic product; quantities ranged from *** pounds to *** pounds (table 5.18). Purchasers identified availability of domestic float glass as the non-price reason for purchasing imported rather than U.S.-produced product.

Of the eight responding purchasers, three reported that U.S. producers had reduced prices in order to compete with lower-priced imports from China and Malaysia; three reported that they did not know (table 5.20). The reported estimated price reduction ranged from *** to *** percent. In describing the price reductions, purchasers indicated that producers lowered their price in order to be competitive with import pricing.

Table 5.18 FGP: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in 1,000 pounds

Firm	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Narrative on reasons for purchasing imports
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
***	***	***	***	***	***
All firms	Yes--7; No--1	Yes--6; No--0	Yes--5; No--2	***	NA

Source: Compiled from data submitted in response to Commission questionnaires.

Table 5.19 FGP: Purchasers' responses to purchasing subject imports instead of domestic product, by source

Count in number of firms reporting; Quantity in 1,000 pounds

Source	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity
China	7	6	5	***
Malaysia	3	2	1	***
Subject sources	7	6	5	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 5.20 FGP: Purchasers' responses to U.S. producer price reductions, by firm

Count in number of firms reporting; Price reductions in percent

Purchaser	Reported producers lowered prices	Estimated percent of U.S. price reduction	Explanation
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
***	***	***	***
All firms	Yes--3; No--2	***	NA

Source: Compiled from data submitted in response to Commission questionnaires.

Table 5.21 FGP: Purchasers' responses to U.S. producer price reductions, by source

Price reductions in percent

Source	Count of purchasers reporting U.S. producers reduced prices	Average percent of estimated U.S. price reduction	Range of percent of estimated U.S. price reductions
China	3	***	***
Malaysia	2	***	***
Subject Sources	3	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Part 6: Financial experience of U.S. producers

Background[1]

Six U.S. producers and eight fabricators provided usable financial results on their FGP operations.[2] [3] Five U.S. producers and all fabricators reported financial data on a calendar-year basis.[4] Four of the U.S. producers provided their financial data on the basis of GAAP.[5]

Figure 6.1 presents the six responding U.S. producers' shares of their aggregated total market net sales quantity in 2023. The figure shows that *** U.S. producers, ***, accounted for more than three-quarters of the total net sales quantity that year.[6]

[1] The following abbreviations are used in the tables and/or text of this section: generally accepted accounting principles ("GAAP"), fiscal year ("FY"), net sales ("NS"), cost of goods sold ("COGS"), selling, general, and administrative expenses ("SG&A expenses"), average unit values ("AUVs"), research and development expenses ("R&D expenses"), and return on assets ("ROA").

[2] While the U.S. producers represent firms that produced primary float glass, *** of the six responding U.S. producers reported that they also perform some further processing or fabrication. The types of fabrication that both U.S. producers and fabricators reported performing were: ***. *** was the process reported by the most U.S. producers and *** was the process reported by the most fabricators. U.S. questionnaire responses, sections 3.9j and 6.10c.

[3] ***, which represented *** percent of U.S. producers' aggregate FGP production in 2023, did not provide financial results and its data are not included in this section of the report.

[4] *** provided its financial results on the basis of a fiscal year that ends on ***, and its trade and financial data do not reconcile. The fabricators were not asked to specify whether their financial data were provided on a fiscal- or calendar-year basis, however all firms reported net sales data that reconciled with their total shipments, which were requested on a calendar-year basis. U.S. producer questionnaire responses, sections 6.2 and 6.9.

[5] ***. U.S. producer questionnaire responses, sections 3.2A.1, 3.2A.2, and 3.2B.4. Fabricators were not asked to specify the accounting basis used for their financial results.

[6] When combining the U.S. producers' and fabricators' net sales, fabricators represented *** percent of total net sales quantity and *** percent of total net sales value in 2023. The higher share by value is the result of fabricators selling a downstream product with higher net sales AUVs.

Figure 6.1 FGP: U.S. producers' share of total market net sales quantity in 2023, by firm

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Operations on FGP

Table 6.1 presents aggregate data for U.S. producers' total market FGP operations, while table 6.3 presents aggregate data for fabricators' total market FGP operations. Tables 6.2 and 6.4 present the corresponding changes in AUVs for U.S. producers and U.S. fabricators, respectively. Table 6.5 presents U.S. producers' and U.S. fabricators' combined FGP financial results for the total market, while table 6.6 presents the corresponding changes in AUVs.[7] Table 6.7 presents selected company-specific financial data for the total market.[8]

[7] ***. Constructed merchant market results for the U.S. producers and the combined merchant market results for U.S. producers and U.S. fabricators are presented in Appendix G.

[8] The results in table 6.7 are presented by firm for U.S. producers and in aggregate for fabricators.

Table 6.1 FGP: U.S. producers' FGP results for total market operations, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars; ratios in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial sales	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
Total net sales	Quantity	7,775,948	8,990,019	8,028,515	6,042,496	5,767,015
Commercial sales	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
Total net sales	Value	2,291,564	3,057,721	2,740,713	2,084,535	1,925,216
COGS: Raw materials	Value	477,926	613,183	563,959	437,313	426,648
COGS: Direct labor	Value	298,369	354,635	390,125	286,690	269,287
COGS: Other factory	Value	804,420	1,142,808	925,735	708,415	668,587
COGS: Total	Value	1,580,715	2,110,626	1,879,819	1,432,418	1,364,522
Gross profit or (loss)	Value	710,849	947,095	860,894	652,117	560,694
SG&A expenses	Value	393,495	530,406	469,992	340,813	329,410
Operating income or (loss)	Value	317,354	416,689	390,902	311,304	231,284
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	195,127	221,787	210,426	161,461	156,092
Cash flow	Value	***	***	***	***	***
COGS: Raw materials	Ratio to NS	20.9	20.1	20.6	21.0	22.2
COGS: Direct labor	Ratio to NS	13.0	11.6	14.2	13.8	14.0
COGS: Other factory	Ratio to NS	35.1	37.4	33.8	34.0	34.7
COGS: Total	Ratio to NS	69.0	69.0	68.6	68.7	70.9
Gross profit	Ratio to NS	31.0	31.0	31.4	31.3	29.1
SG&A expense	Ratio to NS	17.2	17.3	17.1	16.3	17.1
Operating income or (loss)	Ratio to NS	13.8	13.6	14.3	14.9	12.0
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table 6.1 (Continued) FGP: U.S. producers' FGP results for total market operations, by item and period

Shares in percent; unit values in dollars per pound; count in number of firms reporting; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
COGS: Raw materials	Share	30.2	29.1	30.0	30.5	31.3
COGS: Direct labor	Share	18.9	16.8	20.8	20.0	19.7
COGS: Other factory	Share	50.9	54.1	49.2	49.5	49.0
COGS: Total	Share	100.0	100.0	100.0	100.0	100.0
Commercial sales	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
Total net sales	Unit value	0.29	0.34	0.34	0.34	0.33
COGS: Raw materials	Unit value	0.06	0.07	0.07	0.07	0.07
COGS: Direct labor	Unit value	0.04	0.04	0.05	0.05	0.05
COGS: Other factory	Unit value	0.10	0.13	0.12	0.12	0.12
COGS: Total	Unit value	0.20	0.23	0.23	0.24	0.24
Gross profit or (loss)	Unit value	0.09	0.11	0.11	0.11	0.10
SG&A expenses	Unit value	0.05	0.06	0.06	0.06	0.06
Operating income or (loss)	Unit value	0.04	0.05	0.05	0.05	0.04
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	1	1	1	1	1
Net losses	Count	1	2	1	1	1
Data	Count	6	6	6	6	6

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares represent the share of COGS. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Table 6.2 FGP: Changes in AUVs between comparison periods for U.S. producers' total market FGP operations

Changes in percent; interim is January to September

Item	2021–23	2021–22	2022–23	Interim 2023–24
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	▲15.8	▲15.4	▲0.4	▼(3.2)
COGS: Raw materials	▲14.3	▲11.0	▲3.0	▲2.2
COGS: Direct labor	▲26.6	▲2.8	▲23.2	▼(1.6)
COGS: Other factory	▲11.5	▲22.9	▼(9.3)	▼(1.1)
COGS: Total	▲15.2	▲15.5	▼(0.3)	▼(0.2)

Table continued.

Table 6.2 (Continued) FGP: Changes in AUVs between comparison periods for U.S. producers' total market FGP operations

Changes in dollars per pound; interim is January to September

Item	2021–23	2021–22	2022–23	Interim 2023–24
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	▲0.05	▲0.05	▲0.00	▼(0.01)
COGS: Raw materials	▲0.01	▲0.01	▲0.00	▲0.00
COGS: Direct labor	▲0.01	▲0.00	▲0.01	▼(0.00)
COGS: Other factory	▲0.01	▲0.02	▼(0.01)	▼(0.00)
COGS: Total	▲0.03	▲0.03	▼(0.00)	▼(0.00)
Gross profit or (loss)	▲0.02	▲0.01	▲0.00	▼(0.01)
SG&A expense	▲0.01	▲0.01	▼(0.00)	▲0.00
Operating income or (loss)	▲0.01	▲0.01	▲0.00	▼(0.01)
Net income or (loss)	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Percentages and unit values shown as "0.0" or "0.00" represent values greater than zero, but less than "0.05" or "0.005," respectively. Zeroes, null values, and undefined calculations are suppressed and shown as "---". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

Table 6.3 FGP: U.S. fabricators' FGP results for total market operations, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars; ratios in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Total net sales	Quantity	183,988	194,260	193,785	144,957	133,995
Total net sales	Value	309,902	401,343	414,522	316,056	288,780
COGS: Domestic float glass	Value	***	***	***	***	***
COGS: Subject float glass	Value	***	***	***	***	***
COGS: Nonsubject float glass	Value	***	***	***	***	***
COGS: Total float glass	Value	108,693	141,806	138,449	104,956	89,957
COGS: All other raw materials	Value	11,677	17,426	15,808	11,705	13,912
COGS: Total raw materials	Value	120,370	159,232	154,257	116,661	103,869
COGS: Direct labor	Value	57,950	69,439	73,057	53,169	51,544
COGS: Other factory	Value	45,007	55,892	60,909	43,774	43,751
COGS: Total	Value	223,327	284,563	288,223	213,604	199,164
Gross profit or (loss)	Value	86,575	116,780	126,299	102,452	89,616
SG&A expenses	Value	60,854	75,219	75,147	55,192	57,187
Operating income or (loss)	Value	25,721	41,561	51,152	47,260	32,429
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	9,950	10,415	11,315	7,449	10,086
Cash flow	Value	***	***	***	***	***
COGS: Total float glass	Ratio to NS	35.1	35.3	33.4	33.2	31.2
COGS: All other raw materials	Ratio to NS	3.8	4.3	3.8	3.7	4.8
COGS: Total raw materials	Ratio to NS	38.8	39.7	37.2	36.9	36.0
COGS: Direct labor	Ratio to NS	18.7	17.3	17.6	16.8	17.8
COGS: Other factory	Ratio to NS	14.5	13.9	14.7	13.9	15.2
COGS: Total	Ratio to NS	72.1	70.9	69.5	67.6	69.0
Gross profit	Ratio to NS	27.9	29.1	30.5	32.4	31.0
SG&A expense	Ratio to NS	19.6	18.7	18.1	17.5	19.8
Operating income or (loss)	Ratio to NS	8.3	10.4	12.3	15.0	11.2
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table 6.3 (Continued) FGP: U.S. fabricators' FGP results for total market operations, by item and period

Shares in percent; unit values in dollars per pound; count in number of firms reporting; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
COGS: Raw materials	Share of COGS	***	***	***	***	***
COGS: Direct labor	Share of COGS	***	***	***	***	***
COGS: Other factory	Share of COGS	***	***	***	***	***
COGS: Total	Share of COGS	100.0	100.0	100.0	100.0	100.0
Total net sales	Unit value	1.68	2.07	2.14	2.18	2.16
COGS: Total float glass	Unit value	0.59	0.73	0.71	0.72	0.67
COGS: All other raw materials	Unit value	0.06	0.09	0.08	0.08	0.10
COGS: Total raw materials	Unit value	0.65	0.82	0.80	0.80	0.78
COGS: Direct labor	Unit value	0.31	0.36	0.38	0.37	0.38
COGS: Other factory	Unit value	0.24	0.29	0.31	0.30	0.33
COGS: Total	Unit value	1.21	1.46	1.49	1.47	1.49
Gross profit or (loss)	Unit value	0.47	0.60	0.65	0.71	0.67
SG&A expenses	Unit value	0.33	0.39	0.39	0.38	0.43
Operating income or (loss)	Unit value	0.14	0.21	0.26	0.33	0.24
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	0	0	1	0	1
Net losses	Count	0	1	1	1	1
Data	Count	8	8	8	8	8

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Ratios and unit values are not shown for the different float glass sources because calculating these items using a total net sales quantity or value (rather than the net sales associated with each source) would not be meaningful. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Table 6.4 FGP: Changes in AUVs between comparison periods for U.S. fabricators' total market FGP operations

Changes in percent; interim is January to September

Item	2021–23	2021–22	2022–23	Interim 2023–24
Total net sales	▲27.0	▲22.7	▲3.5	▼(1.2)
COGS: Total float glass	▲20.9	▲23.6	▼(2.1)	▼(7.3)
COGS: All other raw materials	▲28.5	▲41.3	▼(9.1)	▲28.6
COGS: Total raw materials	▲21.7	▲25.3	▼(2.9)	▼(3.7)
COGS: Direct labor	▲19.7	▲13.5	▲5.5	▲4.9
COGS: Other factory	▲28.5	▲17.6	▲9.2	▲8.1
COGS: Total	▲22.5	▲20.7	▲1.5	▲0.9

Table continued.

Table 6.4 (Continued) FGP: Changes in AUVs between comparison periods for U.S. fabricators' total market FGP operations

Changes in dollars per pound; interim is January to September

Item	2021–23	2021–22	2022–23	Interim 2023–24
Total net sales	▲0.45	▲0.38	▲0.07	▼(0.03)
COGS: Total float glass	▲0.12	▲0.14	▼(0.02)	▼(0.05)
COGS: All other raw materials	▲0.02	▲0.03	▼(0.01)	▲0.02
COGS: Total raw materials	▲0.14	▲0.17	▼(0.02)	▼(0.03)
COGS: Direct labor	▲0.06	▲0.04	▲0.02	▲0.02
COGS: Other factory	▲0.07	▲0.04	▲0.03	▲0.02
COGS: Total	▲0.27	▲0.25	▲0.02	▲0.01
Gross profit or (loss)	▲0.18	▲0.13	▲0.05	▼(0.04)
SG&A expense	▲0.06	▲0.06	▲0.00	▲0.05
Operating income or (loss)	▲0.12	▲0.07	▲0.05	▼(0.08)
Net income or (loss)	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Percentages and unit values shown as "0.0" or "0.00" represent values greater than zero, but less than "0.05" or "0.005," respectively. Zeroes, null values, and undefined calculations are suppressed and shown as "---". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

Table 6.5 FGP: U.S. producers' and fabricators' combined results for total market operations, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars; ratios in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial sales	Quantity	***	***	***	***	***
Internal consumption	Quantity	***	***	***	***	***
Transfers to related firms	Quantity	***	***	***	***	***
Total net sales	Quantity	7,959,936	9,184,279	8,222,300	6,187,453	5,901,010
Commercial sales	Value	***	***	***	***	***
Internal consumption	Value	***	***	***	***	***
Transfers to related firms	Value	***	***	***	***	***
Total net sales	Value	2,601,466	3,459,064	3,155,235	2,400,591	2,213,996
COGS: Raw materials	Value	598,296	772,415	718,216	553,974	530,517
COGS: Direct labor	Value	356,319	424,074	463,182	339,859	320,831
COGS: Other factory	Value	849,427	1,198,700	986,644	752,189	712,338
COGS: Total	Value	1,804,042	2,395,189	2,168,042	1,646,022	1,563,686
Gross profit or (loss)	Value	797,424	1,063,875	987,193	754,569	650,310
SG&A expenses	Value	454,349	605,625	545,139	396,005	386,597
Operating income or (loss)	Value	343,075	458,250	442,054	358,564	263,713
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	205,077	232,202	221,741	168,910	166,178
Cash flow	Value	***	***	***	***	***
COGS: Raw materials	Ratio to NS	23.0	22.3	22.8	23.1	24.0
COGS: Direct labor	Ratio to NS	13.7	12.3	14.7	14.2	14.5
COGS: Other factory	Ratio to NS	32.7	34.7	31.3	31.3	32.2
COGS: Total	Ratio to NS	69.3	69.2	68.7	68.6	70.6
Gross profit	Ratio to NS	30.7	30.8	31.3	31.4	29.4
SG&A expense	Ratio to NS	17.5	17.5	17.3	16.5	17.5
Operating income or (loss)	Ratio to NS	13.2	13.2	14.0	14.9	11.9
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table 6.5 (Continued) FGP: U.S. producers' and fabricators' combined results for total market operations, by item and period

Shares in percent; unit values in dollars per pound; count in number of firms reporting; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
COGS: Raw materials	Share	33.2	32.2	33.1	33.7	33.9
COGS: Direct labor	Share	19.8	17.7	21.4	20.6	20.5
COGS: Other factory	Share	47.1	50.0	45.5	45.7	45.6
COGS: Total	Share	100.0	100.0	100.0	100.0	100.0
Commercial sales	Unit value	***	***	***	***	***
Internal consumption	Unit value	***	***	***	***	***
Transfers to related firms	Unit value	***	***	***	***	***
Total net sales	Unit value	0.33	0.38	0.38	0.39	0.38
COGS: Raw materials	Unit value	0.08	0.08	0.09	0.09	0.09
COGS: Direct labor	Unit value	0.04	0.05	0.06	0.05	0.05
COGS: Other factory	Unit value	0.11	0.13	0.12	0.12	0.12
COGS: Total	Unit value	0.23	0.26	0.26	0.27	0.26
Gross profit or (loss)	Unit value	0.10	0.12	0.12	0.12	0.11
SG&A expenses	Unit value	0.06	0.07	0.07	0.06	0.07
Operating income or (loss)	Unit value	0.04	0.05	0.05	0.06	0.04
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	1	1	2	1	2
Net losses	Count	1	3	2	2	2
Data	Count	14	14	14	14	14

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares represent the share of COGS. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Table 6.6 FGP: Changes in AUVs between comparison periods for U.S. producers' and fabricators' combined total market operations

Changes in percent; interim is January to September

Item	2021–23	2021–22	2022–23	Interim 2023–24
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	▲17.4	▲15.2	▲1.9	▼(3.3)
COGS: Raw materials	▲16.2	▲11.9	▲3.9	▲0.4
COGS: Direct labor	▲25.8	▲3.1	▲22.0	▼(1.0)
COGS: Other factory	▲12.4	▲22.3	▼(8.1)	▼(0.7)
COGS: Total	▲16.3	▲15.1	▲1.1	▼(0.4)

Table continued.

Table 6.6 (Continued) FGP: Changes in AUVs between comparison periods for U.S. producers' and fabricators' combined total market operations

Changes in dollars per pound; interim is January to September

Item	2021–23	2021–22	2022–23	Interim 2023–24
Commercial sales	***	***	***	***
Internal consumption	***	***	***	***
Transfers to related firms	***	***	***	***
Total net sales	▲0.06	▲0.05	▲0.01	▼(0.01)
COGS: Raw materials	▲0.01	▲0.01	▲0.00	▲0.00
COGS: Direct labor	▲0.01	▲0.00	▲0.01	▼(0.00)
COGS: Other factory	▲0.01	▲0.02	▼(0.01)	▼(0.00)
COGS: Total	▲0.04	▲0.03	▲0.00	▼(0.00)
Gross profit or (loss)	▲0.02	▲0.02	▲0.00	▼(0.01)
SG&A expense	▲0.01	▲0.01	▲0.00	▲0.00
Operating income or (loss)	▲0.01	▲0.01	▲0.00	▼(0.01)
Net income or (loss)	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Percentages and unit values shown as "0.0" or "0.00" represent values greater than zero, but less than "0.05" or "0.005," respectively. Zeroes, null values, and undefined calculations are suppressed and shown as "---". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

Table 6.7 FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Net sales quantity

Quantity in 1,000 pounds; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	7,775,948	8,990,019	8,028,515	6,042,496	5,767,015
All U.S. fabricators	183,988	194,260	193,785	144,957	133,995
U.S. producers and fabricators combined	7,959,936	9,184,279	8,222,300	6,187,453	5,901,010

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Net sales value

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	2,291,564	3,057,721	2,740,713	2,084,535	1,925,216
All U.S. fabricators	309,902	401,343	414,522	316,056	288,780
U.S. producers and fabricators combined	2,601,466	3,459,064	3,155,235	2,400,591	2,213,996

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

COGS

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	1,580,715	2,110,626	1,879,819	1,432,418	1,364,522
All U.S. fabricators	223,327	284,563	288,223	213,604	199,164
U.S. producers and fabricators combined	1,804,042	2,395,189	2,168,042	1,646,022	1,563,686

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Gross profit or (loss)

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	710,849	947,095	860,894	652,117	560,694
All U.S. fabricators	86,575	116,780	126,299	102,452	89,616
U.S. producers and fabricators combined	797,424	1,063,875	987,193	754,569	650,310

Table continued.

Table 6.7 (Continued)FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

SG&A expenses

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	393,495	530,406	469,992	340,813	329,410
All U.S. fabricators	60,854	75,219	75,147	55,192	57,187
U.S. producers and fabricators combined	454,349	605,625	545,139	396,005	386,597

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Operating income or (loss)

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	317,354	416,689	390,902	311,304	231,284
All U.S. fabricators	25,721	41,561	51,152	47,260	32,429
U.S. producers and fabricators combined	343,075	458,250	442,054	358,564	263,713

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Net income or (loss)

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	***	***	***	***	***
All U.S. fabricators	***	***	***	***	***
U.S. producers and fabricators combined	***	***	***	***	***

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

COGS to net sales ratio

Ratios in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	69.0	69.0	68.6	68.7	70.9
All U.S. fabricators	72.1	70.9	69.5	67.6	69.0
U.S. producers and fabricators combined	69.3	69.2	68.7	68.6	70.6

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Gross profit or (loss) to net sales ratio

Ratios in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	31.0	31.0	31.4	31.3	29.1
All U.S. fabricators	27.9	29.1	30.5	32.4	31.0
U.S. producers and fabricators combined	30.7	30.8	31.3	31.4	29.4

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

SG&A expenses to net sales ratio

Ratios in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	17.2	17.3	17.1	16.3	17.1
All U.S. fabricators	19.6	18.7	18.1	17.5	19.8
U.S. producers and fabricators combined	17.5	17.5	17.3	16.5	17.5

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Operating income or (loss) to net sales ratio

Ratios in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	13.8	13.6	14.3	14.9	12.0
All U.S. fabricators	8.3	10.4	12.3	15.0	11.2
U.S. producers and fabricators combined	13.2	13.2	14.0	14.9	11.9

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Net income or (loss) to net sales ratio

Ratios in percent; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	***	***	***	***	***
All U.S. fabricators	***	***	***	***	***
U.S. producers and fabricators combined	***	***	***	***	***

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Unit net sales value

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	0.29	0.34	0.34	0.34	0.33
All U.S. fabricators	1.68	2.07	2.14	2.18	2.16
U.S. producers and fabricators combined	0.33	0.38	0.38	0.39	0.38

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Unit raw material costs

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	0.06	0.07	0.07	0.07	0.07
All U.S. fabricators	0.65	0.82	0.80	0.80	0.78
U.S. producers and fabricators combined	0.08	0.08	0.09	0.09	0.09

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Unit direct labor costs

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	0.04	0.04	0.05	0.05	0.05
All U.S. fabricators	0.31	0.36	0.38	0.37	0.38
U.S. producers and fabricators combined	0.04	0.05	0.06	0.05	0.05

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Unit other factory costs

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	0.10	0.13	0.12	0.12	0.12
All U.S. fabricators	0.24	0.29	0.31	0.30	0.33
U.S. producers and fabricators combined	0.11	0.13	0.12	0.12	0.12

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Unit COGS

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	0.20	0.23	0.23	0.24	0.24
All U.S. fabricators	1.21	1.46	1.49	1.47	1.49
U.S. producers and fabricators combined	0.23	0.26	0.26	0.27	0.26

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Unit gross profit or (loss)

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	0.09	0.11	0.11	0.11	0.10
All U.S. fabricators	0.47	0.60	0.65	0.71	0.67
U.S. producers and fabricators combined	0.10	0.12	0.12	0.12	0.11

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Unit SG&A expenses

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	0.05	0.06	0.06	0.06	0.06
All U.S. fabricators	0.33	0.39	0.39	0.38	0.43
U.S. producers and fabricators combined	0.06	0.07	0.07	0.06	0.07

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Unit operating income or (loss)

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	0.04	0.05	0.05	0.05	0.04
All U.S. fabricators	0.14	0.21	0.26	0.33	0.24
U.S. producers and fabricators combined	0.04	0.05	0.05	0.06	0.04

Table continued.

Table 6.7 (Continued) FGP: U.S. producers' and fabricators' total market sales, costs/expenses, and profitability, by firm and period

Unit net income or (loss)

Unit values in dollars per pound; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	***	***	***	***	***
All U.S. fabricators	***	***	***	***	***
U.S. producers and fabricators combined	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: As previously discussed, *** did not provide usable financial results. Shares and ratios shown as "0.0" or unit values shown as "0.00" represent values greater than zero, but less than "0.05" percent or "0.005" dollars per pound, respectively. Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Net sales[9]

The net sales quantities for both U.S. producers (table 6.1) and fabricators (table 6.3) increased from 2021 to 2022 and then decreased from 2022 to 2023 but remained above their 2021 levels. Net sales quantities were lower in interim 2024 than they were in interim 2023 for both U.S. producers and fabricators of FGP.[10]

The U.S. producers' aggregate net sales value increased overall during the period examined, first increasing from 2021 from 2022 and then decreasing from 2022 to 2023. The fabricators' aggregate net sales value increased each year between 2021 and 2023. Both U.S. producers and U.S. fabricators reported an aggregate net sales value in interim 2024 that was lower than in interim 2023.

The net sales AUVs for fabricators were noticeably higher than net sales AUVs of the U.S. producers, which is consistent with the fabricators selling a further-processed, downstream product. On a per-pound basis, the U.S. producers' sales values increased from $0.29 in 2021 to $0.34 in 2022 and 2023 but were lower in interim 2024 (at $0.33) than they were in interim 2023 (at $0.34). Fabricators' net sales AUVs increased from $1.68 per pound in 2021 to $2.14 per pound in 2023 but were lower in interim 2024 (at $2.16) than they were in interim 2023 (at $2.18).[11] [12]

[9] The U.S. producers net sales included commercial sales, internal consumption, and transfers to related firms. In 2023, commercial sales were *** percent of the U.S. producers' total net sales, internal consumption was *** percent, and transfers to related firms were *** percent. Internal consumption was reported by ***. ***. ***. U.S. producers' questionnaire responses, section II-12.

[10] On a firm-by-firm basis, the net sales quantity trends were mixed. Half of the responding U.S. producers and U.S. fabricators reported an overall increase between 2021 and 2023 and half of the U.S. producers and five of eight fabricators reported a lower net sales quantity in interim 2024 than in interim 2023.

[11] All U.S. producers and six of eight fabricators reported an overall increase in their net sales AUV between 2021 and 2023, while four of six U.S. producers and five of eight fabricators reported a higher net sales AUV in interim 2024 than in interim 2023.

[12] Transfers to related firms AUVs were typically higher than commercial sales AUVs, and internal consumption AUVs were typically lower. ***.

Cost of goods sold and gross profit or loss

U.S. producers

As shown in table 6.1, raw material costs for U.S. producers accounted for a little less than one-third of their aggregate COGS during the period examined. The average per-pound raw material cost was $0.06 in 2021 and $0.07 in 2022, 2023, and both interim periods. All of the U.S. producers reported an overall increase in their per-pound raw material costs from 2021 to 2023 and four of six reported higher per-pound raw material costs in interim 2024 than in interim 2023 (see table 6.7).

Table 6.8 presents the U.S. producers' raw materials, by type, and table 6.9 shows the shares of U.S. producers' raw materials that were sourced domestically or imported. Table 6.8 shows that sand and soda ash accounted for the majority of U.S. producers' raw material costs, while table 6.9 shows that the *** majority of these raw material inputs were from domestic sources.

Table 6.8 FGP: U.S. producers' raw material costs in 2023, by type

Value in 1,000 dollars; unit values in dollars per pound; share of value in percent

Item	Value	Unit value	Share of value
Soda ash	215,060	0.03	38.1
Sand	190,539	0.02	33.8
Cullet	64,217	0.01	11.4
Dolomite	58,744	0.01	10.4
Limestone	14,526	0.00	2.6
Sodium sulfate	4,829	0.00	0.9
Other chemicals	***	***	***
Other material inputs	***	***	***
All raw materials	563,959	0.07	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Unit values shown as "0.00" represent values greater than zero, but less than "0.005." Zeroes, null values, and undefined calculations are suppressed and shown as "---".

Table 6.9 FGP: U.S. producers' raw material costs in 2023, by source

Value in 1,000 dollars; Share of value in percent

Raw material source	Value	Share of value
Domestic	***	***
Imported	***	***
All raw materials	563,959	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Direct labor, the smallest component of COGS, accounted for between 16.8 and 20.8 percent of the U.S. producers' total COGS during the period examined. On a per-pound basis, U.S. producers' direct labor increased from $0.04 in 2021 and 2022 to $0.05 in 2023 and both interim periods.

Other factory costs represented the largest component of COGS, between 49.0 and 54.1 percent during the period examined. On a per-pound basis, these costs increased irregularly from $0.10 per pound in 2021 to $0.12 per pound in 2023 and remained at $0.12 per pound in both interim periods. Five U.S. producers experienced an increase in their other factory cost AUVs between 2021 and 2023.[13] [14] Half of the U.S. producers reported other factory cost AUVs that were lower in interim 2024 than in interim 2023.

The U.S. producers' aggregate COGS as a ratio to net sales revenue decreased from 69.0 percent in 2021 and 2022 to 68.6 percent in 2023; it was higher in interim 2024 (at 70.9 percent) than in interim 2023 (at 68.7 percent). U.S. producers' aggregate gross profit increased irregularly from $710.8 million in 2021 to $860.9 million in 2023; it was lower in interim 2024, at $560.7 million, than in interim 2023, at $652.1 million.[15]

U.S. fabricators

The primary raw material input for fabricators is purchased float glass.[16] As shown in table 6.3, fabricators' raw material costs represented 53.5 percent of total COGS in 2023. The fabricators' raw material cost AUVs increased irregularly from $0.65 per pound in 2021 to $0.80 per pound in 2023 but were lower in interim 2024, at $0.78 per pound, than in interim 2023, at $0.80 per pound. Table 6.10 shows the shares of each source or type of raw materials for fabricators.

[13] *** other factory cost AUVs decreased *** from 2021 to 2023.

[14] ***. Email from ***.

[15] ***.

[16] Purchased float glass accounted for 89.8 percent of the fabricators' raw material costs in 2023.

Table 6.10 FGP: Fabricators' raw material costs in 2023, by type and source

Share of total raw material costs in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Float glass: Domestic	Share	***	***	***	***	***
Float glass: Subject sources	Share	***	***	***	***	***
Float glass: Nonsubject sources	Share	***	***	***	***	***
All float glass costs	Share	90.3	89.1	89.8	90.0	86.6
Other material inputs	Share	9.7	10.9	10.2	10.0	13.4
All raw materials	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Fabricators' direct labor costs accounted for 25.3 percent of total COGS in 2023 (table 6.3). Direct labor AUVs increased from $0.31 per pound in 2021 to $0.38 per pound in 2023 and were higher in interim 2024, at $0.38 per pound, than in interim 2023, at $0.37 per pound.

As shown in table 6.3, other factory costs accounted for the remaining 21.1 percent of fabricators' aggregate COGS in 2023. On a per-pound basis, other factory costs increased from $0.24 in 2021 to $0.31 in 2023 and were higher in interim 2024, at $0.33, than in interim 2023, at $0.30.

The ratio of the fabricators' aggregate COGS to net sales value decreased from 72.1 percent in 2021 to 69.5 percent in 2023 but was higher in interim 2024, at 69.0 percent, than in interim 2023, at 67.6 percent. The fabricators' gross profit increased from $86.6 million in 2021 to $126.3 million in 2023 but was lower in interim 2024, at $89.6 million, than in interim 2023, at $102.5 million.

Combined COGS and gross profit

As shown in table 6.5, the U.S. producers' and fabricators' combined COGS to net sales ratio decreased from 69.3 percent in 2021 to 68.7 percent in 2023. It was higher in interim 2024, at 70.6 percent, than in interim 2023, at 68.6 percent. Total gross profit increased from $797.4 million in 2021 to a period high of $1.1 billion in 2022, and then decreased to $987.2 million in 2023; it was lower in interim 2024, at $650.3 million, than in interim 2023, at $754.6 million.

SG&A expenses and operating income or loss

As shown in table 6.1, U.S. producers' aggregate SG&A expenses increased irregularly from $393.5 million in 2021 to $470.0 million in 2023 but were lower in interim 2024 ($329.4 million) than in interim 2023 ($340.8 million). As shown in table 6.3, Fabricators' aggregate SG&A expenses increased irregularly from $60.9 million in 2021 to $75.1 million in 2023 and were higher in interim 2024 ($57.2 million) than in interim 2023 ($55.2 million).

For combined operations (table 6.5), aggregate SG&A expenses increased irregularly from $454.3 million in 2021 to $545.1 million in 2023 but were lower in interim 2024 ($386.6 million) than in interim 2023 ($396.0 million). The SG&A expense ratio for combined operations (total SG&A expenses divided by total net sales) decreased from 17.5 percent in 2021 and 2022 to 17.3 percent in 2023 but was higher in interim 2024 (17.5 percent) than in interim 2023 (16.5 percent).

The industry's combined operating income increased from $343.1 million in 2021 to $458.3 million in 2022, and then decreased slightly to $442.1 million in 2023. It was lower in interim 2024, at $263.7 million, than in interim 2023, at $358.6 million. As a ratio to net sales value, operating income increased from 13.2 percent in 2021 to 14.0 percent in 2023 but was lower in interim 2024, at 11.9 percent, than it was in interim 2023, at 14.9 percent.[17]

[17] One U.S. producer, ***, reported operating losses throughout the period examined. Fabricator *** reported operating losses in ***.

All other expenses and net income or loss

Classified below the operating income level are interest expense, all other expenses, and all other income. For U.S. producers and fabricators combined operations (table 6.5), both interest expense and all other expenses increased from 2021 to 2023 but were lower in interim 2024 than in interim 2023.[18] [19] All other income increased irregularly from 2021 to 2023 but was lower in interim 2024 than in interim 2023.[20]

Combined net income for U.S. producers and fabricators increased from $*** in 2021 to $*** in 2022, and then decreased to $*** in 2023. It was lower in interim 2024 ($***) than in interim 2023 ($***).[21]

[18] ***.

[19] ***. *** U.S. producer questionnaire response, section 3.10.

[20] ***. *** U.S. producer questionnaire responses, section 3.10.

[21] One U.S. producer, ***, reported net losses throughout the period examined. Fabricator *** reported *** and fabricator *** reported ***.

Variance analysis

A variance analysis for the operations of U.S. producers of FGP is presented in table 6.11. [22] [23] The information for this variance analysis is derived from table 6.1. The analysis shows that the increase in the U.S. producers' operating income between 2021 and 2023 was mainly attributable to a favorable price variance that was larger than the unfavorable cost variance. It also shows that the lower operating income in interim 2024 compared to interim 2023 was the result of unfavorable price, cost, and volume variances.

Table 6.11 FGP: Variance analysis on the operations of U.S. producers between comparison periods

Value in 1,000 dollars; interim is January to September

Item	2021-23	2021-22	2022-23	Interim 2023-24
Net sales price variance	374,718	408,372	10,023	(64,284)
Net sales volume variance	74,431	357,785	(327,031)	(95,035)
Net sales total variance	449,149	766,157	(317,008)	(159,319)
COGS cost variance	(247,762)	(283,111)	5,071	2,591
COGS volume variance	(51,342)	(246,800)	225,736	65,305
COGS total variance	(299,104)	(529,911)	230,807	67,896
Gross profit variance	150,045	236,246	(86,201)	(91,423)
SG&A cost variance	(63,716)	(75,474)	3,686	(4,135)
SG&A volume variance	(12,781)	(61,437)	56,728	15,538
SG&A total variance	(76,497)	(136,911)	60,414	11,403
Operating income price variance	374,718	408,372	10,023	(64,284)
Operating income cost variance	(311,478)	(358,585)	8,756	(1,544)
Operating income volume variance	10,308	49,549	(44,566)	(14,193)
Operating income total variance	73,548	99,335	(25,787)	(80,020)

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Unfavorable variances (negative) are shown in parentheses, all others are favorable (positive).

[22] Due to differences in product mix and cost structures amongst the various types of fabrication being performed, a variance analysis for fabricators and a variance analysis for the combined results of U.S. producers and fabricators would not be meaningful and are not shown.

[23] The Commission's variance analysis is calculated in three parts: Net sales variance, COGS variance, and SG&A expense variance. Each part consists of a price variance (in the case of the net sales variance) or a cost or expense variance (in the case of the COGS and SG&A expense variance), and a volume variance. The sales or cost/expense variances are calculated as the change in unit price or per-unit cost/expense, respectively, times the new volume, while the volume variance is calculated as the change in volume times the old unit price or per-unit cost/expense. Summarized at the bottom of the table, the operating income price variance is from sales; the operating income cost/expense variance is the sum of the cost components in the COGS and SG&A expense variances, and the operating income volume variance is the sum of the volume components of the net sales, COGS, and SG&A expense variances.

Capital expenditures and research and development expenses

Table 6.12 presents capital expenditures, by firm, and table 6.14 presents R&D expenses, by firm. Tables 6.13 and 6.15 present the firms' narrative explanations of the nature, focus, and significance of their capital expenditures and R&D expenses, respectively.

Total capital expenditures decreased irregularly from $*** in 2021 to $*** in 2023 and were lower in interim 2024 ($***) than in interim 2023 ($***).[24] ***.

Total R&D expenses remained relatively stable during the period examined decreasing irregularly from $*** in 2021 to $*** in 2023. They were $*** in interim 2023 and $*** in interim 2024.

Table 6.12 FGP: U.S. producers' and fabricators' capital expenditures, by firm and period

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	***	***	***	***	***
All U.S. fabricators	***	***	***	***	***
U.S. producers and fabricators combined	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

[24] ***. *** questionnaire response, section 3.13b. In order to avoid a distortion in ***.

Table 6.13 FGP: U.S. producers' and fabricators' narrative descriptions of their capital expenditures, by firm

Firm	Narrative on capital expenditures
AGC America	***
Cardinal	***
Carlex	***
Electric Mirror	***
Fashion Glass	***
Fuyao	***
Guardian	***
Hartung	***
Mr. Glass	***
Pilkington	***
Thompson IG	***
Tristar	***
Vectra	***
Vitro	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.14 FGP: U.S. producers' and fabricators' R&D expenses, by firm and period

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
AGC America	***	***	***	***	***
Cardinal	***	***	***	***	***
Carlex	***	***	***	***	***
Fuyao	***	***	***	***	***
Guardian	***	***	***	***	***
Pilkington	***	***	***	***	***
Vitro	***	***	***	***	***
All U.S. producers	***	***	***	***	***
All U.S. fabricators	***	***	***	***	***
U.S. producers and fabricators combined	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.15 FGP: U.S. producers' and fabricators' narrative descriptions of their R&D expenses, by firm

Firm	Narrative on R&D expenses
AGC America	***
Cardinal	***
Carlex	***
Electric Mirror	***
Fashion Glass	***
Fuyao	***
Guardian	***
Hartung	***
Mr. Glass	***
Pilkington	***
Thompson IG	***
Tristar	***
Vectra	***
Vitro	***

Source: Compiled from data submitted in response to Commission questionnaires.

Assets and return on assets

Table 6.16 presents data on the U.S. producers' total assets while table 6.17 presents their operating ROA.[25] Table 6.18 presents U.S. producers' narrative responses explaining their major asset categories and any significant changes in asset levels over time. U.S. producers and fabricators combined FGP assets increased from $3.4 billion in 2021 to $3.9 billion in 2023. The operating ROA increased irregularly between 2021 and 2023.

Table 6.16 FGP: U.S. producers' and fabricators' total net assets, by firm and period

Value in 1,000 dollars

Firm	2021	2022	2023
AGC America	***	***	***
Cardinal	***	***	***
Carlex	***	***	***
Fuyao	***	***	***
Guardian	***	***	***
Pilkington	***	***	***
Vitro	***	***	***
All U.S. producers	3,216,254	3,256,645	3,661,454
All U.S. fabricators	169,177	189,292	195,740
U.S. producers and fabricators combined	3,385,431	3,445,937	3,857,194

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.17 FGP: U.S. producers' and fabricators' ROA, by firm and period

Ratio in percent

Firm	2021	2022	2023
AGC America	***	***	***
Cardinal	***	***	***
Carlex	***	***	***
Fuyao	***	***	***
Guardian	***	***	***
Pilkington	***	***	***
Vitro	***	***	***
All U.S. producers	9.9	12.8	10.7
All U.S. fabricators	15.2	22.0	26.1
U.S. producers and fabricators combined	10.1	13.3	11.5

Source: Compiled from data submitted in response to Commission questionnaires.

[25] The operating ROA is calculated as operating income divided by total assets. With respect to a firm's overall operations, the total asset value reflects an aggregation of a number of assets which are generally not product specific. Thus, high-level allocations are generally required in order to report a total asset value on a product-specific basis.

Table 6.18 FGP: U.S. producers' and fabricators' narrative descriptions of their total net assets, by firm

Firm	Narrative on assets
AGC America	***
Cardinal	***
Carlex	***
Electric Mirror	***
Fashion Glass	***
Fuyao	***
Guardian	***
Hartung	***
Mr. Glass	***
Pilkington	***
Thompson IG	***
Tristar	***
Vectra	***
Vitro	***

Source: Compiled from data submitted in response to Commission questionnaires.

Capital and investment

The Commission requested U.S. producers of FGP to describe any actual or potential negative effects of imports of FGP from China and/or Malaysia on their firms' growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table 6.19 presents the number of firms reporting an impact in each category and table 6.20 provides the U.S. producers' narrative responses.

Table 6.19 FGP: Count of firms indicating actual and anticipated negative effects of imports from subject sources on investment, growth, and development since January 1, 2021, by effect

Number of firms reporting

Effect	Category	Count
Cancellation, postponement, or rejection of expansion projects	Investment	***
Denial or rejection of investment proposal	Investment	***
Reduction in the size of capital investments	Investment	***
Return on specific investments negatively impacted	Investment	***
Other investment effects	Investment	***
Any negative effects on investment	Investment	6
Rejection of bank loans	Growth	***
Lowering of credit rating	Growth	***
Problem related to the issue of stocks or bonds	Growth	***
Ability to service debt	Growth	***
Other growth and development effects	Growth	***
Any negative effects on growth and development	Growth	5
Anticipated negative effects of imports	Future	9

Source: Compiled from data submitted in response to Commission questionnaires.

Table 6.20 FGP: U.S. producers' and fabricators' narratives relating to actual and anticipated negative effects of imports on investment, growth, and development, since January 1, 2021, by firm and effect

Item	Firm name and narrative on impact of imports
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***
***	***

Item	Firm name and narrative on impact of imports
***	***
***	***
***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Part 7: Threat considerations and information on nonsubject countries

Section 771(7)(F)(i) of the Act (19 U.S.C. § 1677(7)(F)(i)) provides that—

> *In determining whether an industry in the United States is threatened with material injury by reason of imports (or sales for importation) of the subject merchandise, the Commission shall consider, among other relevant economic factors*[1]*--*
>
> *(I) if a countervailable subsidy is involved, such information as may be presented to it by the administering authority as to the nature of the subsidy (particularly as to whether the countervailable subsidy is a subsidy described in Article 3 or 6.1 of the Subsidies Agreement), and whether imports of the subject merchandise are likely to increase,*
>
> *(II) any existing unused production capacity or imminent, substantial increase in production capacity in the exporting country indicating the likelihood of substantially increased imports of the subject merchandise into the United States, taking into account the availability of other export markets to absorb any additional exports,*
>
> *(III) a significant rate of increase of the volume or market penetration of imports of the subject merchandise indicating the likelihood of substantially increased imports,*
>
> *(IV) whether imports of the subject merchandise are entering at prices that are likely to have a significant depressing or suppressing effect on domestic prices, and are likely to increase demand for further imports,*
>
> *(V) inventories of the subject merchandise,*

[1] Section 771(7)(F)(ii) of the Act (19 U.S.C. § 1677(7)(F)(ii)) provides that "The Commission shall consider {these factors} . . . as a whole in making a determination of whether further dumped or subsidized imports are imminent and whether material injury by reason of imports would occur unless an order is issued or a suspension agreement is accepted under this title. The presence or absence of any factor which the Commission is required to consider . . . shall not necessarily give decisive guidance with respect to the determination. Such a determination may not be made on the basis of mere conjecture or supposition."

(VI) the potential for product-shifting if production facilities in the foreign country, which can be used to produce the subject merchandise, are currently being used to produce other products,

(VII) in any investigation under this title which involves imports of both a raw agricultural product (within the meaning of paragraph (4)(E)(iv)) and any product processed from such raw agricultural product, the likelihood that there will be increased imports, by reason of product shifting, if there is an affirmative determination by the Commission under section 705(b)(1) or 735(b)(1) with respect to either the raw agricultural product or the processed agricultural product (but not both),

(VIII) the actual and potential negative effects on the existing development and production efforts of the domestic industry, including efforts to develop a derivative or more advanced version of the domestic like product, and

(IX) any other demonstrable adverse trends that indicate the probability that there is likely to be material injury by reason of imports (or sale for importation) of the subject merchandise (whether or not it is actually being imported at the time).[2]

Information on the nature of the alleged subsidies was presented earlier in this report; information on the volume and pricing of imports of the subject merchandise is presented in Parts 4 and 5; and information on the effects of imports of the subject merchandise on U.S. producers' existing development and production efforts is presented in Part 6. Information on inventories of the subject merchandise; foreign producers' operations, including the potential for "product-shifting;" any other threat indicators, if applicable; and any dumping in third-country markets, follows. Also presented in this section of the report is information obtained for consideration by the Commission on nonsubject countries.

[2] Section 771(7)(F)(iii) of the Act (19 U.S.C. § 1677(7)(F)(iii)) further provides that, in antidumping investigations, ". . . the Commission shall consider whether dumping in the markets of foreign countries (as evidenced by dumping findings or antidumping remedies in other WTO member markets against the same class or kind of merchandise manufactured or exported by the same party as under investigation) suggests a threat of material injury to the domestic industry."

Subject countries

The Commission issued foreign producers' or exporters' questionnaires to thirteen firms believed to produce and/or export FGP from China or Malaysia.[3] No responses to the Commission's questionnaire were received.

Table 7.1 presents events in the subject countries' industries since January 1, 2021.

Table 7.1 FGP: Important industry events in the subject foreign industry since 2021.

Item	Firm: Event
Acquisitions	Shanghai Yaohua Pilkington Glass: On May 8, 2023, AGC Inc. completed ownership transfer of AGC Flat Glass Inc. located in Dalian, China, to Shanghai Yaohua Pilkington Glass Group Co. Ltd. located in Pudong, Zhejiang, China, in a purchase worth $43.8 million.

Sources: Glass Magazine, "AGC Announces Transfer Completion," May 15, 2023, https://www.glassmagazine.com/news/2023/agc-announces-transfer-completion-agc-flat-glass; Photonics, "AGC Inc. Transfers Ownership of Group Company," January 2, 2023, https://www.photonics.com/Articles/AGC_Inc_Transfers_Ownership_of_Group_Company/a68643.

[3] These firms were identified through a review of information submitted in the petitions and presented in third-party sources.

Installed and practical overall capacity

The petitioner estimates that China has *** production lines with the capacity to produce *** short tons of float glass products and estimates that Malaysia has *** production lines with the capacity to produce *** short tons of float glass products.[4]

Exports

Table 7.2 presents data for exports from subject countries to the United States and to all destination markets reported in Global Trade Atlas ("GTA") HS categories 7005.10, 7005.21, 7005.29, 7008.00, 7009.91, and 7009.92, which include FGP and out-of-scope products. Imports of float glass increased from both China and Malaysia from 2021 to 2023, for a total increase of 19.0 percent, by value. Subject exporters' float glass exports to all destination markets increased irregularly from 2021 to 2023, increasing in value by 32.9 percent from 2021 to 2022, then decreasing by 16.1 percent from 2022 to 2023, for an overall increase of 11.5 percent, by value. From 2021 to 2023, approximately one-fifth of China's float glass exports were exported to the United States, while two percent or less of Malaysia's float glass exports were.

Table 7.2 FGP and other glass: Global exports from subject foreign industries: Exports to the United States, by subject foreign country and period

Value in 1,000 dollars

Exporter	Measure	2021	2022	2023
China	Value	953,769	1,038,951	1,133,185
Malaysia	Value	6,295	6,398	9,395
Subject exporters	Value	960,064	1,045,349	1,142,580

Table continued.

[4] Petitions, exh. I-3. Subject country flat glass producers (which may include production of out-of-scope products) identified in exhibit I-3 include *** from Malaysia, and *** from China.

Table 7.2 (Continued) FGP and other glass: Global exports from subject foreign industries: Exports to all destination markets, by subject foreign country and period

Value in 1,000 dollars

Exporter	Measure	2021	2022	2023
China	Value	4,104,795	5,524,053	4,625,008
Malaysia	Value	473,014	561,924	480,749
Subject exporters	Value	4,577,809	6,085,977	5,105,757

Table continued.

Table 7.2 (Continued) FGP and other glass: Global exports from subject foreign industries: Share of exports exported to the United States, by subject foreign country and period

Share in percent

Exporter	Measure	2021	2022	2023
China	Share	23.2	18.8	24.5
Malaysia	Share	1.3	1.1	2.0
Subject exporters	Share	21.0	17.2	22.4

Source: Official exports statistics under HS subheadings 7005.10, 7005.21, 7005.29, 7007.29, 7008.00, 7009.91 and 7009.92 as reported by various national statistical authorities in the Global Trade Atlas Suite database, accessed November 22, 2024.

Note: Shares represent the shares of value exported to the United States out of all destination markets.

U.S. inventories of imported merchandise

Table 7.3 presents data on U.S. importers' reported inventories of FGP. Inventories of FGP imports from subject sources decreased irregularly from 2021 to 2023, increasing by 12.5 percent from 2021 to 2022, then decreasing by 14.2 percent from 2022 to 2023, for an overall 3.5 percent decrease from 2021 to 2023. Inventories from subject sources were 1.6 percent higher in interim 2024 than in interim 2023. Comparatively, inventories of FGP imports from nonsubject sources increased by 128.1 percent from 2021 to 2023 and were 31.0 percent higher in interim 2024 than interim 2023. The ratio of inventories to U.S. imports were higher for subject sources than nonsubject sources, ranging from *** to *** percent for subject sources, versus *** to *** percent for nonsubject sources.

Table 7.3 FGP: U.S. importers' inventories and their ratio to select items, by source and period

Quantity in 1,000 pounds; ratio in percent; interim period is January through September

Measure	Source	2021	2022	2023	Interim 2023	Interim 2024
Inventories quantity	China	***	***	***	***	***
Ratio to imports	China	***	***	***	***	***
Ratio to U.S. shipments of imports	China	***	***	***	***	***
Ratio to total Shipments of imports	China	***	***	***	***	***
Inventories quantity	Malaysia	***	***	***	***	***
Ratio to imports	Malaysia	***	***	***	***	***
Ratio to U.S. shipments of imports	Malaysia	***	***	***	***	***
Ratio to total Shipments of imports	Malaysia	***	***	***	***	***
Inventories quantity	Subject sources	21,442	24,128	20,692	18,818	19,122
Ratio to imports	Subject sources	36.8	26.6	19.6	17.7	18.7
Ratio to U.S. shipments of imports	Subject sources	41.3	27.5	19.0	16.8	18.9
Ratio to total Shipments of imports	Subject sources	***	***	***	***	***
Inventories quantity	Nonsubject sources	11,002	19,411	25,096	23,606	30,916
Ratio to imports	Nonsubject sources	5.9	11.9	14.4	13.8	15.4
Ratio to U.S. shipments of imports	Nonsubject sources	6.2	12.6	14.9	14.3	16.0
Ratio to total Shipments of imports	Nonsubject sources	***	***	***	***	***
Inventories quantity	All import sources	32,444	43,539	45,788	42,424	50,038
Ratio to imports	All import sources	13.3	17.2	16.4	15.3	16.5
Ratio to U.S. shipments of imports	All import sources	14.1	18.0	16.5	15.3	17.0
Ratio to total Shipments of imports	All import sources	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

U.S. importers' outstanding orders

The Commission requested importers to indicate whether they imported or arranged for the importation of FGP from China and Malaysia after September 30, 2024. Their reported data are presented in table 7.4. *** accounted for over half (*** percent) of arranged imports from subject sources, while *** accounted for over half (*** percent of arranged imports from nonsubject countries.

Table 7.4 FGP: U.S. importers' arranged imports, by source and period

Quantity in 1,000 pounds

Source	Q4 2024	Q1 2025	Q2 2025	Q3 2025	Total
China	***	***	***	***	***
Malaysia	***	***	***	***	***
Subject sources	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Third-country trade actions

In April 2008, South Korea issued an antidumping duty order on float glass from China.[5] This order was most recently renewed in April 2022 with an antidumping duty margin of 36.01 percent.[6]

In November 2020, India issued an antidumping duty order on clear float glass from Malaysia, with an antidumping duty margin equivalent to the difference between the landed value and a value ranging from $272.18 to $326.00.[7]

In September 2022, South Africa issued an antidumping duty order on float glass from Malaysia, with an antidumping duty margin of 25.31 percent. These duties apply to the countries of the Southern African Customs Union which includes Botswana, Lesotho, Namibia, South Africa, and Eswatini.[8]

In May 2023, Taiwan issued an antidumping duty order on float glass, in sheets, including both clear float glass and tinted float glass from Malaysia, with an antidumping duty margin of 20.89 percent to 129.32 percent.[9]

Information on nonsubject countries

Table 7.5 presents global export data for float glass, a category that includes subject float glass products and out-of-scope products. In 2023, the five largest global exporters were China (31.3 percent), Germany (11.9 percent), Poland (6.4 percent), Belgium (4.3 percent) and Malaysia (3.3 percent). Collectively, they represent over half (57.2 percent) of global exports.

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[5] World Trade Organization, *Semi-Annual Report under Article 16.4 of the Agreement: Republic of Korea*, G/ADP/N/173/KOR, October 9, 2008, p. 2. https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=Q:/G/ADP/N173KOR.pdf&Open=True.

[6] World Trade Organization, *Semi-Annual Report under Article 16.4 of the Agreement: Republic of Korea*, G/ADP/N/370/IND, October 14, 2022, p. 4. https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/G/ADP/N370KOR.pdf&Open=True.

[7] World Trade Organization, *Semi-Annual Report under Article 16.4 of the Agreement: India*, G/ADP/N/350/IND, April 19, 2021, p. 10. https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/G/ADP/N350IND.pdf&Open=True.

[8] World Trade Organization, *Semi-Annual Report under Article 16.4 of the Agreement: South Africa*, G/ADP/N/377/ZAF, April 14, 2023, p. 5, 8. https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/G/ADP/N377ZAF.pdf&Open=True.

[9] World Trade Organization, *Semi-Annual Report under Article 16.4 of the Agreement: The separate customs territory of Taiwan, Penghu, Kinmen, and Matsu*, G/ADP/N/384/TPKM, August 22, 2023, p. 3. https://docs.wto.org/dol2fe/Pages/SS/directdoc.aspx?filename=q:/G/ADP/N384TPKM.pdf&Open=True.

Table 7.5 FGP and other glass: Global exports by exporter and period

Value in 1,000 dollars; share in percent

Exporting country	Measure	2021	2022	2023
United States	Value	741,484	827,829	789,266
China	Value	4,104,795	5,524,053	4,625,008
Malaysia	Value	473,014	561,924	480,749
Subject exporters	Value	4,577,809	6,085,977	5,105,757
Germany	Value	1,577,179	1,709,663	1,755,894
Poland	Value	738,409	952,930	942,251
Belgium	Value	558,715	572,907	642,632
France	Value	427,192	454,271	429,550
Italy	Value	345,096	405,301	413,322
Czech Republic	Value	289,795	408,737	366,361
Turkey	Value	272,446	366,106	359,996
Spain	Value	267,369	316,595	325,464
Mexico	Value	168,663	210,488	232,206
All other exporters	Value	4,421,252	3,856,804	3,412,474
Nonsubject exporters	Value	9,066,114	9,253,803	8,880,151
All reporting exporters	Value	14,385,407	16,167,608	14,775,173
United States	Share	5.2	5.1	5.3
China	Share	28.5	34.2	31.3
Malaysia	Share	3.3	3.5	3.3
Subject exporters	Share	31.8	37.6	34.6
Germany	Share	11.0	10.6	11.9
Poland	Share	5.1	5.9	6.4
Belgium	Share	3.9	3.5	4.3
France	Share	3.0	2.8	2.9
Italy	Share	2.4	2.5	2.8
Czech Republic	Share	2.0	2.5	2.5
Turkey	Share	1.9	2.3	2.4
Spain	Share	1.9	2.0	2.2
Mexico	Share	1.2	1.3	1.6
All other exporters	Share	30.7	23.9	23.1
Nonsubject exporters	Share	63.0	57.2	60.1
All reporting exporters	Share	100.0	100.0	100.0

Source: Official exports statistics under HS subheadings 7005.10, 7005.21, 7005.29, 7007.29, 7008.00, 7009.91 and 7009.92 as reported by various national statistical authorities in the Global Trade Atlas Suite database, accessed November 22, 2024.

Note: United States is shown at the top followed by the countries under investigation, all remaining top exporting countries in descending order of 2023 data.

APPENDIX A

FEDERAL REGISTER NOTICES

The Commission makes available notices relevant to its investigations and reviews on its website, www.usitc.gov. In addition, the following tabulation presents, in chronological order, Federal Register notices issued by the Commission and Commerce during the current proceeding.

Citation	Title	Link
89 FR 93651, November 27, 2024	Float Glass Products From China and Malaysia; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations	https://www.govinfo.gov/app/details/FR-2024-11-27/2024-27739
89 FR 102113, December 17, 2024	Notice of Extension of the Deadline for Determining the Adequacy of the Antidumping and Countervailing Duty Petitions: Float Glass Products From the People's Republic of China and Malaysia	https://www.govinfo.gov/content/pkg/FR-2024-12-17/pdf/2024-29680.pdf
89 FR 104561, December 23, 2024	Float Glass Products From China and Malaysia; Revised Schedule for the Subject Investigations	https://www.govinfo.gov/content/pkg/FR-2024-12-23/pdf/2024-30487.pdf
90 FR 1435, January 8, 2025	Float Glass Products from the People's Republic of China and Malaysia: Initiation of Less-Than-Fair-Value Investigations	https://www.govinfo.gov/content/pkg/FR-2025-01-08/pdf/2025-00190.pdf
90 FR 1443, January 8, 2025	Float Glass Products from the People's Republic of China and Malaysia: Initiation of Countervailing Duty Investigations	https://www.govinfo.gov/content/pkg/FR-2025-01-08/pdf/2025-00187.pdf

APPENDIX B

LIST OF STAFF CONFERENCE WITNESSES

CALENDAR OF PUBLIC PRELIMINARY CONFERENCE

Those listed below appeared in the United States International Trade Commission's Preliminary Conference:

Subject: Float Glass Products from China and Malaysia

Inv. Nos.: 701-TA-748-749 and 731-TA-1726-1727 (Preliminary)

Date and Time: December 12, 2024 - 9:30 a.m.

Sessions were held in connection with these preliminary phase investigations in the Main Hearing Room (Room 101), 500 E Street, SW., Washington, DC.

OPENING REMARKS:

In Support of Imposition (**Noah A. Meyer**, Rock Creek Trade LLP)

In Support of the Imposition of the Antidumping and Countervailing Duty Orders:

Rock Creek Trade LLP
Washington, DC
on behalf of

Vitro Flat Glass, LLC
Vitro Meadville, LLC
Glass Enterprises, Inc. ("GEI")

Paul Bush, Vice President for Sustainability, Technical Services, and Government Affairs, Vitro

Dan Stipetich, Director for Commercial Sales, Vitro

Guillermo Martinez, Director of National Accounts, Vitro

Javier Arechavaleta, General Counsel, Vitro

Joshua Burg (remote), CEO, Glass Enterprises, Inc.

Carl P. Moyer, Director of Economic Analysis, Rock Creek Trade LLP

Jack A. Levy)
Noah A. Meyer) – OF COUNSEL
Daniel J. Calhoun)

CLOSING REMARKS:

In Support of Imposition (**Jack A. Levy**, Rock Creek Trade LLP)

APPENDIX C

SUMMARY DATA

Total market

Table C.1
FGP: Summary data concerning the U.S. market total market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percen
exceptions noted; Interim period is January through September

	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
Item	2021	2022	2023	2023	2024	2021–23	2021–22	2022–23	2023–24
U.S. total market consumption quantity:									
Amount	7,795,237	9,127,511	8,196,480	6,174,817	6,241,515	▲5.1	▲17.1	▼(10.2)	▲1.1
Producers' share (fn1)	97.0	97.4	96.6	96.6	96.5	▼(0.4)	▲0.3	▼(0.7)	▼(0.2)
Importers' share (fn1):									
China	***	***	***	***	***	▲***	▲***	▲***	▼***
Malaysia	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	0.7	1.0	1.3	1.4	1.2	▲0.7	▲0.3	▲0.4	▼(0.1)
Nonsubject sources	2.3	1.7	2.1	2.0	2.3	▼(0.2)	▼(0.6)	▲0.4	▲0.3
All import sources	3.0	2.6	3.4	3.4	3.5	▲0.4	▼(0.3)	▲0.7	▲0.2
U.S. total market consumption value:									
Amount	2,521,596	3,380,943	3,107,594	2,354,561	2,334,399	▲23.2	▲34.1	▼(8.1)	▼(0.9)
Producers' share (fn1):									
Fully domestic value:	***	***	***	***	***	▼***	▲***	▼***	▼***
Incremental value added to imports	***	***	***	***	***	▼***	▼***	▲***	▼***
Total value	93.8	94.7	93.5	93.9	93.3	▼(0.3)	▲0.9	▼(1.2)	▼(0.6)
Importers' share (fn1):									
China	***	***	***	***	***	▲***	▲***	▲***	▲***
Malaysia	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	2.6	2.7	3.0	2.8	2.9	▲0.4	▲0.1	▲0.3	▲0.1
Nonsubject sources	3.7	2.7	3.6	3.4	3.8	▼(0.1)	▼(1.0)	▲0.9	▲0.4
All import sources	6.2	5.3	6.5	6.1	6.7	▲0.3	▼(0.9)	▲1.2	▲0.6
U.S. importers' U.S. shipments of imports from:									
China:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▲***	▼***	▲***
Malaysia:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▼***	▲***
Subject sources:									
Quantity	51,963	87,675	108,638	83,973	75,964	▲109.1	▲68.7	▲23.9	▼(9.5)
Value	64,358	90,783	91,998	65,140	67,948	▲42.9	▲41.1	▲1.3	▲4.3
Unit value	$1.24	$1.04	$0.85	$0.78	$0.89	▼(31.6)	▼(16.4)	▼(18.2)	▲15.3
Ending inventory quantity	21,442	24,128	20,692	18,818	19,122	▼(3.5)	▲12.5	▼(14.2)	▲1.6
Nonsubject sources:									
Quantity	178,407	153,953	168,184	124,158	144,478	▼(5.7)	▼(13.7)	▲9.2	▲16.4
Value	92,309	89,860	111,109	79,102	88,348	▲20.4	▼(2.7)	▲23.6	▲11.7
Unit value	$0.52	$0.58	$0.66	$0.64	$0.61	▲27.7	▲12.8	▲13.2	▼(4.0)
Ending inventory quantity	11,002	19,411	25,096	23,606	30,916	▲128.1	▲76.4	▲29.3	▲31.0
All import sources:									
Quantity	230,370	241,628	276,822	208,131	220,442	▲20.2	▲4.9	▲14.6	▲5.9
Value	156,667	180,643	203,107	144,242	156,296	▲29.6	▲15.3	▲12.4	▲8.4
Unit value	$0.68	$0.75	$0.73	$0.69	$0.71	▲7.9	▲9.9	▼(1.9)	▲2.3
Ending inventory quantity	32,444	43,539	45,788	42,424	50,038	▲41.1	▲34.2	▲5.2	▲17.9
U.S. producers' and U.S. fabricators':									
Producers: Practical capacity quantity	9,391,612	10,718,331	10,493,745	7,928,593	7,966,393	▲11.7	▲14.1	▼(2.1)	▲0.5
Producers: Production quantity	8,598,825	9,788,276	8,590,383	6,406,210	6,447,708	▼(0.1)	▲13.8	▼(12.2)	▲0.6
Producers: Capacity utilization (fn1)	91.6	91.3	81.9	80.8	80.9	▼(9.7)	▼(0.2)	▼(9.5)	▲0.1
Fabricators: Practical capacity quantity	232,731	234,511	240,311	180,233	192,733	▲3.3	▲0.8	▲2.5	▲6.9
Fabricators: Production quantity	196,363	214,071	207,646	155,886	143,278	▲5.7	▲9.0	▼(3.0)	▼(8.1)
Fabricators: Capacity utilization (fn1)	84.4	91.3	86.4	86.5	74.3	▲2.0	▲6.9	▼(4.9)	▼(12.2)
U.S. shipments (fn2):									
Quantity	7,564,867	8,885,883	7,919,658	5,966,686	6,021,073	▲4.7	▲17.5	▼(10.9)	▲0.9
Value:									
Fully domestic value:	***	***	***	***	***	▲***	▲***	▼***	▼***
Incremental value added to imports	***	***	***	***	***	▲***	▲***	▲***	▼***
Total value	2,364,929	3,200,300	2,904,487	2,210,319	2,178,103	▲22.8	▲35.3	▼(9.2)	▼(1.5)
Unit value	***	***	***	***	***	▲***	▲***	▲***	▼***

Table continued.

Table C.1 Continued

FGP: Summary data concerning the U.S. market total market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percen
exceptions noted; Interim period is January through September

	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
Item	2021	2022	2023	2023	2024	2021–23	2021–22	2022–23	2023–24
U.S. producers' and U.S. fabricators': Continued									
Export shipments:									
Quantity	***	***	***	***	***	▼***	▼***	▼***	▲***
Value	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▲***	▲***	▲***	▲***
Producers: Ending inventory quantity	1,157,313	1,324,308	1,313,669	1,353,751	1,211,946	▲13.5	▲14.4	▼(0.8)	▼(10.5)
Producers: Inv./total shipments (fn1)	***	***	***	***	***	▲***	▼***	▲***	▼***
Fabricators: Ending inventory quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Fabricators: Inv./total shipments (fn1)	***	***	***	***	***	▼***	▲***	▼***	▼***
Production workers	5,708	6,472	6,527	6,473	5,844	▲14.3	▲13.4	▲0.8	▼(9.7)
Hours worked (1,000s)	12,341	14,243	14,021	10,652	10,328	▲13.6	▲15.4	▼(1.6)	▼(3.0)
Wages paid ($1,000)	299,456	371,754	380,056	287,588	285,388	▲26.9	▲24.1	▲2.2	▼(0.8)
Hourly wages (dollars per hour)	$24.26	$26.10	$27.11	$27.00	$27.63	▲11.7	▲7.6	▲3.9	▲2.3
Producers: Productivity	912.9	882.3	792.5	781.1	807.3	▼(13.2)	▼(3.3)	▼(10.2)	▲3.4
Producers: Unit labor costs	$0.03	$0.03	$0.03	$0.04	$0.04	▲26.5	▲9.7	▲15.3	▲0.2
Fabricators: Productivity	67.2	68.0	65.3	63.6	61.2	▼(2.9)	▲1.1	▼(3.9)	▼(3.8)
Fabricators: Unit labor costs	$0.33	$0.36	$0.40	$0.40	$0.41	▲21.8	▲11.4	▲9.3	▲1.8
U.S. producers':									
Net sales:									
Quantity	7,775,948	8,990,019	8,028,515	6,042,496	5,767,015	▲3.2	▲15.6	▼(10.7)	▼(4.6)
Value	2,291,564	3,057,721	2,740,713	2,084,535	1,925,216	▲19.6	▲33.4	▼(10.4)	▼(7.6)
Unit value	$0.29	$0.34	$0.34	$0.34	$0.33	▲15.8	▲15.4	▲0.4	▼(3.2)
Cost of goods sold (COGS)	1,580,715	2,110,626	1,879,819	1,432,418	1,364,522	▲18.9	▲33.5	▼(10.9)	▼(4.7)
Gross profit or (loss) (fn3)	710,849	947,095	860,894	652,117	560,694	▲21.1	▲33.2	▼(9.1)	▼(14.0)
SG&A expenses	393,495	530,406	469,992	340,813	329,410	▲19.4	▲34.8	▼(11.4)	▼(3.3)
Operating income or (loss) (fn3)	317,354	416,689	390,902	311,304	231,284	▲23.2	▲31.3	▼(6.2)	▼(25.7)
Net income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit COGS	$0.20	$0.23	$0.23	$0.24	$0.24	▲15.2	▲15.5	▼(0.3)	▼(0.2)
Unit SG&A expenses	$0.05	$0.06	$0.06	$0.06	$0.06	▲15.7	▲16.6	▼(0.8)	▲1.3
Unit operating income or (loss) (fn3)	$0.04	$0.05	$0.05	$0.05	$0.04	▲19.3	▲13.6	▲5.0	▼(22.2)
Unit net income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▲***	▼***
COGS/sales (fn1)	69.0	69.0	68.6	68.7	70.9	▼(0.4)	▲0.0	▼(0.4)	▲2.2
Operating income or (loss)/sales (fn1)	13.8	13.6	14.3	14.9	12.0	▲0.4	▼(0.2)	▲0.6	▼(2.9)
Net income or (loss)/sales (fn1)	***	***	***	***	***	▲***	▲***	▲***	▼***
Capital expenditures	451,880	136,508	238,024	107,559	58,298	▼(47.3)	▼(69.8)	▲74.4	▼(45.8)
Research and development expenses	13,383	14,099	13,637	10,491	10,065	▲1.9	▲5.4	▼(3.3)	▼(4.1)
Total assets	3,216,254	3,256,645	3,661,454	NA	NA	▲13.8	▲1.3	▲12.4	NA
U.S. fabricators':									
Net sales:									
Quantity	183,988	194,260	193,785	144,957	133,995	▲5.3	▲5.6	▼(0.2)	▼(7.6)
Value	309,902	401,343	414,522	316,056	288,780	▲33.8	▲29.5	▲3.3	▼(8.6)
Unit value	$1.68	$2.07	$2.14	$2.18	$2.16	▲27.0	▲22.7	▲3.5	▼(1.2)
Cost of goods sold (COGS)	223,327	284,563	288,223	213,604	199,164	▲29.1	▲27.4	▲1.3	▼(6.8)
Gross profit or (loss) (fn3)	86,575	116,780	126,299	102,452	89,616	▲45.9	▲34.9	▲8.2	▼(12.5)
SG&A expenses	60,854	75,219	75,147	55,192	57,187	▲23.5	▲23.6	▼(0.1)	▲3.6
Operating income or (loss) (fn3)	25,721	41,561	51,152	47,260	32,429	▲98.9	▲61.6	▲23.1	▼(31.4)
Net income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit COGS	$1.21	$1.46	$1.49	$1.47	$1.49	▲22.5	▲20.7	▲1.5	▲0.9
Unit SG&A expenses	$0.33	$0.39	$0.39	$0.38	$0.43	▲17.2	▲17.1	▲0.1	▲12.1
Unit operating income or (loss) (fn3)	$0.14	$0.21	$0.26	$0.33	$0.24	▲88.8	▲53.0	▲23.4	▼(25.8)
Unit net income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▲***	▼***
COGS/sales (fn1)	72.1	70.9	69.5	67.6	69.0	▼(2.5)	▼(1.2)	▼(1.4)	▲1.4
Operating income or (loss)/sales (fn1)	8.3	10.4	12.3	15.0	11.2	▲4.0	▲2.1	▲2.0	▼(3.7)
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▲***	▼***
Capital expenditures	17,655	18,913	19,603	12,494	17,517	▲11.0	▲7.1	▲3.6	▲40.2
Research and development expenses	1,488	1,224	976	1,038	771	▼(34.4)	▼(17.7)	▼(20.3)	▼(25.7)
Total assets	169,177	189,292	195,740	NA	NA	▲15.7	▲11.9	▲3.4	NA

Table continued.

Table C.1 Continued
FGP: Summary data concerning the U.S. market total market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percen
exceptions noted; Interim period is January through September

	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
Item	2021	2022	2023	2023	2024	2021–23	2021–22	2022–23	2023–24
U.S. producers' and U.S. fabricators':									
Net sales:									
Quantity	7,959,936	9,184,279	8,222,300	6,187,453	5,901,010	▲3.3	▲15.4	▼(10.5)	▼(4.6)
Value	2,601,466	3,459,064	3,155,235	2,400,591	2,213,996	▲21.3	▲33.0	▼(8.8)	▼(7.8)
Unit value	$0.33	$0.38	$0.38	$0.39	$0.38	▲17.4	▲15.2	▲1.9	▼(3.3)
Cost of goods sold (COGS)	1,804,042	2,395,189	2,168,042	1,646,022	1,563,686	▲20.2	▲32.8	▼(9.5)	▼(5.0)
Gross profit or (loss) (fn3)	797,424	1,063,875	987,193	754,569	650,310	▲23.8	▲33.4	▼(7.2)	▼(13.8)
SG&A expenses	454,349	605,625	545,139	396,005	386,597	▲20.0	▲33.3	▼(10.0)	▼(2.4)
Operating income or (loss) (fn3)	343,075	458,250	442,054	358,564	263,713	▲28.9	▲33.6	▼(3.5)	▼(26.5)
Net income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit COGS	$0.23	$0.26	$0.26	$0.27	$0.26	▲16.3	▲15.1	▲1.1	▼(0.4)
Unit SG&A expenses	$0.06	$0.07	$0.07	$0.06	$0.07	▲16.2	▲15.5	▲0.5	▲2.4
Unit operating income or (loss) (fn3)	$0.04	$0.05	$0.05	$0.06	$0.04	▲24.7	▲15.8	▲7.8	▼(22.9)
Unit net income or (loss) (fn3)	***	***	***	***	***	▲***	▲***	▲***	▼***
COGS/sales (fn1)	69.3	69.2	68.7	68.6	70.6	▼(0.6)	▼(0.1)	▼(0.5)	▲2.1
Operating income or (loss)/sales (fn1)	13.2	13.2	14.0	14.9	11.9	▲0.8	▲0.1	▲0.8	▼(3.0)
Net income or (loss)/sales (fn1)	***	***	***	***	***	▲***	▲***	▲***	▼***
Capital expenditures	469,535	155,421	257,627	120,053	75,815	▼(45.1)	▼(66.9)	▲65.8	▼(36.8)
Research and development expenses	14,871	15,323	14,613	11,529	10,836	▼(1.7)	▲3.0	▼(4.6)	▼(6.0)
Total assets	3,385,431	3,445,937	3,857,194	***	***	▲13.9	▲1.8	▲11.9	NA

Source: Compiled from data submitted in response to Commission questionnaires. 508-compliant tables for these data are contained in parts 3, 4, 6, and 7 of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than (0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "—". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.
fn2.--Quantity for U.S. shipments reflects only producers' U.S. shipment quantities. Value for U.S. shipments reflects float glass products sold in the United States from domestically manufactured float glass (including the value added by U.S. fabricators to domestic float glass), as well as the incremental value added by U.S. fabricators to imported float glass. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Unit value reflects the fully domestic value.
fn3.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

Merchant market

Table C.2
FGP: Summary data concerning the U.S. market merchant market, by item and period

Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percen
exceptions noted; Interim period is January through September

	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
Item	2021	2022	2023	2023	2024	2021–23	2021–22	2022–23	2023–24
U.S. merchant market consumption quantity:									
Amount	6,804,380	8,114,354	7,062,379	5,330,679	5,384,370	▲3.8	▲19.3	▼(13.0)	▲1.0
Producers' share (fn1)	96.6	97.0	96.1	96.1	95.9	▼(0.5)	▲0.4	▼(0.9)	▼(0.2)
Importers' share (fn1):									
China	***	***	***	***	***	▲***	▲***	▲***	▼***
Malaysia	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	0.8	1.1	1.5	1.6	1.4	▲0.8	▲0.3	▲0.5	▼(0.2)
Nonsubject sources	2.6	1.9	2.4	2.3	2.7	▼(0.2)	▼(0.7)	▲0.5	▲0.4
All import sources	3.4	3.0	3.9	3.9	4.1	▲0.5	▼(0.4)	▲0.9	▲0.2
U.S. merchant market consumption value:									
Amount	2,309,382	3,154,086	2,831,507	2,148,443	2,129,271	▲22.6	▲36.6	▼(10.2)	▼(0.9)
Producers' share (fn1):									
Fully domestic value:	***	***	***	***	***	▼***	▲***	▼***	▼***
Incremental value added to imports	***	***	***	***	***	▼***	▼***	▲***	▼***
Total value	93.2	94.3	92.8	93.3	92.7	▼(0.4)	▲1.1	▼(1.4)	▼(0.6)
Importers' share (fn1):									
China	***	***	***	***	***	▲***	▲***	▲***	▲***
Malaysia	***	***	***	***	***	▲***	▲***	▲***	▼***
Subject sources	2.8	2.9	3.2	3.0	3.2	▲0.5	▲0.1	▲0.4	▲0.2
Nonsubject sources	4.0	2.8	3.9	3.7	4.1	▼(0.1)	▼(1.1)	▲1.1	▲0.5
All import sources	6.8	5.7	7.2	6.7	7.3	▲0.4	▼(1.1)	▲1.4	▲0.6
U.S. importers' U.S. shipments of imports from:									
China:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▼***	▲***	▼***	▲***
Malaysia:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▼***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▼***	▼***	▼***	▲***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▼***	▲***
Subject sources:									
Quantity	51,963	87,675	108,638	83,973	75,964	▲109.1	▲68.7	▲23.9	▼(9.5)
Value	64,358	90,783	91,998	65,140	67,948	▲42.9	▲41.1	▲1.3	▲4.3
Unit value	$1.24	$1.04	$0.85	$0.78	$0.89	▼(31.6)	▼(16.4)	▼(18.2)	▲15.3
Ending inventory quantity	21,442	24,128	20,692	18,818	19,122	▼(3.5)	▲12.5	▼(14.2)	▲1.6
Nonsubject sources:									
Quantity	178,407	153,953	168,184	124,158	144,478	▼(5.7)	▼(13.7)	▲9.2	▲16.4
Value	92,309	89,860	111,109	79,102	88,348	▲20.4	▼(2.7)	▲23.6	▲11.7
Unit value	$0.52	$0.58	$0.66	$0.64	$0.61	▲27.7	▲12.8	▲13.2	▼(4.0)
Ending inventory quantity	11,002	19,411	25,096	23,606	30,916	▲128.1	▲76.4	▲29.3	▲31.0
All import sources:									
Quantity	230,370	241,628	276,822	208,131	220,442	▲20.2	▲4.9	▲14.6	▲5.9
Value	156,667	180,643	203,107	144,242	156,296	▲29.6	▲15.3	▲12.4	▲8.4
Unit value	$0.68	$0.75	$0.73	$0.69	$0.71	▲7.9	▲9.9	▼(1.9)	▲2.3
Ending inventory quantity	32,444	43,539	45,788	42,424	50,038	▲41.1	▲34.2	▲5.2	▲17.9
U.S. producers' and U.S. fabricators':									
Commercial U.S. shipments (fn2):									
Quantity	6,574,010	7,872,726	6,785,557	5,122,548	5,163,928	▲3.2	▲19.8	▼(13.8)	▲0.8
Value:									
Fully domestic value:	***	***	***	***	***	▲***	▲***	▼***	▼***
Incremental value added to imports	***	***	***	***	***	▲***	▲***	▲***	▼***
Total value	2,152,715	2,973,443	2,628,400	2,004,201	1,972,975	▲22.1	▲38.1	▼(11.6)	▼(1.6)
Unit value	***	***	***	***	***	▲***	▲***	▲***	▼***

Table continued.

Table C.2 Continued
FGP: Summary data concerning the U.S. market merchant market, by item and period
Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Productivity=pounds per hour; Period changes=percen
exceptions noted; Interim period is January through September

	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
Item	2021	2022	2023	2023	2024	2021–23	2021–22	2022–23	2023–24
U.S. producers' (fn3):									
Commercial sales:									
Quantity	7,018,241	8,188,639	7,098,476	5,351,480	5,143,651	▲1.1	▲16.7	▼(13.3)	▼(3.9)
Value	2,101,649	2,844,359	2,498,938	1,903,624	1,768,488	▲18.9	▲35.3	▼(12.1)	▼(7.1)
Unit value	$0.30	$0.35	$0.35	$0.36	$0.34	▲17.6	▲16.0	▲1.3	▼(3.3)
Cost of goods sold (COGS)	1,411,851	1,911,824	1,656,032	1,264,792	1,219,019	▲17.3	▲35.4	▼(13.4)	▼(3.6)
Gross profit or (loss) (fn4)	689,798	932,535	842,906	638,832	549,469	▲22.2	▲35.2	▼(9.6)	▼(14.0)
SG&A expenses	372,720	505,430	441,860	320,542	312,472	▲18.6	▲35.6	▼(12.6)	▼(2.5)
Operating income or (loss) (fn4)	317,078	427,105	401,047	318,290	236,996	▲26.5	▲34.7	▼(6.1)	▼(25.5)
Net income or (loss) (fn4)	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit COGS	$0.20	$0.23	$0.23	$0.24	$0.24	▲16.0	▲16.1	▼(0.1)	▲0.3
Unit SG&A expenses	$0.05	$0.06	$0.06	$0.06	$0.06	▲17.2	▲16.2	▲0.8	▲1.4
Unit operating income or (loss) (fn4)	$0.05	$0.05	$0.06	$0.06	$0.05	▲25.1	▲15.4	▲8.3	▼(22.5)
Unit net income or (loss) (fn4)	***	***	***	***	***	▲***	▲***	▲***	▼***
COGS/sales (fn1)	67.2	67.2	66.3	66.4	68.9	▼(0.9)	▲0.0	▼(0.9)	▲2.5
Operating income or (loss)/sales (fn1)	15.1	15.0	16.0	16.7	13.4	▲1.0	▼(0.1)	▲1.0	▼(3.3)
Net income or (loss)/sales (fn1)	***	***	***	***	***	▲***	▲***	▲***	▼***
U.S. fabricators':									
Commercial sales:									
Quantity	183,988	194,260	193,785	144,957	133,995	▲5.3	▲5.6	▼(0.2)	▼(7.6)
Value	309,902	401,343	414,522	316,056	288,780	▲33.8	▲29.5	▲3.3	▼(8.6)
Unit value	$1.68	$2.07	$2.14	$2.18	$2.16	▲27.0	▲22.7	▲3.5	▼(1.2)
Cost of goods sold (COGS)	223,327	284,563	288,223	213,604	199,164	▲29.1	▲27.4	▲1.3	▼(6.8)
Gross profit or (loss) (fn4)	86,575	116,780	126,299	102,452	89,616	▲45.9	▲34.9	▲8.2	▼(12.5)
SG&A expenses	60,854	75,219	75,147	55,192	57,187	▲23.5	▲23.6	▼(0.1)	▲3.6
Operating income or (loss) (fn4)	25,721	41,561	51,152	47,260	32,429	▲98.9	▲61.6	▲23.1	▼(31.4)
Net income or (loss) (fn4)	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit COGS	$1.21	$1.46	$1.49	$1.47	$1.49	▲22.5	▲20.7	▲1.5	▲0.9
Unit SG&A expenses	$0.33	$0.39	$0.39	$0.38	$0.43	▲17.2	▲17.1	▲0.1	▲12.1
Unit operating income or (loss) (fn4)	$0.14	$0.21	$0.26	$0.33	$0.24	▲88.8	▲53.0	▲23.4	▼(25.8)
Unit net income or (loss) (fn4)	***	***	***	***	***	▲***	▲***	▲***	▼***
COGS/sales (fn1)	72.1	70.9	69.5	67.6	69.0	▼(2.5)	▼(1.2)	▼(1.4)	▲1.4
Operating income or (loss)/sales (fn1)	8.3	10.4	12.3	15.0	11.2	▲4.0	▲2.1	▲2.0	▼(3.7)
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▲***	▼***
U.S. producers' and U.S. fabricators' (fn3):									
Commercial sales:									
Quantity	7,202,229	8,382,899	7,292,261	5,496,437	5,277,646	▲1.3	▲16.4	▼(13.0)	▼(4.0)
Value	2,411,551	3,245,702	2,913,460	2,219,680	2,057,268	▲20.8	▲34.6	▼(10.2)	▼(7.3)
Unit value	$0.33	$0.39	$0.40	$0.40	$0.39	▲19.3	▲15.6	▲3.2	▼(3.5)
Cost of goods sold (COGS)	1,635,178	2,196,387	1,944,255	1,478,396	1,418,183	▲18.9	▲34.3	▼(11.5)	▼(4.1)
Gross profit or (loss) (fn4)	776,373	1,049,315	969,205	741,284	639,085	▲24.8	▲35.2	▼(7.6)	▼(13.8)
SG&A expenses	433,574	580,649	517,007	375,734	369,659	▲19.2	▲33.9	▼(11.0)	▼(1.6)
Operating income or (loss) (fn4)	342,799	468,666	452,199	365,550	269,425	▲31.9	▲36.7	▼(3.5)	▼(26.3)
Net income or (loss) (fn4)	***	***	***	***	***	▲***	▲***	▼***	▼***
Unit COGS	$0.23	$0.26	$0.27	$0.27	$0.27	▲17.4	▲15.4	▲1.8	▼(0.1)
Unit SG&A expenses	$0.06	$0.07	$0.07	$0.07	$0.07	▲17.8	▲15.1	▲2.4	▲2.5
Unit operating income or (loss) (fn4)	$0.05	$0.06	$0.06	$0.07	$0.05	▲30.3	▲17.5	▲10.9	▼(23.2)
Unit net income or (loss) (fn4)	***	***	***	***	***	▲***	▲***	▲***	▼***
COGS/sales (fn1)	67.8	67.7	66.7	66.6	68.9	▼(1.1)	▼(0.1)	▼(0.9)	▲2.3
Operating income or (loss)/sales (fn1)	14.2	14.4	15.5	16.5	13.1	▲1.3	▲0.2	▲1.1	▼(3.4)
Net income or (loss)/sales (fn1)	***	***	***	***	***	▲***	▲***	▲***	▼***

Source: Compiled from data submitted in response to Commission questionnaires. 508-compliant tables for these data are contained in parts 3, 4, 6, 7 and G of this report.

Note.--Shares and ratios shown as "0.0" percent represent non-zero values less than "0.05" percent (if positive) and greater than (0.05)" percent (if negative). Zeroes, null values, and undefined calculations are suppressed and shown as "—". Period changes preceded by a "▲" represent an increase, while period changes preceded by a "▼" represent a decrease.

fn1.--Reported data are in percent and period changes are in percentage points.

fn2.--Quantity for U.S. shipments reflects only producers' U.S. shipment quantities. Value for U.S. shipments reflects float glass products sold in the United States from domestically manufactured float glass (including the value added by U.S. fabricators to domestic float glass), as well as the incremental value added by U.S. fabricators to imported float glass. In measuring consumption and market share this methodology avoids reclassifying and/or double counting merchandise already reported as an import. Unit value reflects the fully domestic value. ***.
fn3.--Merchant market financial data are estimates. For more detailed data and a discussion of methodology see appendix G of this report.
fn4.--Percent changes only calculated when both comparison values represent profits; The directional change in profitability provided when one or both comparison values represent a loss.

APPENDIX D

NARRATIVE RESPONSES FOR DOMESTIC LIKE PRODUCT FACTORS

Table D.1 FGP: U.S. producers' and U.S. fabricators' narratives regarding the domestic like product factors comparing in-scope insulating glass units (IGUs) vs. all other in-scope float glass products

Factor	Producer/fabricator name and narrative on the domestic like product factors
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Channels	***
Channels	***

Factor	Producer/fabricator name and narrative on the domestic like product factors
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***

Factor	Producer/fabricator name and narrative on the domestic like product factors
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table D.2 FGP: U.S. importers' narratives regarding the domestic like product factors comparing in-scope insulating glass units (IGUs) vs. all other in-scope float glass products

Factor	Importer name and narrative on the domestic like product factors
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***

Factor	Importer name and narrative on the domestic like product factors
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***

Factor	Importer name and narrative on the domestic like product factors
Channels	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***

Factor	Importer name and narrative on the domestic like product factors
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table D.3 FGP: U.S. producers' and U.S. fabricators' narratives regarding the domestic like product factors comparing out-of-scope auto glass vs. in-scope fabricated float glass products

Factor	Producer/fabricator name and narrative on the domestic like product factors
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Channels	***
Channels	***
Channels	***
Channels	***

Factor	Producer/fabricator name and narrative on the domestic like product factors
Channels	***
Channels	***
Channels	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***

Factor	Producer/fabricator name and narrative on the domestic like product factors
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table D.4 FGP: U.S. importers' narratives regarding the domestic like product factors comparing out-of-scope auto glass vs. in-scope fabricated float glass products

Factor	Importer name and narrative on the domestic like product factors
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Physical characteristics	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Interchangeability	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***
Channels	***

Factor	Importer name and narrative on the domestic like product factors
Channels	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Manufacturing	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Perceptions	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***
Price	***

Source: Compiled from data submitted in response to Commission questionnaires.

APPENDIX E

U.S. FABRICATION OF FLOAT GLASS PRODUCTS, BY SOURCE

Table E.1 FGP: *'s U.S. fabrication of float glass products, by source of float glass input into production and period**

Quantity in 1,000 pounds; Raw material (RM) value in 1,000 dollars; Shares in percent; Interim period is January to September

Float glass input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Fabrication: Domestic glass	Quantity	***	***	***	***	***
Fabrication: Subject glass	Quantity	***	***	***	***	***
Fabrication: Nonsubject glass	Quantity	***	***	***	***	***
Fabrication: All imported glass	Quantity	***	***	***	***	***
Fabrication: All sources of glass	Quantity	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0
Fabrication: Domestic glass	RM Value	***	***	***	***	***
Fabrication: Subject glass	RM Value	***	***	***	***	***
Fabrication: Nonsubject glass	RM Value	***	***	***	***	***
Fabrication: All imported glass	RM Value	***	***	***	***	***
Fabrication: All sources of glass	RM Value	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.2 FGP: *'s U.S. fabrication, U.S. imports from subject sources, and ratio of subject imports to fabrication, by period**

Quantity in 1,000 pounds; Ratio in percent; Interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. fabrication	Quantity	***	***	***	***	***
Imports from China	Quantity	***	***	***	***	***
Imports from China to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table E.3 FGP: *'s U.S. fabrication of float glass products, by source of float glass input into production and period**

Quantity in 1,000 pounds; Raw material (RM) value in 1,000 dollars; Shares in percent; Interim period is January to September

Float glass input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Fabrication: Domestic glass	Quantity	***	***	***	***	***
Fabrication: Subject glass	Quantity	***	***	***	***	***
Fabrication: Nonsubject glass	Quantity	***	***	***	***	***
Fabrication: All imported glass	Quantity	***	***	***	***	***
Fabrication: All sources of glass	Quantity	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0
Fabrication: Domestic glass	RM Value	***	***	***	***	***
Fabrication: Subject glass	RM Value	***	***	***	***	***
Fabrication: Nonsubject glass	RM Value	***	***	***	***	***
Fabrication: All imported glass	RM Value	***	***	***	***	***
Fabrication: All sources of glass	RM Value	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Table E.4 FGP: *'s U.S. fabrication, U.S. imports from subject sources, and ratio of subject imports to fabrication, by period**

Quantity in 1,000 pounds; Ratio in percent; Interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. fabrication	Quantity	***	***	***	***	***
Imports from China	Quantity	***	***	***	***	***
Imports from Malaysia	Quantity	***	***	***	***	***
Imports from subject sources	Quantity	***	***	***	***	***
Imports from China to U.S. production	Ratio	***	***	***	***	***
Imports from Malaysia to U.S. production	Ratio	***	***	***	***	***
Imports from subject sources to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.5 FGP: *'s U.S. fabrication of float glass products, by source of float glass input into production and period**

Quantity in 1,000 pounds; Raw material (RM) value in 1,000 dollars; Shares in percent; Interim period is January to September

Float glass input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Fabrication: Domestic glass	Quantity	***	***	***	***	***
Fabrication: Subject glass	Quantity	***	***	***	***	***
Fabrication: Nonsubject glass	Quantity	***	***	***	***	***
Fabrication: All imported glass	Quantity	***	***	***	***	***
Fabrication: All sources of glass	Quantity	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0
Fabrication: Domestic glass	RM Value	***	***	***	***	***
Fabrication: Subject glass	RM Value	***	***	***	***	***
Fabrication: Nonsubject glass	RM Value	***	***	***	***	***
Fabrication: All imported glass	RM Value	***	***	***	***	***
Fabrication: All sources of glass	RM Value	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Table E.6 FGP: *'s U.S. fabrication, U.S. imports from subject sources, and ratio of subject imports to fabrication, by period**

Quantity in 1,000 pounds; Ratio in percent; Interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. fabrication	Quantity	***	***	***	***	***
Imports from China	Quantity	***	***	***	***	***
Imports from China to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Table E.7 FGP: *'s U.S. fabrication of float glass products, by source of float glass input into production and period**

Quantity in 1,000 pounds; Raw material (RM) value in 1,000 dollars; Shares in percent; Interim period is January to September

Float glass input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Fabrication: Domestic glass	Quantity	***	***	***	***	***
Fabrication: Subject glass	Quantity	***	***	***	***	***
Fabrication: Nonsubject glass	Quantity	***	***	***	***	***
Fabrication: All imported glass	Quantity	***	***	***	***	***
Fabrication: All sources of glass	Quantity	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0
Fabrication: Domestic glass	RM Value	***	***	***	***	***
Fabrication: Subject glass	RM Value	***	***	***	***	***
Fabrication: Nonsubject glass	RM Value	***	***	***	***	***
Fabrication: All imported glass	RM Value	***	***	***	***	***
Fabrication: All sources of glass	RM Value	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.8 FGP: *'s U.S. fabrication, U.S. imports from subject sources, and ratio of subject imports to fabrication, by period**

Quantity in 1,000 pounds; Ratio in percent; Interim period is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. fabrication	Quantity	***	***	***	***	***
Imports from China	Quantity	***	***	***	***	***
Imports from Malaysia	Quantity	***	***	***	***	***
Imports from subject sources	Quantity	***	***	***	***	***
Imports from China to U.S. production	Ratio	***	***	***	***	***
Imports from Malaysia to U.S. production	Ratio	***	***	***	***	***
Imports from subject sources to U.S. production	Ratio	***	***	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.9 FGP: *'s U.S. fabrication of float glass products, by source of float glass input into production and period**

Quantity in 1,000 pounds; Raw material (RM) value in 1,000 dollars; Shares in percent; Interim period is January to September

Float glass input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Fabrication: Domestic glass	Quantity	***	***	***	***	***
Fabrication: Subject glass	Quantity	***	***	***	***	***
Fabrication: Nonsubject glass	Quantity	***	***	***	***	***
Fabrication: All imported glass	Quantity	***	***	***	***	***
Fabrication: All sources of glass	Quantity	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0
Fabrication: Domestic glass	RM Value	***	***	***	***	***
Fabrication: Subject glass	RM Value	***	***	***	***	***
Fabrication: Nonsubject glass	RM Value	***	***	***	***	***
Fabrication: All imported glass	RM Value	***	***	***	***	***
Fabrication: All sources of glass	RM Value	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.10 FGP: *'s U.S. fabrication of float glass products, by source of float glass input into production and period**

Quantity in 1,000 pounds; Raw material (RM) value in 1,000 dollars; Shares in percent; Interim period is January to September

Float glass input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Fabrication: Domestic glass	Quantity	***	***	***	***	***
Fabrication: Subject glass	Quantity	***	***	***	***	***
Fabrication: Nonsubject glass	Quantity	***	***	***	***	***
Fabrication: All imported glass	Quantity	***	***	***	***	***
Fabrication: All sources of glass	Quantity	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0
Fabrication: Domestic glass	RM Value	***	***	***	***	***
Fabrication: Subject glass	RM Value	***	***	***	***	***
Fabrication: Nonsubject glass	RM Value	***	***	***	***	***
Fabrication: All imported glass	RM Value	***	***	***	***	***
Fabrication: All sources of glass	RM Value	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.11 FGP: *'s U.S. fabrication of float glass products, by source of float glass input into production and period**

Quantity in 1,000 pounds; Raw material (RM) value in 1,000 dollars; Shares in percent; Interim period is January to September

Float glass input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Fabrication: Domestic glass	Quantity	***	***	***	***	***
Fabrication: Subject glass	Quantity	***	***	***	***	***
Fabrication: Nonsubject glass	Quantity	***	***	***	***	***
Fabrication: All imported glass	Quantity	***	***	***	***	***
Fabrication: All sources of glass	Quantity	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0
Fabrication: Domestic glass	RM Value	***	***	***	***	***
Fabrication: Subject glass	RM Value	***	***	***	***	***
Fabrication: Nonsubject glass	RM Value	***	***	***	***	***
Fabrication: All imported glass	RM Value	***	***	***	***	***
Fabrication: All sources of glass	RM Value	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Table E.12 FGP: *'s U.S. fabrication of float glass products, by source of float glass input into production and period**

Quantity in 1,000 pounds; Raw material (RM) value in 1,000 dollars; Shares in percent; Interim period is January to September

Float glass input source	Measure	2021	2022	2023	Interim 2023	Interim 2024
Fabrication: Domestic glass	Quantity	***	***	***	***	***
Fabrication: Subject glass	Quantity	***	***	***	***	***
Fabrication: Nonsubject glass	Quantity	***	***	***	***	***
Fabrication: All imported glass	Quantity	***	***	***	***	***
Fabrication: All sources of glass	Quantity	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0
Fabrication: Domestic glass	RM Value	***	***	***	***	***
Fabrication: Subject glass	RM Value	***	***	***	***	***
Fabrication: Nonsubject glass	RM Value	***	***	***	***	***
Fabrication: All imported glass	RM Value	***	***	***	***	***
Fabrication: All sources of glass	RM Value	***	***	***	***	***
Fabrication: Domestic glass	Share	***	***	***	***	***
Fabrication: Subject glass	Share	***	***	***	***	***
Fabrication: Nonsubject glass	Share	***	***	***	***	***
Fabrication: All imported glass	Share	***	***	***	***	***
Fabrication: All sources of glass	Share	100.0	100.0	100.0	100.0	100.0

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

APPENDIX F

U.S. PRODUCERS' AND U.S. FABRICATORS' U.S. SHIPMENTS AND U.S. IMPORTERS' U.S. IMPORTS: IGUS VS. OTHER IN-SCOPE FLOAT GLASS DETAILS

Table F.1 FGP: U.S. producers' and U.S. fabricators' U.S. shipments and U.S. importers' U.S. imports in 2023, by source and product type

Quantity in 1,000 pounds; Value in 1,000 dollars; Unit values in dollars per pound; Interim period is January through September

Source	Measure	IGUs	Other than IGU	All float glass products
U.S. producers	Quantity	***	***	***
U.S. fabricators	Quantity	***	***	***
China	Quantity	***	***	***
Malaysia	Quantity	***	***	***
Subject sources	Quantity	***	***	***
Nonsubject sources	Quantity	***	***	***
All import sources	Quantity	***	***	***
U.S. producers	Value	***	***	***
U.S. fabricators	Value	***	***	***
China	Value	***	***	***
Malaysia	Value	***	***	***
Subject sources	Value	***	***	***
Nonsubject sources	Value	***	***	***
All import sources	Value	***	***	***
U.S. producers	Unit value	***	***	***
U.S. fabricators	Unit value	***	***	***
China	Unit value	***	***	***
Malaysia	Unit value	***	***	***
Subject sources	Unit value	***	***	***
Nonsubject sources	Unit value	***	***	***
All import sources	Unit value	***	***	***

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Figure F.1 FGP: U.S. producers' and U.S. fabricators' U.S. shipments and U.S. importers' U.S. imports average unit values in 2023, by source and product type

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

Figure F.2 FGP: U.S. producers' and U.S. fabricators' U.S. shipments and U.S. importers' U.S. imports quantities in 2023, by source and product type

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires.

APPENDIX G

CONSTRUCTED MERCHANT MARKET FINANCIAL RESULTS

Constructed merchant market results for U.S. producers are provided in table G.1. For each company that reported both commercial and non-commercial sales, COGS were allocated to merchant market results by sales quantity and expense data were allocated by sales value. Staff notes that these constructed results provide a representation of the merchant market, but differences in product mix among the firms' commercial and non-commercial sales could result in these data being less accurate than the total market results reported by the companies.

Table G.1 FGP: U.S. producers' results for merchant market operations, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars; ratios in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial sales ("CS")	Quantity	7,018,241	8,188,639	7,098,476	5,351,480	5,143,651
Commercial sales	Value	2,101,649	2,844,359	2,498,938	1,903,624	1,768,488
COGS: Raw materials	Value	425,174	554,044	495,154	384,270	376,413
COGS: Direct labor	Value	268,195	321,729	346,428	254,473	243,189
COGS: Other factory	Value	718,481	1,036,050	814,450	626,050	599,417
COGS: Total	Value	1,411,851	1,911,824	1,656,032	1,264,792	1,219,019
Gross profit or (loss)	Value	689,798	932,535	842,906	638,832	549,469
SG&A expenses	Value	372,720	505,430	441,860	320,542	312,472
Operating income or (loss)	Value	317,078	427,105	401,047	318,290	236,996
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation	Value	180,637	210,078	196,093	150,188	145,013
Cash flow	Value	***	***	***	***	***
COGS: Raw materials	Ratio to CS	20.2	19.5	19.8	20.2	21.3
COGS: Direct labor	Ratio to CS	12.8	11.3	13.9	13.4	13.8
COGS: Other factory	Ratio to CS	34.2	36.4	32.6	32.9	33.9
COGS: Total	Ratio to CS	67.2	67.2	66.3	66.4	68.9
Gross profit	Ratio to CS	32.8	32.8	33.7	33.6	31.1
SG&A expense	Ratio to CS	17.7	17.8	17.7	16.8	17.7
Operating income or (loss)	Ratio to CS	15.1	15.0	16.0	16.7	13.4
Net income or (loss)	Ratio to CS	***	***	***	***	***

Table continued.

Table G.1 (Continued) FGP: U.S. producers' results for merchant market operations, by item and period

Shares in percent; unit values in dollars per pound; count in number of firms reporting; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
COGS: Raw materials	Share	30.1	29.0	29.9	30.4	30.9
COGS: Direct labor	Share	19.0	16.8	20.9	20.1	19.9
COGS: Other factory	Share	50.9	54.2	49.2	49.5	49.2
COGS: Total	Share	100.0	100.0	100.0	100.0	100.0
Commercial sales	Unit value	0.30	0.35	0.35	0.36	0.34
COGS: Raw materials	Unit value	0.06	0.07	0.07	0.07	0.07
COGS: Direct labor	Unit value	0.04	0.04	0.05	0.05	0.05
COGS: Other factory	Unit value	0.10	0.13	0.11	0.12	0.12
COGS: Total	Unit value	0.20	0.23	0.23	0.24	0.24
Gross profit or (loss)	Unit value	0.10	0.11	0.12	0.12	0.11
SG&A expenses	Unit value	0.05	0.06	0.06	0.06	0.06
Operating income or (loss)	Unit value	0.05	0.05	0.06	0.06	0.05
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	1	1	1	1	1
Net losses	Count	1	1	1	1	1
Data	Count	6	6	6	6	6

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares represent the share of COGS. ***. *** U.S. producer questionnaire response, section II-12.

Table G.2 provides combined merchant market data for U.S. producers and fabricators. Since fabricators reported ***, these data combine the results from table G.1 with ***.

Table G.2 FGP: U.S. producers' and fabricators' combined results for merchant market operations, by item and period

Quantity in 1,000 pounds; value in 1,000 dollars; ratios in percent; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
Commercial sales ("CS")	Quantity	7,202,229	8,382,899	7,292,261	5,496,437	5,277,646
Commercial sales	Value	2,411,551	3,245,702	2,913,460	2,219,680	2,057,268
COGS: Raw materials	Value	545,544	713,276	649,411	500,931	480,282
COGS: Direct labor	Value	326,145	391,168	419,485	307,642	294,733
COGS: Other factory	Value	763,488	1,091,942	875,359	669,824	643,168
COGS: Total	Value	1,635,178	2,196,387	1,944,255	1,478,396	1,418,183
Gross profit or (loss)	Value	776,373	1,049,315	969,205	741,284	639,085
SG&A expenses	Value	433,574	580,649	517,007	375,734	369,659
Operating income or (loss)	Value	342,799	468,666	452,199	365,550	269,425
Interest expense	Value	***	***	***	***	***
All other expenses	Value	***	***	***	***	***
All other income	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	190,587	220,493	207,408	157,637	155,099
Cash flow	Value	***	***	***	***	***
COGS: Raw materials	Ratio to CS	22.6	22.0	22.3	22.6	23.3
COGS: Direct labor	Ratio to CS	13.5	12.1	14.4	13.9	14.3
COGS: Other factory	Ratio to CS	31.7	33.6	30.0	30.2	31.3
COGS: Total	Ratio to CS	67.8	67.7	66.7	66.6	68.9
Gross profit	Ratio to CS	32.2	32.3	33.3	33.4	31.1
SG&A expense	Ratio to CS	18.0	17.9	17.7	16.9	18.0
Operating income or (loss)	Ratio to CS	14.2	14.4	15.5	16.5	13.1
Net income or (loss)	Ratio to CS	***	***	***	***	***

Table continued.

Table G.2 (Continued) FGP: U.S. producers' and fabricators' combined results for merchant market operations, by item and period

Shares in percent; unit values in dollars per pound; count in number of firms reporting; interim is January to September

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
COGS: Raw materials	Share	33.4	32.5	33.4	33.9	33.9
COGS: Direct labor	Share	19.9	17.8	21.6	20.8	20.8
COGS: Other factory	Share	46.7	49.7	45.0	45.3	45.4
COGS: Total	Share	100.0	100.0	100.0	100.0	100.0
Commercial sales	Unit value	0.33	0.39	0.40	0.40	0.39
COGS: Raw materials	Unit value	0.08	0.09	0.09	0.09	0.09
COGS: Direct labor	Unit value	0.05	0.05	0.06	0.06	0.06
COGS: Other factory	Unit value	0.11	0.13	0.12	0.12	0.12
COGS: Total	Unit value	0.23	0.26	0.27	0.27	0.27
Gross profit or (loss)	Unit value	0.11	0.13	0.13	0.13	0.12
SG&A expenses	Unit value	0.06	0.07	0.07	0.07	0.07
Operating income or (loss)	Unit value	0.05	0.06	0.06	0.07	0.05
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	1	1	2	1	2
Net losses	Count	1	2	2	2	2
Data	Count	14	14	14	14	14

Source: Compiled from data submitted in response to Commission questionnaires.

Note: Shares represent the share of COGS. ***. *** U.S. producer questionnaire response, section II-12.