Active Anode Material from China

Investigation Nos. 701-TA-752 and 731-TA-1730 (Preliminary)

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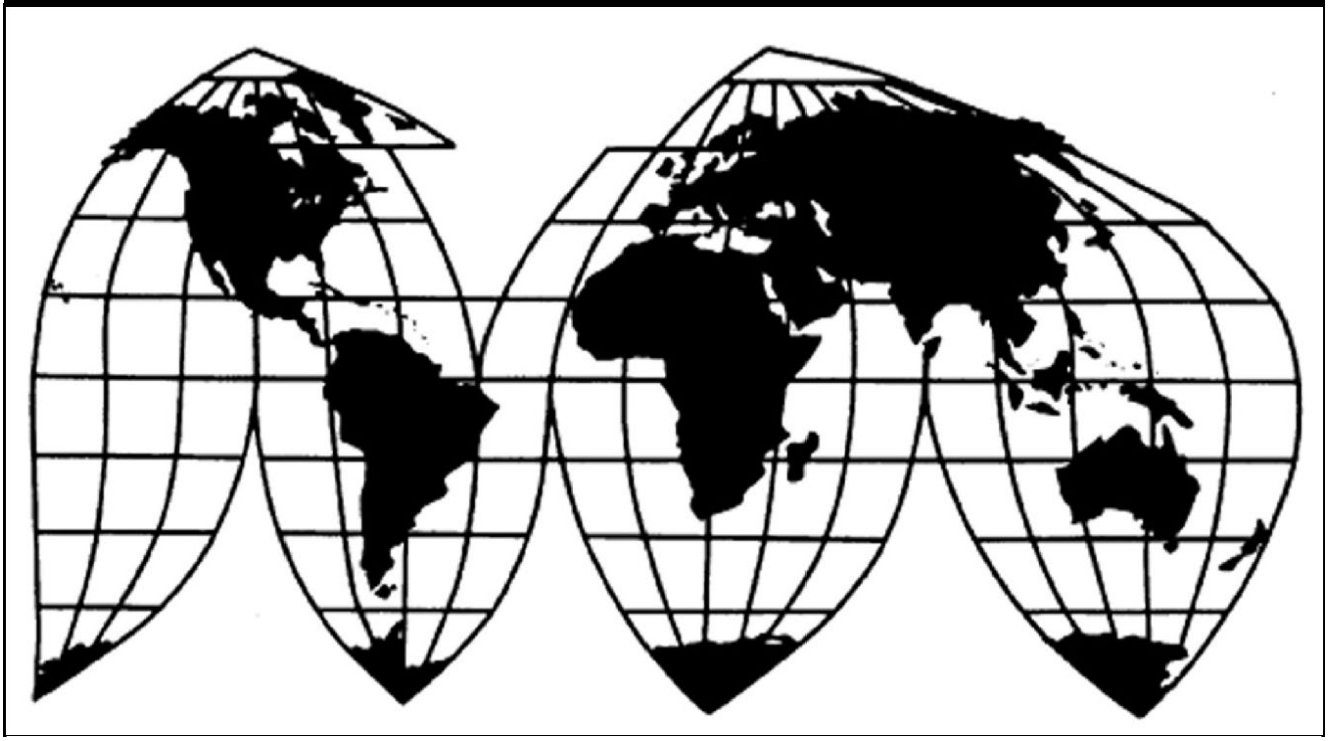
U.S. International Trade Commission



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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Note.—Information that would reveal confidential operations of individual firms may not be published.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-752 and 731-TA-1730 (Preliminary)

Active Anode Material from China

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 the establishment of an industry in the United States is materially retarded by reason of imports of active anode material from China, provided for in subheadings 2504.10.50 and 3801.10.50 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 alleged to be subsidized by the government of China.[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 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

[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 3788 and 90 FR 3792 (January 15, 2025).

[3] Commissioner Rhonda K. Schmidtlein did not participate.

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 December 18, 2024, the American Active Anode Material Producers, the members of which are Anovion Technologies LLC, Sanborn, New York; Syrah Technologies LLC, Vidalia, Louisiana; NOVONIX Anode Materials LLC, Chattanooga, Tennessee; Epsilon Advanced Materials Pty. Ltd., Leland, North Carolina; and SKI US, Inc., Marietta, Georgia, 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 imports of active anode material from China and LTFV imports of active anode material from China. Accordingly, effective December 18, 2024, the Commission instituted countervailing duty investigation No. 701-TA-752 and antidumping duty investigation No. 731-TA-1730 (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 December 26, 2024 (89 FR 105100). The Commission conducted its conference on January 8, 2025. All persons who requested the opportunity were permitted to participate.

Views of the Commission

Based on the record in the preliminary phase of these investigations, we determine that there is a reasonable indication that the establishment of an industry in the United States is materially retarded by reason of imports of active anode material ("AAM") from China that are allegedly sold in the United States at less than fair value ("LTFV") and subsidized by the government of China.

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.[1] 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."[2]

II. Background

Parties to the Investigations. The American Active Anode Material Producers ("AAAMP" or "Petitioner"), an *ad hoc* trade association consisting of domestic producers of

[1] 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).

[2] *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).

active anode material ("AAM"),[3] filed the petitions in these investigations on December 18, 2024. Petitioner appeared at the staff conference accompanied by counsel and submitted a postconference brief.

Several respondent entities participated in these investigations. Tesla, Inc. ("Tesla") and Panasonic Corporation of North America and Panasonic Energy Corporation of North America ("Panasonic"), U.S. importers of subject merchandise, appeared at the staff conference accompanied by counsel and submitted postconference briefs. In addition, the Commission received postconference briefs from the American Clean Power Association ("ACP") and the Solar Energy Industries Association ("SEIA"), trade associations representing importers and industrial users of subject merchandise, as well as LG Energy Solution Michigan, Inc. ("LG") and SK Battery America, Inc. ("SK"), U.S. importers of subject merchandise.

Data Coverage. U.S. industry data are based on the questionnaire responses of five U.S. producers accounting for at least *** of U.S. production of AAM in 2023.[4] U.S. import data are based on the questionnaire responses of ten U.S. importers of AAM that are representative of

[3] The AAMP consists of the following five firms: Anovion Technologies LLC ("Anovion"), Syrah Technologies LLC ("Syrah"), NOVONIX Anode Materials LLC ("Novonix"), Epsilon Advanced Materials Pty. Ltd. ("Epsilon"), and SKI US, Inc. ("SKI US"). Confidential Staff Report, INV-XX-014 (Jan. 27, 2025) ("CR") at 1.1; *Active Anode Material from China*, Inv. Nos. 701-TA-752 and 731-TA-1730 (Preliminary), USITC Pub. 5585 (Feb. 2025) ("PR") at 1.1.

[4] CR/PR at 3.1 and n. 1.

U.S. imports of AAM.[5] The Commission did not receive a response to its questionnaire from any foreign producers or exporters of subject merchandise.[6]

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, or that the establishment of an industry is materially retarded, by reason of imports of the subject merchandise, the Commission first defines the "domestic like product" and the "industry."[7] 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."[8] 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."[9]

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 the U.S.

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[5] CR/PR at 4.1 and n. 2. Several companies reported imports of in-scope AAM that were classified under the Harmonized Tariff Schedule of the United States ("HTSUS" or "HTS") statistical reporting numbers 8507.60.0010, 8507.60.0020, 8507.90.8000, and 8545.19.4000. Additionally, HTS statistical reporting numbers 2504.10.5000, 3801.10.5000, and 3801.90.0000 are broad categories that include out-of-scope merchandise. Consequently, absent reliable export data to serve as a cross-check, a credible estimate for the share of imports from China and all other sources represented by the responding importers cannot be calculated. However, the Commission believes that the responding firms are representative of U.S. imports of AAM as Tesla states that it and Panasonic are significant importers of AAM and are representative of U.S. consumers of AAM.

[6] CR/PR at 7.3.

[7] 19 U.S.C. § 1677(4)(A).

[8] 19 U.S.C. § 1677(4)(A).

[9] 19 U.S.C. § 1677(10).

Department of Commerce ("Commerce").[10] 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."[11] The Commission then defines the domestic like product in light of the imported articles Commerce has identified.[12] The decision regarding the appropriate domestic like product(s) 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.[13] No single factor is dispositive, and the Commission may consider other factors it deems relevant based on the facts of a particular investigation.[14] The Commission looks for clear dividing lines among

[10] 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).

[11] *Cleo Inc. v. United States*, 501 F.3d 1291, 1298 (Fed. Cir. 2007); *see also Hitachi Metals, Ltd. v. United States*, Case No. 19-1289, slip op. at 8-9 (Fed. Circ. Feb. 7, 2020) (the statute requires the Commission to start with Commerce's subject merchandise in reaching its own like product determination).

[12] *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 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).

[13] *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).

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

possible like products and disregards minor variations.[15] The Commission may, where appropriate, include domestic articles in the domestic like product in addition to those described in the scope.[16]

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

> The merchandise covered by this investigation is active anode material, which is an anode grade graphite material with a graphite minimum purity content of 90 percent carbon by weight, whether containing synthetic graphite, natural graphite, or a blend of synthetic and natural graphite; with or without coating. Subject merchandise may be in the form of powder, dry, liquid, or block form and is covered irrespective of the form in which it enters. Subject merchandise typically has a maximum size of 80 microns when in powder form. Subject merchandise has an energy density of 330 milliamp hours per gram or greater and a degree of graphitization of 80 percent or greater, where graphitization refers to the extent of the graphite crystal structure.
>
> Subject merchandise is covered regardless of whether it is mixed with silicon based active materials, *e.g*., silicon-oxide (SiOx), silicon-carbon (SiC), or silicon, or additives such as carbon black or carbon nanotubes. Subject merchandise is covered regardless of the combination of compounds that comprise the graphite material. Subject merchandise is covered regardless of whether it is imported independently, as part of a compound, in a battery, as a component of an anode slurry, or in a subassembly of a battery such as an electrode. Only the anode grade graphite material is covered when entered as part of a mixture with silicon based active materials, as part of a compound, in a batter{y}, as

[15] *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.").

[16] *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).

> a component of an anode slurry, or in a subassembly of a battery such as an electrode.[17]

AAM is graphite that functions as the active component of the anode in a lithium-ion battery.[18] Within the anode, the graphite is electrolytically active but chemically unreactive, as it releases and receives lithium ions during successive cycles of battery discharge and recharge.[19] AAM is specifically formulated for the lithium-ion batteries used in electric vehicles ("EVs") and energy storage systems ("ESS"), as well as in other consumer, commercial, industrial, and military electronic products.[20] AAM typically has smaller, more uniform particle sizes, lower porosity, higher density, a more orderly crystalline structure, and higher purity than other graphites.[21]

AAM can be produced from either naturally occurring (mined) graphite or from synthetically produced graphite.[22] Natural graphite is extracted from naturally occurring graphite deposits, concentrated by crushing and milling, and treated to remove impurities. Synthetic graphite is produced from high-purity calcined petroleum coke or coal tar pitch that is purified and baked at high temperature to form needle coke, and subsequently crystallized into graphite.[23] Each of these processes produces high-purity graphite that the manufacturer then

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[17] *Active Anode Material From the People's Republic of China: Initiation of Countervailing Duty Investigation*, 90 Fed. Reg. 3788 (Jan. 15, 2025). Due to a typographical error, the scope in Commerce's initiation notice included a misspelling. It reads, "subject merchandise is covered when entered …in a batter." *Id.* at Appendix—Scope of the Investigation. It should have read, "subject merchandise is covered when entered …in a battery." Email correspondence with Commerce analyst, EDIS Doc. 842528 (Jan. 27, 2025).

[18] CR/PR at 1.7.

[19] CR/PR at 1.7.

[20] CR/PR at 1.11.

[21] CR/PR at 1.11.

[22] CR/PR at 1.12.

[23] CR/PR at 1.12.

homogenizes by milling and sieving to achieve the desired particle size distribution, sometimes coats, and then carbonizes in an industrial furnace.[24]

A. Arguments of the Parties

Petitioner's Argument. Petitioner argues that the Commission should define a single domestic like product coextensive with the scope of these investigations. It contends that there are clear dividing lines between AAM and other types of graphite, such as industrial graphite. Specifically, it asserts that AAM has unique physical properties that are required for the production of lithium-ion batteries and is unlike other types of graphite that are used in a wide variety of applications, such as lubricants, paints and coatings, plastics, polymers, alloys, rubbers, and additives.[25]

Respondents' Argument. No respondent has contested Petitioner's proposed definition of the domestic like product for purposes of the preliminary investigations.[26]

B. Analysis

Based on the following analysis, we define a single domestic like product consisting of AAM, coextensive with Commerce's scope in these investigations.

Physical Characteristics and Uses. All AAM within the scope shares the same general physical characteristics. AAM is graphite, in powder form, that has smaller, more uniform

[24] CR/PR at 1.12-13; Conf. Tr. at 18-19 (Taylor).

[25] Petition at 9.

[26] Conf. Tr. at 197 (Nicely); *See* ACP's Postconf. Br. at 7-8. As part of its argument that competition between domestically produced AAM and the subject merchandise contained in batteries is attenuated, ACP contends that unless Petitioner expands its definition of the domestic industry to include battery producers, the Commission will not be investigating an industry that corresponds to the sales covered by the scope. ACP's Postconf. Br. at 13. No other party addressed this issue. In any final phase of the investigations, any party that may wish to raise domestic like product issues must do so in their comments on the draft questionnaires. 19 C.F.R. § 207.20(b).

particle sizes, lower porosity, higher density, and a more ordered crystalline structure than other types of graphite, which may have varied particle sizes and shapes, higher porosity, and a wider range of densities depending on their intended applications.[27] The record indicates that all AAM is optimized for use in lithium-ion batteries and requires a minimum energy density of 330 milliamp hours per gram. Other types of graphite do not meet this energy density threshold.[28] AAM is not used in applications other than lithium-ion batteries due to its relatively high cost.[29]

There are two principal types of AAM, synthetic and natural, which differ in their respective raw material inputs.[30] Natural AAM is produced by processing mined graphite, while synthetic AAM is produced by processing other forms of carbon, such as petroleum coke.[31] Both serve the same essential function of receiving and releasing lithium ions in the respective charging and discharging stages of a battery's function. In addition, there are minor differences in the performance characteristics of synthetic and natural AAM.[32] Natural AAM tends to have a higher energy density, while synthetic AAM tends to have a longer life cycle.[33] Due to these differing performance characteristics, lithium-ion battery producers usually employ a blend of synthetic and natural AAM in their battery anodes.[34]

[27] Petition at 9.

[28] Conf. Tr. at 81 (Kapur).

[29] Conf. Tr. at 134 (Kapur).

[30] Syrah reported test and commercial production of natural AAM using graphite sourced from its mine in Mozambique. Conf. Tr. at 69 (Hira); CR/PR at 3.6. Anovion, Novonix, and SKI US reported at least test production of synthetic AAM. CR/PR at 3.6-3.7.

[31] Conf. Tr. at 83 (Kapur) (Taylor), 140 (Zhang).

[32] Conf. Tr. at 49-50 (Taylor).

[33] Conf. Tr. at 101 (Kapur), Weber (160, 219).

[34] Conf. Tr. at 102 (Hira), 159 (Mintzer), 160 (Weber).

Manufacturing Facilities, Production Processes and Employees. Domestically produced AAM is generally produced at dedicated facilities that do not produce other types of graphite.[35] Domestic producers reported AAM production at test facilities and at commercial scale facilities, and only *** reported producing other products on shared equipment or in shared facilities.[36] Although domestic production was limited during the January 2021 to September 2024 period of investigation ("POI"), domestic producers of natural and synthetic AAM reported using similar production processes at the same manufacturing facilities using the same employees.

Channels of Distribution. AAM is typically distributed directly from the AAM producer to battery manufacturers. Other graphites, having a wider range of applications, may be distributed through broader industrial supply chains, including through distributors.[37]

Interchangeability. AAM's physical characteristics are optimized for end use in lithium-ion batteries, in particular in exceeding the relatively high energy density required for that application, 330 milliamp hours per gram.[38] The record indicates that other graphites are not interchangeable with in-scope AAM because they do not meet that energy density threshold, and that AAM is not used in other applications due to its relatively high cost.[39]

On the other hand, interchangeability between synthetic and natural AAM reflects the minor differences we have noted in their performance characteristics, leading lithium-ion

[35] Petition at 9.
[36] Conf. Tr. at 75-78; CR/PR at Table D.9.
[37] Petition at 9.
[38] Conf. Tr. at 44 (Pickard).
[39] Conf. Tr. at 133 (Taylor), 133-134 (Kapur).

battery producers to employ blends of synthetic and natural AAM in their battery anodes.[40] However, it appears that battery cell manufacturers evaluate AAM products primarily by their performance characteristics, rather than their raw material input.[41] Moreover, industry witnesses testified that the performance characteristics of synthetic and natural AAM are "very similar," described any differences as "minor," and indicated that, depending on the application for any given battery, the ratio of synthetic and natural graphite will change.[42]

Producer and Customer Perceptions. According to Petitioner, customers and producers view AAM as a single product category, and there is no contrary evidence on the current record.[43]

Price. The record indicates that prices for AAM are generally higher than for other types of graphite because of the high level of engineering involved in its production relative to other graphites.[44]

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[40] CR/PR at 1.9-10; *see e.g.,* Conf. Tr. at 140 (Zhang).

[41] *See e.g.,* Conf. Tr. at 149-150 (Zhang) ("Tesla has detailed specifications for AAM which cover{} the physical properties, like particle size and surface area, and the electrochemical performance, like the charge storage capacity"); LG Postconf. Br., Exh. 1, para. 12 ("LG fully agrees with the comments by Tesla and Panasonic that not all graphite can be utilized by EV manufacturers to produce acceptable EVs. Rather, the graphite that is required must adhere to very rigid specifications that cover the physical properties (like particle size, surface area) and the electrochemical performance (like the charge storage capacity); SK Postconf. Br. at 7-8 ("In general, AAM must comply with EV battery manufacturers' proprietary specifications with respect to chemistry, particle size, particle shape, among other parameters. The following factors are among those that affect a supplier's ability to meet SKBA's specification: (1) purity of the material, (2) particle size, (3) graphite particle coating, and (4) natural or synthetic graphite").

Industry witnesses also explained that AAM for EVs contains more natural graphite than synthetic graphite, favoring life cycle considerations, while AAM for ESS contain more synthetic graphite, because energy density is less important than cycle life in that application. Conf. Tr. at 160–161 (Weber).

[42] Conf. Tr. at 49 (Taylor), 102 (Hira).

[43] Conf. Tr. at 44 (Pickard); Petition at 10.

[44] Conf. Tr. at 133 (Taylor), 134 (Kapur); Petition at 10.

Conclusion. The record indicates that all domestically produced AAM within the scope possesses similar physical characteristics, having been produced in discrete facilities from other types of graphite and engineered for the same principal end use as an input in lithium-ion batteries. AAM is typically sold directly to battery cell manufacturers and is more costly than other types of graphite, and there is no evidence on the record suggesting that customers and producers do not view AAM as encompassing multiple product categories.

The record indicates that interchangeability between synthetic AAM and natural AAM is somewhat limited, as their differing performance characteristics have resulted in lithium-ion battery producers employing a blend of each in their battery anodes. The production processes of natural and synthetic AAM also differ, primarily in the early stages, because of the different raw material inputs.[45] On the other hand, the basic function is the same – to facilitate the release and reception of lithium ions that is necessary for the charging and discharging of a lithium-ion battery. The differences between natural and synthetic AAM appear relatively minor, especially compared to the differences between in-scope AAM and other types of graphite. Additionally, no party argues for a different domestic like product definition for purposes of the Commission's preliminary determination. For these reasons, we define a single domestic like product consisting of AAM, coextensive with Commerce's scope.

[45] Conf. Tr. at 18-19 (Taylor).

IV. Domestic Industry

A. Defining the Actual or Potential 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."[46] 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.

The statute provides that as an alternative to material injury and threat of material injury determinations, the Commission may make a determination concerning whether "the establishment of an industry in the United States is materially retarded" by reason of subject imports.[47] The Commission has previously found that material retardation and material injury/threat forms of injury are mutually exclusive standards, whereby a determination concerning whether the domestic industry is materially retarded is appropriate only when the Commission finds that the domestic industry is not yet established.[48] If a domestic industry is found to be established, however, then it no longer qualifies as a "nascent" industry, and the analysis instead turns on the issues of material injury or threat thereof. In these investigations, Petitioner argues that establishment of an industry in the United States to AAM is being materially retarded by reason of unfairly traded imports from China.[49]

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[46] 19 U.S.C. § 1677(4)(A).

[47] 19 U.S.C. § 1671d(b)(1)(B); 19 U.S.C. § 1673d(b)(1)(B).

[48] *Laminated Woven Sacks from China*, Inv. Nos. 701-TA-450 and 731-TA-1122 (Preliminary), USITC Pub. 3942 (Aug. 2007) at 21.

[49] Petition at 10.

1. Historical Overview

The issue of material retardation has arisen infrequently in antidumping and countervailing duty original investigations, and the Commission has reached the question of material retardation in six investigations.[50]

Injury provisions under the United States' first antidumping laws included a concept similar to material retardation: the prevention of the establishment of a domestic industry. The antidumping provisions of the Revenue Act of 1916 provided for relief when imports "prevented the establishment of an industry," and the Antidumping Act of 1921 ("1921 Act") required a determination as to whether "an industry in the United States … is prevented from being established" by reason of dumped imports.[51] The Trade Agreements Act of 1979 ("1979

[50] The Commission made affirmative material retardation determinations in three investigations and reached negative determinations in the other three. The affirmative determinations are *Benzyl Paraben from Japan*, Inv. No. 731-TA-462 (Final), USITC Pub. 2355 (Feb. 1991) ("*Benzyl Paraben*"); *Certain Dried Codfish from Canada*, Inv. No. 731-TA-199 (Final), USITC Pub. 1711 (Jul. 1985) ("*Dry Salted Codfish*"), *aff'd*, *BMT Commodity Corp. v. United States*, 667 F. Supp. 880 (Ct. Int'l Trade 1987), *aff'd*, 852 F.2d 1285 (Fed. Cir.), *cert denied*, 489 U.S. 1012 (1989); and *Refillable Stainless Steel Kegs from Mexico*, Inv. No. 731-TA-1427 (Final), USITC Pub. 4976 (Oct. 2019) ("*Steel Kegs"*) at 8. The negative determinations are *53-Foot Domestic Dry Containers from China*, Inv. Nos. 701-TA-514 and 731-TA-1250 (Final), USITC Pub. 4537 (June 2015) ("*Domestic Dry Containers*"); *Certain Copier Toner from Japan*, Inv. No. 731-TA-373 (Preliminary), USITC Pub. 1960 (March 1987) ("*Copier Toner*"); and *Certain Commuter Airplanes from France and Italy*, Inv. Nos. 701-TA-174-175 (Preliminary), USITC Pub. 1269 (July 1982). The issue of material retardation has also arisen in three changed circumstances reviews, *see, e.g., Salmon Gill Fish Netting of Manmade Fibers from Japan*, Inv. No. 751-TA-5, USITC Pub. 1234 (March 1982), and the related question of the "prevention of the establishment of a domestic industry" arose under the Antidumping Act of 1921, *see Regenerative Blower/Pumps from West Germany*, Inv. No. AA1921-140, TC Pub. 676 (May 1974).

[51] Act of May 27, 1921, ch. 14, sec. 201(a), 42 Stat. 11, 19 § U.S.C. 160. The "prevention" standard appears to have evolved from concerns regarding the U.S. chemical and dyestuffs industry and competition from imports from Germany following World War I. This historical context provides insight into Congress' original intent, given that the U.S. chemical industry had been in existence for a number of years at the time of the passage of the 1921 Act and had reached significant production levels; the industry was nonetheless considered "nascent" relative to German firms because of U.S. producers' lesser technical expertise, inability to make certain products, and their less efficient/higher costs of production. *See generally* Steen, Kathryn, The American Synthetic Organic Chemicals Industry: War and (Continued…)

Act") adopted the current language of the statute, requiring that the Commission determine whether "the establishment of an industry in the United States is materially retarded" by reason of subject imports.[52] The change from "prevention" to "material retardation" in the standard to be applied in investigations was not considered a substantive difference.[53] The statutory language concerning "material retardation" has remained unchanged since the 1979 Act, and Congress has not further addressed the meaning of this provision since that time.

Neither the statute nor the legislative history provides a framework for how the Commission should apply this provision. The Commission has applied the material retardation provision to both domestic producers that have not yet engaged in U.S. production and those that have begun to engage in domestic production. If there is or was at least some domestic production, which is the case in these investigations, then the Commission has applied a two-step framework in which it first determines whether the domestic industry is established. If producers have made a substantial commitment to production but the domestic industry is not

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Politics, 1910-1930 (2014) at 191-95. Congressional statements from this time indicate that the "prevention" standard could also apply to industries not yet in production. *See, e.g.,* 61 Cong. Rec. 1101 (1920).

[52] P.L. 96-39, approved July 26, 1979. The 1979 Act amended U.S. trade laws to conform with international commitments in the Tokyo Round of negotiations under the General Agreement on Tariffs and Trade ("GATT 1947"), and the change from "prevention" to "material retardation" reflected the language adopted in the GATT 1947. GATT 1947 Art. VI:1 provided that dumping was to be condemned if it "materially retards the establishment of a domestic industry."

[53] Negotiators to the GATT 1947 appear to have adopted the "material retardation" standard out of the same historical context as the "prevention" standard under the 1921 Act. *See* John H. Jackson, *World Trade and the Law of GATT* (1969), at 419-20 (citing United Nations documents concerning the negotiation of the GATT 1947). Additionally, an executive branch analysis found that "material retardation" was a "reasonable interpretation" of the "prevention" standard. *See* Hearing on the International Dumping Code, Sen. Comm. on Finance, 90th Cong., 2d Sess. 287 (1968) ("The notion of "material retardation" is a reasonable interpretation of the idea of prevention and would permit injury to be found even though it is not shown that dumped imports absolutely prevent the establishment of an industry.").

yet established, then the Commission moves to the second step of its analysis and examines whether a potential domestic industry has been materially retarded by reason of subject imports.[54] If the industry is established, then the Commission has instead examined whether the domestic industry is materially injured or threatened with material injury by reason of subject imports. The Commission has not reached the question of material retardation in the majority of investigations in which the issue has arisen, either because it found the domestic industry to be established (and thus applied the material injury or threat standard),[55] or because it found that producers had not made a substantial commitment to commence production (and thus reached a negative determination).[56]

2. Arguments of the Parties

Petitioner's arguments. Petitioner argues that the domestic industry consists of all member firms of the petitioning coalition and is not yet established.[57]

[54] *See Domestic Dry Containers,* USITC Pub. 4537 at 10-11.

[55] *See Fabric and Expanded Neoprene Laminate from Japan*, Inv. No. 731-TA-206 (Preliminary), USITC Pub. 1608 (Nov. 1984) ("*Neoprene Laminate*"); *Lime Oil from Peru*, Inv. No. 303-TA-16, USITC Pub. 1723 (July 1985) ("*Lime Oil*"); *Certain All-Terrain Vehicles from Japan*, Inv. No. 731-TA-388 (Preliminary), USITC Pub. 2071 (March 1988); *Pressure-Sensitive PVC Battery Covers from West Germany*, Inv. No. 731-TA-452 (Preliminary), USITC Pub. 2265 (March 1990) ("*PVC Battery Covers*"); *Fresh and Chilled Atlantic Salmon from Norway*, Inv. No. 701-TA-302 (Preliminary), USITC Pub. 2272 (April 1990) ("*Salmon*"); *Tungsten Ore Concentrates from the People's Republic of China*, Inv. No. 731-TA-497 (Preliminary), USITC Pub. 2367 (March 1991); *Certain Gene Amplification Thermal Cyclers and Subassemblies Thereof from the United Kingdom*, Inv. No. 731-TA-485 (Final), USITC Pub. 2412 (Aug. 1991) ("*Gene Amplification Thermal Cyclers*"); *Wheel Inserts from Taiwan*, Inv. No. 731-TA-721 (Preliminary), USITC Pub. 2824 (Oct. 1994) ("*Wheel Inserts*"); *Laminated Woven Sacks from China*, Inv. Nos. 701-TA-450 and 731-TA-1122 (Final), USITC Pub. 4025 (July 2008) ("*Laminated Woven Sacks*").

[56] *See Synthetic L-Methionine from Japan*, Inv. No. 751-TA-4, USITC Pub. 1167 (July 1981); *Motorcycle Batteries from Taiwan*, Inv. No. 731-TA-42 (Final), USITC Pub. 1228 (Oct. 1981); *Thin Sheet Glass from Switzerland, Belgium, and Germany*, Inv. Nos. 731-TA-127-129 (Preliminary), USITC Pub. 1376 (May 1983); *Liquid Crystal Display Television Receivers from Japan*, Inv. No. 751-TA-14, USITC Pub. 2042 (Dec. 1987) ("*Liquid Crystal Displays*") (dissenting views).

[57] Petitioner's Postconf. Br. at 17.

Respondents' arguments. No respondent argues for an alternative definition of the domestic industry. Respondents agree with Petitioner that the domestic industry is not established and is still in a start-up phase.[58]

3. Whether All Domestic Producers Have Exhibited Substantial Commitment to Commence Production

Where domestic firms had not yet undertaken production, as a threshold matter, the Commission has looked for an indication that the producers had made a "substantial commitment" to commence production.[59] In these investigations, Anovion, GrafTech, Novonix, SKI US, and Syrah have established production facilities, reported *** during the POI, and employed *** production-related workers (PRWs) in 2023.[60] However, one firm in the petitioning coalition, Epsilon, has reported little or no engagement in these types of activities for AAM since January 1, 2021.[61] We therefore analyze whether the domestic producers made a substantial commitment to commence production.

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[58] Petitioner's Postconf. Br. at 1; Tesla's Postconf. Br. at 10.

[59] *See, e.g., Certain Commuter Airplanes from France and Italy,* Inv. Nos. 701-TA-174-175 (Preliminary), USITC Pub. 1269 (Jul. 1982) at 8 (the domestic producer had not yet commenced production but had made a substantial commitment to do so, as indicated by, *inter alia*, substantial loans and loan guarantees from private lenders and governmental agencies, commencing construction of its production facility, employing a staff of engineers and technicians, publication of design specifications for its airplane, and its initial efforts to market the airplane; *Motorcycle Batteries from Taiwan, Inv. No. 731-TA-42* (Final), USITC Pub. 1228 (Oct. 1981) (finding U.S. firms did not take substantial steps or make an affirmative commitment to produce 6-volt motorcycle batteries); *Thin Sheet Glass from Switzerland, Belgium, and the Federal Republic of Germany*, Inv. Nos. 731-TA-127 and 129 (Preliminary), USITC Pub. 1376 (May 1983) (not finding that efforts to date demonstrated a substantial commitment to commence production of high-quality thin sheet glass because domestic producer's marketing efforts were not very intensive, it had not purchased testing equipment that would have allowed it to differentiate between regular and high-quality glass, and it had problems qualifying its product), *aff'd, Jeanette Sheet Glass Corp. v. United States,* 607 F. Supp. 123, 131-32 (Ct. Int'l Trade 1985) (affirming "substantial commitment" test where domestic producers had not yet engaged in producing high-quality thin sheet glass).

[60] *See* CR/PR at 3.3-3.5, Tables D.1-D.1, and U.S. Producers' Questionnaire Reponses at II-12.

[61] *See* Epsilon's U.S. Producer Questionnaire Response.

Arguments of the Parties. Petitioner contends that all domestic producers, including Epsilon, have made a substantial commitment to commence production in the United States.[62] No respondent made any arguments regarding the substantial commitment of domestic producers.

Analysis. Anovion, GrafTech, Novonix, SKI US, and Syrah have each engaged in a number of activities that the Commission has in the past considered to be indicative of a substantial commitment. We therefore find that they have made a substantial commitment to domestic production.

Epsilon's stated intention to invest a substantial sum in U.S. AAM production, the grant authorization it received from North Carolina's Economic Investment Committee, its ***, reported ***, and representation by a company official at the Commission's preliminary conference, are indications of a substantial commitment to U.S. AAM production.[63] On the other hand, given the limited information in the record, it is unclear to what extent Epsilon has actually expended resources, financial or otherwise, in the United States. It does not have an established production facility in the United States and its ***. It is also unclear to what extent it has engaged in marketing efforts, or whether its *** are material. However, as a practical matter, as Epsilon did not submit any data in its questionnaire response, its inclusion or

[62] *See* Petitioner's Postconf. Br. at Exh. 1, pp. 2-8.

[63] The CEO of Epsilon testified that the company is planning to construct an AAM manufacturing facility in Brunswick County, North Carolina and will invest $1 billion into a facility with capacity of 60,000 tons (132.3 million pounds) of synthetic AAM per annum, which it anticipates will come online beginning in late 2027. Conf. Tr. at 29, 62-63 (Kapur); Petitioner's Postconf. Br. at Exh. 1, p. 2. Epsilon also states that ***. Petition at Exh. I-3.

exclusion from the domestic industry will not affect the Commission's analysis.[64] Accordingly, consistent with our definition of the domestic like product, we define the actual or potential domestic industry to include all domestic producers of AAM.

4. Whether The Domestic Industry Is Established

In applying the next step of the framework, the Commission determines whether a domestic industry is established. In making this determination, the Commission has in previous investigations examined several or all of the following criteria: (1) the length of domestic production operations; (2) the characteristics of domestic production; (3) the size of domestic operations; (4) whether the proposed domestic industry has reached a reasonable financial "break-even" point; and (5) whether the activity is more in the nature of introducing a new product line by an already established business.[65] The Commission makes this determination on a case-by-case basis according to the record of each investigation.[66]

a. The Length of Domestic Operations

The Commission has regularly focused on when domestic producers began their U.S. production of the domestic like product. In general, where domestic producers have produced for fewer than two to three years, the Commission has found this favored finding a nascent

[64] Epsilon did not submit a completed U.S. producer questionnaire response, presumably because it responded "no" to the questionnaire certification page's query "has your firm produced AAM in the United States since January 1, 2021?"

[65] *Laminated Woven Sacks*, USITC Pub. 4025 at 19. This analysis is not required by statute, but it has rather emerged as Commission practice in investigations involving material retardation. Consideration of these five factors appears to have been enumerated since at least the Commission's investigation of Benzyl Paraben in 1991. *See Legal Issues in Benzyl Paraben from Japan*, Inv. No. 731-TA-462 (Final), GC-O-023 (Jan. 24, 1991) at 10 (enumerating these five factors).

[66] *Steel Kegs*, USITC Pub. 4976 at 12; *Domestic Dry Containers*, USITC Pub. 4537 at 11.

domestic industry.[67] Where some or all of the domestic producers have produced for longer periods of time, the Commission has found this factor favored finding an established industry.[68] Nonetheless, the Commission has rejected defining a specific time period for production that favors an industry being established, given that each industry may be distinct and require varying lengths of production for a firm to become established.[69] Thus, the Commission has characterized four years of domestic production as being "relatively limited" and favoring that a domestic industry is not established in some circumstances.[70]

Petitioner's Arguments. Petitioner argues that this factor supports finding that the domestic AAM industry is nascent and not established.[71] It highlights that ***.[72] It also points

[67] *See, e.g.*, *Benzyl Paraben*, USITC Pub. 2355 (Feb. 1991) (firm produced for 15 months, shut down, began again, shut down less than a year later, and then supplied customers out of inventory); *Dried Salted Codfish*, USITC Pub. 1711 at 6 (codfish production suspended after two years with intent to resume production); *Copier Toner*, USITC Pub. 1960 at 9-10 (domestic production began about three years earlier).

[68] *See, e.g.*, *Laminated Woven Sacks*, USITC Pub. 4025 at 20-22 (one or more domestic producers had supplied the major types of products to the U.S. market long enough to weigh in favor of established industry); *Wheel Inserts*, USITC Pub. 2824 (steady production throughout the period of investigation by at least three producers and since the late 1980s by at least two U.S. producers); *Gene Amplification Thermal Cyclers,* USITC Pub. 2412 (domestic production for more than three years); *Liquid Crystal Displays*, USITC Pub. 2413 at 18-19 (domestic production began before the period of investigation); *Tungsten Ore Concentrates*, USITC Pub. 2367 at 18 n.49 (continuous production over a long period of time); *Salmon*, USITC Pub. 2272 at 16-18 (domestic producers had been engaging in activities leading to production for a number of years, and some had recently produced the product); *PVC Battery Covers*, USITC Pub. 2265 at 12 (production began three to four years prior to investigation); *Fabric and Expanded Neoprene Laminate*, USITC Pub. 1608 at 8 n.24 (producing for several years).

[69] *Benzyl Paraben*, USITC Pub. 2303 at 12-13 ("…we have never stated that any specific period of production would "establish" an industry.").

[70] *Domestic Dry Containers*, USITC Pub. 4537 at 13 (describing four years of domestic production as a "relatively limited time period" and finding that this length of production favored the industry not being established).

[71] Petitioner's Postconf. Br. at 17-18.

[72] Petitioner's Postconf. Br. at 18.

out that a ***. Of the two firms that have reported commercial production, Petitioner indicates that commercial production commenced only recently, with ***.[73]

Respondents' Arguments. Respondents did not address this factor. However, Tesla, in arguing that no U.S. producers can supply AAM in the U.S. market, contests whether ***.[74]

Analysis. Of the five responding U.S. producers, only *** reported AAM production throughout the POI, beginning in 2021.[75] Two firms reported production in 2022 and 2023, and two additional firms reported production in 2023 only.[76] Syrah produced *** volume – ***.[77] We consider that this factor favors a finding that the industry is not established.

b. The Nature of Domestic Production

In examining the characteristics of domestic production, the Commission has asked whether domestic production has been "modest," continuous, or more akin to start and stop.[78] In previous investigations, when domestic production was "modest" or domestic production began but halted and domestic producers were not producing at the time of the Commission's vote, the Commission concluded that this factor supported finding the domestic industry was not established.[79] Where domestic production was continuous or even continuous and

[73] CR/PR at 3.3 and Table 3.7; Petitioner's Postconf. Br. at 18.

[74] Tesla's Postconf. Br. at 16-17.

[75] *** U.S. Producer Questionnaire at II-8.

[76] CR/PR at Table 3.7.

[77] *See* CR/PR at Table 3.7, 3.10.

[78] *See, e.g.*, *Laminated Woven Sacks*, USITC Pub. 4025 at 24 (considering the specific circumstances of individual producers as well as the circumstances of domestic producers as a whole); *High Information Content Flat Panel Displays*, USITC Pub. 2413 at 18-19 (conducting inquiry on an industry-wide basis).

[79] *See, e.g.*, *Benzyl Paraben*, USITC Pub. 2355 at 9-10 (petitioner produced for 15 months, shut down production, resumed production but shut down less than a year later and supplied the U.S. market out of inventory); *Copier Toner*, USITC Pub. 1960 at 9 n.24 (domestic production was "modest"); *Codfish*, USITC Pub. 1711 at 4-5 & n.8, *aff'd*, *BMT*, 667 F. Supp. 880, *aff'd*, 852 F.2d 1285, *cert. denied*, (Continued…)

growing, the Commission has concluded that this factor supported finding an established domestic industry.[80] The Commission has also considered the number of firms engaged in domestic production and whether new entrants have commenced domestic production, finding that more firms engaging in or beginning domestic production supported a finding that the domestic industry was established.[81] And as noted above, the historical context of the "prevention" standard considered the relative technical abilities and production efficiencies of domestic producers versus foreign competitors.

Parties' Arguments. Petitioner characterizes the nature of AAM domestic production as "modest."[82] It reiterates that no firm has been producing AAM commercially for the entire POI and highlights that the industry's capacity utilization was merely *** percent in interim 2024.[83] Respondents did not address this factor.

1009 U.S. 1120 (domestic producer began production in late 1982 but suspended operations in November 1984 with the intent to reopen the plant in summer 1985 pending conclusion of negotiations with the FDIC concerning certain loans from an eventually bankrupt bank and the receipt of additional financing from another source); *Domestic Dry Containers*, USITC Pub. 4537 at 13-14 (domestic producer's production had been intermittent and supported industry not being established).

[80] *See, e.g.*, *Laminated Woven Sacks*, USITC Pub. 4025 at 22-24 (domestic producers as a whole have been continuously supplying the U.S. market throughout the period of investigation and since mid-2003, even if some reported intermittent or suspended production operations); *Wheel Inserts*, USITC Pub. 2824 (Oct. 1994) (steady production throughout the period of investigation by at least three producers and since the late 1980s by at least two producers); *Gene Amplification Thermal Cyclers*, USITC Pub. 2412 (steady and substantial increases in domestic production capacity and production); *Flat Panels*, USITC Pub. 2413 at 18-19 (steady rather than start-up production); *Salmon,* USITC Pub. 2272 at 16-18 (substantial U.S. shipments); *PVC Battery Covers*, USITC Pub. 2265 at 12 (production was increasing).

[81] *See, e.g*., *Benzyl Paraben,* USITC Pub. 2355 at 11 (noting only a single domestic producer, which supported that the domestic industry was not established); *Laminated Woven Sacks from China*, USITC Pub. 4025 at 23-24 (multiple firms engaged in domestic production supported that the domestic industry was established); *Certain Gene Amplification Thermal Cyclers*, USITC Pub. 2412 at 11-12 (new entrants commenced domestic production during POI, which supported that the domestic industry was established).

[82] Petitioner's Postconf. Br. at 18.

[83] Petitioner's Postconf. Br. at 18.

Analysis. The record indicates that only one domestic producer produced AAM at quantities approaching commercial scale during the POI, with *** producing *** pounds in interim 2024.[84] Two domestic producers ***.[85] We consider that this factor favors a finding that the industry is not established.

c. The Size of Domestic Operations

The Commission has sometimes considered the size of domestic operations, with larger operation levels generally supporting a finding that the domestic industry was established,[86] and lower operation levels sometimes suggesting the domestic industry was not established.[87] In one instance, the Commission found the domestic industry was established where the domestic producers' market share was "relatively stable."[88] As the Commission previously noted, depending on the facts, production as a share of the total market, shipments as a share

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

[85] CR/PR at Tables 3.4, 3.7. In 2023, *** reported production of ***, respectively, but ***.[85]

[86] *See, e.g.*, *Gene Amplification Thermal Cyclers*, USITC Pub. 2412 (established industry where, among other factors, the vast majority of the U.S. market was supplied by the domestic industry); *Certain All-Terrain Vehicles*, USITC Pub. 2071 at A-15 (domestic industry established because, *inter alia*, domestic producers had achieved significant and increasing U.S. market share). *But see Benzyl Paraben*, USITC Pub. 2355 at 10 (industry not established even though firm had been increasing its market share, not finding market share to be particularly indicative of establishment given the small number of purchasers and findings on other factors).

[87] *See, e.g.*, *Copier Toner*, USITC Pub. 1960 at 9 n.24 (not finding established industry where, *inter alia*, domestic production was small compared to the market as a whole). *But see Flat Panels*, USITC Pub. 2413 at 18-19 (finding established industry despite finding that domestic production accounted for "at least some" if only a "small" share of total U.S. market); *Salmon*, USITC Pub. 2272 at 17 (finding established industry despite low domestic market share); *Domestic Dry Containers*, USITC Pub. 4537 at 14-15 (finding industry not established where, *inter alia*, domestic producer's production, production capacity, shipments, and market share were "relatively small").

[88] *See, e.g.*, *Laminated Woven Sacks*, USITC Pub. 4025 at 25-26 (finding relative capacity to be relevant but not determinative and that this factor favored finding an established industry where domestic producers clearly increased production capacity, production, and U.S. shipments); *Wheel Inserts*, USITC Pub. 2824 (finding established industry where, *inter alia*, domestic producers had relatively stable U.S. market share).

of the total market, capacity compared to the total market, or even share of the customer base to which domestic producers have made sales may yield different results.

Parties' Arguments. Petitioner argues that the domestic industry's share of the U.S. market is unarguably small and, therefore, supports a finding that the domestic industry is not established.[89] Petitioner estimates the U.S. market for AAM at $350 million. With U.S. producers' net sales totaling approximately $***, Petitioner argues that the domestic industry therefore represents *** of the market.[90] Respondents did not address this factor.

Analysis. Domestic producers produced *** pounds of AAM in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024.[91] With these production levels, the domestic industry's capacity utilization was *** percent in 2021, *** percent in 2022, *** percent in 2023, and *** percent in interim 2024.[92] Based on domestic producers' commercial U.S. shipments, their share of apparent U.S. consumption was *** percent in 2021, *** percent in 2022, and 2023, and *** percent in interim 2024.[93] We consider that this factor favors a finding that the industry is not established.

d. Whether the Proposed Domestic Industry Has Reached a Reasonable Financial "Break-Even" Point

In deciding whether the proposed domestic industry is already established, the Commission has also examined whether the proposed domestic industry has reached a reasonable financial "break-even" point. In some previous cases, the Commission has

[89] Petition at 15.
[90] Petition at 15; CR/PR at Table 6.1.
[91] CR/PR at Table 3.7.
[92] CR/PR at Table 3.7.
[93] CR/PR at 4.14 and Table 4.11.

examined whether total revenues and total expenses are equal. Where possible, the Commission has calculated a break-even level of production by dividing total fixed costs and expenses by the unit contribution margin (which is equal to the unit sales price minus the unit variable cost).[94] In cases where domestic producers as a whole have not reached that level, the Commission generally found that this factor favored finding the domestic industry not to be established.[95] By contrast, where it found that domestic producers as a whole had reached a reasonable break-even point, the Commission found this factor favored finding the domestic industry to be established.[96] Where available, the Commission has also examined domestic producers' plans, assumptions and expectations in measuring firms' performance, including whether such plans and assumptions were reasonable.[97]

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[94] *See, e.g.*, *Benzyl Paraben*, USITC Pub. 2355 at 10; *Laminated Woven Sacks*, USITC Pub. 4025 at 26-27.

[95] *See, e.g.*, *Benzyl Paraben*, USITC Pub. 2355 at 10 (industry not established where, *inter alia*, firm did not reach reasonable break-even point during the latest period for which the Commission had data (interim 1990)); *Codfish*, USITC Pub. 1711 at 5 (industry not established, company did not reach break-even point); *Domestic Dry Containers*, USITC Pub. 4537 at 16 (industry not established where company had not reached break-even point).

[96] *See, e.g.*, *Wheel Inserts*, USITC Pub. 2824 (finding industry established where, *inter alia*, producers as a whole had passed the break-even point and reached profitability during the period of investigation; they were able to cover fixed and variable costs); *Gene Amplification Thermal Cyclers*, USITC Pub. 2412 (finding established industry where, *inter alia*, an overwhelming majority of domestic producers already had reached a break-even point); *Salmon*, USITC Pub. 2272 at 16-18 (finding established industry where, *inter alia*, by 1988 a portion of the domestic producers had achieved profitability and another firm showed improvement from 1987 to 1988, even though there were no sustained profits for producers as a whole). *But see, e.g.*, *Flat Panels*, USITC Pub. 2413 at 18-19 (finding established industry without explicitly conducting a break-even analysis); *PVC Battery Covers*, USITC Pub. 2265 at 12 (finding established industry without explicitly conducting a break-even analysis).

[97] *See, e.g.*, *Laminated Woven Sacks*, USITC Pub. 4025 at 26-27 (finding this factor suggested that the domestic industry was not established where domestic producers had conducted market research, talked to prospective customers, set goals, and developed strategies for entering the market but as a whole experienced operating losses, albeit lower operating losses than reflected in the record of the preliminary phase of the investigations); *Codfish*, USITC Pub. 1711 at 6-7 (using domestic producer's "market and feasibility study" when gauging performance over POI, and finding that failure to reach break-even production volumes in study supported domestic industry not being established); *but see*

(Continued…)

Parties' Arguments. Petitioner argues that the domestic industry has not been able to stabilize its production at a level even approaching a ***.[98] It highlights, for instance, that domestic producers reported *** in interim 2024.[99] Respondents did not address this factor.

Analysis. *** responding U.S. producers reported that a financial breakeven point for their sales of AAM did not occur during the period. For the domestic producers reporting financial data in 2023 or interim 2024, their per unit variable costs exceeded per unit net sales values in both periods. Therefore, based on the data available, a future breakeven point is not even calculable.[100] We consider that this factor favors a finding that the industry is not established.

e. Whether the Start-Up Production Is More in the Nature of the Introduction of a New Product Line by an Already Established Business

In assessing whether a proposed domestic industry is already established, the Commission also has examined whether the start-up production is more in the nature of the introduction of a new product line by an already established business. In examining this factor, the Commission has focused on whether the domestic producers' production of other products aided introduction of the domestic like product. Where the Commission found the start-up production to be akin to the introduction of a new product line by an already established

Copier Toner, USITC Pub. 1960 at 11 (finding that domestic producer's projected performance was not reasonable).

[98] Petitioner's Postconf. Br. at 19.

[99] Petitioner's Postconf. Br. at 19.

[100] CR/PR at 6.17.

business, it generally found the domestic industry was established.[101] For example, to the extent that domestic producers already possess some of the equipment, employees, expertise, distribution systems, customer bases, and/or other components needed to produce and distribute the products and are able to leverage these assets for purposes of their new operations, then this factor would lend some support to a finding that the domestic industry is established.[102]

[101] *See, e.g.*, *Wheel Inserts*, USITC Pub. 2824 (established industry where, *inter alia*, wheel inserts were produced as just one of several product lines of established firms); *Gene Amplification Thermal Cyclers*, USITC Pub. 2412 (established industry where some producers were existing firms with other products and some producers were newly formed firms); *Battery PVC Covers*, USITC Pub. 2265 at 13 (finding pressure-sensitive battery covers were merely a new product line of an established firm that had been producing labels for 76 years); *Lime Oil*, USITC Pub. 1723 at 8 n.19 (noting in *dicta* that it would have found distilled lime oil to be an established industry because, *inter alia*, "unlike a new entrant, petitioner has been in the business of selling lime oil for years and could use existing customer contacts and distribution infrastructure in introducing distilled lime oil. Rather than establishing an industry, petitioner was introducing a new product line which has established a stable presence in the market."); *Neoprene Laminate*, USITC Pub. 1608 at 8 nn.24-26 (majority finding R-131 neoprene was merely a change in the product line of the established fabric and expanded neoprene laminate industry, but Commissioner Stern finding that "{w}hether or not the company embarking upon production of the new product is new or well-established, the statute requires the Commission to define the industry according to specific like products, not in the general business sense."); *Domestic Dry Containers*, USITC Pub. at 4537 at 17 (finding that domestic producer had benefited from production of other products, including trailers, flatbeds and aluminum containers). *But see, e.g.*, *Benzyl Paraben*, USITC Pub. 2355 at 11 (even though petitioner was an established firm, its benzyl paraben operations did not appear to have derived a benefit from its other arguably 'established' operations); *Copier Toner*, USITC Pub. 1960 at 9 n.24 (not discussing this factor but determining that the electrically resistive monocomponent toner ("ERMT") industry was "nascent" even though the ERMT producers manufactured other toners as well); *Codfish*, USITC Pub. 1711, (even though petitioner was also producing other dried salted fish such as pollock or hake, that did not prevent finding the industry was not established).

[102] *Laminated Woven Sacks*, USITC Pub. 4025 at 28-29 (this factor favored finding established industry where at least for some domestic producers, there was some overlap in the production equipment and employees used to produce laminated woven sacks and other products, and at least some domestic producers were able to leverage, at least to some degree, their existing customer lists and distribution systems).

Parties' Arguments. Petitioner argues that the domestic industry is essentially comprised of start-up companies that do not produce products other than AAM.[103] Respondents did not address this factor.

Analysis. No firms in the petitioning coalition reported the ability to switch between the production of AAM and other products using shared equipment and labor, or reported producing other products at their facilities prior to producing AAM.[104] Three domestic U.S. producers reported that synthetic AAM is made at dedicated facilities that do not produce material for other graphite applications.[105] The record appears to indicate that the five firms of the petitioning coalition are indeed relatively new companies attempting to enter the U.S. AAM market.[106] On the other hand, GrafTech, a producer of needle coke, reported that it ***.[107] Nevertheless, on balance and in consideration of the available evidence in these preliminary investigations, we consider that this factor favors a finding that the industry is not established.

f. Conclusion

All five factors that the Commission evaluates weigh in favor of finding that the industry is not established. All parties agree that the domestic industry is not established. We therefore find that the domestic industry producing AAM is not established.

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

[103] Petition at 16-17.
[104] *See* U.S. Producer Questionnaire Responses at II-4 and V-6.
[105] U.S. Producer Questionnaire Responses of *** at II-4.
[106] Petition at 17; *See* CR/PR at Table 3.3.
[107] GrafTech's U.S. Producer Questionnaire Response at V-6 and V-7.

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.[108]

Based on questionnaire data, in the 12-month period preceding the filing of these petitions, December 2023 through November 2024, subject imports accounted for *** percent of total imports.[109] Because the volume of subject imports is above the pertinent statutory negligibility threshold, we find that these imports are not negligible.

VI. Whether There is a Reasonable Indication that the Establishment of a Domestic Industry Is Materially Retarded by Reason of Subject Imports

A. Legal Standard

In the preliminary phase of antidumping and countervailing duty investigations, the Commission may be called upon to determine whether there is a reasonable indication that the establishment of an industry in the United States is materially retarded by reason of the imports under investigation.[110] In previous investigations where the Commission has determined that a domestic industry was not established, the Commission has then examined whether the establishment of the domestic industry was materially retarded by reason of the subject imports. The Commission has previously stated that, because each attempt to establish a new industry is inherently unique, it makes its determination of whether the establishment of an industry is materially retarded on a case-by-case basis.[111] The factors that the Commission

[108] 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)).

[109] CR/PR at Table 4.10.

[110] 19 U.S.C. §§ 1671b(a), 1673b(a).

[111] *See, e.g.*, *Steel Kegs*, USITC Pub. 4976 at 26-27; *Laminated Woven Sacks*, USITC Pub. 3942 at 32; *Codfish*, USITC Pub. 1711 at 4.

has examined in assessing whether the establishment of a domestic industry is materially retarded by reason of subject imports have included many of the same factors it considers in its material injury determinations: domestic production, shipments, capacity utilization, inventories, financial condition, employment, projected performance compared to actual performance, and other market conditions.[112] We therefore consider the volume, price effects, and impact of subject imports as we would in a material injury or threat thereof investigation.[113]

Nonetheless, the Commission has noted that these criteria are not "viewed in the same light" given the unique circumstances of a material retardation analysis. For instance, the Commission has "discounted" various improvements in the domestic industry's performance when new firms have commenced production over the POI and some increases in production, shipments, and capacity utilization would thus be expected as a result.[114] Similarly, the Commission has discounted increases in the domestic industry's share of apparent U.S. consumption when the market is nonetheless dominated by subject imports, reasoning that

[112] *See, e.g., Steel Kegs*, USITC Pub. 4976 at 26-27; *Benzyl Paraben*, USITC Pub. 2355 at 9, 14; *Copier Toner*, USITC Pub. 1960 at 11-14; *Dried Salted Codfish*, USITC Pub. 1711 at 6-7. *Compare Domestic Dry Containers*, USITC Pub. 4537 at 28-32 (addressing quality inconsistencies in domestic product); *Commuter Airplanes*, USITC Pub. 1269 at 8 (addressing that domestic producers had made insufficient efforts to provide technical specifications of planes to potential customers).

[113] *See*, *e.g., Benzyl Paraben*, USITC Pub. 2355 at 17 n.1 (stating that criteria under section 1677(7)(C)(iii) apply to an analysis of material retardation); *Laminated Woven Sacks*, USITC Pub. 3942 at 33-39; *Steel Kegs*, USITC Pub. 4976 at 26-27.

[114] *Laminated Woven Sacks*, USITC Pub. 3942 at 37-39 (noting that in examining the impact of subject imports, criteria are not viewed "in the same light" in a material retardation analysis; discounting increases in domestic industry's production, shipments, market share and capacity utilization because of new entrants commencing production during POI).

some increase in market share is inevitable when nascent firms commence domestic production.[115]

The Commission has framed its inquiry as whether the industry's performance "reflects merely the normal start-up condition of a company entering an admittedly difficult market or, is the performance worse than what could reasonably be expected …."[116] The Commission has sometimes examined the projections of individual producers at the time of their inception to gauge whether a reasonable level of operations has been achieved.[117]

B. Conditions of Competition and the Business Cycle

The following conditions of competition inform our analysis of whether there is a reasonable indication that the establishment of a domestic industry is materially retarded by reason of subject imports from China.

1. Demand Conditions

Demand for AAM is driven by demand for U.S.-produced downstream products that use lithium-ion batteries[118] – primarily EVs and ESS, but also other consumer, commercial, industrial, and military electronic products.[119] Electric car sales, generally perceived to be a leading indicator of demand for AAM, consistently trended upwards from January 2021 to

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[115] *Benzyl Paraben*, USITC Pub. 2355 at 13-14 (noting that a decline in subject import market share is to be expected in an analysis of material retardation).

[116] *See, e.g.*, *Laminated Woven Sacks*, USITC Pub. 3942 at 32; *Codfish*, USITC Pub. 1711 at 5.

[117] *Copier Toner*, USITC Pub. 1960 at 9-10 (finding that domestic industry was performing better than would be expected and that producer's business plan predicting higher market share was unrealistic); *Dried Salted Codfish*, USITC Pub. 1711 at 6-7 (looking at market feasibility study done at inception of business operations).

[118] CR/PR at 2.6.

[119] CR/PR at 2.6, 1.11. AAM accounts for a small share of the cost of the end-use products in which it is used. The reported shares of the total cost for its principal end uses accounted for by AAM ranged from *** to *** percent. *Id.* at 2.6.

December 2024 in the United States.[120] All U.S. producers and six of seven importers reported that demand in the United States steadily increased or fluctuated upward since January 2021.[121] All responding U.S. producers reported the AAM market is not subject to business cycles, while five of seven responding importers reported that the market was subject to business cycles.[122]

Respondents contend that demand for domestically produced AAM has increased in recent years and is likely to increase in the future, as domestic battery producers and their automotive partners work to localize supply chains.[123] According to respondents, purchasers have prioritized sourcing AAM domestically to mitigate supply chain risk and because of U.S. government incentives, including Section 30D of the Inflation Reduction Act ("IRA"), which provides for a $7,500 tax credit for EVs if a certain percentage of the battery components are manufactured or assembled in North America and if a certain percentage of the applicable critical minerals in the battery are extracted or processed in the United States or countries with which the United States has a free trade agreement.[124] To remain eligible for the credits, the EV cannot contain "critical minerals," including graphite, from China, a requirement that goes

[120] CR/PR at 2.6.

[121] CR/PR at Table 2.6.

[122] CR/PR at 2.6. For example, ***, a U.S. importer, reported that demand for lithium-ion batteries fluctuates depending on the automotive market, which is cyclical. *Id.*

[123] Tesla's Postconf. Br. at 3, 7-8; SK's Postconf. Br. at 5-6.

[124] Tesla's Postconf. Br. at 7-8; SK's Postconf. Br. at 6; 26 U.S.C. § 30D.

into effect on January 1, 2027 (which Tesla asserts is a "hard deadline").[125] All responding U.S. producers and U.S. importers reported the IRA had an impact on the market.[126]

Apparent U.S. consumption of AAM increased from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023, an increase of *** percent; it was *** percent higher interim 2024, at *** pounds, than in January to September 2023 ("interim 2023"), at *** pounds.[127]

2. Supply Conditions

Domestically produced AAM was the smallest source of supply in the U.S. market during the POI. As discussed above, the domestic industry is in a start-up phase. During the POI, U.S. producers substantially increased their production capacity from *** pounds in 2021 to *** in 2022, *** pounds in 2023, and *** pounds in interim 2024.[128] However, most of the domestic industry's capacity was unused during the POI; its capacity utilization rate was *** percent in 2021, *** percent in 2022, *** percent in 2023, and *** percent in interim 2024.[129] Based on domestic producers' commercial U.S. shipments, their share of apparent U.S. consumption was *** percent in 2021, *** percent in 2022, and 2023, and *** percent in interim 2024.[130]

Subject imports were the largest source of AAM in the United States throughout the period. Their share of apparent U.S. consumption increased from *** percent in 2021 to ***

[125] Tesla's Postconf. Br. at 7-8. A witness on behalf of the domestic industry testified that the rule's implementation may be delayed beyond 2027 and indicated that its implementation was previously postponed by several years. Conf. Tr. at 121 (Kapur).

[126] CR/PR at 2.2.

[127] CR/PR at Tables 4.11, C.1.

[128] CR/PR at Table 3.5. Domestic producers' practical capacity was substantially greater in interim 2024, at *** pounds, than in interim 2023, at *** pounds, as ***. *Id.* at Table 3.5, 3.15 n.25.

[129] CR/PR at Table 3.5.

[130] CR/PR at 4.14 and Table 4.11.

percent in 2022 and then decreased to *** percent in 2023; it was lower in interim 2024, at *** percent, than in interim 2023, at *** percent.[131]

The record indicates that China dominates the global supply of AAM, accounting for 79 percent of the global supply of natural AAM and 97 percent of the global supply of synthetic AAM in 2023, the most recent full year for which data are available. However, it accounts for only an estimated 52 percent of global AAM demand.[132] Petitioner contends that export controls announced by the government of China covering AAM are unlikely to influence the supply of imports from China in the U.S. market.[133]

Nonsubject imports were the second largest source of supply in the U.S. market throughout the POI. Nonsubject imports' share of apparent U.S. consumption decreased from *** percent in 2021 to *** percent in 2022 and then increased to *** percent in 2023; it was higher in interim 2024, at *** percent, than in interim 2023, at *** percent.[134] The largest sources of nonsubject imports were Spain, South Korea, Germany, and Japan.[135]

All responding U.S. producers reported that they experienced supply constraints since January 1, 2021. U.S. producers reported that a lack of production capacity caused supply

[131] CR/PR at Tables 4.11, C.1.

[132] Petitioner's Postconf. Br. at Exh. 3, *Enabling North American Graphite Growth,* Oxford Economics (Feb. 2024), pp. 7-8. Commerce found sufficient information to initiate its countervailing duty investigation on 34 of the 36 programs alleged by Petitioner. *Active Anode Material From the People's Republic of China: Initiation of Countervailing Duty Investigation*, 90 Fed. Reg. 3788 (Jan. 15, 2025).

[133] Petitioner's Postconf. Br. at 5-6. The Commission issued foreign producers' or exporters' questionnaires to 29 firms believed to produce and/or export AAM from China. The Commission did not receive a response to the foreign producers' or exporters' questionnaires from a producer/exporter in China. CR/PR at 7.3. Therefore, information regarding the AAM industry in these preliminary phase investigations is limited.

[134] CR/PR at Tables 4.11 and C.1.

[135] CR/PR at 2.5.

constraints in the U.S. market as U.S. producers were entering into production during the POI. All responding U.S. importers reported that they had not experienced supply constraints since January 2021.[136] U.S. producers also reported having large inventories relative to their commercial shipments in 2023.[137]

3. Substitutability and Other Conditions

We have considered the extent to which the domestic like product and subject imports are substitutable.[138] In our view, the domestic industry has demonstrated the ability to produce AAM that is substitutable with subject merchandise, but domestic producers have not yet been able to qualify their products for commercial use.[139]

Purchasers require AAM suppliers to qualify their product.[140] Qualification is a multistage process that requires suppliers to advance their production capabilities in order to provide successively larger batches of AAM that consistently meet product specifications.[141] Although purchasers collaborate with AAM producers through qualification, purchasers claim that there is no "shortcutting" because their qualification processes are necessary to ensure the safety and warranty of their downstream products.[142] Several suppliers of subject merchandise have qualified their products with purchasers.[143]

[136] CR/PR at 2.5.
[137] CR/PR at 2.5.
[138] *See* CR/PR at 2.8-9.
[139] CR/PR at 2.8.
[140] CR/PR at 1.10.
[141] CR/PR at 1.10-1.11.
[142] CR/PR at 1.11; Tesla's Postconf. Br. at 11.
[143] *See, e.g.,* Panasonic's Postconf. Br. at 8 and Exh. 8.

Domestic producers are engaged in qualification processes with several purchasers, but none appear to have fully qualified a product for commercial use.[144] *** contend that *** are proceeding through qualification at a normal pace, and indicated that every AAM supplier they have engaged with eventually achieved qualification.[145] ***.[146]

Tesla and Panasonic assert that they invest significant time and resources into qualifying new suppliers, including start-up companies, through extensive technical support.[147] The stage to which domestic producers have proceeded in order to achieve qualified production reinforces our view that the domestic industry has the potential to supply purchasers with substitutable product at commercial quantities.[148] Moreover, the fact that AAM is produced to certain standard specifications set by the customer, such as purity and energy density,[149] indicates the potential for a high degree of interchangeability between AAM from domestic and

[144] CR/PR at 2.8.

[145] Panasonic's Postconf. Br. at 8-9 and Exh. 8, Tesla's Postconf. Br. at Exh. 3, para. 10; Conf. Tr. at 198-200 (Weber, Zhang, Swamyanathan). We observe that Tesla has *** in the United States. Tesla's Postconf. Br. at Exh. 3, para. 6.

[146] Tesla's Postconf. Br. at Exh. 3, Affidavit of ***, paras. 6-8.

[147] Tesla's Postconf. Br. at 14; Panasonic's Postconf. Br. at 10-12. Tesla indicated that it provides continuous support throughout the process. It has an engineering team solely dedicated to anode qualification and deploys to suppliers' production facilities to help design and build facilities and install equipment that will enable the supplier to meet Tesla's specifications. Each time a supplier fails a stage of qualification, Tesla provides details of the failure and provides guidance on how the supplier can achieve a passing result. Tesla's Postconf. Br at 11-12.

[148] *See* Panasonic's Postconf. Br. at 9-12 and Exh. 4 (***); Tesla's Postconf. Br. at 14-15. Parties disagree as to whether the availability of low-priced subject imports impedes qualification of domestically produced AAM. Petitioner's Postconf. Br. at 8-9; Tesla's Postconf. Br. at 23-30.

[149] CR/PR at 1.10, 2.8-2.9; Conf. Tr. at 11-12 (Nicely).

imported sources if domestic producers continue to advance their ability to produce to customer specifications at commercial scale.[150]

The record in these preliminary phase investigations indicates that price may be an important factor in purchasing decisions, among other import factors. The sole responding purchaser reported that *** are the top three factors it considers in purchasing decisions for AAM.[151] *** domestic producers reported that differences other than price are *** significant while *** responding importers reported that such differences were *** significant.[152]

AAM from all sources is typically sold directly to battery manufacturers.[153] Most U.S. producers and all importers reported setting prices using contracts.[154] A representative of Tesla testified that the company enters long-term supply contracts where possible to ensure the long-term stability of the supplier, given the length of its qualification process.[155] Representatives of the domestic industry testified to the importance of "offtake agreements," contracts that guarantee future purchase of significant portions of a producer's production

[150] In their questionnaire responses, *** U.S. importers reported that U.S.-produced AAM and subject imports were never interchangeable and *** reported that they were sometimes interchangeable. *** responding U.S. producers reported that domestically produced AAM and subject imports were always interchangeable. CR/PR at Table 2.9.

[151] CR/PR at 2.9.

[152] CR/PR at Table 2.10. As discussed further below, respondents argue that their offtake agreements, as defined below, demonstrate that domestic producers are not competing with subject imports for sales on the basis of price, as the agreements already provide for price and quantity. Tesla's Postconf. Br. at 41. However, the record does not provide information on the importance of price for purchasers deciding among their qualified suppliers with respect to agreements that may be negotiated beyond a supplier's initial offtake agreement. We therefore intend to further investigate the importance of price in any final phase investigations.

[153] CR/PR at 2.1, 5.8.

[154] CR/PR at 5.5. ***. *Id.*

[155] Conf. Tr. at 222 (Swamyanathan).

capacity once it is qualified.[156] They indicated that offtake agreements are a precondition to secure financing for the construction of their production facilities.[157] Panasonic's multi-year offtake agreement with Novonix provides for the purchase of 10,000 metric tons (22.0 million pounds) of AAM as long as Novonix achieves agreed-upon milestones regarding qualification prior to the fourth quarter of 2025.[158] Tesla signed an offtake agreement with Syrah in 2021, agreeing to purchase 80 percent of Syrah's capacity for an initial four-year term, subject to final qualification.[159] The record does not indicate that any other domestic producer has entered into an offtake agreement.

According to publicly available data, prices for graphite flake, used to produce natural AAM, fluctuated up from January 2021 to January 2023, and then decreased until September 2024. Prices for petroleum needle coke, used in synthetic AAM production, fluctuated from July 2023 to September 2023, the period for which data were available.[160]

As part of U.S. government policy aimed at reducing global supply chain risks for high-capacity batteries, the Bipartisan Infrastructure Law provided funding for U.S.-based battery

[156] Conf. Tr. at 62 (Kapur), 63-64 (Taylor), 64 (Hira), 232-233 (Nicely).
[157] Conf. Tr. at 62-63 (Kapur), 63-64 (Taylor).
[158] Conf. Tr. at 142-143, 224-225 (Zhang).
[159] Conf. Tr. at 147 (Swamyanathan); Tesla's Postconf. Br. at 8-9.
[160] CR/PR at 5.1 and Table 5.1.

manufacturing, processing, and recycling.[161] From such funding, the U.S. Department of Energy made awards to Anovion,[162] Novonix,[163] SKI US,[164] and Syrah.[165]

Effective September 24, 2018, AAM originating in China classifiable under HTS subheading 3801.10.50 was subject to an additional duty of 10 percent *ad valorem* under section 301 of the Trade Act of 1974, as amended. Effective May 10, 2019, the section 301 duty for imports under this subheading was increased to 25 percent *ad valorem.* Effective January 1, 2026, AAM originating in China classifiable under HTS subheading 2504.10.50 is expected to become subject to an additional section 301 duty of 25 percent *ad valorem*.[166]

C. Volume of Subject Imports

The volume of subject imports increased from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023, an increase of *** percent. The volume of subject imports was *** percent higher in interim 2024, at *** pounds, than in interim 2023, at *** pounds.[167]

Subject imports as a share of apparent U.S. consumption irregularly increased by *** percentage points from 2021 to 2023, increasing from *** percent in 2021 to *** percent in 2022, then decreasing to *** percent in 2023. Subject imports' share of apparent U.S.

[161] Petitioner's Postconf. Br. at 15. *See* 14 U.S.C. § 18741.

[162] Anovion reported that in October 2022 it was awarded a grant of $117 million for the establishment of a synthetic graphite manufacturing plant with annual capacity of 77.2 million pounds in Northern Alabama. CR/PR at 3.7.

[163] Novonix was awarded a $103 million dollar tax credit for a synthetic graphite manufacturing facility in Chattanooga, Tennessee. ***. Additionally, Novonix has received a conditional commitment for a $754.8 million loan toward a proposed second facility also in Chattanooga. CR/PR at 3.7.

[164] In September 2024, SKI US was awarded a $150 million grant for establishment of a production facility in Orangeburg, South Carolina. ***. CR/PR at 3.7.

[165] Syrah reported that ***. CR/PR at 3.7.

[166] CR/PR at 1.7.

[167] CR/PR at Tables 4.2 and 4.3.

consumption was *** percentage points lower in interim 2024, at *** percent, than in interim 2023, at *** percent.[168] Thus, subject imports were the dominant source of AAM in the U.S. market throughout the POI.

Accordingly, the record indicates that the volume of subject imports is significant in absolute terms as well as relative to apparent U.S. consumption.

D. Price Effects of the Subject Imports

We have examined several sources of information in our attempt to evaluate whether there has been price underselling by subject imports, including pricing data, import purchase cost data, responses by purchasers to the Commission's lost sales/lost revenue questionnaire survey, and other information in the record.

The Commission collected quarterly data on the total quantity and f.o.b. value of two AAM products shipped to unrelated U.S. customers during the POI.[169] Two U.S. producers provided usable pricing data for sales of product 1. Pricing data reported by these firms accounted for *** commercial U.S. shipments reported by the domestic industry (*** pounds), but ***.[170] Prices for the domestic like product declined from $*** per pound in the third quarter of 2022 (the first quarter within the POI for which pricing data were reported) to $***

[168] CR/PR at Tables 4.11, C.1. Given that the domestic industry is still in a start-up phase with low levels of production, the ratios of subject imports to domestic production were large, but decreased during the POI — *** percent in 2021, *** percent in 2022, *** percent in 2023, and *** percent in interim 2024.

[169] CR/PR at 5.6. The two pricing products were as follows:

Product 1. – Synthetic active anode material, not coated, not blended, 50 microns or smaller, sold in sacks of 2,500 pounds; and

Product 2. – Natural active anode material, not coated, not blended, 50 microns or smaller, sold in sacks of 2,500 pounds. *Id.*

[170] CR/PR at 5.6 and Table 5.7.

per pound in the second quarter of 2024, before an increase to $*** per pound in the subsequent quarter.[171] No U.S. producer or U.S. importer provided usable pricing data for sales of product 2.[172]

The Commission also collected import purchase cost data for the same two pricing products from firms that imported these products for their own use.[173] One importer, ***, reported useable import purchase cost data for products 1 and 2, totaling *** pounds of AAM and show that purchase costs for *** ranged from $*** per pound to $*** per pound for product 1 and were $*** for product 2.[174] Commission staff estimates that purchase cost data reported by this firm accounted for *** percent of imports from China in the third quarter of 2024. Based on these data, the landed duty-paid ("LDP") costs for subject imports were below the sales price for the domestic like product in ***, involving *** pounds of AAM, at an average price-cost differential of *** percent.[175] We recognize that the import purchase cost data may not reflect the total cost of importing and therefore requested that importers provide additional information regarding the costs and benefits of directly importing AAM. *** responding U.S. importers identified additional costs beyond the LDP costs associated with importing AAM.[176]

[171] CR/PR at Table 5.7.
[172] CR/PR at 5.6,5.7.
[173] CR/PR at 5.6, 5.7.
[174] CR/PR at 5.5-5.7.
[175] CR/PR at Table 5.8.
[176] CR/PR at 5.7 – 5.8.

*** supplied supplemental import purchase cost data for the AAM products it imported, but ***."[177] These data represent a larger volume of subject imports than ***, totaling *** pounds, and show that import purchase costs for *** ranged from $*** per pound to $*** per pound; the LDP cost was $*** or below in *** quarters for which *** reported purchases of a *** to product 1, and ranged from $*** per pound to $*** per pound for a *** to product 2 in the three quarters for which sales were reported.[178]

The limited number of quarterly comparisons and low volumes of commercial sales reflected in both the pricing and purchase cost data make it difficult to reach a conclusion with respect to the prevalence of underselling. However, we would not necessarily expect to see numerous instances of price comparisons or purchase cost comparisons when examining a nascent domestic industry that is not yet making substantial commercial sales.[179] Indeed, this relative lack of pricing data suggests that the domestic industry is having difficulty entering a market currently dominated by subject imports.

Other evidence on the record indicates that, at this stage of their development, it is extremely difficult for domestic producers to compete with subject imports on the basis of price. It is undisputed that prices for AAM imported from China are low. Purchasers have indicated that they do not expect domestic producers to meet import prices. As such, they

[177] CR/PR at E.3. The two alternative products were as follows:

Coated Counterpart to Product 1. – ***.

Coated Counterpart to Product 2. – ***.

[178] CR/PR at Tables E.1 and E.2. We note that the import purchase costs of coated products from *** were generally lower than the import purchase costs of uncoated products from ***.

[179] We also note Tesla's argument that the pricing data are not a reliable indication of price-based competition because the domestic industry's pricing data reflect only ***. Tesla's Postconf. Br. at 40. In any final phase investigations, we intend to examine further whether the ***.

have entered into offtake agreements promising to buy significant portions of the domestic industry's output at prices higher than those of imports.[180] Panasonic indicated that it committed to ***, and provided that its offtake agreement with ***.[181] Tesla, for its part, states that its offtake agreement with Syrah calls for the purchase 80 percent of the company's production at prices that reflect *** once they are qualified to supply Tesla.[182] Based on the evidence available in these preliminary phase investigations, it seems possible that ***.

We have also considered the sole purchaser response to Petitioner's allegations of lost sales. ***.[183] *** reason for its decision to purchase subject imports—the primary reasons were ***.[184]

Other record evidence also indicates that subject import prices are low. In identifying the benefits of importing AAM rather than purchasing from U.S. producers or importers, importer *** reported that China is the largest global supplier of graphite and is presumed to have a price advantage.[185] Importers were also asked whether the cost of directly importing AAM was lower than the price of purchasing AAM from a U.S. producer. *** estimated that they saved between *** percent compared to purchasing the product domestically.[186] In addition, Petitioner cites analysis from an Oxford Economics report indicating that prices for Chinese AAM do not reflect the full cost of production.[187]

[180] Conf. Tr. at 223 (Nicely).
[181] Panasonic's Postconf. Br. at 4-6.
[182] Tesla's Postconf. Br. at 41.
[183] Petition at Exh. I-23.
[184] CR/PR at 5.13 – 5.14 and Table 5.9.
[185] CR/PR at 5.8.
[186] CR/PR at 5.8.
[187] Petitioner's Postconf. Br. at Exh. 3.

We have considered price trends. The limited number of quarters with domestic pricing data generally show that domestic prices decreased from the third quarter of 2022 to the third quarter of 2024.[188] However, this may not be unusual for a startup industry as production increases, and the sales data for the domestic like product are too limited to establish a clear trend.[189] With respect to subject imports, purchase cost data *** indicate that subject import prices *** in the first quarter of 2022 before returning to 2021 levels, and then declined from the fourth quarter of 2023 to the third quarter of 2024.[190]

We have also considered whether subject imports prevented price increases that otherwise would have occurred. The domestic industry's ratio of cost of goods sold ("COGS") to net sales increased from *** percent in 2022 to *** percent in 2023; it was lower in interim 2024, at *** percent than in interim 2023, at *** percent.[191] The domestic industry's unit COGS increased from $*** per pound in 2022 to $*** per pound in 2023; its unit COGS were lower in interim 2024 ($*** per pound) than in interim 2023 ($*** per pound).[192] As such, based on the evidence available in these preliminary phase investigations, we cannot rule out

[188] *See* CR/PR at Table 5.4.

[189] *See* CR/PR at Table 5.4.

[190] CR/PR at Tables E.1 and E.2. We base this analysis of subject import price trends on *** purchase cost data because that data set accounts for a much larger share of subject import volumes than purchase cost data for pricing products 1 and 2. *Compare* CR/PR at Tables E.1 and E.2 *with* Tables 5.5 and 5.6.

[191] CR/PR at Table 6.1.

[192] CR/PR at Tables 6.4. The increase in the domestic industry's COGS-to-net-sales ratio and unit COGS from 2022 to 2023 may reflect that ***. *Id.* at Tables 6.1 and 6.4, 6.1. n. 3. Raw material costs on an average per pound basis and as a ratio to net sales, also increased from 2022 to 2023. *Id.* at 6.15. The domestic industry's lower COGS-to-net-sales ratio and unit COGS in interim 2024 compared to interim 2023 may reflect that ***. *Id.* at Table 6.4. Raw material costs on an average per pound basis and as a ratio to net sales were also lower in interim 2024 compared with interim 2023. *Id.* at 6.15.

that subject imports prevented price increases that otherwise would have occurred to a significant degree.

Based on the foregoing, including evidence that the size of the Chinese industry and its current domination of the U.S. market for AAM presents a significant obstacle to domestic producers' ability to compete with subject imports on the basis of price, we find a reasonable indication that the low prices of subject imports combined with their dominant presence in the U.S. market had a retarding effect on the establishment of the domestic industry.

E. Impact of the Subject Imports[193]

In considering whether the establishment of an industry is materially retarded by reason of subject imports, we consider the size of the domestic industry and the market in which it is competing to determine whether subject imports are adversely affecting its performance. We would expect a nascent industry in a start-up phase to be able to improve its performance by increasing its production and sales, while realizing efficiencies of scale and thereby lowering its average unit costs. At the same time, we also take into consideration in our analysis that it is not unexpected for start-up companies to suffer losses for a number of years before being able to break even and begin earning a profit, particularly when competing against businesses that have established products and relationships in the marketplace.

As discussed above, the domestic industry primarily consists of relatively new companies that are attempting to enter the U.S. AAM market. It remains in a start-up phase,

[193] Commerce initiated its antidumping investigation based on estimated dumping margins ranging from 823.40 percent to 915.74 percent. *Active Anode Material From the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation,* 90 Fed. Reg. 3792 (Jan. 15, 2025).

having reported limited commercial operations during the POI, particularly until Syrah began production at its large-scale production facility in February 2024. The domestic industry's production and production capacity steadily increased during the POI.[194] However, as it sought to establish itself in a market dominated by subject imports, the domestic industry was unable to increase its market share beyond *** levels as its U.S. shipments remained limited.[195] Its market share hovered near *** percent from 2021 to 2023, reaching its peak of just *** percent in interim 2024.[196] Its inability to gain sales and market share resulted in increasingly underutilized production capacity, as its practical capacity utilization rate declined in in every period.[197] At the same time, domestic producers' inventories steadily accumulated.[198]

[194] CR/PR at Tables 3.7, C.1. The domestic industry's production increased by *** percent from 2021 to 2023, from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023; it was *** percent higher in interim 2024 (*** pounds) than in interim 2023 (*** pounds). *Id.*

The industry's practical production capacity increased *** percent from 2021 to 2023, from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023; it was *** percent higher in interim 2024 (*** pounds) than in interim 2023 (*** pounds). *Id.*

[195] CR/PR at Tables 3.9, 4.11, C.1. The domestic industry's U.S. shipments decreased from *** pounds in 2022 to *** pounds in 2023, a decrease of *** percent; they were *** percent higher in interim 2024 (*** pounds) than in interim 2023 (*** pounds). *Id.*

[196] CR/PR at Tables 4.11, C.1.

[197] CR/PR at Tables 3.7, C.1. The domestic industry's practical capacity utilization rate decreased from *** percent in 2021 to *** percent in 2022, and then to *** percent in 2023, an overall decline of *** percentage points; it was lower in interim 2024, at *** percent, than in interim 2023, at *** percent. *Id.*

[198] CR/PR at Tables 3.12, C.1. End-of-period inventories increased from *** pounds in 2021 to *** pounds in 2022 and *** pounds in 2023, an increase of *** percent; they were *** percent higher in interim 2024 (*** pounds) than in interim 2023 (*** pounds). *Id.*

The domestic industry's employment indicia generally increased during the POI. The industry's number of PRWs,[199] total hours worked,[200] and wages paid,[201] all increased from 2021 to 2023 and were higher in interim 2024 compared to interim 2023. The industry's hourly wages[202] and productivity[203] generally decreased from 2021 to 2023 but were higher in interim 2024 than in interim 2023. Unit labor costs irregularly decreased from 2021 to 2023 and were lower in interim 2024 than in interim 2023.[204]

The domestic industry's financial experience did not improve over time. Domestic producers reported worsening operating losses, net losses, and gross losses across all the periods in which it reported commercial sales — from 2022 to 2023 and between interim 2023 and interim 2024. Its operating loss grew from $*** in 2022 to $*** in 2023, and was $*** in interim 2024 compared with $*** in interim 2023.[205] the domestic industry's net loss grew from $*** in 2022 to $*** in 2023 and was $*** in interim 2024 compared with $*** in interim

[199] The industry's PRWs increased from *** in 2021 to *** in 2022 and *** in 2023; there were more PRWs in interim 2024 (***) than in interim 2023 (***). CR/PR at Tables 3.13, C.1.

[200] Total hours worked (in thousands of hours) increased from *** in 2021 to *** in 2022 and *** in 2023; they were higher in interim 2024 (***) than in interim 2023 (***). CR/PR at Tables 3.13, C.1.

[201] Wages paid increased from $*** in 2021 to $*** in 2022 and $*** in 2023; they were higher in interim 2024 ($***) than in interim 2023 ($***). CR/PR at Tables 3.13, C.1.

[202] CR/PR at Tables 3.13, C.1. Hourly wages decreased from $*** per hour in 2021 to $*** per hour in 2022 and $*** per hour in 2023; they were higher in interim 2024, at $*** per hour, than in interim 2023, at $*** per hour. *Id.*

[203] CR/PR at Tables 3.13, C.1. Productivity decreased *** percent overall from 2021 to 2023, first increasing from *** pounds per hour in 2021 to *** pounds per hour in 2022 before decreasing to *** pounds per hour in 2022; productivity was substantially higher in interim 2024 (*** pounds per hour) than in interim 2023 (*** pounds per hour). *Id.*

[204] Unit labor costs decreased from $*** per pound in 2021 to $*** per pound in 2022 and then increased to $*** per pound in 2023, an overall decrease of *** percent; they were *** percent lower in interim 2024 ($*** per pound) than in interim 2023 ($*** per pound). CR/PR at Tables 3.13, C.1.

[205] CR/PR at Tables 6.1, C.1.

2023.[206] Its gross loss grew from $*** in 2022 to $*** in 2023, and was $*** in interim 2023 compared with $*** in interim 2023.[207] The domestic industry's operating losses and the industry's ratio of operating loss to net sales were higher in 2023 than in 2022, but lower in interim 2024 than in interim 2023.[208] On a per-unit basis, the domestic industry's losses followed the same trend. It reported unit operating losses of $*** per pound in 2022 and $*** per pound in 2023; per-unit losses were not as steep in interim 2024 ($*** per pound) as in interim 2023 ($*** per pound).[209] Capital expenditures increased from 2021 to 2023, but were lower in interim 2024 compared with interim 2023.[210] Research and development ("R&D") spending irregularly increased from 2021 to 2023 and was higher in interim 2024 than in interim 2023.[211]

Based on the record in the preliminary phase of these investigations, the record provides a reasonable indication that subject imports materially retarded the establishment of the domestic industry producing AAM. As discussed above, we would normally expect a start-up industry to be able to improve its performance by increasing its production and sales,

[206] CR/PR at Tables 6.1, C.1.

[207] CR/PR at Tables 6.1, C.1.

[208] CR/PR at Tables 6.1, C.1. The industry's operating income as a ratio to net sales worsened from negative *** percent in 2022 to negative *** percent in 2023; it was negative *** percent in interim 2024 compared to negative *** percent in interim 2023. *Id.*

The industry's net income as a ratio to net sales worsened from negative *** percent in 2022 to negative *** percent in 2023; it was negative *** percent in interim 2024 compared to negative *** percent in interim 2023. *Id.*

[209] CR/PR at Tables 6.1, C.1. Reported per-unit net losses were $*** per pound in 2022 and $*** per pound in 2023; they were improved in interim 2024 ($*** per pound) compared with interim 2023 ($***). *Id.*

[210] The domestic industry reported a total of $*** in capital expenditures over the POI. Capital expenditures increased from $*** in 2021 to $*** in 2022 and $*** in 2023; they were lower in interim 2024 ($***) than in interim 2023 ($***). CR/PR at Tables 6.4, C.1.

[211] R&D expenditures decreased from $*** in 2021 to $*** in 2022 before increasing to $*** in 2023; they were higher in interim 2024 ($***) than in interim 2023 ($***). CR/PR at Tables 6.5, C.1.

thereby realizing economies of scale. However, many of the domestic industry's performance indicators do not reflect such expected improvement. In particular, the industry's capacity utilization rate declined each period throughout the POI, and its sales fluctuated at low levels during the 2021 to 2023 period. Moreover, the domestic industry incurred increasingly large financial losses. We reiterate that a future breakeven point for the domestic industry is not even calculable because its unit net sales never exceed its unit variable costs.[212] Given our finding that it is extremely difficult for domestic producers to compete with significant volumes of subject imports on the basis of price, we cannot conclude on the preliminary record that the dominant presence of subject imports is not responsible for the domestic industry's inability to sustainably improve its performance as could be reasonably expected from a start-up industry.

Although some of the domestic industry's performance indicators began to show progress in 2024, this reflects the experience of the only domestic producer that has been able to build out a large-scale production facility. Four of the other five responding companies have been limited to production at test facilities in 2023 and 2024 despite the availability of funding from the U.S. government to help construct large-scale production facilities. One of the domestic producers, Anovion, even appears to have regressed, claiming ***.[213] A representative of Syrah testified that "it will be difficult if not impossible for U.S. producers to sustainably operate existing supply at a profit or to expand supply" if allegedly unfairly traded subject imports are allowed to continue supplying the U.S. market.[214] This evidence, as

[212] *See* CR/PR at 6.17.
[213] CR/PR at 6.1 n.3.
[214] Conf. Tr. at 26-27 (Hira).

mentioned above, provides a reasonable indication that subject imports materially retarded the establishment the domestic industry producing AAM.

We acknowledge that that no domestic producer has fully qualified its product with Panasonic, SK, or Tesla, some of the ***.[215] However, we are not persuaded by respondents' argument that domestic producers' inability to complete purchasers' qualification processes is wholly unrelated to subject imports.[216] In any final phase of these investigations, we will further analyze whether, as claimed, domestic producers could have invested greater resources into their technical advancement and ability to produce at commercial scale — thereby hastening their ability to produce qualified products — were the market not dominated by low-priced subject imports. According to Petitioner, offtake agreements are required to access the investment and financing necessary to scale-up production. However, large-scale production is a prerequisite to securing those very offtake agreements.[217] Further, Petitioner contends that the presence of low-priced subject imports discourages investors, reinforcing the impediments to the industry's ability to secure either offtake agreements or financing.[218] In any final phase

[215] Tesla's Postconf. Br. at 10; SK's Postconf. Br. at 8-10.

[216] *See* Tesla's Postconf. Br. at 28-30; SK's Postconf. Br. at 9-10; Panasonic's Postconf. Br. at 9-12.

[217] Petitioner's Postconf. Br. at 27, 29-30, *citing* Conf. Tr. at 63-64 (Taylor), 64-65 (Hira).

[218] Petitioner's Postconf. Br. at 27, 29-30. Industry witnesses testified to these phenomena at the staff conference. Conf. Tr. at 64 (Taylor) ("And we do have a government grant, okay, which is fantastic, but the government grant is not just free money to go and spend at will, right? For every dollar of the government grant you need to spend X dollars of your own and you need to get that from investors, but imagine investors looking and saying, okay, yeah, you want to build this plant and you're saying it's going to cost you so much and the Chinese are selling for how much?").

A representative of Syrah testified that investors consider market factors beyond the offtake agreements, including that offtake agreements are not perpetual, such that future negotiations between suppliers and their customers will be informed by market conditions that exist some number of years in the future. Conf. Tr. at 64-65 (Hira).

investigations, we intend to investigate the effect of subject imports on the domestic industry's ability to access financing and other investment.

Similarly, we are not persuaded that the availability of low-priced subject imports has no effect on the purchasers' role in qualification processes. As discussed previously, Tesla and Panasonic assert that they invest significant time and resources into qualifying new suppliers through extensive technical support.[219] For preliminary phase purposes, we consider, as asserted by the domestic industry, that the dominant presence of subject imports decreased the urgency of purchasers' participation in qualification processes. In any final phase investigations, we intend to investigate this issue further.

ACP argues that competition between domestically produced AAM and the subject merchandise contained in batteries is nonexistent or, at most, indirect.[220] We will examine further competition between domestically produced loose AAM and AAM incorporated into imported batteries in any final phase investigations. However, there is a reasonable indication that the large volumes of loose AAM imported from China by themselves establish a causal nexus between subject imports and the material retardation we have found. Subject imports of

[219] Tesla's Postconf. Br. at 14; Panasonic's Postconf. Br. at 10-12. Panasonic asserts that "{t}he qualification process that the domestic industry is undergoing is the same process that Panasonic's global suppliers have undergone, and the domestic industry's pace is well-within the norm." Panasonic Postconf. Br. at 11. However, we note that the exhibit in its brief which Panasonic references for support of this proposition indicates that there is a *** in the total time for qualification for already qualified suppliers (in China, Japan, and South Korea), ranging from *** months. *See id*. at Exh. 8. The record in these preliminary phase investigations does not provide sufficient information for the Commission to determine the cause for these variances, but the evidence also does not enable ruling out that but for a large volume of subject imports purchasers would hasten the qualification process but are disincentivized from doing so with domestic producers due to the ready availability of subject imports.

[220] ACP's Postconf. Br. at 2, 10-15.

loose AAM totaled *** pounds in 2021, *** pounds in 2022, *** pounds in 2023, and *** pounds in interim 2024,[221] and were equivalent to *** percent of apparent U.S. consumption in 2021, *** percent in 2022, *** percent in 2023, and *** percent in interim 2024.[222] Given their volume and market share, we cannot conclude that subject imports of loose AAM are not a cause of material retardation to the domestic industry.

We have also considered whether there are other factors that may have had an impact on the domestic industry during the POI to ensure that we are not attributing any retardation caused by such other factors to subject merchandise. Demand increased during the POI and is therefore not a cause of material retardation in the establishment of the domestic industry. As discussed in section VI.B.2 above, nonsubject imports maintained a presence in the U.S. market as the second largest source of supply throughout the POI. However, they accounted for relatively little market share compared with subject imports.[223] We therefore find that nonsubject imports do not account for the material retardation we have attributed to subject imports.

VII. Conclusion

For the reasons stated above, we determine that there is a reasonable indication that the establishment of an industry in the United States is materially retarded by reason of imports of AAM that are allegedly sold in the United States at less than fair value and allegedly subsidized by the government of China.

[221] CR/PR at Table 4.4.

[222] *Calculated from* CR/PR at Tables 4.4 and 4.11.

[223] Nonsubject import volume as a ratio to subject import volume ranged from *** percent to *** percent during the POI. *Calculated from* CR/PR at Table 4.11.

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 the American Active Anode Material Producers ("AAAMP"), the members of which are Anovion Technologies LLC ("Anovion"), Sanborn, New York; Syrah Technologies LLC ("Syrah"), Vidalia, Louisiana; NOVONIX Anode Materials LLC ("Novonix"), Chattanooga, Tennessee; Epsilon Advanced Materials Pty. Ltd. ("Epsilon"), Leland, North Carolina; and SKI US, Inc. ("SKI US"), Marietta, Georgia, alleging that the establishment of a domestic industry is materially retarded and 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 active anode material ("AAM")[1] from China. Table 1.1 presents information relating to the background of these investigations.[2] [3]

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

Effective date	Action
December 18, 2024	Petitions filed with Commerce and the Commission; institution of the Commission investigations (89 FR 105100, December 26, 2024)
January 7, 2025	Commerce's notice of initiation of its antidumping and countervailing duty investigations (90 FR 3792 and 90 FR 3788, January 15, 2025)
January 8, 2025	Commission's conference
January 31, 2025	Commission's vote
February 3, 2025	Commission's determinations
February 10, 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

AAM is generally used as the primary component in the anode of lithium-ion batteries.[6] The leading U.S. producers of AAM are Syrah and Novonix, while leading producers of AAM outside the United States include *** of China.[7] The leading U.S. importers of AAM from China are ***. Leading importers of product from nonsubject countries (primarily South Korea and Japan) include ***. U.S. purchasers of AAM are firms that manufacture lithium-ion batteries and battery packs for commercial vehicles. The leading confirmed purchaser that does not directly import AAM is ***.

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

[6] Petition, p. 4.

[7] Six of the nine importers of AAM from China, including the two companies that accounted for the largest reported shares of imports from China (***), identified *** as a source of their imports.

Apparent U.S. consumption of AAM totaled approximately *** pounds ($***) in 2023. Currently, five firms are known to produce AAM in the United States.[8] U.S. producers' U.S. shipments of AAM totaled *** pounds ($***) in 2023, and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. shipments of imports from China totaled *** pounds ($***) in 2023 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value. U.S. shipments of imports from nonsubject sources totaled *** pounds ($***) in 2023 and accounted for *** percent of apparent U.S. consumption by quantity and *** percent by value.

Summary data and data sources

A summary of data collected in these investigations is presented in appendix C, table C.1. 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 five firms that accounted for nearly all known U.S. production of AAM during 2023. U.S. import data are based on questionnaire responses from ten firms.

Previous and related investigations

AAM has not been the subject of prior countervailing or antidumping duty investigations in the United States.

[8] One responding company, ***, did not report any commercial production of AAM during the period for which data were collected in its response to the Commission's questionnaire. However, the company did report small quantities (*** pounds) of trial production since January 1, 2021. Finally, a sixth company, Epsilon, responded "no" to the Commission's questionnaire but provided additional information on its future commercial operations in the staff conference. See Part 3 for more detailed information on Epsilon's operations.

Nature and extent of alleged subsidies and sales at LTFV

Alleged subsidies

On January 15, 2025, Commerce published a notice in the Federal Register of the initiation of its countervailing duty investigation on AAM from China.[9] Commerce found sufficient information to initiate a CVD investigation on 34 of the 36 programs alleged by the petitioner.[10]

Alleged sales at LTFV

On January 15, 2025, Commerce published a notice in the Federal Register of the initiation of its antidumping duty investigation on AAM from China.[11] Commerce has initiated its antidumping duty investigations based on estimated dumping margins ranging from 823.40 percent to 915.74 percent for AAM from China.

The subject merchandise

Commerce's scope

In the current proceeding, Commerce has defined the scope as follows:[12]

> *The merchandise covered by this investigation is active anode material, which is an anode grade graphite material with a graphite minimum purity content of 90 percent carbon by weight, whether containing synthetic graphite, natural graphite, or a blend of synthetic and natural graphite; with or without coating. Subject merchandise may be in the form of powder, dry, liquid, or block form and is covered irrespective of the form in which it enters. Subject merchandise typically has a maximum size of 80 microns when in powder form. Subject merchandise has an energy density of 330 milliamp hours per gram or greater and a degree of graphitization of 80 percent or greater, where graphitization refers to the extent of the graphite crystal structure.*

[9] 90 FR 3788, January 15, 2025.

[10] For further information on the alleged subsidy programs see Commerce's notice of initiation and related CVD Initiation Checklist. 90 FR 3788, January 15, 2025.

[11] 90 FR 3792, January 15, 2025.

[12] 90 FR 3788 and 90 FR 3792, January 15, 2025.

Subject merchandise is covered regardless of whether it is mixed with silicon based active materials, e.g., silicon-oxide (SiOx), silicon-carbon (SiC), or silicon, or additives such as carbon black or carbon nanotubes. Subject merchandise is covered regardless of the combination of compounds that comprise the graphite material. Subject merchandise is covered regardless of whether it is imported independently, as part of a compound, in a battery, as a component of an anode slurry, or in a subassembly of a battery such as an electrode. Only the anode grade graphite material is covered when entered as part of a mixture with silicon based active materials, as part of a compound, in a batter, as a component of an anode slurry, or in a subassembly of a battery such as an electrode.

Tariff treatment

Based upon the scope set forth by Commerce, information available to the Commission indicates that the merchandise subject to these investigations are imported under the following provisions of the Harmonized Tariff Schedule of the United States ("HTSUS" or "HTS"): statistical reporting numbers 2504.10.5000, 3801.10.5010, and 3801.10.5090.[13] The 2025 general rate of duty is "Free" for HTS subheadings 2504.10.50 and 3801.10.50.[14] Decisions on the tariff classification and treatment of imported goods are within the authority of U.S. Customs and Border Protection.

[13] According to a U.S. Customs and Border Protection ("CBP"), the applicable HTS classification for surface-modified natural graphite is HTS statistical reporting number 3801.10.5000 which provides for artificial graphite, colloidal graphite, and preparations of graphite and other forms of carbon. CBP, "The Tariff Classification of Surface Modified Graphite from Japan," Ruling No. N325161, April 8, 2022.

Effective January 1, 2025, HTS statistical reporting number 3801.10.5000 was annotated with the establishment of HTS statistical reporting numbers 3801.10.5010 and 3801.10.5090. HTSUS (2025) Basic, USITC Publication 5575, January 2025, Change Record, p. 3.

[14] AAM also may be imported under HTS statistical reporting numbers 2504.10.1000 (natural graphite as crystalline flakes not including flake dust), 2504.90.0090 (natural graphite in forms other than powder or flakes), 3801.90.0000 (other forms of graphite or other carbons, including graphite preparations), or 8545.90.4000 (other carbons for electrical purposes, including battery carbons).

As part of battery electrodes, AAM also may be imported under HTS statistical reporting numbers 8506.90.0000 (parts of primary cells and primary batteries) or 8507.90.8000 (parts of electric storage batteries, other than for lead-acid storage batteries).

HTSUS (2025) Basic, USITC Publication 5575, January 2025, pp. 25-2, 38-4, 85-23, 85-26, and 85-85.

Effective September 24, 2018, AAM originating in China classifiable under HTS subheading 3801.10.50 was subject to an additional duty of 10 percent ad valorem under section 301 of the Trade Act of 1974, as amended. Effective May 10, 2019, the section 301 duty for imports under this subheading was increased to 25 percent ad valorem.[15]

Effective January 1, 2026, AAM originating in China classifiable under HTS subheading 2504.10.50 will be subject to an additional section 301 duty of 25 percent ad valorem.[16]

The product

Description and applications

The subject AAM consists of graphite (the most common form of crystalline carbon) that is specifically formulated to function as the active component of the anode (negative electrode) for lithium-ion batteries (figure 1.1). The anode consists of a copper strip coated with high-purity, fine-grained graphite, that is often combined with silicon as an additive. Within the anode, the graphite is electrolytically active but chemically unreactive as it releases and receives lithium ions during successive cycles of battery discharge and recharge (figure 1.2).[17] Graphite is ideal as an AAM for both its technical performance characteristics and unit cost.[18] Graphite affects battery performance including its discharge and recharge rate (how fast it recharges), energy density (how long or far before recharging), and cycle life (how long before replacement).[19]

[15] 83 FR 47974, September 21, 2018; and 84 FR 20459, May 9, 2019. See also HTS heading 9903.88.03 and U.S. notes 20(e) and 20(f) to subchapter III of chapter 99 and related tariff provisions for this duty treatment. HTSUS (2025) Basic, USITC Publication 5575, January 2025, pp. 85-88, 99-3-28 to 99-3-29, 99-3-38, 99-3-251 to 99-3-255, 99-3-257 to 99-3-258, and 99-3-320 to 99-3-328. 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).

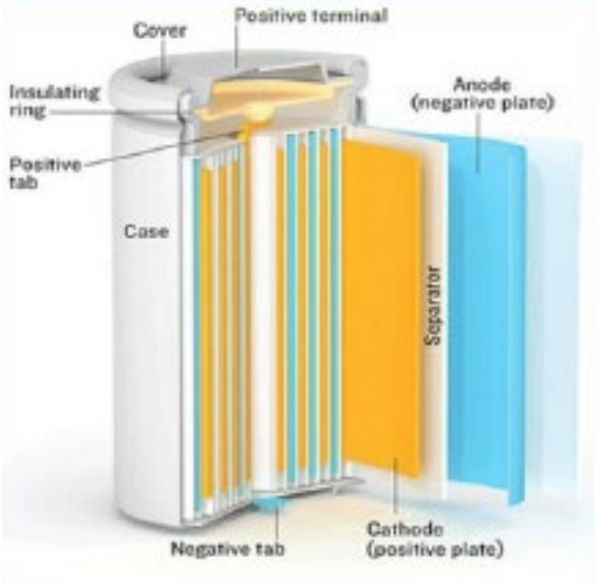
[16] 89 FR 76,581, September 18, 2024. See also HTS heading 9903.91.06 and U.S. note 31(g) to subchapter III of chapter 99 and related tariff provisions for this duty treatment. HTSUS (2025) Basic, USITC Publication 5575, January 2025, pp. 99-3-274 and 99-3-334.

[17] Conference transcript, pp. 16 to 17 (Taylor), 140 (Zhang), and 149 (Weber).

[18] Conference transcript, p. 23 (Hira).

[19] Conference transcript, pp. 16 to 17 (Taylor); and Petitioner, "Witness Testimony and Presentation Materials of American Active Anode Material Producers," January 7, 2025; Anovion, "Introduction to the AAM Process," January 8, 2025, pp. 3 and 7.

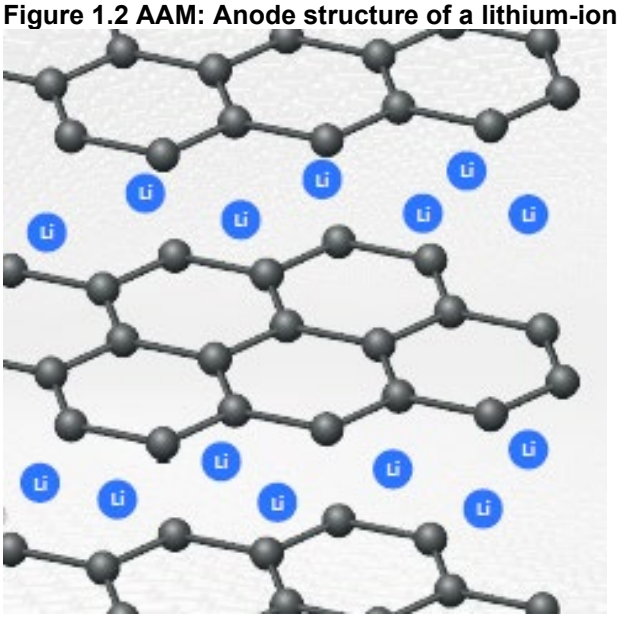
Figure 1.1 AAM: Components of a cylindrical lithium-ion battery



Cut-away view of a lithium-ion battery showing the interior structure and various components.

Source: Petitioner, "Witness Testimony and Presentation Materials of American Active Anode Material Producers," January 7, 2025; Anovion, "Introduction to the AAM Process," January 8, 2025, pp. 2 and 4.

Figure 1.2 AAM: Anode structure of a lithium-ion battery



Structure of the anode in a lithium-ion battery showing lithium ions ("Li") intercalated between the graphite layers of hexagonally linked carbon atoms.

Source: Petitioner, "Witness Testimony and Presentation Materials of American Active Anode Material Producers," January 7, 2025; Anovion, "Introduction to the AAM Process," January 8, 2025, pp. 2 and 4.

According to the petitioner, graphite is the largest component (20 to 30 percent on average) by weight of lithium-ion batteries.[20] More specifically, Argonne National Laboratory calculates that the graphite content ranges of 14.1 to 22.1 percent by weight depending on the battery (active cathode material) type (table 1.2).

Table 1.2 AAM: Graphite content for common types of lithium-ion batteries

Graphite content and total cell weight in kilograms; graphite share in percent.

Battery type	Measure	Graphite content	Other content	All content
Lithium nickel manganese cobalt oxide (NMC)-622	Quantity	50	188	238
Lithium nickel cobalt aluminum oxide (NCA)	Quantity	51	180	231
Lithium iron phosphate (LFP)	Quantity	55	271	325
Lithium manganese oxide (LMO)	Quantity	45	277	323
Lithium nickel manganese cobalt oxide (NMC)-622	Share across	21.0	79.0	100.0
Lithium nickel cobalt aluminum oxide (NCA)	Share across	22.1	77.9	100.0
Lithium iron phosphate (LFP)	Share across	16.8	83.2	100.0
Lithium manganese oxide (LMO)	Share across	14.1	85.9	100.0

Source: Qiang Dai, Jarod C. Kelly, Jennifer Dunn, and Pahola Thathiana Benavides, Update of Bill-of-Materials and Cathode Materials Production for Lithium-ion Batteries in the GREET® Model, Argonne National Laboratory, Energy Systems Division, October 31, 2019, p. 14, https://greet.es.anl.gov/publication-update_bom_cm.

Different types of graphite affect the discharge and recharge rates, energy content, and lifespan of the lithium-ion battery. Producers of AAM can select between natural (mined) graphite, synthetic (artificial or manufactured) graphite, or a mix (blend) of both. Natural graphite offers a greater energy density (capacity), whereas synthetic graphite offers a longer cycle life.[21] Alternatively, natural graphite and synthetic graphite can be blended in various ratios to optimize the performance characteristics of the AAM for specific applications.[22] Conference witnesses for respondents Tesla Inc. and Panasonic Corp. of North America and Panasonic Energy Corp. of North America ("Panasonic") testified that they rely on either natural graphite, synthetic graphite, or blend them in various ratios depending on the particular battery

[20] Petitioner, "Witness Testimony and Presentation Materials of American Active Anode Material Producers," January 7, 2025; Anovion, "Introduction to the AAM Process," January 8, 2025, p. 2.

[21] Conference transcript, pp. 140 (Zhang), 158 to 159 (Mintzer), and 160 to 161 and 219 (Weber).

[22] Conference transcript, pp. 140 to 141 (Zhang).

AAM for mobile battery applications (e.g., for electric vehicles) contain more natural graphite for high-energy density than synthetic graphite for life cycle considerations. Conversely, AAM for stationary applications (e.g., energy storage systems) contain more synthetic graphite, as energy density is less important than cycle life. Conference transcript, pp. 160 to 161 (Weber).

specifications.[23] Petitioner's industry witness testified that producers are not informed of the ratios between these two types of graphite, as the compositions are proprietary and customers perform the blending themselves.[24] The petitioning AAM firms do not blend[25] as they currently only produce either natural graphite (Syrah)[26] or synthetic graphite (Anovion and Epsilon).[27]

Industry witnesses for respondents Tesla and Panasonic testified that there are no industry-wide standards for AAM.[28] Rather, AAM must meet strict customer specifications for purity, physical properties (e.g., particle size and surface area), and electrochemical performance (e.g., charge storage capacity) to optimize battery performance (energy density and cycle life), efficiency, and reliability.[29] Moreover, industry witnesses for both the petitioner and respondents concur that AAM must meet the paramount requirements for battery safety due to liability concerns.[30]

Customers require AAM to be of maximum particle size not exceeding 80 microns, contain not less than 90-percent carbon, and have an energy density exceeding 330 milliampere-hours ("mAh"). Customers also require AAM producers to undergo a multistage qualification process that requires them to build-up their production capabilities to provide successively larger batches that consistently meet product specifications.[31] Purchasers apply

[23] Panasonic, postconference brief, App. A: Responses to Staff Questions, p. x; Conference transcript, pp. 158 to 159 (Zhang) and 219 (Weber).

[24] Conference transcript, pp. 52 and 102 (Hira), 52 to 53 and 106 (Kapur), and 114 (Taylor).

[25] Conference transcript, pp. 219 (Weber).

[26] Conference transcript, pp. 86 and 113 to 114 (Hira).

[27] Conference transcript, pp. 85 and 114 (Taylor and Kapur).

[28] Conference transcript, pp. 216 to 217 (Weber) and 217 (Zhang).

[29] LG Energy Solution Michigan ("LGESM") postconference brief, January 13, 2025, exh. 1: Sworn Declaration of Robert Lee, p. 2, paras. 12 and 13; and conference transcript, pp. 149 to 150 and 216 to 217 (Weber).

[30] Panasonic, postconference brief, pp. 10 to 11; App. A: Responses to Staff Questions, p. ix; Tesla, postconference brief, pp. 15 to 16; conference transcript, pp. 125 to 126 (Kapur); 169, 181, and 225 to 226 (Weber); and 195 (Zhang).

More specifically, free-floating metallic particles released from AAM can puncture the thin separator thereby creating a short to the electrical connection between the electrodes. Heat generated from rapid electrical discharge sends the battery cell into thermal runaway. Conference transcript, pp. 225 to 227 (Weber).

[31] Panasonic, postconference brief, App. A: Responses to Staff Questions, p. ii; Tesla, postconference brief, p. 13; and exh. 3: Affidavit of Dr. Rochelle Weber, Manager, Cell Design, Tesla Inc., January 13, 2025; and conference transcript, pp. 142 (Zhang), 146 to 147 (Swamynathan), and 152 to 153 and 165 to 167 (Weber).

the same qualification requirements to all AAM producers worldwide.[32] The entire process can require 2 to 3 years,[33] at Tesla, or 2 to 4 years, at Panasonic[34] depending upon the AAM supplier's existing producer's facilities and expertise,[35] continued progress, and avoiding setbacks in building-up their production capabilities.[36] Although purchasers collaborate with AAM producers through the qualification process,[37] purchasers claim that product qualification cannot be expedited with no "shortcutting" allowed as fulfilling each stage must be accomplished before advancing to the next.[38]

AAM is specifically formulated for the lithium-ion batteries that commonly power not only electric vehicles ("EVs") but also various consumer, commercial, industrial, and military electronic products; and energy storage systems ("ESS").[39] Conversely, AAM is considered overly processed and too costly[40] for industrial applications, such as furnace electrodes, refractories, friction materials, foundry molds, lubricants, etc. Likewise, other types of graphite for non-battery applications ("non-battery graphite") are not considered suitable as AAM. Energy density is not a performance requirement for graphite in non-battery applications but rather, electrical and thermal conductivity, thermal expansion, flexure strength, chemical reactivity, lubricity, and carbon contents exceeding 80 percent, depending upon the end-use application.[41] Moreover, AAM typically has smaller, more uniform particle sizes, lower porosity,

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[32] Panasonic, postconference brief, pp. 2 and 11; App. A: Responses to Staff Questions, pp. i to ii; Tesla, postconference brief, p. 11; and exh. 3: Affidavit of Dr. Rochelle Weber, Manager, Cell Design, Tesla Inc., January 13, 2025; and conference transcript, pp. 170 (Zhang) and 169 to 170 and 182 (Weber).

[33] Tesla, postconference brief, p. 12; and exh. 3: Affidavit of Dr. Rochelle Weber, Manager, Cell Design, Tesla Inc., January 13, 2025.

[34] Panasonic, postconference brief, App. A: Responses to Staff Questions, pp. i and ix; and exh. 9: Benchmark Report Except Regarding Qualification.

[35] Tesla, postconference brief, p. 12; and exh. 3: Affidavit of Dr. Rochelle Weber, Manager, Cell Design, Tesla Inc., January 13, 2025.

[36] Panasonic, postconference brief, App. A: Responses to Staff Questions, p. viii; and conference transcript, pp. 152 to 153 (Weber).

[37] Petitioner, postconference brief, p. 9; Panasonic, postconference brief, p. 3; Tesla, postconference brief, pp. 2, 11, and 13 to 14; and exh. 3: Affidavit of Dr. Rochelle Weber, Manager, Cell Design, Tesla Inc.," January 13, 2025; and conference transcript, pp. 58 (Hira) and 198 to 199 (Zhang).

[38] Petitioner, postconference brief, p. 9; Panasonic, postconference brief, p. 2; App. A: Responses to Staff Questions, p. i; Tesla, postconference brief, p. 12; and conference transcript, pp. 132 (Taylor), 139 to 140 (Zhang), and 168 (Reisken).

[39] Petition, p. 4; and conference transcript, pp. 91 and 134 (Kapur),

[40] Conference transcript, pp. 133 to 134 (Kapur).

[41] Conference transcript, pp. 20 (Taylor) and 81 (Kapur); and Petitioner, "Witness Testimony and Presentation Materials of American Active Anode Material Producers," January 7, 2025; Anovion, "Introduction to the AAM Process," January 8, 2025, p. 8.

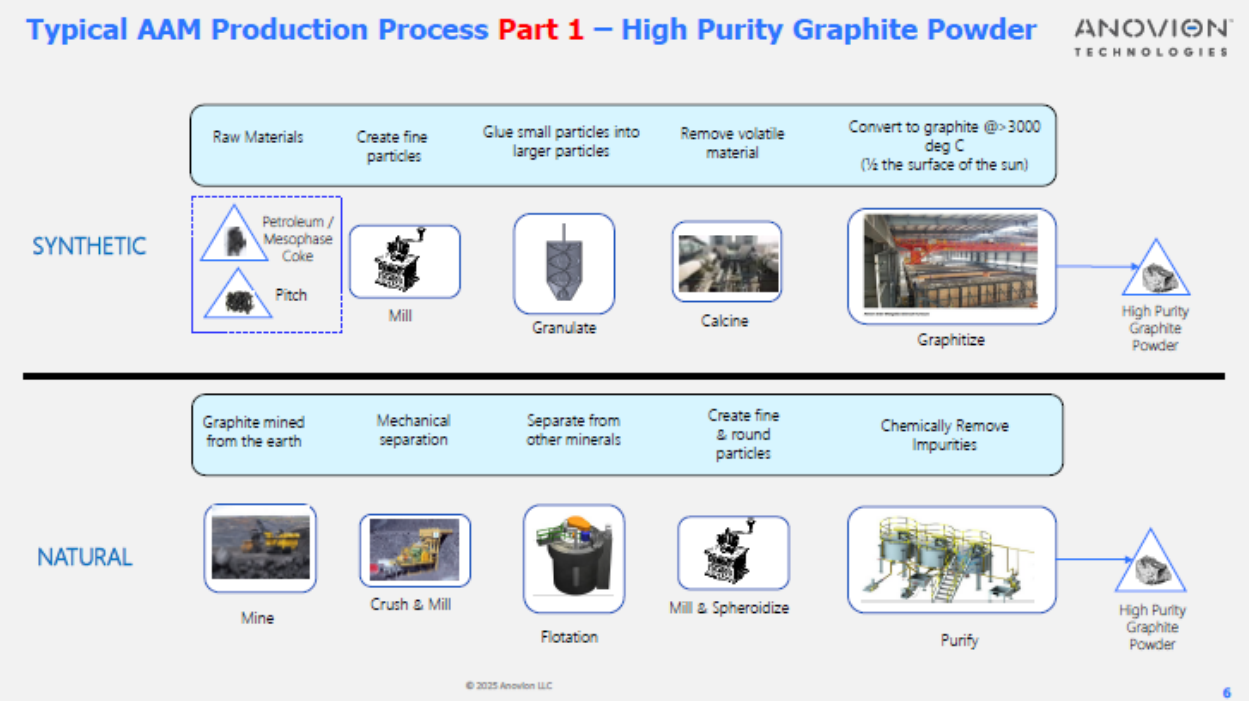
higher density, a more orderly crystalline structure. Due to their more diverse applications, non-battery graphite is available with varied particle sizes and shapes, higher porosity, and a wider range of densities depending on end-use applications. AAM is typically distributed directly by producers to the battery manufacturers. However, with more diverse end-use applications, non-battery graphite is distributed through broader industrial supply chains that include distributors. Likewise, AAM is sold via long-term off-take agreements negotiated by producers and customers with volume commitments contingent upon qualification.[42] Conversely, non-battery graphite is usually sold via short-term, non-binding contracts.[43] Finally, domestic AAM is produced at dedicated facilities that do not produce other types of graphite,[44] as they that consider themselves to be solely AAM producers.[45]

Manufacturing processes

AAM can be produced from either naturally occurring (mined) graphite or from synthetically produced (manufactured) graphite but each raw material requires different manufacturing processes (figure 1.3). Natural graphite is extracted from naturally occurring flake-graphite deposits; concentrated by crushing, milling, and flotation; and treated with strong reagents to remove impurities.[46] To produce synthetic graphite, high purity calcined (roasted) petroleum coke or coal tar pitch is recovered, purified, and baked at 3,000 degrees or more Celsius in an Acheson electric furnace to form needle coke which is subsequently crystallized into graphite.[47]

[42] Conference transcript, pp. 223 (Swamynathan) and 224 to 225 (Zhang).
[43] Petition, p. 9.
[44] Conference transcript, p. 133 (Taylor).
[45] Petition, pp. 9 to 10. More specifically, see, Petition, exh. I-12: Syrah Resources Ltd., "Our Company," ©2024; exh. I-13: Anovion, "About Anovion Technologies," ©2024; exh. I-14: Novonix, "Anode Materials," ©2025; and exh. I-15: Epsilon, "Anode," ©2023.
[46] Conference transcript, pp. 17 (Taylor), 94 to 95 and 110 (Hira), and 140 to 141 (Zhang).
[47] Conference transcript, pp. 17 and 93 (Taylor) and 140 to 141 (Zhang).

Figure 1.3 AAM: Differences between the production process for synthetic and natural graphite to produce high purity graphite



Source: Petitioner, "Witness Testimony and Presentation Materials of American Active Anode Material Producers," January 7, 2025; Anovion, "Introduction to the AAM Process," January 8, 2025, p. 6.

The resulting high purity graphite lumps from either source are reduced in size with industrial crushers (figure 1.4). The crushed graphite is subsequently homogenized by milling and sieving to achieve the desired particle size distribution (homogeneity).[48] Both natural graphite and synthetic graphite can undergo "spheroidization" that rounds, polishes, and reduces the size of the individual graphite particles to increase both their packing density and reactive surface area of the AAM.[49] The graphite particles are then coated with coal tar pitch and carbonized (baked) in an industrial furnace to enhances their density and purity by driving-off volatile organic compounds and forming an amorphous carbon surface layer.[50]

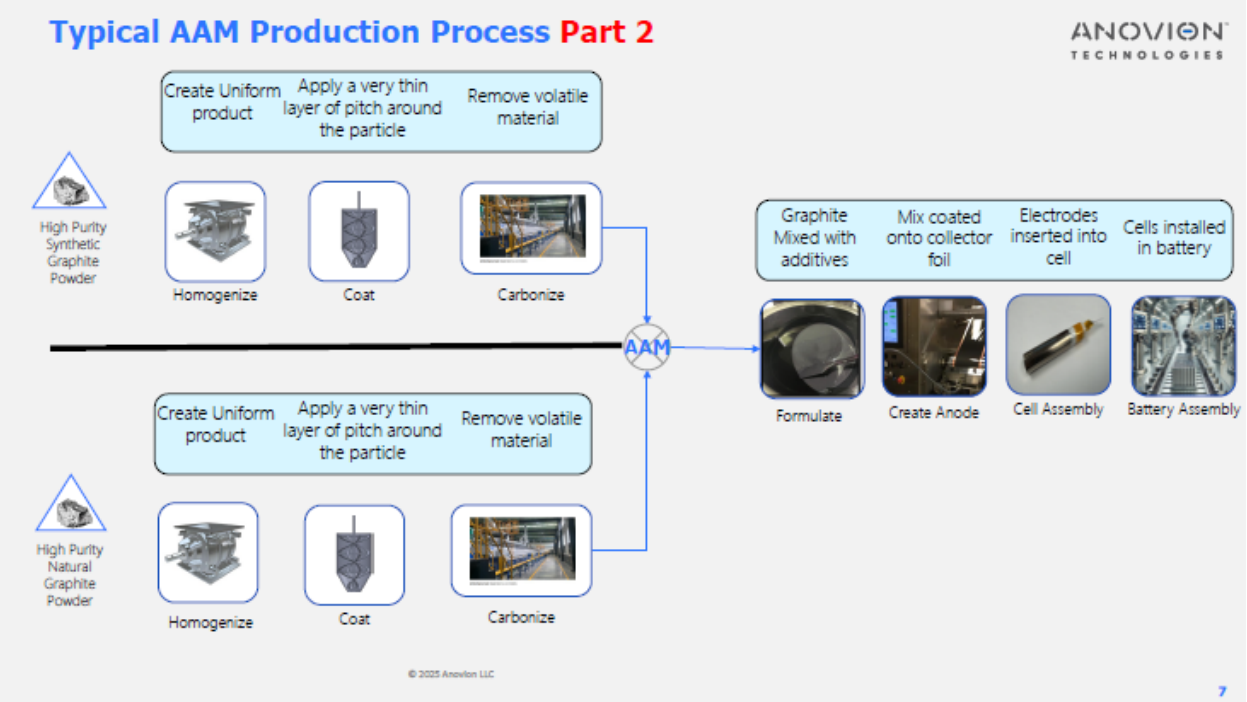
[48] Petition, p. 5.

[49] Conference transcript, pp. 95 (Hira) and 105 (Hira and Taylor).

[50] Petition, p. 5; and conference transcript, pp. 18 to 19 (Taylor).

Petitioner's industry witnesses claim that their firms produce coated AAM. Moreover, according to an industry witness for Tesla, coated AAM produces superior results over uncoated AAM in terms of efficiency. Conference transcript, pp. 104 (Taylor), 104–105 (Hira and Kapur), and 152 (Weber).

Figure 1.4 AAM: Further processing of high purity graphite to form AAM for assembly of anodes for lithium-ion cells and batteries



Source: Petitioner, "Witness Testimony and Presentation Materials of American Active Anode Material Producers," January 7, 2025; Anovion, "Introduction to the AAM Process," January 8, 2025, p. 7.

The finished AAM undergoes a quality inspection to evaluates its physical properties, electrical conductivity, and electrochemical performance to ensure compliance with specifications. Producers also assess the material for any defects or deviations that could impede its performance.[51]

To form an anode, the AAM, often combined with silicon as an additive, is mixed with conductive carbon and a binder for either wet slurry coating or dry-press adhesion onto a copper sheet. In the wet process, the AAM mixture includes solvents to produce a slurry which is coated onto the copper sheet.[52] Tesla's dry process avoids the need for solvents by passing the AAM mixture on the copper sheet between a series of rollers that compress and smooths the anode to ensure both proper adhesion and uniform thickness.[53]

[51] Petition, p. 5.
[52] Conference transcript, pp. 140 to 141 (Zhang).
[53] Conference transcript, p. 151 (Weber).

According to the industry witnesses for petitioner, Epsilon purchases needle coke whereas Anovion purchases calcined petroleum coke from local suppliers for further processing in their respective facilities.[54] Syrah imports natural-graphite concentrate from its Balama Graphite Operations mine in Mozambique for its U.S. processing facility.[55] The petitioner's industry witnesses testified that their firms rely on the same established production process for AAM as the subject Chinese producers,[56] including with some minor improvements.[57]

Domestic like product issues

The petitioner contends that the domestic like product should be defined co-extensively with the scope of these investigations.[58] No respondent party contests the definition of the domestic like product.

[54] Conference transcript, pp. 83 and 111 (Kapur and Taylor).

[55] Conference transcript, p. 84 (Hira).

[56] Tesla, postconference brief, App. A: Answers to Questions from Staff Conference, pp. 2 to 3; and conference transcript, pp. 56 to 58 and 109 to 110 (Kapur); 109 (Taylor); and 22, 58, and 110 (Hira).

[57] Conference transcript, p. 110 (Hira).

[58] Petitioner's postconference brief, p. 3.

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

U.S. market characteristics

AAM can be produced from naturally sourced or synthetically produced graphite and is the primary component in the anode of lithium-ion batteries that are used to power electric vehicles, energy storage systems, consumer electronics, medical equipment, and other applications. AAM is typically distributed directly from the AAM producer to battery producers.[1] Only *** domestic producers have reported to have begun commercial production of AAM in the United States: ***. All other U.S. production has been limited to test production.[2]

Four of seven responding importers indicated that the market was subject to distinctive conditions of competition. Importer *** stated that the U.S. Inflation Reduction Act has provided incentives for battery manufacturers to move away from Chinese-produced AAM, but that supply chain adjustments take time and significant resources. *** stated that government regulations have increased demand for lithium-ion batteries, which in turn increases demand for AAM. Importer *** cited the U.S. Inflation Reduction Act as providing incentives that have increased demand for energy storage, which in turn increased demand for AAM for EV and ESS battery cell production.

Importer *** was the only responding importer to indicate any significant changes in the product range, product mix, or marketing of AAM since January 1, 2021. Importer *** reported increased demand for AAM that enables faster charging, which also carries a pricing premium.

Apparent U.S. consumption of AAM increased during January 2021 to September 2023. Overall, apparent U.S. consumption in 2023 was higher in terms of quantity and value than in 2021. Apparent U.S. consumption was slightly lower in interim 2024 in terms of value compared to interim 2023.

Impact of section 301 tariffs and the U.S. Inflation Reduction Act

U.S. producers and importers were asked to report the impact of section 301 tariffs and the U.S. Inflation Reduction Act on the AAM market (tables 2.1 and 2.2). All U.S. producers reported that section 301 tariffs had no impact on the market, while only one U.S. importer shared this view. Importer *** stated that section 301 tariffs have increased the fully landed

[1] Petition, p. 9.
[2] Petition, p. 13.

price of AAM and has influenced battery cell producers to identify suppliers outside China. And importer *** reported "The effective landed price of Chinese-origin anode active material increased by 25 percent when the 301 tariff exemption was not extended towards the end of 2024. As such, demand for non-Chinese active anode material has increased, but supply is lagging primarily due to technology development."

All U.S. producers and all U.S. importers reported the U.S. Inflation Reduction Act (IRA) had an impact on the market. U.S. producer *** reported, "through the IRA, the company has benefited directly from funding and policy support as well as indirectly as USA-based electric vehicle OEM and lithium-ion battery manufacturing capacity advanced supply chain capacity. Indirect support for the company was particularly evident with the requirement to source graphite active anode material and other critical minerals used in batteries from non-Foreign Entities of Concern ("FEOC") (i.e. supply from outside China or suppliers not controlled by the Chinese Government or affiliated stakeholders) for US electric vehicles to potentially qualify for a consumer tax credit under Section 30D of the IRA. However, in May 2024, the introduction of a Transition Rule for graphite as it related to eligibility for this Section 30D credit effectively withdrew the customer demand for non-China sources of graphite for a period of 2 years (although foreseeably longer if policy had changed again)." Importer *** reported, "the IRA created a strong incentive to source non-FEOC graphite, i.e. anode active material from producers outside of China. However, this incentive did not change the fact that non-Chinese producers, especially U.S. producers, are not yet meeting technology, volume, and quality requirements."

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

Firm type	Yes	No	Do not know
U.S. producers	***	***	***
Importers	***	***	***

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

Table 2.2 AAM: Count of firms' responses regarding whether there was an impact of the U.S. Inflation Reduction Act, by firm type

Firm type	Yes	No	Do not know
U.S. producers	***	***	***
Importers	***	***	***

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

Channels of distribution

In 2023, U.S. producers sold AAM to automotive end users and other battery manufacturers, as shown in table 2.3. Importers of AAM from China sold mostly to other battery manufacturers in 2021 but shifted to mostly automotive end users in 2023 and beyond.

Table 2.3 AAM: Share of U.S. shipments by source, channel of distribution, and period

Shares in percent; interim is January to September

Source	Channel	2021	2022	2023	Interim 2023	Interim 2024
United States	Distributors	***	***	***	***	***
United States	Automotive end users	***	***	***	***	***
United States	Other battery manufacturers	***	***	***	***	***
United States	Other end users	***	***	***	***	***
China	Distributors	***	***	***	***	***
China	Automotive end users	***	***	***	***	***
China	Other battery manufacturers	***	***	***	***	***
China	Other end users	***	***	***	***	***
Nonsubject	Distributors	***	***	***	***	***
Nonsubject	Automotive end users	***	***	***	***	***
Nonsubject	Other battery manufacturers	***	***	***	***	***
Nonsubject	Other end users	***	***	***	***	***
All imports	Distributors	***	***	***	***	***
All imports	Automotive end users	***	***	***	***	***
All imports	Other battery manufacturers	***	***	***	***	***
All imports	Other end users	***	***	***	***	***

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

Geographic distribution

*** reported selling AAM to the Northeast, Midwest, Southeast, and *** reported selling AAM to the Mountain region and the Pacific Coast in the U.S. (table 2.2). *** reported selling AAM imported from China to the Mountain region. U.S. producers reported selling *** percent of sales between 101 and 1,000 miles of their production facility. *** of its U.S. point of shipment.

Table 2.4 AAM: Count of U.S. producers' and U.S. importers' geographic markets

Region	U.S. producers	China
Northeast	***	***
Midwest	***	***
Southeast	***	***
Central Southwest	***	***
Mountain	***	***
Pacific Coast	***	***
Other	***	***
All regions (except Other)	***	***
Reporting firms	***	***

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 2.5 provides a summary of the supply factors regarding AAM from U.S. producers. No Chinese manufacturer or exporter provided the data necessary to evaluate supply factors of AAM from China.

Table 2.5 AAM: Supply factors that affect the ability to increase shipments to the U.S. market, by country

Quantity in 1,000 pounds; ratios and shares in percent

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 (firms reporting "yes")	Count	***

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

Note: Responding U.S. producers accounted for virtually all of U.S. production of AAM in 2023. 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 I, "Summary Data and Data Sources."

Domestic production

Based on available information, U.S. producers of AAM have the ability to respond to changes in demand with small-to-moderate changes in the quantity of shipments of U.S.-produced AAM to the U.S. market. The main contributing factors to this degree of responsiveness of supply are the availability of unused capacity and the availability of inventories. Factors mitigating the responsiveness of supply include the inability to shift products from alternate markets and the inability to shift production to or from alternate products. Additionally, responsiveness is mitigated by the limited concentration of current commercial production to *** firms.[3]

U.S. producers reported increased production capacity and production from 2021 to 2023. Production capacity increased at a greater rate than production leading to a decrease in capacity utilization over the same period. U.S. producers reported having large inventories relative to their commercial shipments in 2023. U.S. producers reported selling *** their commercial shipments of AMM in the U.S. market in 2023 and being unable to produce other products on the same equipment used to produce AMM.

Imports from nonsubject sources

Imports from nonsubject sources accounted for one-tenth or less of total U.S. imports during the period for which data were collected. The largest sources of imports from nonsubject sources during January 2021 to September 2023 included Spain, South Korea, Germany, and Japan. Combined, these countries accounted for more than half of imports from nonsubject sources in 2023.

Supply constraints

All responding U.S. producers reported that they experienced supply constraints since January 1, 2021. U.S. producers reported that a lack of production capacity caused supply constraints in the U.S. market as U.S. producers were entering into production during the period for which data were collected.

All responding importers reported that they had not experienced supply constraints since January 1, 2021.[4]

[3] Petition, p. 13.

[4] Although purchasers were not asked about supply constraints, ***.

U.S. demand

Based on available information, the overall demand for AAM is likely to experience small changes in response to changes in price. The main contributing factors are the lack of substitute products, the small cost share of AAM in reported end-use products, and the critical need for AAM in lithium-ion battery production.

End uses and cost share

U.S. demand for AAM depends on the demand for U.S.-produced downstream products.[5] Reported end uses were lithium-ion batteries used for vehicles, which include battery cells, packs, arrays, and modules.

AAM accounts for a small share of the cost of the end-use products in which it is used. The reported shares of the total cost for the end uses mentioned above accounted for by AAM ranged from *** to *** percent.

Business cycles

All responding U.S. producers reported the AAM market is not subject to business cycles. Five of seven responding importers indicated that the market was subject to business cycles. Specifically, Importer *** reported that demand for lithium-ion batteries fluctuates depending on the automotive market, which is cyclical.

Demand trends

All responding U.S. producers reported both U.S. and foreign demand *** for AAM since January 1, 2021, while all responding importers reported either steady increases or upward fluctuations in both U.S. and foreign demand for AAM (table 2.6).

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

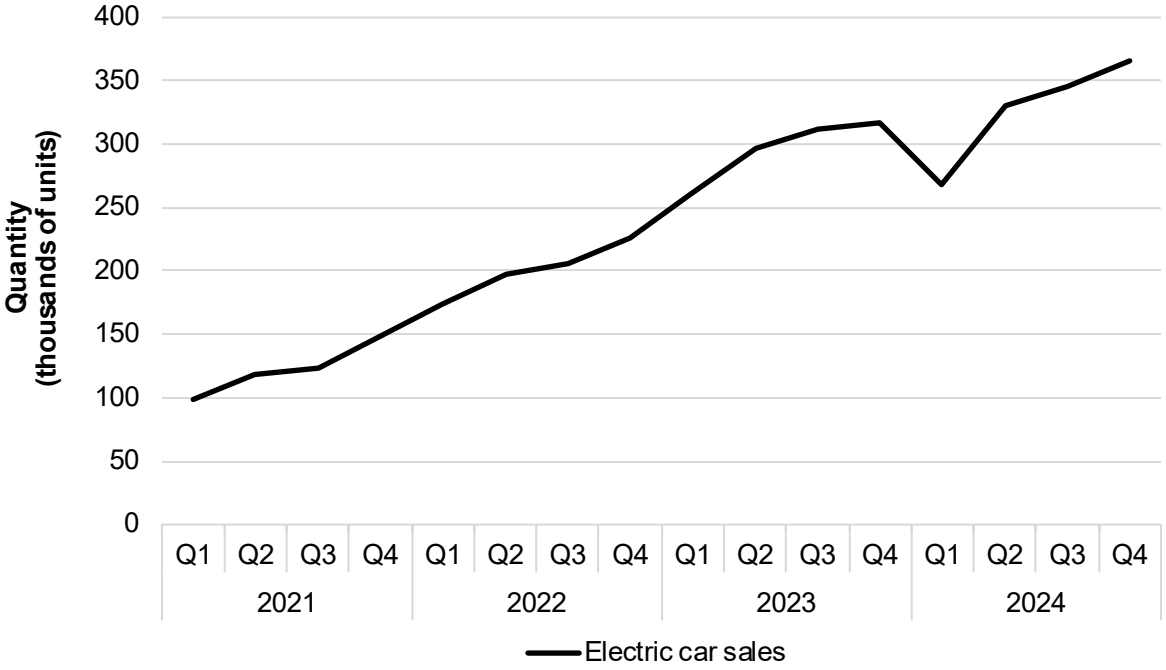
Market	Firm type	Steadily Increase	Fluctuate Up	No Change	Fluctuate Down	Steadily Decrease
Domestic demand	U.S. producers	0	4	0	0	0
Domestic demand	Importers	2	4	0	1	0
Foreign demand	U.S. producers	0	4	0	0	0
Foreign demand	Importers	2	4	0	0	0

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

[5] Conference transcript, p. 45 (Pickard).

Electric car sales in the United States consistently trended upwards from January 2021 to December 2024, with a short-lived break in trend in Q1 2024 (figure 2.1). Electric car and, more broadly, electrical vehicle sales are generally perceived to be a leading indicator of the demand for AAM.

Figure 2.1 Car sales: Electric car sales in the United States, by quarter



Source: Kelley Blue Book quarterly electric vehicle reports, various issues.

Table 2.7 Car sales: Electric car sales in the United States, by quarter

Quantity in number of units

Period	Electric car sales
2021 Q1	98,692
2021 Q2	118,235
2021 Q3	122,744
2021 Q4	148,691
2022 Q1	173,561
2022 Q2	196,788
2022 Q3	205,682
2022 Q4	226,789
2023 Q1	261,401
2023 Q2	296,976
2023 Q3	311,853
2023 Q4	317,664
2024 Q1	268,909
2024 Q2	330,463
2024 Q3	346,309
2024 Q4	365,824

Source: Kelley Blue Book quarterly electric vehicle reports, various issues.

Substitute products

All U.S. producers and importers reported no substitutes for AAM.

Substitutability issues

This section assesses the degree to which U.S.-produced AAM and imports of AAM from subject countries can be substituted for one another by examining the importance of certain purchasing factors and the comparability of AAM from domestic and imported sources based on those factors. Based on available data, staff believes that there is currently a low degree of substitutability between domestically produced AAM and AAM imported from subject sources.[6] Factors reducing substitutability include the current lack of qualified U.S. production, coupled with the typically time-intensive qualification processes that U.S. producers need to pass in order to sell their product, and that only *** U.S. producers reported commercial production of AAM. Although AAM has certain standard characteristics, qualification may take at least two

[6] The degree of substitution between domestic and imported AAM depends upon the extent of product differentiation between the domestic and imported products and reflects how easily purchasers can switch from domestically produced AAM to the AAM 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.).

to three years.[7] [8] Some U.S. producers are currently undergoing qualification with certain purchasers.[9] [10]

Factors affecting purchasing decisions

Most important purchase factors

The purchaser responding to lost sales lost revenue allegations[11] was asked to identify the main purchasing factors it considered in their purchasing decisions for AAM.

The purchaser reported *** as its top three factors it considers in their purchasing decisions for AAM, as shown in table 2.8. Regarding changes in sourcing, the purchaser reported that purchases of AAM from the United States ***, purchases from China ***, and purchases from all other sources ***.

Table 2.8 AAM: Count of ranking of factors used in purchasing decisions as reported by purchasers, by factor

Factor	First	Second	Third	Total
Price / Cost	***	***	***	***
Quality / Performance	***	***	***	***
Location	***	***	***	***
All other factors	***	***	***	NA

Source: Compiled from data submitted in response to Commission questionnaires.
Note: Purchaser reported "mast production readiness" as an additional factor.

Comparison of U.S.-produced and imported AAM

In order to determine whether U.S.-produced AAM can generally be used in the same applications as imports from China, U.S. producers and importers were asked whether the products can always, frequently, sometimes, or never be used interchangeably. As shown in table 2.9, U.S. producers reported that AAM from the United States were always

[7] Panasonic indicates this length of time assumes no "glitches" in each step of the qualification process, and Tesla indicates the estimate is the fastest time possible if the supplier is hitting the requirements at each stage. Conference transcript, p. 167 (Mintzer) and p. 198 (Weber).

[8] Panasonic reported previously qualified producers have taken between *** months to become qualified. Currently, domestic producers ***. Respondent Panasonic's postconference brief, Exhibit 8.

[9] Conference transcript, p. 12 (Nicely).

[10] Tesla reports they ***. Respondent Tesla's postconference brief, Exhibit 2, p. 1.

[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.

interchangeable with imported AAM from China. The U.S. importers reported that domestic AAM and AAM imported from China were sometimes or never interchangeable. Importer *** reported that quality evaluations are in progress for certain U.S. producers, but it is difficult to change supply sources in the short-term, due to the capacity of producers in the U.S. or free trade agreement countries and the lead time required for development and evaluation of such producers. Importer *** reported that "the smallest differences between suppliers/countries lead to different performance within a battery." According to ***, "despite significant efforts from battery makers and active anode producers, no one has been able to achieve interchangeability. Instead, batteries made with different active anode material must be labeled with different part numbers and carefully separated in the factory." Importer *** reported that *** cannot use U.S.-produced AAM, which is not available at 99.9 percent purity required for EV or ESS battery cells.[12]

Table 2.9 AAM: Count of U.S. producers and U.S. importers reporting interchangeability between product produced in the United States and in other countries reported, by firm type and country pair

Count in number of firms reporting

Country pair	Firm Type	Always	Frequently	Sometimes	Never
United States vs. China	U.S. producers	4	0	0	0
United States vs. Other	U.S. producers	1	0	0	0
China vs. Other	U.S. producers	0	0	0	0
United States vs. China	Importers	0	0	2	4
United States vs. Other	Importers	0	0	2	3
China vs. Other	Importers	0	1	4	1

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 AAM from the United States, subject, or nonsubject countries. As seen in table 2.10, U.S. producers reported differences other than price were never significant between U.S. produced AAM and AAM from China. The majority of responding importers reported that differences other than price were always significant between U.S. produced AAM and AAM from China. Importer *** reported that United States suppliers currently have product quality issues, lack technical support, and do not have sufficient availability (supply capacity).

[12] U.S. producer, Syrah, asserts that they "produce material to that purity, 99.9 percent." Conference brief, p. 80 (Hira).

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

Count in number of firms reporting

Country pair	Firm Type	Always	Frequently	Sometimes	Never
United States vs. China	U.S. producers	0	0	0	4
United States vs. Other	U.S. producers	0	0	0	0
China vs. Other	U.S. producers	0	0	0	0
United States vs. China	Importers	6	1	0	0
United States vs. Other	Importers	4	1	0	0
China vs. Other	Importers	4	0	2	0

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

Part 3: U.S. producers' 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 five firms that accounted for nearly all known U.S. production of AAM during 2023.[1]

U.S. producers

The Commission issued a U.S. producer questionnaire to six firms based on information contained in the petitions. Four firms provided usable data on their operations, while a fifth provided more limited information regarding its operations.[2] Table 3.1 lists U.S. producers of AAM, their production locations, positions on the petitions, and shares of total production.

[1] In an affidavit, ***. Petition, exhibit 1.1.

[2] Epsilon responded "no" to the Commission's questionnaire. However, representatives from Epsilon testified during the staff conference that the firm plans to commence commercial production of the in-scope merchandise in 2027. Additional details concerning Epsilon's future commercial operations are discussed in the "U.S. producer's commencement of commercial operations" section.

Table 3.1 AAM: U.S. producers, their positions on the petition, production locations, and shares of reported production, 2023

Share in percent

Firm	Position on petition	Production location(s)	Share of production
Anovion	Petitioner	Sanborn, New York	***
GrafTech	***	St. Marys, Pennsylvania; Brooklyn Heights, Ohio	***
Novonix	Petitioner	Chattanooga, Tennessee	***
SKI US	Petitioner	Marietta, Georgia	***
Syrah	Petitioner	Vidalia, Louisiana	***
All firms	Various	Various	100.0

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

Note: *** reported only small quantities (*** pounds) of trial production since January 1, 2021.

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

U.S. producers' commencement of commercial operations

Ownership of operations

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

Table 3.2 AAM: U.S. producers' 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.

Note: *** is not owned, in whole or in part, by any other firm.

None of the responding U.S. producers are related to producers in the subject country, importers, or exporters of the subject merchandise. None of the U.S. producers imported the subject merchandise or purchased imports of the subject merchandise during for which data were collected.

Status of operations

Four firms, *** reported data regarding production of AAM during the period for which data were collected in their responses to the Commission's questionnaire, while *** provided narrative responses regarding its operations. ***. Only *** reported commercial shipments during the period for which data were collected. Given their recent entry into the U.S. market, responding U.S. producers were asked to provide additional information regarding the lead-up and commencement of their commercial AAM operations.[3]

Anovion reported that it commenced commercial production of in-scope AAM on ***. The company reports to be investing over $800 million into AAM production with the development of a new manufacturing facility in Bainbridge, Georgia, which is expected to begin operations in late 2025.[4] An Anovion representative testified that Anovion will be "getting the first 20,000 tons online by 2027 and then stepping the plant up aggressively to 60,000 tons" and "the goal is to get to 150,000 tons by 2030, or as close to it as possible."[5]

[3] As noted previously, Epsilon responded "no" to the Commission's questionnaire but did provide information concerning its operations. During the staff conference, the CEO of Epsilon, Sunit Kapur, testified that the company is planning to construct an AAM manufacturing facility in Brunswick County, North Carolina and will invest $1 billion into the project. The facility will produce, at peak capacity, 60,000 tons (132.3 million pounds) of synthetic AAM. He also testified that the company plans to operate the first 30,000 tons (66.1 million pounds) of capacity in the fourth quarter of 2027. He noted that the timing for the rollout of the next 30,000 tons (66.1 million pounds) of capacity will depend on customer contracts. Conference transcript (Kapur), pp. 29, 62-63 and petitioner's postconference brief, exhibit 1, p. 2. In an affidavit, *** stated that ***. Petition, exhibit 1.3.

[4] Petitioner's postconference brief, exhibit 1, p. 3 and attachment 1b.

[5] Conference transcript, pp. 63-64 (Taylor).

GrafTech reported that ***.[6]

Novonix ***.[7] Novonix reported that it is investing $1 billion to build a second production facility in Chattanooga, Tennessee.[8] This second facility, together with the existing 20,000 ton (44.1 million pound) facility at Riverside in Chattanooga, is expected to increase Novonix's production capacity to over 50,000 tons (110.2 million pounds) annually by the end of 2028.[9] A representative from Panasonic testified that in February 2024, the company signed a binding offtake agreement with Novonix in 2024 for 10,000 metric tons (22.0 million pounds) of AAM, contingent on Novonix achieving "agreed-upon milestones regarding final mass production qualification timelines prior to the fourth quarter of 2025."[10]

SKI US *** but will be investing $1 billion into the construction of a production facility in Orangeburg County, South Carolina. The company expects to produce 25,000 tons (55.1 million pounds) of synthetic graphite annually at the facility and expects it to be online in 2026.[11]

[6] Email from ***, January 13, 2025.

[7] Email from ***, January 10, 2025.

[8] Petitioner's postconference brief, exhibit 1, p. 6.

[9] Petitioner's postconference brief, attachment 1b.

[10] Conference transcript, pp. 142 to 143 and 224 to 225 (Zhang) and respondent Panasonic's postconference brief, p. 5.

[11] Petitioner's postconference brief, exhibit 1, p. 7 and attachment 1b. In an affidavit, ***. Respondent Tesla's postconference brief, exhibit 2.

In December 2021, Syrah announced that it executed an offtake agreement with Tesla to supply AAM from its Vidalia, Louisiana facility. Under this agreement, Tesla will offtake 80 percent of the proposed production at the Vidalia facility, based on the proposed initial expansion of capacity, at a fixed price for an initial four year term after commercial production is achieved, subject to final qualification.[12] The agreement also included an option for Tesla to offtake additional quantities from Syrah if Syrah successfully expands its capacity beyond the projected 10,000 metric tons (22.0 million pounds) per year.[13] In 2022, Tesla exercised that option and would offtake an additional 17,000 metric tons (37.5 million pounds) annually of AAM at a fixed price and for an initial term of four years, assuming Syrah successfully expands its production capacity to 45,000 metric tons (99.2 million pounds) per year.[14] Additionally, ***.[15] Syrah reported that it commenced commercial production of in-scope AAM in ***.[16]

[12] Respondent Tesla's postconference brief, p. 8, exhibit 2-A, and exhibit 2-B.
[13] Respondent Tesla's postconference brief, p. 9 and exhibit 2-B.
[14] Respondent Tesla's postconference brief, p. 9 and exhibit 2.
[15] Respondent LG Energy Solutions' postconference, attachment A.
[16] In an affidavit, ***.

Market and operational development

When asked to elaborate on its market strategy, Anovion reported that ***. GrafTech reported that ***.[17] Novonix reported that ***. SKI US reported that ***. Syrah reported that ***.

[17] ***. Email from ***, January 13, 2025.

When asked about the role of the Bipartisan Infrastructure Law in the development of its business, Anovion noted that in October 2022, it was awarded a grant totaling $117 million from the U.S. Department of Energy for the establishment of a synthetic graphite manufacturing plant in Northern Alabama.[18] The facility is expected to produce 35,000 tons (77.2 million pounds) annually.[19] ***.[20] Anovion also received a letter of interest from the Export-Import Bank of the United States outlining potential debt facility and/or backstop to fund up to $400 million for its facility in Bainbridge, Georgia.[21] GrafTech ***.

Novonix was awarded a $103 million dollar tax credit from the Department of Energy to equip its synthetic graphite manufacturing facility in Chattanooga, Tennessee.[22] ***. Additionally, Novonix has received a conditional commitment from the U.S. Department of Energy for a $754.8 million loan towards its proposed second facility in Chattanooga.[23] In September 2024, SKI US was awarded a $150 million grant from the U.S. Department of Energy of Manufacturing and Energy Supply Chains to the production facility in Orangeburg, South Carolina.[24] ***.

Syrah reported that ***. Syrah also reported that ***.

U.S. producers were also asked to explain whether they reached a financial breakeven point for their sales of AAM. All of the responding U.S. producers reported that a financial breakeven point for their sales of AAM did not occur during the period for which data were collected. Additional information on responding U.S. producers' AAM operations are presented in appendix D.

[18] Petitioner's postconference brief, p. 16.
[19] Petitioner's postconference brief, attachment 1b.
[20] Email from ***, January 10, 2025.
[21] Petitioner's postconference brief, exhibit 1, pp. 3 to 4.
[22] Petitioner's postconference brief, p. 16 and exhibit 1, p. 6.
[23] Petitioner's postconference brief, exhibit 1, p. 6.
[24] Petitioner's postconference brief, p. 16, exhibit 1, p. 7, and attachment 1b.

Industry developments

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

Table 3.3 AAM: Important industry events since January 1, 2021

Item	Firm	Event
New production	Anovion	Early 2021— Anovion announced its first commercial production of synthetic graphite-based AAM.
Initial offtake agreement	Syrah	December 2021— Syrah Resources Ltd. (the Australia-based parent firm of Syrah Technologies) successfully negotiated an offtake agreement with Tesla to supply natural-graphite AAM from Syrah Technologies' facility located in Vidalia, Louisiana, initially for four years commencing from attaining a commercial production rate and subject to final qualification. The offtake obligation is conditional requiring: • Agreement on the final specifications of AAM by no later than the end of December 2022 • Achievement of final qualification of AAM to Tesla's satisfaction by no later than the end of May 2025. • Production commencing by the end of May 2024. Subject to fulfillment of the above conditions, Tesla will offtake 8,000 metric tons annually of the proposed initial expansion of AAM annual capacity at the Vidalia facility to 10,000 metric tons (11,023 short tons). Tesla has the option to offtake additional AAM quantities from the Vidalia facility, subject to Syrah further expanding its production capacity beyond 10,000 metric tons (11,023 short tons) per year.
Plant expansion	Syrah	February 2022— Syrah Resources announced an investment of $176 million to expand the production capacity of Syrah Technologies' graphite processing facility located in Vidalia, Louisiana, to 11,250 metric tons (12,401 short tons) per year. The plan is to expand the building and processing space to install the additional processing equipment and systems. Construction is anticipated to commence in first-quarter 2022, and anticipated to be completed in mid-2023, with AAM production anticipated to commence in third-quarter 2023. Syrah Technologies is retaining 19 employees and creating 36 new direct jobs. The Louisiana Economic Development ("LED") estimated this project to generate 52 indirect jobs, for a total of 88 new jobs in the state's Central Region.
Construction loan received	Syrah	July 2022— Syrah received a $102-million loan from the U.S. Department of Energy's ("DOE") Advanced Technology Vehicles Manufacturing ("ATVM") Loan Program to assist with financing the construction of its AAM production facility located in Vidalia, Louisiana.
Grant funding award	Anovion	October 2022— Anovion announced its selection to receive a $117-million grant under the Bipartisan Infrastructure Law. The grant will supplement the financing of Anovion's plans to 1) build a new, large-scale facility producing 35,000 short tons per annum of synthetic-graphite AAM and 2) expanding the production capacity of its existing AAM facility located in Sanborn, New York.

Item	Firm	Event
Grant award negotiations	Novonix	October 2022— Novonix announced its was selected to enter negotiations for a US$150 million grant by the DOE to finance the construction of a new synthetic graphite manufacturing facility with an initial production capacity of 30,000 metric tons (33,069 short tons) per year in 2025.
New plant location	Anovion	May 2023— Anovion announced its selection of Bainbridge, Georgia, as the location for large-scale expansion of manufacturing production capacity for its premium synthetic-graphite AAM. Anovion chose this site in Decatur County based on its proximity to existing and planned low- and carbon-free electric power sources, short supply chains, access to existing rail infrastructure, highly valuable skilled workforce, and business-friendly environment. This facility is anticipated to initially produce 40,000 metric tons (44,092 short tons) annually once fully operational and create hundreds of high-quality jobs in southwest Georgia.
New plant	Epsilon	June 2023— Epsilon announced plans to invest $650 million to construct a synthetic-graphite AAM production facility in the United States. The proposed production facility will utilize cutting-edge green technologies to produce high energy-capacity AAM, with planned annual production capacity of 50,000 metric tons (55,116 short tons), and providing more than 1,500 direct and indirect jobs. It is anticipated to commence initial operations by 2026 and is projected to reach full operating capacity by 2031.
Production progress and goals	Novonix	September 2023— Novonix announced the latest progress for the “production campaign” of its proprietary continuous induction Generation 3 Furnaces at its Riverside facility located in Chattanooga, Tennessee: • Demonstrated successful furnace operations meeting equipment design goals for throughput, cost, and sustainability; • Doubled the goal for annual production capacity to 20,000 metric tons (22,046 short tons) for the facility; and • Anticipated capital and operating costs for future facilities are projected to be lower than initial estimates. The firm anticipates operating margins ranging from 23 to 28 percent based on estimated sales prices ranging from $7 to $10 per kilogram depending on customer product specifications.
Grant funding award	Novonix	November 2023— Novonix finalized a US$100 million grant award from the DOE to expand production of synthetic graphite AAM at its Riverside facility located in Chattanooga, Tennessee. The funding will support the installation and commissioning of equipment to attain an annual production capacity of 20,000 metric tons (22,046 short tons). The government funds must be matched by the recipient. Novonix anticipates its cash holdings, customer revenues, additional government programs, strategic partners, and other capital sources to fund its planned corporate growth.
Plant opening	Syrah	February 2024— Syrah announced commencing natural-graphite AAM production operations at its facility, located in

Item	Firm	Event
		Vidalia, Louisiana, with graphite processing capacity of 11,250 metric tons (12,401 short tons) per year and 101 employees. Syrah also claims that this facility is the first such vertically integrated AAM production operation outside of China, with the graphite sourced from the firm's Balama Graphite (Mining) Operation in Mozambique. Since October 2023, the front-end milling area has been producing and stockpiling unpurified spherical graphite ahead of the purification and furnace areas commissioning in January 2024. The initial heating cycle for the furnace line began in early January, leading to the successful carbonization of the firm's pitch-coated purified spherical graphite followed by production of the first batch of purified spherical graphite. Syrah also reached agreement with Tesla to provide 8,000 metric tons (8,818 short tons) of AAM per year from its Vidalia facility.
New plant location	Graphite One	March 2024— Graphite One Inc. entered into a land lease agreement of site in Niles, Ohio, with a purchase option, for a new synthetic-graphite AAM production facility. The initial project phase will require approximately $435 million to construct a facility, with an annual production capacity of 25,000 short tons, that is anticipated to employ more than 160 residents. It is also anticipated that the leased site can accommodate facility expansion to 100,000 short tons per year. Construction is anticipated to commence within three years, subject to available project funding for which the firm is assessing various options.
Import policy shifts impacts	Syrah	September 2024— Shaun Verner, the Chief Executive Office of Syrah Resources, expressed concerns about the new (May 2024) transition period to 2027 for implementing restrictions on sourcing graphite from China and other designated "Foreign Entities of Concern" ("FEOCs") to 2027 for electric vehicles to qualify for the Section 30D tax credit. This policy shift raises uncertainties for the firm's pace of AAM customer qualification and investment decisions to expand its AAM processing facility located in Vidalia, Louisiana. The firm also has a feasibility study ready for a final investment decision, subject to funding and customer AAM offtake commitments, to expand the facility's installed graphite processing capacity from 11,250 metric tons (12,401 short tons) to 45,000 metric tons (49,604 short tons) per year. Meanwhile, to manage its operational costs and working capital, the Vidalia facility's capacity will be expanded to the level necessary for moving forward the customer qualification process.
Additional import duty	USTR	September 2024— Effective January 1, 2026, the Office of the United States Trade Representative ("USTR") imposed an additional duty of 25 percent ad valorem, under section 301 of the of the Trade Act of 1974 on imports of natural graphite originating in China.
Grant funding award	SKI US	September 2024— The DOE's Battery Materials Processing and Battery Manufacturing and Recycling Program awarded $150,000,000 to SKI US (dba Brila Carbon) for a proposed

Item	Firm	Event
		new production facility located in Orangeburg County, South Carolina. The facility's annual production capacity is initially planned for 25,000 short tons of synthetic graphite to meet projected domestic demand for the electric vehicle, energy storage, and defense equipment markets. This proposed facility will rely on a new proprietary furnace process to produce synthetic graphite that provides up to a 4-percent improvement in battery cell energy and power density over synthetic graphite produced by the traditional Acheson batch furnace process. This new proprietary process also reduces energy consumption by 17 percent and carbon dioxide emissions by 60 percent. It also limits chemical exposures for enhanced worker safety. To comply with the grant conditions, this facility will not source any feedstock materials from any designated FEOCs.
New facility	SKI US	October 2024— SKI US (Brila Carbon) announced its $1-billion investment to construct a new next-generation, synthetic-graphite continuous production facility located in Orangeburg, South Carolina.
Developmental loan facility	Syrah	November 2024— Syrah Resources subsidiary Twigg Exploration and Mining Limitada ("Twigg") signed a binding agreement with the U.S. International Development Finance Corporation ("USIDFC") for a $150 million loan facility to fund the capital requirements for operating and development of the Balama Graphite Operation in Mozambique that provides natural graphite to Syrah Technology's AAM facility in Vidalia, Louisiana.
Loan waiver, force majeure declaration, and mine idling	Syrah	January 2025— Syrah Resources secured a $53-million waiver from its USIDFC loans for its Balama Graphite Operation in Mozambique, after declaring a force majeure in December 2024 as protests blocked access to the mine site. Operational staff have reportedly left leaving only the security staff on site. Syrah claims it has otherwise not defaulted on its payment obligations for its USIDFC and DOE loans. It will be able to access the rest of its USIDFC loan once production restarts at Balama, although the firm has not announced a restart date. Syrah produced 24,000 metric tons (26,455 short tons) of graphite at Balama during second-quarter 2024, but stopped producing in July 2024, owing to sufficient inventory for sales and low demand for graphite fines. During the following quarter, Syrah shipped graphite from inventories. For fourth-quarter 2024, the firm planned to restart production to replenish its stockpile.
New plant location	Novonix	January 2025— Novonix announced that it will enter into a land purchase and sale agreement with the City of Chattanooga, and Hamilton County, Tennessee for its second mass production plant. "NOVONIX Enterprise South" is anticipated to reach full annual production capacity of 31,500 metric tons (34,723 short tons) by the end of 2028 and is anticipated to create 500 full-time jobs. Novonix claims that its binding off-take agreements to provide synthetic graphite to Panasonic Energy, Stellantis, and PowerCo., amount to its

Item	Firm	Event
		original Riverside facility, also located in Chattanooga, at full annual capacity of 20,000 metric tons (22,046 short tons).
Tax credit grant	Syrah	January 2025— Syrah received a Section 48C Qualifying Advanced Energy Project Tax Credit Program ("48C Tax Credit") totaling $165 million under the Inflation Reduction Act's ("IRA"). The 48C Tax Credit will fund the Vidalia Further Expansion Project to optimize and expand operations of the AAM processing facility at Vidalia, Louisiana, to an annual capacity of 45,000 metric tons (49,604 short tons) per year. Construction is anticipated to create up to 600 direct and 120 indirect jobs. Upon project completion, operational workforce requirements are anticipated to create 114 jobs.

Source: Anovion, "About Anovion Technologies," ©2024, https://www.anoviontech.com/about-anovion-technologies, retrieved January 22, 2025;
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Producers in the United States were asked to report any change in the character of their operations or organization relating to the production of AAM since 2021. Four producers indicated in their questionnaires that they had experienced such changes. Table 3.4 presents the changes identified by these producers.

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

Item	Firm name and narrative response on changes in operations
Plant openings	***
Plant openings	***
Plant openings	***
Prolonged shutdowns	***
Prolonged shutdowns	***
Production curtailments	***
Production curtailments	***
Expansions	***

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

U.S. production, capacity, and capacity utilization

Table 3.5 presents U.S. producers' installed and practical capacity and production on the same equipment. Installed and practical overall capacity increased from 2021 to 2023. One firm, ***, reported noticeably higher installed and practical overall capacity in interim 2024 (*** pounds and *** pounds) than in interim 2023 (*** pounds and *** pounds).[25] The other firms reported no change in their installed or practical overall capacity between the interim periods.

Production of AAM increased in each year between 2021 and 2023 and was higher in interim 2024 than in interim 2023. Installed capacity utilization was relatively stable between 2021 and 2023, remaining between *** percent. It was lower in interim 2024 than in interim 2023. Practical overall capacity utilization decreased from 2021 to 2023, most noticeably from 2021 to 2022, and was lower in interim 2024 than in interim 2023.

Table 3.5 AAM: 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	***	***	***	***	***
Installed overall	Production	***	***	***	***	***
Installed overall	Utilization	***	***	***	***	***
Practical overall	Capacity	***	***	***	***	***
Practical overall	Production	***	***	***	***	***
Practical overall	Utilization	***	***	***	***	***
Practical AAM	Capacity	***	***	***	***	***
Practical AAM	Production	***	***	***	***	***
Practical AAM	Utilization	***	***	***	***	***

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

[25] These increases between the interim periods correspond with ***.

Table 3.6 presents U.S. producers' reported narratives regarding practical capacity constraints.

Table 3.6 AAM: U.S. producers' reported capacity constraints since January 1, 2021

Item	Firm name and narrative response on constraints to practical overall capacity
Other constraints	***
Other constraints	***
Other constraints	***
Other constraints	***

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

Table 3.7 and figure 3.1 present U.S. producers' production, capacity, and capacity utilization. Practical capacity increased in each year between 2021 and 2023, largely driven by *** and ***. Practical capacity was over *** pounds higher in interim 2024 than in interim 2023 as ***.

Table 3.7 AAM: 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 3.7 (Continued) AAM: 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 3.7 (Continued) AAM: 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

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

Table continued.

Table 3.7 (Continued) AAM: 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	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 "—".

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

* * * * * * *

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

Production also increased in each year between 2021 and 2023 as *** and ***. Production was *** pounds higher in interim 2024 and interim 2023 as *** reported *** pounds of commercial production in interim 2024, reflecting the ***. Practical capacity utilization decreased from 2021 to 2023, most noticeably from 2021 to 2022, and was lower in interim 2024 than in interim 2023.

In this proceeding, the Commission also requested U.S. producers to provide additional information regarding their AAM operations beyond September 2024. Table 3.8 presents responding U.S. producers' annualized capacity, production, and capacity utilization for 2024 and their projected capacity, production, and capacity utilization for 2025 and 2026. U.S. producers projected capacity for 2025 is *** percent higher than the annualized capacity for 2024. Their projected capacity for 2026 is *** percent higher than their projection for 2025. U.S. producers' projected production for 2025 is approximately *** pounds higher than the annualized production for 2024. Their projected production for 2026 is *** pounds higher than their projection for 2025.[26]

Table 3.8 AAM: U.S. producers' projected practical capacity and production, by period

Quantity in 1,000 pounds; ratio and share in percent; NA is not available

Item	Measure	Annualized 2024	2025	2026
Practical AAM capacity	Quantity	***	***	***
Trial production	Quantity	NA	***	***
Commercial production	Quantity	NA	***	***
All production	Quantity	***	***	***
Practical capacity utilization	Ratio	***	***	***
Trial production	Share	NA	***	***
Commercial production	Share	NA	***	***
All production	Share	NA	100.0	100.0

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

Note: Annualized 2024 data are calculated by dividing interim 2024 data by 0.75. Trial and commercial production data were not collected for interim 2024. Consequently, annualized 2024 data for trial and commercial production cannot be calculated.

Figure 3.2 presents U.S. producers' actual capacity between 2021 and 2023, annualized capacity for 2024, and projected capacity for 2025 and 2026, while figure 3.3 presents their actual production between 2021 and 2023, annualized production for 2024, and projected production for 2025 and 2026.

[26] These increases primarily reflect *** projections. These producers are collectively projecting an increase of approximately *** pounds in production from 2025 to 2026. ***. Emails from ***, January 10, 2025 and January 15, 2025.

Figure 3.2 AAM: U.S. producers' actual, annualized, and projected capacity, by period

* * * * * * *

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

Figure 3.3 AAM: U.S. producers' actual, annualized, and projected production, by period

* * * * * * *

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

Alternative products

No U.S. producer reported producing alternative products using the same equipment, machinery, or employees used to produce AAM.

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

Table 3.9 presents U.S. producers' U.S. shipments, export shipments, and total shipments. No U.S. producer reported shipments in 2021 and only *** reported commercial U.S. shipments in 2022 and 2023. *** reported *** pounds and *** pounds of commercial U.S. shipments, respectively, in interim 2024. The unit value of *** commercial U.S. shipments decreased from $*** per pound in 2022 to $*** per pound in 2023. The average unit value of *** commercial U.S. shipments was $*** per pound in interim 2024. No firm reported internal consumption or export shipments during the period for which data were collected.

Table 3.9 AAM: U.S. producers' total shipments, by destination and period

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

Item	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. shipments	Quantity	***	***	***	***	***
Export shipments	Quantity	***	***	***	***	***
Total shipments	Quantity	***	***	***	***	***
U.S. shipments	Value	***	***	***	***	***
Export shipments	Value	***	***	***	***	***
Total shipments	Value	***	***	***	***	***
U.S. shipments	Unit value	***	***	***	***	***
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
U.S. shipments	Share of value	***	***	***	***	***
Export shipments	Share of value	***	***	***	***	***
Total shipments	Share of value	—	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 3.10 presents U.S. producers' U.S shipments by composition. All U.S. producers' U.S. shipments were loose AAM.[27]

Table 3.10 AAM: U.S. producers' shipments, by composition and period

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

Composition	Measure	2021	2022	2023	Interim 2023	Interim 2024
Loose AAM	Quantity	***	***	***	***	***
AAM in batteries	Quantity	***	***	***	***	***
Other further processed AAM	Quantity	***	***	***	***	***
All compositions	Quantity	***	***	***	***	***
Loose AAM	Value	***	***	***	***	***
AAM in batteries	Value	***	***	***	***	***
Other further processed AAM	Value	***	***	***	***	***
All compositions	Value	***	***	***	***	***
Loose AAM	Unit value	***	***	***	***	***
AAM in batteries	Unit value	***	***	***	***	***
Other further processed AAM	Unit value	***	***	***	***	***
All compositions	Unit value	***	***	***	***	***
Loose AAM	Share of quantity	***	***	***	***	***
AAM in batteries	Share of quantity	***	***	***	***	***
Other further processed AAM	Share of quantity	***	***	***	***	***
All compositions	Share of quantity	—	100.0	100.0	100.0	100.0
Loose AAM	Share of value	***	***	***	***	***
AAM in batteries	Share of value	***	***	***	***	***
Other further processed AAM	Share of value	***	***	***	***	***
All compositions	Share of value	—	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 "—".

[27] "Loose AAM" is AAM that is not part of a compound, not in a battery, not as a component of an anode slurry, and not in a subassembly of a battery such as an electrode.

Table 3.11 presents U.S. producers' U.S. shipments by form. ***.

Table 3.11 AAM: U.S. producers' shipments, by product form and period

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

Product form	Measure	2021	2022	2023	Interim 2023	Interim 2024
Natural	Quantity	***	***	***	***	***
Synthetic	Quantity	***	***	***	***	***
Blended	Quantity	***	***	***	***	***
All product forms	Quantity	***	***	***	***	***
Natural	Value	***	***	***	***	***
Synthetic	Value	***	***	***	***	***
Blended	Value	***	***	***	***	***
All product forms	Value	***	***	***	***	***
Natural	Unit value	***	***	***	***	***
Synthetic	Unit value	***	***	***	***	***
Blended	Unit value	***	***	***	***	***
All product forms	Unit value	***	***	***	***	***
Natural	Share of quantity	***	***	***	***	***
Synthetic	Share of quantity	***	***	***	***	***
Blended	Share of quantity	***	***	***	***	***
All product forms	Share of quantity	—	100.0	100.0	100.0	100.0
Natural	Share of value	***	***	***	***	***
Synthetic	Share of value	***	***	***	***	***
Blended	Share of value	***	***	***	***	***
All product forms	Share of value	—	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 "—".

U.S. producers' inventories

Table 3.12 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 in each year from 2021 to 2023, ending *** pounds higher in 2023. End-of-period inventories were *** pounds higher in interim 2024 than in interim 2023.[28]

Table 3.12 AAM: U.S. producers' inventories and their ratio to select items, by period

Quantity in 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.

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

U.S. producers' imports from subject sources

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

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

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

[28] ***. Email from ***, January 10, 2025.

U.S. employment, wages, and productivity

Table 3.13 shows U.S. producers' employment-related data. The number of production-related workers, total hours worked, hours worked per PRW, and wages paid increased from 2021 to 2023 and were higher in interim 2024 than in interim 2023. Hourly wages, productivity, and unit labor costs decreased from 2021 to 2023. Although hourly wages were higher in interim 2024 than in interim 2023, productivity was substantially higher, while correspondingly unit labor costs were noticeably lower in interim 2024 than in interim 2023.

Table 3.13 AAM: U.S. producers' employment related information, by item and period

Item	2021	2022	2023	Interim 2023	Interim 2024
Production and related workers (PRWs) (number)	***	***	***	***	***
Total hours worked (1,000 hours)	***	***	***	***	***
Hours worked per PRW (hours)	***	***	***	***	***
Wages paid ($1,000)	***	***	***	***	***
Hourly wages (dollars per hour)	***	***	***	***	***
Productivity (pounds per hour)	***	***	***	***	***
Unit labor costs (dollars per pound)	***	***	***	***	***

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 17 firms believed to be importers of subject AAM, as well as to all U.S. producers of AAM.[1] Usable questionnaire responses were received from ten companies.[2] Table 4.1 lists all responding U.S. importers of AAM from China and other sources, their locations, and their shares of U.S. imports, in 2023.

Table 4.1 AAM: U.S. importers, their headquarters, and share of imports within each source, 2023

Share in percent

Firm	Headquarters	China	Nonsubject sources	All import sources
BlueOval	Elizabethtown, KY	***	***	***
Energizer	Saint Louis, MO	***	***	***
Fluence	Arlington, VA	***	***	***
Ford	Dearborn, MI	***	***	***
General Motors	Detroit, MI	***	***	***
LG Energy	Holland, MI	***	***	***
Panasonic	Newark, NJ	***	***	***
Samsung	Auburn Hills, MI	***	***	***
SK Battery America	Commerce, GA	***	***	***
Tesla	Austin, TX	***	***	***
All firms	Various	100.0	100.0	100.0

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

Note: ***.

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 "—".

[1] The Commission issued questionnaires to those firms identified in the petitions; staff research; and proprietary, Census-edited Customs' import records.

[2] Several companies reported imports of in-scope AAM that were classified under HTS statistical reporting numbers 8507.60.0010, 8507.60.0020, 8507.90.8000, and 8545.19.4000. Additionally, HTS statistical reporting numbers 2504.10.5000, 3801.10.5000, and 3801.90.0000 are broad categories that include out-of-scope merchandise. Consequently, absent reliable export data to serve as a cross-check, a credible estimate for the share of imports from China and all other sources represented by the responding importers cannot be calculated. However, Commission staff believes that the responding firms are representative of U.S. imports of AAM as respondent Tesla states that they and Panasonic are significant importers of AAM and are representative of U.S. consumers of AAM. Respondent Tesla's postconference brief, p. 10.

U.S. imports

Table 4.2 and figure 4.1 present data for U.S. imports of AAM from China and all other sources, while table 4.3 presents data on the changes in import quantity, value, and unit value between the comparison periods.

Table 4.2 AAM: U.S. imports, by source and period

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

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
China	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
China	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
All import sources	Value	***	***	***	***	***
China	Unit value	***	***	***	***	***
Nonsubject sources	Unit value	***	***	***	***	***
All import sources	Unit value	***	***	***	***	***
China	Share of quantity	***	***	***	***	***
Nonsubject sources	Share of quantity	***	***	***	***	***
All import sources	Share of quantity	100.0	100.0	100.0	100.0	100.0
China	Share of value	***	***	***	***	***
Nonsubject sources	Share of value	***	***	***	***	***
All import sources	Share of value	100.0	100.0	100.0	100.0	100.0
China	Ratio	***	***	***	***	***
Nonsubject sources	Ratio	***	***	***	***	***
All import sources	Ratio	***	***	***	***	***

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

Note: Share of quantity is the share of U.S. imports by quantity; share of value is the share of U.S. imports by value; ratio are U.S. imports to production.

Figure 4.1 AAM: U.S. import quantities and average unit values, by source and period

* * * * * * *

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

Table 4.3 AAM: Changes in U.S. imports, by source and period

%Δ is percent change; ppt Δ is percentage point change in share or ratio; quantity in 1,000 pounds; value in 1,000 dollars; unit value in dollars per pound; interim is January to September

Source	Measure	2021 to 2023	2021 to 2022	2022 to 2023	Interim 2023 to 2024
China	%Δ Quantity	▲***	▲***	▲***	▲***
Nonsubject sources	%Δ Quantity	▲***	▼***	▲***	▲***
All import sources	%Δ Quantity	▲***	▲***	▲***	▲***
China	%Δ Value	▲***	▲***	▲***	▼***
Nonsubject sources	%Δ Value	▲***	▼***	▲***	▲***
All import sources	%Δ Value	▲***	▲***	▲***	▼***
China	%Δ Unit value	▲***	▲***	▲***	▼***
Nonsubject sources	%Δ Unit value	▼***	▼***	▲***	▲***
All import sources	%Δ Unit value	▲***	▲***	▲***	▼***
China	ppt Δ Quantity	▲***	▲***	▼***	▼***
Nonsubject sources	ppt Δ Quantity	▼***	▼***	▲***	▲***
All import sources	ppt Δ Quantity	***	***	***	***
China	ppt Δ Value	▲***	▲***	▼***	▼***
Nonsubject sources	ppt Δ Value	▼***	▼***	▲***	▲***
All import sources	ppt Δ Value	***	***	***	***
China	ppt Δ Ratio	▼***	▼***	▼***	▼***
Nonsubject sources	ppt Δ Ratio	▼***	▼***	▲***	▼***
All import sources	ppt Δ Ratio	▼***	▼***	▼***	▼***

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

Note: 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.

Imports from China, by quantity and value, accounted for the vast majority of total imports of AAM between 2021 and 2023 (*** percent) and in interim 2024 (*** percent and *** percent). The quantity and value of imports from China increased in every year between 2021 and 2023, most noticeably from 2021 to 2022, ending *** percent and *** percent higher, respectively.[3] Consequently, the average unit value of imports from China increased by *** percent over that period. The quantity of imports from China was slightly higher in interim 2024 than in interim 2023, while the value was more noticeably lower.[4] Consequently, the average unit value of imports from China was *** percent lower in interim 2024 than in interim 2023.

The quantity and value of nonsubject imports fluctuated, decreasing from 2021 to 2022, then increasing at a higher rate from 2022 to 2023, ending *** percent and *** percent higher overall, respectively. Despite the overall increase, nonsubject imports continued to account for a small share of total imports. The average unit value of nonsubject imports also fluctuated, decreasing from 2021 to 2022, then increasing at a lower rate from 2022 to 2023, ending *** percent lower overall. The quantity and value of nonsubject imports was more than two times higher in interim 2024 than in interim 2023. The average unit value of nonsubject imports was slightly higher in interim 2024 than in interim 2023. The average unit value of nonsubject imports was lower than the average unit value of imports from China throughout the period for which data were collected.

[3] ***. ***, January 9, 2025, p. 1; email from ***, January 13, 2025; and email from ***, January 10, 2025.

[4] ***. As a result, the quantity of imports from China was similar in the interim periods. ***. Email from ***, January 10, 2025 and email from ***, January 13, 2025. Regarding to the change in value between the interim periods, in addition to ***, five other firms reported less value in imports from China in interim 2024 than in interim 2023, more than offsetting the higher value reported by ***.

Table 4.4 presents data on U.S. imports from China by composition. Loose AAM accounted for the majority of imports from China, by quantity, throughout the period for which data were collected. The quantity of imports of loose AAM and AAM inside batteries increased from 2021 to 2023. The quantity of imports of loose AAM was lower in interim 2024 than in interim 2023, while the quantity of imports of AAM inside batteries was higher.

Table 4.4 AAM: U.S. importers' U.S. imports from China, by composition and period

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

Composition	Measure	2021	2022	2023	Interim 2023	Interim 2024
Loose AAM	Quantity	***	***	***	***	***
AAM in batteries	Quantity	***	***	***	***	***
Other further processed AAM	Quantity	***	***	***	***	***
All compositions	Quantity	***	***	***	***	***
Loose AAM	Value	***	***	***	***	***
AAM in batteries	Value	***	***	***	***	***
Other further processed AAM	Value	***	***	***	***	***
All compositions	Value	***	***	***	***	***
Loose AAM	Unit value	***	***	***	***	***
AAM in batteries	Unit value	***	***	***	***	***
Other further processed AAM	Unit value	***	***	***	***	***
All compositions	Unit value	***	***	***	***	***
Loose AAM	Share of quantity	***	***	***	***	***
AAM in batteries	Share of quantity	***	***	***	***	***
Other further processed AAM	Share of quantity	***	***	***	***	***
All compositions	Share of quantity	100.0	100.0	100.0	100.0	100.0
Loose AAM	Share of value	***	***	***	***	***
AAM in batteries	Share of value	***	***	***	***	***
Other further processed AAM	Share of value	***	***	***	***	***
All compositions	Share of value	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 "—".

Three firms *** imported only loose AAM; two firms (***) imported only AAM inside batteries; and four firms (***) imported loose AAM and AAM inside batteries. *** in interim 2024.

Table 4.5 presents data on imports from nonsubject sources by composition. All or nearly all reported imports from nonsubject sources between 2021 and 2023 were loose AAM. AAM in batteries accounted for a larger share of imports from nonsubject sources in interim 2024. Five firms (***) imported only loose AAM from nonsubject sources and one firm (***) imported loose AAM and AAM in batteries from nonsubject sources.

Table 4.5 AAM: U.S. importers' U.S. imports from nonsubject sources, by composition and period

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

Composition	Measure	2021	2022	2023	Interim 2023	Interim 2024
Loose AAM	Quantity	***	***	***	***	***
AAM in batteries	Quantity	***	***	***	***	***
Other further processed AAM	Quantity	***	***	***	***	***
All compositions	Quantity	***	***	***	***	***
Loose AAM	Value	***	***	***	***	***
AAM in batteries	Value	***	***	***	***	***
Other further processed AAM	Value	***	***	***	***	***
All compositions	Value	***	***	***	***	***
Loose AAM	Unit value	***	***	***	***	***
AAM in batteries	Unit value	***	***	***	***	***
Other further processed AAM	Unit value	***	***	***	***	***
All compositions	Unit value	***	***	***	***	***
Loose AAM	Share of quantity	***	***	***	***	***
AAM in batteries	Share of quantity	***	***	***	***	***
Other further processed AAM	Share of quantity	***	***	***	***	***
All compositions	Share of quantity	100.0	100.0	100.0	100.0	100.0
Loose AAM	Share of value	***	***	***	***	***
AAM in batteries	Share of value	***	***	***	***	***
Other further processed AAM	Share of value	***	***	***	***	***
All compositions	Share of value	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 4.6 presents data on imports from all sources by composition.

Table 4.6 AAM: U.S. importers' U.S. imports from all import sources, by composition and period

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

Composition	Measure	2021	2022	2023	Interim 2023	Interim 2024
Loose AAM	Quantity	***	***	***	***	***
AAM in batteries	Quantity	***	***	***	***	***
Other further processed AAM	Quantity	***	***	***	***	***
All compositions	Quantity	***	***	***	***	***
Loose AAM	Value	***	***	***	***	***
AAM in batteries	Value	***	***	***	***	***
Other further processed AAM	Value	***	***	***	***	***
All compositions	Value	***	***	***	***	***
Loose AAM	Unit value	***	***	***	***	***
AAM in batteries	Unit value	***	***	***	***	***
Other further processed AAM	Unit value	***	***	***	***	***
All compositions	Unit value	***	***	***	***	***
Loose AAM	Share of quantity	***	***	***	***	***
AAM in batteries	Share of quantity	***	***	***	***	***
Other further processed AAM	Share of quantity	***	***	***	***	***
All compositions	Share of quantity	100.0	100.0	100.0	100.0	100.0
Loose AAM	Share of value	***	***	***	***	***
AAM in batteries	Share of value	***	***	***	***	***
Other further processed AAM	Share of value	***	***	***	***	***
All compositions	Share of value	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 "—".

U.S. shipments by product form

Table 4.7 presents data on U.S. importers' U.S. shipments of imports from China by product form. Blended graphite AAM accounted for the largest share of U.S. shipments of AAM from China throughout the period for which data were collected.[5] Synthetic graphite AAM accounted for the second largest share in every period, except 2022, while natural graphite AAM accounted for the smallest share in every period, except 2022.

Table 4.7 AAM: U.S. importers' U.S. shipments of imports from China, by product form and period

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

Product form	Measure	2021	2022	2023	Interim 2023	Interim 2024
Natural	Quantity	***	***	***	***	***
Synthetic	Quantity	***	***	***	***	***
Blended	Quantity	***	***	***	***	***
All product forms	Quantity	***	***	***	***	***
Natural	Value	***	***	***	***	***
Synthetic	Value	***	***	***	***	***
Blended	Value	***	***	***	***	***
All product forms	Value	***	***	***	***	***
Natural	Unit value	***	***	***	***	***
Synthetic	Unit value	***	***	***	***	***
Blended	Unit value	***	***	***	***	***
All product forms	Unit value	***	***	***	***	***
Natural	Share of quantity	***	***	***	***	***
Synthetic	Share of quantity	***	***	***	***	***
Blended	Share of quantity	***	***	***	***	***
All product forms	Share of quantity	100.0	100.0	100.0	100.0	100.0
Natural	Share of value	***	***	***	***	***
Synthetic	Share of value	***	***	***	***	***
Blended	Share of value	***	***	***	***	***
All product forms	Share of value	100.0	100.0	100.0	100.0	100.0

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

Note: Data are understated since several importers were unable to separate their U.S. shipments by product form.

[5] ***.

The quantities and values of U.S. shipments of each type of AAM from China increased from 2021 to 2023, most noticeably from 2021 to 2022. The quantities and values of U.S. shipments of natural graphite AAM and blended graphite AAM from China were lower in interim 2024 than in interim 2023, while the quantity and value of U.S. shipments of synthetic graphite AAM from China were higher. ***.

Table 4.8 presents data on U.S. importers' U.S. shipments of AAM from nonsubject sources by product form. Blended graphite AAM accounted for the largest share of U.S. shipments of AAM from nonsubject sources in 2021, but the smallest share for the rest of the period for which data were collected. Natural graphite AAM accounted for the vast majority of U.S. shipments of AAM from nonsubject sources in every period, except 2021. Synthetic graphite AAM accounted for the second largest share of U.S. shipments of AAM from nonsubject sources throughout the period for which data were collected.

The quantities and values of U.S. shipments of natural graphite AAM and synthetic graphite AAM from nonsubject sources increased from 2021 to 2023, while the quantity and value of U.S. shipments of blended graphite AAM from nonsubject sources decreased. The quantities and values of U.S. shipments of each type of AAM from nonsubject sources were higher in interim 2024 than in interim 2023.

Table 4.8 AAM: U.S. importers' U.S. shipments of imports from nonsubject sources, by product form and period

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

Product form	Measure	2021	2022	2023	Interim 2023	Interim 2024
Natural	Quantity	***	***	***	***	***
Synthetic	Quantity	***	***	***	***	***
Blended	Quantity	***	***	***	***	***
All product forms	Quantity	***	***	***	***	***
Natural	Value	***	***	***	***	***
Synthetic	Value	***	***	***	***	***
Blended	Value	***	***	***	***	***
All product forms	Value	***	***	***	***	***
Natural	Unit value	***	***	***	***	***
Synthetic	Unit value	***	***	***	***	***
Blended	Unit value	***	***	***	***	***
All product forms	Unit value	***	***	***	***	***
Natural	Share of quantity	***	***	***	***	***
Synthetic	Share of quantity	***	***	***	***	***
Blended	Share of quantity	***	***	***	***	***
All product forms	Share of quantity	100.0	100.0	100.0	100.0	100.0
Natural	Share of value	***	***	***	***	***
Synthetic	Share of value	***	***	***	***	***
Blended	Share of value	***	***	***	***	***
All product forms	Share of value	100.0	100.0	100.0	100.0	100.0

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

Note: Data are understated since several importers were unable to separate their U.S. shipments by product form.

Table 4.9 presents data on U.S. importers' U.S. shipments of imports from all sources by product form.

Table 4.9 AAM: U.S. importers' U.S. shipments of imports from all sources, by product form and period

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

Product form	Measure	2021	2022	2023	Interim 2023	Interim 2024
Natural	Quantity	***	***	***	***	***
Synthetic	Quantity	***	***	***	***	***
Blended	Quantity	***	***	***	***	***
All product forms	Quantity	***	***	***	***	***
Natural	Value	***	***	***	***	***
Synthetic	Value	***	***	***	***	***
Blended	Value	***	***	***	***	***
All product forms	Value	***	***	***	***	***
Natural	Unit value	***	***	***	***	***
Synthetic	Unit value	***	***	***	***	***
Blended	Unit value	***	***	***	***	***
All product forms	Unit value	***	***	***	***	***
Natural	Share of quantity	***	***	***	***	***
Synthetic	Share of quantity	***	***	***	***	***
Blended	Share of quantity	***	***	***	***	***
All product forms	Share of quantity	100.0	100.0	100.0	100.0	100.0
Natural	Share of value	***	***	***	***	***
Synthetic	Share of value	***	***	***	***	***
Blended	Share of value	***	***	***	***	***
All product forms	Share of value	100.0	100.0	100.0	100.0	100.0

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

Note: Data are understated since several importers were unable to separate their U.S. shipments by product form.

Negligibility

The statute requires that an investigation be terminated without an injury determination if imports of the subject merchandise are found to be negligible.[6] 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.[7] As presented in table 4.10, imports from China accounted for *** percent of total imports of AAM, by quantity, between December 2023 and November 2024.

Table 4.10 AAM: U.S. imports in the twelve-month period preceding the filing of the petitions, December 2023 through November 2024

Quantity in 1,000 pounds; share in percent

Source of imports	Quantity	Share of quantity
China	***	***
Nonsubject sources	***	***
All import sources	***	100.0

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

[6] 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)).

[7] Section 771 (24) of the Act (19 U.S.C § 1677(24)).

Apparent U.S. consumption and market shares

Quantity

Table 4.11 and figure 4.2 present data on apparent U.S. consumption and U.S. market shares for AAM, by quantity. Apparent U.S. consumption increased in each year between 2021 to 2023, most noticeably from 2021 to 2022, ending *** percent higher. It was *** percent higher in interim 2024 than in interim 2023. U.S. producers' market share was *** percent in 2022 and 2023 and was *** percent in interim 2024. The market share of U.S. shipments of imports from China was consistently *** percent from 2021 to 2023. It was *** percentage points lower in interim 2024 than in interim 2023, but remained *** percent. The market share of U.S. shipments of nonsubject imports decreased by *** percentage points from 2021 to 2023 but was *** percentage points higher in interim 2024 than in interim 2023. Despite the increase between the interim periods, the market share of U.S. shipments of nonsubject imports remained *** percent.

Table 4.11 AAM: Apparent U.S. consumption and market shares based on quantity, by source and period

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

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Quantity	***	***	***	***	***
China	Quantity	***	***	***	***	***
Nonsubject sources	Quantity	***	***	***	***	***
All import sources	Quantity	***	***	***	***	***
All sources	Quantity	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
China	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	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 "—".

Figure 4.2 AAM: Apparent U.S. consumption based on quantity, by source and period

* * * * * * *

Source: Compiled from data submitted in response to Commission questionnaires

Value

Table 4.12 and figure 4.3 present data on apparent U.S. consumption and U.S. market shares for AAM, by value. Apparent U.S. consumption increased by *** percent from 2021 to 2023, with the majority of the increase occurring from 2021 to 2022. However, it was *** percent lower in interim 2024 than in interim 2023. U.S. producers' market share was *** percent in 2022, *** in 2023, and *** percent in interim 2024. The market share of U.S. shipments of import from China increased by *** percentage points from 2021 to 2023, remaining *** percent, but was *** percentage points lower in interim 2024 than in interim 2023. The market share of U.S. shipments of nonsubject imports decreased by *** percentage points from 2021 to 2023 but was *** percentage points higher in interim 2024 than in interim 2023.

Table 4.12 AAM: Apparent U.S. consumption and market shares based on value, by source and period

Value in 1,000 dollars; share in percent; interim is January to September

Source	Measure	2021	2022	2023	Interim 2023	Interim 2024
U.S. producers	Value	***	***	***	***	***
China	Value	***	***	***	***	***
Nonsubject sources	Value	***	***	***	***	***
All import sources	Value	***	***	***	***	***
All sources	Value	***	***	***	***	***
U.S. producers	Share	***	***	***	***	***
China	Share	***	***	***	***	***
Nonsubject sources	Share	***	***	***	***	***
All import sources	Share	***	***	***	***	***
All sources	Share	100.0	100.0	100.0	100.0	100.0

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

Figure 4.3 AAM: Apparent U.S. consumption based on value, by source and period

* * * * * * *

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

Part 5: Pricing data

Factors affecting prices

Raw material costs

AAM can be produced from either natural graphite or synthetic graphite. Natural graphite is mined, while synthetic graphite is typically produced from needle coke.[1] Domestic producers reported raw materials, as a share of the cost of goods sold (COGS), were *** percent in 2022 and *** percent in 2023.

Graphite flake prices fluctuated up from January 2021 to January 2023, and then decreased until September 2024. Petroleum needle coke fluctuated from July 2023 to September 2023, the period for which data were available. Indexed prices are for these two raw materials are shown in figure 5.1 and table 5.1.

[1] Conference transcript, p. 17 (Taylor).

Figure 5.1 AAM: Select raw materials price indices, by month

* * * * * * *

Source: ***, retrieved January 15, 2025.

Note: Graphite flake is based on the MB-GRA-0042 data series for graphite flake 94% carbon, less than 100 mesh size priced in dollars per metric ton in China on an F.O.B. basis. Petroleum needle coke is based on the MB-GRA-0046 data series for petroleum needle coke with maximum 0.5% Sulphur content in dollars per metric ton in China on an ex-works basis. Note also that the graphic's vertical axis is not set to zero as the point of an indexed analysis is to compare the evolution of a data series relative to the indexed period, not to zero.

Table 5.1 AAM: Select raw materials price indices, by raw material and month

Index, 2023 M07 (July) = 100.0 percent

Period	Graphite flake	Petroleum needle coke
2021 M01	***	***
2021 M02	***	***
2021 M03	***	***
2021 M04	***	***
2021 M05	***	***
2021 M06	***	***
2021 M07	***	***
2021 M08	***	***
2021 M09	***	***
2021 M10	***	***
2021 M11	***	***
2021 M12	***	***
2022 M01	***	***
2022 M02	***	***
2022 M03	***	***
2022 M04	***	***
2022 M05	***	***
2022 M06	***	***
2022 M07	***	***
2022 M08	***	***
2022 M09	***	***
2022 M10	***	***
2022 M11	***	***
2022 M12	***	***
2023 M01	***	***
2023 M02	***	***
2023 M03	***	***
2023 M04	***	***
2023 M05	***	***
2023 M06	***	***
2023 M07 (index month)	100.0	100.0
2023 M08	***	***
2023 M09	***	***
2023 M10	***	***

Table continued.

Table 5.1 continued AAM: Select raw materials price indices, by raw material and month

Index, 2023 M07 (July) = 100.0 percent

Period	Graphite flake	Petroleum needle coke
2023 M11	***	***
2023 M12	***	***
2024 M01	***	***
2024 M02	***	***
2024 M03	***	***
2024 M04	***	***
2024 M05	***	***
2024 M06	***	***
2024 M07	***	***
2024 M08	***	***
2024 M09	***	***

Source: ***, retrieved January 15, 2025.

Note: Graphite flake is based on the MB-GRA-0042 data series for graphite flake 94% carbon, less than 100 mesh size priced in dollars per metric ton in China on an F.O.B. basis. Petroleum needle coke is based on the MB-GRA-0046 data series for petroleum needle coke with maximum 0.5% Sulphur content in dollars per metric ton in China on an ex-works basis.

Transportation costs to the U.S. market

Transportation costs for AAM shipped from China to the United States averaged 1.7 percent during 2023. These estimates were derived from official import data and represent the transportation and other charges on imports.[2]

U.S. inland transportation costs

*** responding U.S. producers reported that they typically arrange transportation to their customers and *** reported the purchaser will arrange transportation.[3] Responding U.S. producers reported that their U.S. inland transportation costs ranged from *** to *** percent while *** responding importers reported costs of *** to *** percent.

[2] 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 number 2504.10.5000 and 3801.10.5000.

[3] Importers did not provide information on inland U.S. transportation costs.

Pricing practices

Pricing methods

Most U.S. producers and all importers reported setting prices using contracts (table 5.2).

Table 5.2 AAM: Count of U.S. producers' and importers' reported price setting methods

Method	U.S. producers	Importers
Transaction-by-transaction	2	0
Contract	3	2
Set price list	0	0
Other	0	0
Responding firms	4	2

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.

U.S. producers reported selling *** of their AAM in 2023 in the spot market (table 5.3).

Table 5.3 AAM: U.S. producers' and importers' shares of commercial U.S. shipments by type of sale, 2023

Share in percent

Type of sale	U.S. producers	Subject importers
Long-term contracts	***	—
Annual contracts	***	—
Short-term contracts	***	—
Spot sales	***	—
Total	100.0	—

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

Note: Because of rounding, figures may not add to the totals shown. 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. producer *** reported that its commercial shipments in 2024 had long-term contracts which averaged *** to *** days, ***, fixed ***, and were ***.

Sales terms and discounts

*** U.S. producers reported quoting prices on a delivered basis and *** reported quoting prices on a f.o.b. basis. All responding importers typically quote prices on an f.o.b. One U.S. producer offers *** discounts. Importer *** offers quantity and total volume discounts.

Price and purchase cost 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 AAM products shipped to unrelated U.S. customers during January 2021 to September 2024. Firms that imported these products from China for their own use were requested to provide import purchase cost data.

Product 1.-- Synthetic active anode material, not coated, not blended, 50 microns or smaller, sold in sacks of 2,500 pounds

Product 2.-- Natural active anode material, not coated, not blended, 50 microns or smaller, sold in sacks of 2,500 pounds

Price data

Two U.S. producers provided usable pricing data for sales of the product 1, although not all firms reported pricing for all quarters.[4] Pricing data reported by these firms accounted for approximately *** percent of U.S. producers' U.S. shipments of AAM.[5] ***. Price data for product 1 are presented in table 5.4 and figure 5.2.

[4] No firms provided data for product 2. 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.

[5] ***.

Table 5.4 AAM: Weighted-average prices and quantities of domestic product 1, by quarter

Price in dollars per pound, quantity in 1,000 pounds.

Period	U.S. price	U.S. quantity
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: Synthetic active anode material, not coated, not blended, 50 microns or smaller, sold in sacks of 2,500 pounds. ***. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Quantities shown as "0" represent values greater than zero, but less than 500 pounds. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Import purchase cost data

One importer *** reported useable import purchase cost data for products 1-2.[6] Purchase cost data reported by this firm accounted for *** percent of imports from China in ***. Landed duty-paid purchase cost data for imports from China are presented in tables 5.5 to 5.6 and figure 5.2, along with U.S. producers' sales prices.[7]

Importers reporting import purchase cost data were asked to provide additional information regarding the costs and benefits of importing AAM themselves.

One (***) importer reported that they incurred additional costs beyond landed duty-paid costs by importing AAM themselves rather than purchasing from a U.S. producer or

[6] Supplemental purchase cost data for alternative pricing products from *** are presented in Appendix E.

[7] LDP import value does not include any potential additional costs that a purchaser may incur by importing rather than purchasing from another importer or U.S. producer. Price-cost differences are based on LDP import values whereas margins of underselling/overselling are based on importer sales prices.

U.S. importer. The importer estimated the total additional cost incurred as *** percent compared to the landed duty-paid value. Firms were also asked to identify specific additional costs they incurred as a result of importing AAM. Reported costs consist of *** percent for the section 301 China tariff and *** percent for ocean transportation costs.

Firms were also asked to describe how these additional costs incurred by importing AAM themselves compares with additional costs incurred when purchasing from a U.S. producer or U.S. importer. *** estimated that the additional costs of purchasing from a U.S. producer are approximately *** percent.

Two of five importers reported that they compare costs of importing to the cost of purchasing from a U.S. producer in determining whether to import AAM, two importers compare costs to purchasing from a U.S. importer, and three importers do not compare costs of purchasing from either U.S. producers or importers.

Five importers identified benefits from importing AAM themselves instead of purchasing from U.S. producers or importers. Importer *** reported it import to secure cost competitiveness and several years of experience in mass production. Importer *** reported U.S. producers have been and are currently incapable of supplying volumes that it needs as it does not have sufficient and adequate manufacturing capabilities and facilities; AAM made by U.S. producers are still being evaluated for quality and safety; and most Chinese producers sell directly to U.S. customers, and thus do not export through U.S. importers. Importers *** reported imported AAM meets their technical specifications or qualification requirements. Importer *** reported that China is the largest global supplier of graphite and is presumed to have a price advantage.

Firms were also asked whether the import cost (both excluding and including additional costs) of AAM they imported are lower than the price of purchasing AAM from a U.S. producer or importer. Two importers *** estimated that they saved between *** percent compared to purchasing the product from a U.S. producer.[8]

[8] *** reported that it based its estimates on previous company transactions and market research, and *** reported basing its estimates on market research.

Table 5.5 AAM: Import landed duty-paid purchase costs and domestic prices, quantities of product 1, and price-cost differentials, by source and quarter

Price and LDP value in dollars per pound, quantity in 1,000 pounds, price-cost differential in percent.

Period	U.S. price	U.S. quantity	China LDP unit cost	China quantity	China price-cost differential
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: Synthetic active anode material, not coated, not blended, 50 microns or smaller, sold in sacks of 2,500 pounds. Shares and ratios shown as "0.0" represent values greater than zero, but less than "0.05" percent. Quantities shown as "0" represent values greater than zero, but less than 500 pounds. Zeroes, null values, and undefined calculations are suppressed and shown as "—".

Note: U.S. producer price data is the same as that presented in table 5.4.

Table 5.6 AAM: Import landed duty-paid purchase costs and domestic prices, quantities of product 2, and price-cost differentials, by source and quarter

Price and LDP value in dollars per pound, quantity in 1,000 pounds, price-cost differential in percent.

Period	U.S. price	U.S. quantity	China LDP unit cost	China quantity	China price-cost differential
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: Natural active anode material, not coated, not blended, 50 microns or smaller, sold in sacks of 2,500 pounds. 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 5.2 AAM: Weighted-average f.o.b. prices or landed duty-paid purchase costs, and quantities of domestic and imported product 1 and 2, by source and quarter

U.S. price (Product 1) and import purchase cost (Product 1 and 2)

* * * * * * *

Volume of product 1 (U.S. price and import purchase cost) and 2 (import purchase cost)

* * * * * * *

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

Price and purchase cost trends

In general, domestic prices decreased during January 2021 to September 2024. However, volumes were minimal during this period, hence its difficult to establish a clear trend. Table 5.7 summarizes the price trends, by country and by product.

Table 5.7 AAM: Summary of price and cost data, by product and source, January 2021 through September 2024

Volume in 1,000 pounds, price and cost in dollars per pound

Product	Source	Number of quarters	Volume of shipments	Low price/ cost	High price/ cost	First quarter price/ cost	Last quarter price/ cost	Quarterly change
Product 1	United States	9	***	***	***	***	***	***
Product 1	China price	—	***	***	***	***	***	***
Product 1	China cost	2	***	***	***	***	***	***
Product 2	United States	—	***	***	***	***	***	***
Product 2	China price	—	***	***	***	***	***	***
Product 2	China cost	2	***	***	***	***	***	***

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

Note: Percentage change for product 1 U.S. prices is from the third quarter in 2022 to the third quarter in 2024. Percentage change for products 1 and 2 China costs are from the second quarter in 2024 to the third quarter in 2024.

Price and purchase cost comparisons

Price comparisons

***.

Price-cost comparisons

As shown in table 5.8, landed duty-paid costs for AAM imported from China were below the sales price for U.S.-produced product in 2 of 2 instances (*** pounds); price-cost differentials ranged from *** percent.

Table 5.8 AAM: Instances of lower and higher import purchase costs and the range and average of price-cost differentials, by product

Quantity in 1,000 pounds; price-cost differential in percent

Product	Type	Number of quarters	Quantity	Average price-cost differential	Min price-cost differential	Max price-cost differential
Product 1	Lower than U.S. price	2	***	***	***	***
Product 2	Lower than U.S. price	—	***	***	***	***
Total	Lower than U.S. price	2	***	***	***	***
Product 1	Higher than U.S. price	—	***	***	***	***
Product 2	Higher than U.S. price	—	***	***	***	***
Total	Higher than U.S. price	—	***	***	***	***

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. 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 "—".

Lost sales and lost revenue

The Commission requested that U.S. producers of AAM report purchasers with which they experienced instances of lost sales or revenue due to competition from imports of AAM from China during January 2021 to September 2024. Of the 4 responding U.S. producers, 1 reported having to reduce prices, none reported having to roll back announced price increases, and 4 firms reported that they had lost sales.

***

Staff contacted and received a response from one purchaser ***. The responding purchaser reported purchasing *** pounds of AAM during January 2021 to September 2024 (table 5.9).

During 2023, the responding purchaser purchased all AAM from nonsubject countries.[9] The purchaser was asked about changes in its purchasing patterns from different sources since 2021. Purchaser *** reported ***. The

[9] In 2021, *** purchased ***. In 2022, it purchased ***.

explanation for ***.[10]

Purchaser *** reported that, since 2021, it *** purchased imported AAM from China instead of U.S.-produced product. The purchaser reported that subject import prices were *** than U.S.-produced product, and *** reason for the decision to purchase imported product rather than U.S.-produced product. The purchaser identified *** as non-price reasons for purchasing imported rather than U.S.-produced product.

The responding purchaser reported U.S. producers *** reduced prices in order to compete with lower-priced imports from China.

Table 5.9 AAM: Purchasers' reported purchases and imports, by firm and source

Quantity in 1,000 pounds, change in percentage points

Purchaser	Domestic quantity	Subject quantity	All other quantity	Change in domestic share	Change in subject country share	Change in all other share
***	***	***	***	***	***	***

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 5.10 AAM: Purchasers' responses to purchasing subject imports instead of domestic product, by firm

Quantity in 1,000 pounds

Purchaser	Purchased subject imports instead of domestic	Imports priced lower	Choice based on price	Quantity	Explanation
***	***	***	***	***	***

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

Note: ***. ***.

[10] ***.

Table 5.11 AAM: Purchasers' responses to U.S. producer price reductions, by firm

Purchaser	Reported producers lowered prices	Estimated percent of U.S. price reduction	Explanation
***	***	***	***

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

Part 6: Financial experience of U.S. producers

Background[1]

Two U.S. producers (***) provided usable financial results on their AAM operations. *** reported data based on IFRS, while *** reported data on the basis of GAAP, and *** reported financial data on a calendar year basis. *** started commercial production in 2022, while *** started in 2024.[2] [3] *** additional U.S. producers (***) provided a response to the U.S. producers' questionnaire. Although *** has incurred some initial start-up costs, *** generated no sales during the period for which data were collected.[4] The Commission's general practice, as reflected in the staff report, is to exclude reported costs/expenses from the industry's financial results when no corresponding sales are reported.[5]

Figure 6.1 presents each responding (with useable data) firm's share of the total reported net sales quantity in interim 2024.

[1] The following abbreviations are used in the tables and/or text of this section: generally accepted accounting principles ("GAAP"), international financial reporting standards ("IFRS"), 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] U.S. producers' questionnaire response, sections II-8 and III-9a.

[3] ***. Email from ***, January 16, 2025, and U.S. producers' questionnaire response, section II-2a.

[4] *** are included in this section of the report as U.S. producers because they projected commercial production of AAM in 2025 and 2026, with *** already in production during the period in which data were collected. U.S. producers' questionnaire responses, section V-13.

[5] For financial reporting purposes there are valid instances (e.g., during start-up operations) when no sales are reported and only costs/expenses incurred. The Commission, however, generally limits the financial results evaluated to periods when at least some level of sales have been generated that can be matched against relevant costs/expenses. This approach attempts to maximize instances when the matching principle is reflected in the financial results evaluated by the Commission and minimize instances when it is not. Note: The matching principle is an accounting principle that requires businesses to record expenses in the same period as the revenues they generate. It is a key part of GAAP and accrual basis accounting.

Figure 6.1 AAM: U.S. producers' share of net sales quantity in interim 2024, by firm

* * * * * * *

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

Note: *** did not report net sales in interim 2024.

Operations on AAM

Table 6.1 presents aggregated data on U.S. producers' operations in relation to AAM, while table 6.2 presents corresponding changes in AUVs. Table 6.3 presents data on fixed and variable costs, and table 6.4 presents selected company-specific financial data.

Table 6.1 AAM: U.S. producers' results of 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	***	***	***	***	***
Total net sales	Value	***	***	***	***	***
COGS: Raw materials	Value	***	***	***	***	***
COGS: Direct labor	Value	***	***	***	***	***
COGS: Other factory	Value	***	***	***	***	***
COGS: Total	Value	***	***	***	***	***
Gross profit or (loss)	Value	***	***	***	***	***
SG&A expenses	Value	***	***	***	***	***
Operating income or (loss)	Value	***	***	***	***	***
Other expense / (income), net	Value	***	***	***	***	***
Net income or (loss)	Value	***	***	***	***	***
Depreciation/amortization	Value	***	***	***	***	***
Cash flow	Value	***	***	***	***	***
COGS: Raw materials	Ratio to NS	***	***	***	***	***
COGS: Direct labor	Ratio to NS	***	***	***	***	***
COGS: Other factory	Ratio to NS	***	***	***	***	***
COGS: Total	Ratio to NS	***	***	***	***	***
Gross profit	Ratio to NS	***	***	***	***	***
SG&A expense	Ratio to NS	***	***	***	***	***
Operating income or (loss)	Ratio to NS	***	***	***	***	***
Net income or (loss)	Ratio to NS	***	***	***	***	***

Table continued.

Table 6.1 (Continued) AAM: U.S. producers' results of 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	***	***	***	***	***
COGS: Direct labor	Share	***	***	***	***	***
COGS: Other factory	Share	***	***	***	***	***
COGS: Total	Share	***	***	***	***	***
Total net sales	Unit value	***	***	***	***	***
COGS: Raw materials	Unit value	***	***	***	***	***
COGS: Direct labor	Unit value	***	***	***	***	***
COGS: Other factory	Unit value	***	***	***	***	***
COGS: Total	Unit value	***	***	***	***	***
Gross profit or (loss)	Unit value	***	***	***	***	***
SG&A expenses	Unit value	***	***	***	***	***
Operating income or (loss)	Unit value	***	***	***	***	***
Net income or (loss)	Unit value	***	***	***	***	***
Operating losses	Count	***	***	***	***	***
Net losses	Count	***	***	***	***	***
Data	Count	***	***	***	***	***

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 "—".

Note: Data presented in this table include responses from *** only.

Table 6.2 AAM: Changes in AUVs between comparison periods

Changes in percent; interim is January to September

Item	2021–23	2021–22	2022–23	Interim 2023–24
Total net sales	***	***	▼***	▼***
COGS: Raw materials	***	***	▲***	▼***
COGS: Direct labor	***	***	▲***	▼***
COGS: Other factory	***	***	▲***	▼***
COGS: Total	***	***	▲***	▼***

Table continued.

Table 6.2 (Continued) AAM: Changes in AUVs between comparison periods

Changes in dollars per pound; interim is January to September

Item	2021–23	2021–22	2022–23	Interim 2023–24
Total net sales	▲***	▲***	▼***	▼***
COGS: Raw materials	▲***	▲***	▲***	▼***
COGS: Direct labor	▲***	▲***	▲***	▼***
COGS: Other factory	▲***	▲***	▲***	▼***
COGS: Total	▲***	▲***	▲***	▼***
Gross profit or (loss)	▼***	▼***	▼***	▲***
SG&A expense	▲***	▲***	▲***	▼***
Operating income or (loss)	▼***	▼***	▼***	▲***
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 AAM: U.S. producers' variable and fixed costs in 2023 and interim 2024, by type and classification.

Value in 1,000 dollars; shares in percent; interim is January to September

Item	Measure	COGS	SG&A expenses	Operating expenses
Variable costs in 2023	Value	***	***	***
Fixed costs in 2023	Value	***	***	***
Variable and fixed costs in 2023	Value	***	***	***
Variable costs in 2023	Share	***	***	***
Fixed costs in 2023	Share	***	***	***
Variable and fixed costs in 2023	Share	100.0	100.0	100.0
Variable costs in interim 2024	Value	***	***	***
Fixed costs in interim 2024	Value	***	***	***
Variable and fixed costs in interim 2024	Value	***	***	***
Variable costs in interim 2024	Share	***	***	***
Fixed costs in interim 2024	Share	***	***	***
Variable and fixed costs in interim 2024	Share	100.0	100.0	100.0

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

Table 6.4 AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

Table continued.

Table 6.4 (Continued) AAM: U.S. producers' 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
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

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 "—".

Net sales

No revenue was reported in 2021 by U.S. producers. One U.S. producer *** reported commercial sales of *** pounds and $*** in 2022, and *** pounds and $*** in 2023.[6] U.S. producers *** reported total commercial sales in interim 2024 of *** pounds and $*** compared to *** pounds and $*** in interim 2023 reported by *** only.[7] [8] [9] The average per pound value of ***'s commercial sales decreased from 2022 to 2023. In interim 2024, ***'s average per pound value was notably lower than that of ***, which resulted in a lower combined per pound value in interim 2024 compared with interim 2023.[10]

Cost of goods sold and gross profit or loss

Raw material costs, direct labor, and other factory costs (reflecting ***'s data) accounted for *** percent of total COGS, respectively, in 2023.[11]

Raw material costs, the second largest component of COGS in all periods with reported data except interim 2024, increased from 2022 to 2023, and were higher in interim 2024 compared with interim 2023. Raw material costs primarily reflect the processing cost of synthetic graphite in 2023 and natural graphite in interim 2024. *** uses synthetic graphite (made with either petroleum coke or coal tar pitch)[12] to produce synthetic AAM, while

[6] ***.

[7] No internal consumption or transfers to related firms were reported during the period for which data were collected.

[8] ***. U.S. producers' questionnaire response, section III-9a.

[9] ***. Email from ***, January 15, 2025.

[10] ***. U.S. producers' questionnaire response, section III-9a.

[11] ***. Calculated from ***'s U.S. producers' questionnaire response, section III-9a.

[12] Petitioners stated that there is no material difference in the cost of petroleum coke and tar pitch used to make synthetic graphite, and that both result in a similar end product. Conference transcript, p. 97 (Kapur).

*** uses natural graphite to produce natural AAM.[13] [14] [15] On an average per pound basis and as a ratio to net sales, raw material costs notably increased from 2022 to 2023, and were lower in interim 2024 compared with interim 2023.[16]

Direct labor costs, the smallest component of COGS in all periods with reported data except interim 2024, increased from 2022 to 2023, and were higher in interim 2024 compared with interim 2023.[17] On an average per pound basis and as a ratio to net sales, direct labor costs notably increased from 2022 to 2023, and were lower in interim 2024 compared with interim 2023.

Other factory costs, the largest component of COGS in all periods with reported data except interim 2024 decreased from 2022 to 2023, and were notably higher in interim 2024 compared with interim 2023. On an average per pound basis and as a ratio to net sales, other factory costs notably increased from 2022 to 2023, and were lower in interim 2024 compared with interim 2023.[18]

[13] Petitioners explained that synthetic graphite costs more than natural graphite because of the high energy requirement to heat the material up, but could not provide an estimate of the difference between the two primary inputs stating that "it all depends upon the specifications one is asking on natural graphite versus synthetic graphite. That can entail additional processing and the processing costs can go up." Conference transcript, p. 82 (Taylor), p. 83 (Kapur), and U.S. producers' questionnaire response, section III-9c.

[14] ***. U.S. producers' questionnaire response, section III-9c.

[15] ***. ***'s U.S. producers questionnaire response, sections III-6, III-7a, and III-7b.

[16] ***. Email from ***, January 17, 2025.

[17] ***. Email from ***, January 10, 2025.

[18] ***. Email from ***, January 14, 2025.

Total COGS increased from 2022 to 2023 and was higher in interim 2024 compared with interim 2023. On an average per pound basis and as a ratio to net sales, total COGS notably increased from 2022 to 2023 (***), and was lower in interim 2024 compared with interim 2023.[19]

Table 6.3 presents fixed and variable costs. The COGS value is $*** in 2023 and $*** in interim 2024. In 2023, *** percent of total COGS reflected variable costs, and *** percent reflected fixed costs. In interim 2024, *** percent of total COGS reflected variable costs and *** percent reflected fixed costs.

As shown in table 6.4, ***'s gross income decreased from *** in 2022 to a larger *** in 2023, and was lower/worse in interim 2024 at *** compared with *** in interim 2023. *** reported *** in interim 2024. For *** firms combined, the *** was worse in interim 2024 at *** compared with interim 2023 at ***. As a ratio to net sales, gross profit was *** in all periods with reported data and had a similar trend to the overall gross profit values in 2022 and 2023, but improved in interim 2024 compared with interim 2023.

SG&A expenses and operating income or loss

SG&A expenses increased from $*** in 2022 to $*** in 2023, and were higher in interim 2024 at $*** compared with interim 2023 at $***.[20]

[19] Petitioners stated that in addition to raw material inputs, energy costs are a large component of COGS for the production of synthetic and natural graphite, and that the relative share of fixed costs in relation to overall production costs depends on the scale of the facility. Conference transcript, pp. 97 to 98 (Hira).

[20] ***. U.S. producers' questionnaire response, section III-2, and Email from ***, January 10, 2025.

[21] [22] [23] The corresponding SG&A expense ratio (total SG&A expenses divided by total sales value) increased from 2022 to 2023, and was lower in interim 2024 compared with interim 2023.[24]

As shown in table 6.3, *** percent of SG&A expenses were variable, and *** percent were fixed in 2023. In interim 2024, *** percent of SG&A expenses were variable and *** percent were fixed.

As shown in table 6.4, ***'s operating income decreased from *** to a larger *** and improved in interim 2024 at *** compared with interim 2023 at ***. *** reported *** in interim 2024. For *** firms combined, the *** was worse in interim 2024 at *** compared with interim 2023 at ***. As a ratio to net sales, operating income remained *** and worsened from 2022 to 2023, but improved in interim 2024 compared with interim 2023.

*** responding U.S. producers reported that a financial breakeven point for their sales of AAM did not occur during the period for which data were collected.[25] Based on the data in table 6.3, a breakeven point is not calculable for the firms reporting financial data in 2023 or interim 2024, because per unit variable costs exceeded per unit net sales values in both periods.[26]

[21] ***. U.S. producers' questionnaire response, section III-9a.

[22] ***. U.S. producers' questionnaire response, section III-9e.

[23] ***. Emails from ***, January 10 and 16, 2025.

[24] ***. Email from ***, January 17, 2025.

[25] U.S. producers' questionnaire response, section V-14.

[26] Commission staff used the standard breakeven formula used in cost accounting, relying on the per-unit fixed and variable operating costs presented in table 6.3. The total fixed costs are divided by the per-unit sales value minus the per-unit variable costs. The costs are based on actual costs and actual quantities sold for 2023 and interim 2024.

All other expenses and net income or loss

Classified below the operating income level are interest expense, other expenses, and other income. Interest expense, other expenses, and other income were combined and only the net amount is shown as "other expense or (income), net." As shown in table 6.1, the net amount primarily reflecting other income was $*** in 2023, $*** in interim 2023 and $*** in interim 2024.[27]

As shown in table 6.4, ***'s net income decreased from *** in 2022 to *** in 2023, and was higher (albeit still ***) in interim 2024 at *** compared with *** in interim 2023. *** reported *** in interim 2024. For *** firms combined, the *** was worse in interim 2024 at *** compared with interim 2023 at ***. As a ratio to net sales, net income remained *** and worsened from 2022 to 2023, but improved in interim 2024 compared with interim 2023.[28]

Capital expenditures and research and development expenses

Table 6.5 presents capital expenditures, by firm, and table 6.7 presents R&D expenses, by firm. Tables 6.6 and 6.8 present the firms' narrative explanations of the nature, focus, and significance of their capital expenditures and R&D expenses, respectively. Capital expenditures increased from 2021 to 2023, and were lower in interim 2024 compared with interim 2023. R&D expenses increased from 2021 to 2023, and were higher in interim 2024 compared with interim 2023.

[27] ***. Email from ***, January 10 and 17, 2025.

[28] A variance analysis is not shown due the start-up nature of the U.S. producers.

Table 6.5 AAM: U.S. producers' capital expenditures, by firm and period

Value in 1,000 dollars; interim is January to September

Firm	2021	2022	2023	Interim 2023	Interim 2024
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

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

Table 6.6 AAM: U.S. producers' narrative descriptions of their capital expenditures, by firm

Firm	Narrative on capital expenditures
Anovion	***
GrafTech	***
Novonix	***
SKI US	***
Syrah	***

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

Table 6.7 AAM: U.S. producers' R&D expenses, by firm and period

Value in 1,000 dollars

Firm	2021	2022	2023	Interim 2023	Interim 2024
Anovion	***	***	***	***	***
GrafTech	***	***	***	***	***
Novonix	***	***	***	***	***
SKI US	***	***	***	***	***
Syrah	***	***	***	***	***
All firms	***	***	***	***	***

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

Table 6.8 AAM: U.S. producers' narrative descriptions of their R&D expenses, by firm

Firm	Narrative on R&D expenses
Anovion	***
GrafTech	***
Novonix	***
SKI US	***
Syrah	***

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

Assets and return on assets

Table 6.9 presents data on the U.S. producers' total assets while table 6.10 presents their operating ROA.[29] Table 6.11 presents U.S. producers' narrative responses explaining their major asset categories and any significant changes in asset levels over time. ***'s total assets and *** increased from 2022 to 2023.[30]

Table 6.9 AAM: U.S. producers' total net assets, by firm and period

Value in 1,000 dollars

Firm	2021	2022	2023
Anovion	***	***	***
GrafTech	***	***	***
Novonix	***	***	***
SKI US	***	***	***
Syrah	***	***	***
All firms	***	***	***

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

[29] 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.

[30] ***. U.S. producers' questionnaire response, section III-12a.

Table 6.10 AAM: U.S. producers' ROA, by firm and period

Ratio in percent

Firm	2021	2022	2023
Anovion	***	***	***
GrafTech	***	***	***
Novonix	***	***	***
SKI US	***	***	***
Syrah	***	***	***
All firms	***	***	***

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

Table 6.11 AAM: U.S. producers' narrative descriptions of their total net assets, by firm

Firm	Narrative on assets
Anovion	***
GrafTech	***
Novonix	***
SKI US	***
Syrah	***

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

Capital and investment

The Commission requested U.S. producers of AAM to describe any actual or potential negative effects of imports of AAM from China on their firms' growth, investment, ability to raise capital, development and production efforts, or the scale of capital investments. Table 6.12 presents the number of firms reporting an impact in each category and table 6.13 provides the U.S. producers' narrative responses.

Table 6.12 AAM: 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	4
Denial or rejection of investment proposal	Investment	3
Reduction in the size of capital investments	Investment	4
Return on specific investments negatively impacted	Investment	4
Other investment effects	Investment	0
Any negative effects on investment	Investment	4
Rejection of bank loans	Growth	0
Lowering of credit rating	Growth	0
Problem related to the issue of stocks or bonds	Growth	1
Ability to service debt	Growth	1
Other growth and development effects	Growth	4
Any negative effects on growth and development	Growth	4
Anticipated negative effects of imports	Future	4

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

Note: ***.

Table 6.13 AAM: U.S. producers' 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
Cancellation, postponement, or rejection of expansion projects	***
Return on specific investments negatively impacted	***
Problem related to the issue of stocks or bonds	***
Ability to service debt	***
Other effects on growth and development	***

Item	Firm name and narrative on impact of imports
Other effects on growth and development	***
Other effects on growth and development	***
Other effects on growth and development	***
Anticipated effects of imports	***
Anticipated effects of imports	***
Anticipated effects of imports	***
Anticipated effects 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 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."

The industry in China

The Commission issued foreign producers' or exporters' questionnaires to 29 firms believed to produce and/or export AAM from China.[3] The Commission did not receive a response to the foreign producers' or exporters' questionnaires from a producer/exporter in China.

Table 7.1 presents events in China's AAM industry since January 1, 2021.

Table 7.1 AAM: Important industry events in China since January 1, 2021

Item	Event
Plant openings	April 2022— Guandong Dongdao New Energy Co. Ltd. ("Dongdao") announced plans to open its third AAM plant in the Guandong Leizhou Economic Development Zone.
Plant openings	January 2023— Keda Clean Energy ("Keda") announced construction of a plant in Chongqing with an annual production capacity of 50,000 metric tons (55,116 short tons) of AAM.
Plant openings	September 2023— CNBM Heilongjiang Graphite New Materials ("CNBM") announced expansion of AAM production in Jixi, Heilongjiang Province by adding a beneficiation plant to its mines and existing production facilities.
Plant openings	September 2023— Guoxuan (known outside of China as "Gotion") announced construction of electric vehicle lithium-ion battery plant in Illinois. Gotion received $125 million in capital funding from the Invest in Illinois state funding program, and local property tax abatement for 30 years.
Plant openings	October 2023— BTR New Materials Group Ltd. ("BTR," a subsidiary of China Baoan Group Co. Ltd.) signed agreement with Singaporean company Stellar to build a lithium-ion battery cathode material plant in Indonesia with the support of that country's Ministry of Maritime Affairs and Investment. The proposed facility would have an annual production capacity of 80,000 metric tons (88,185 short tons).
Plant openings	October 2023— Jiangxi Zhengtuo New Energy Technology Co. Ltd. Announced proposal to expand its AAM production facilities in Nanchang City, Jiangxi Province.
Plant openings	December 2023— BTR announced construction of AAM production facilities in Shenzhen with an annual production capacity of 40,000 metric tons (44092 short tons).

[3] These firms were identified through a review of information submitted in the petitions and presented in third-party sources.

Item	Event
Mine completion	December 2023— China Minmetals Graphite Industry Co. Ltd. (“MMG”) announced completion of graphite mining and beneficiation project in Heilongjiang province.
Plant openings	December 2023— BTR signed investment agreement with the Government of Morocco to establish an AAM plant with an annual production capacity of 50,000 metric tons (55,116 short tons).
Mine Expansion project	September 2024— CNBM Heilongjiang Graphite New Minerals Co. Ltd. (“CNBM”) approved by Jixi Natural Resources and Planning Bureau for conversion of agricultural land to graphite mine expansion project in Heilongjiang.
Plant opening proposal	November 2024— Inner Mongolia Hongte New Material Technology filed an environmental impact report for new rare earth metal production facility in Inner Mongolia, which is expected to produce 6,000 tons/year of AAM product.
Plant openings	December 2024— Gotion announced plans to invest $2.6 billion to build battery plants in Slovakia and Morocco.
Plant openings	December 2024— Hunan Zhongke Shinzoom Technology Co. Ltd. opened two new research and development centers in Changsha.
Cancellation of plant opening	December 2024— Jiangxi Zichen (a subsidiary of Shanghai Putailai New Material Technology Co.) announced that it was cancelling construction of a new AAM factory in Sweden, which would have been the largest in Europe. The project was not approved by the Swedish Inspectorate of Strategic Products, citing conditions required by the Swedish Foreign Direct Investment Act.
Other	January 2025— Contemporary Amperex Technology Co. Ltd. (“CATL”), which manufactures batteries and their components, was identified by the U.S. Department of Defense as a “’Chinese military company’ in accordance with the William M. (Mac) Thornberry National Defense Authorization Act for Fiscal Year 2021”.

Source: SMM The Leading Metals Information Provider and Battery net, “10 Billion! The Dongdao New Energy Project with an Annual Output of 300000 Tons of Anode Materials will be Landed in Leizhou, Guandong Province,” Article, April 7, 2022, https://news.metal.com/newscontent/101798949/10-billion-the-dongdao-new-energy-project-with-an-annual-output-of-300000-tons-of-anode-materials-will-be-landed-in-leizhou-guangdong-province;
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U.S. Department of Defense, “Notice of Availability of Designation of Chinese Military Companies,” Federal Register Notice, January 7, 2025, https://public-inspection.federalregister.gov/2025-00070.pdf.

Exports

Table 7.2 presents Global Trade Atlas ("GTA") data for exports of natural and artificial graphite, which includes AAM, from China to the United States and other destination markets. By quantity, the leading export markets for natural and artificial graphite from China are South Korea and Japan. During 2023, the United States was the fourth largest export market for natural and artificial graphite from China, accounting for 11.4 percent. In 2021 and 2022, the United States was the third and second largest market, respectively.

Table 7.2 Natural and artificial graphite: Exports from China, by destination market and period

Quantity in 1,000 pounds; value in 1,000 dollars

Destination market	Measure	2021	2022	2023
United States	Quantity	157,135	222,638	184,016
South Korea	Quantity	213,305	223,590	326,955
Japan	Quantity	228,491	171,832	210,382
India	Quantity	66,794	129,900	196,071
Poland	Quantity	90,467	90,953	92,493
Germany	Quantity	73,029	77,271	87,833
Hungary	Quantity	12,585	37,702	79,090
Turkey	Quantity	20,876	24,240	53,768
Thailand	Quantity	34,297	49,320	43,525
Taiwan	Quantity	52,670	38,737	39,160
All other destination markets	Quantity	343,508	270,741	302,249
All destination markets	Quantity	1,293,156	1,336,924	1,615,543
United States	Value	80,419	278,159	253,546
South Korea	Value	238,040	311,012	274,973
Japan	Value	135,657	117,757	126,540
India	Value	27,789	52,022	69,210
Poland	Value	324,110	377,799	325,966
Germany	Value	33,453	67,130	46,087
Hungary	Value	42,957	132,781	258,842
Turkey	Value	6,632	9,973	18,449
Thailand	Value	11,084	17,403	13,832
Taiwan	Value	18,340	18,543	16,421
All other destination markets	Value	116,923	140,232	141,004
All destination markets	Value	1,035,404	1,522,811	1,544,871

Table continued.

Table 7.2 (Continued) Natural and artificial graphite: Exports from China, by destination market and period

Unit value in dollars per pounds; share in percent

Destination market	Measure	2021	2022	2023
United States	Unit value	0.51	1.25	1.38
South Korea	Unit value	1.12	1.39	0.84
Japan	Unit value	0.59	0.69	0.60
India	Unit value	0.42	0.40	0.35
Poland	Unit value	3.58	4.15	3.52
Germany	Unit value	0.46	0.87	0.52
Hungary	Unit value	3.41	3.52	3.27
Turkey	Unit value	0.32	0.41	0.34
Thailand	Unit value	0.32	0.35	0.32
Taiwan	Unit value	0.35	0.48	0.42
All other destination markets	Unit value	0.34	0.52	0.47
All destination markets	Unit value	0.80	1.14	0.96
United States	Share of quantity	12.2	16.7	11.4
South Korea	Share of quantity	16.5	16.7	20.2
Japan	Share of quantity	17.7	12.9	13.0
India	Share of quantity	5.2	9.7	12.1
Poland	Share of quantity	7.0	6.8	5.7
Germany	Share of quantity	5.6	5.8	5.4
Hungary	Share of quantity	1.0	2.8	4.9
Turkey	Share of quantity	1.6	1.8	3.3
Thailand	Share of quantity	2.7	3.7	2.7
Taiwan	Share of quantity	4.1	2.9	2.4
All other destination markets	Share of quantity	26.6	20.3	18.7
All destination markets	Share of quantity	100.0	100.0	100.0

Source: Official export statistics under HS subheadings 2504.10 and 3801.10, as reported by China Customs in the Global Trade Atlas database, accessed December 31, 2024.

Note: United States is shown at the top. All remaining top export destinations are shown in descending order of 2023 data.

U.S. inventories of imported merchandise

Table 7.3 presents data on U.S. importers' reported inventories of AAM. End-of-period inventories of imports from China increased by *** percent from 2021 to 2023. It was *** percent lower in interim 2024 than in interim 2023. The ratios of end-of-period inventories to imports from China and to U.S. shipments of those imports each fluctuated, increasing from 2021 to 2022, then decreasing more modestly from 2022 to 2023, resulting in net increases. Both ratios were lower, on an annualized basis, in interim 2024 than in interim 2023.

Table 7.3 AAM: U.S. importers' inventories and their ratio to select items, by source and period

Quantity in 1,000 pounds; ratio in percent; interim 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	Nonsubject sources	***	***	***	***	***
Ratio to imports	Nonsubject sources	***	***	***	***	***
Ratio to U.S. shipments of imports	Nonsubject sources	***	***	***	***	***
Ratio to total shipments of imports	Nonsubject sources	***	***	***	***	***
Inventories quantity	All import sources	***	***	***	***	***
Ratio to imports	All import sources	***	***	***	***	***
Ratio to U.S. shipments of imports	All import sources	***	***	***	***	***
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 AAM from China after September 30, 2024. Their reported data are presented in table 7.4. Six of the ten importers responding to the Commission's questionnaire reported that they had imported or arranged imports of AAM from China, with one firm reporting arranged imports after the first quarter of 2025. Five of the ten importers reported arranged imports from nonsubject sources, with two firms reporting arranged imports after the first quarter of 2025.

Table 7.4 AAM: 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	***	***	***	***	***
Nonsubject sources	***	***	***	***	***
All import sources	***	***	***	***	***

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

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

Third-country trade actions

Based on available information, AAM originating in China has not been subject to other antidumping or countervailing duty investigations outside the United States.[4]

Information on nonsubject countries

According to GTA, the leading exporters of natural and synthetic graphite, including AAM, was China, which accounted for three-fifths (60.8 percent) of the global total in 2023, followed by Madagascar, Mozambique, and Germany (table 7.5). During 2023, the United States was the fifth largest exporter of natural and synthetic graphite, accounting for 3.4 percent of the global total in that year.

[4] Petition, p. 2. Likewise, Commission staff did not identify any third-country trade actions on AAM originating in China.

Table 7.5 Natural and synthetic graphite: Global exports, by exporter and period

Quantity in 1,000 pounds; value in 1,000 dollars

Exporting country	Measure	2021	2022	2023
United States	Quantity	83,609	98,502	91,580
China	Quantity	1,293,156	1,336,924	1,615,543
Madagascar	Quantity	200,822	261,800	134,393
Mozambique	Quantity	132,183	296,555	122,133
Germany	Quantity	119,852	129,123	107,267
Brazil	Quantity	78,901	76,387	78,275
Netherlands	Quantity	82,630	62,527	63,777
Japan	Quantity	60,169	56,954	53,709
South Korea	Quantity	54,346	57,341	52,086
France	Quantity	56,382	54,036	45,253
Spain	Quantity	62,950	87,429	40,632
Belgium	Quantity	15,387	28,238	26,977
All other exporters	Quantity	384,828	289,940	226,145
All reporting exporters	Quantity	2,625,215	2,835,756	2,657,772
United States	Value	150,825	188,844	179,731
China	Value	1,035,404	1,522,811	1,544,871
Madagascar	Value	30,580	51,989	28,241
Mozambique	Value	13,583	57,647	32,802
Germany	Value	142,101	153,092	155,638
Brazil	Value	40,008	46,454	43,540
Netherlands	Value	61,173	60,748	61,856
Japan	Value	245,726	221,059	217,526
South Korea	Value	161,828	188,069	179,123
France	Value	89,530	97,125	107,476
Spain	Value	98,494	140,360	52,476
Belgium	Value	28,922	37,690	34,157
All other exporters	Value	325,666	323,012	269,866
All reporting exporters	Value	2,423,840	3,088,901	2,907,303

Table continued.

Table 7.5 (Continued) Natural and synthetic graphite: Global exports, by exporter and period

Unit value in dollars per pound; share in percent

Exporting country	Measure	2021	2022	2023
United States	Unit value	1.80	1.92	1.96
China	Unit value	0.80	1.14	0.96
Madagascar	Unit value	0.15	0.20	0.21
Mozambique	Unit value	0.10	0.19	0.27
Germany	Unit value	1.19	1.19	1.45
Brazil	Unit value	0.51	0.61	0.56
Netherlands	Unit value	0.74	0.97	0.97
Japan	Unit value	4.08	3.88	4.05
South Korea	Unit value	2.98	3.28	3.44
France	Unit value	1.59	1.80	2.37
Spain	Unit value	1.56	1.61	1.29
Belgium	Unit value	1.88	1.33	1.27
All other exporters	Unit value	0.85	1.11	1.19
All reporting exporters	Unit value	0.92	1.09	1.09
United States	Share of quantity	3.2	3.5	3.4
China	Share of quantity	49.3	47.1	60.8
Madagascar	Share of quantity	7.6	9.2	5.1
Mozambique	Share of quantity	5.0	10.5	4.6
Germany	Share of quantity	4.6	4.6	4.0
Brazil	Share of quantity	3.0	2.7	2.9
Netherlands	Share of quantity	3.1	2.2	2.4
Japan	Share of quantity	2.3	2.0	2.0
South Korea	Share of quantity	2.1	2.0	2.0
France	Share of quantity	2.1	1.9	1.7
Spain	Share of quantity	2.4	3.1	1.5
Belgium	Share of quantity	0.6	1.0	1.0
All other exporters	Share of quantity	14.7	10.2	8.5
All reporting exporters	Share of quantity	100.0	100.0	100.0

Source: Official export statistics under HS subheadings 2504.10 and 3801.10, as reported by various national statistical authorities in the Global Trade Atlas database, accessed December 31, 2024.

Note: United States is shown at the top followed by China, 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 105100, December 26, 2024	Active Anode Material from China; Institution of Antidumping and Countervailing Duty Investigations and Scheduling of Preliminary Phase Investigations	https://www.govinfo.gov/content/pkg/FR-2024-12-26/pdf/2024-30663.pdf
90 FR 3788, January 15, 2025	Active Anode Material from the People's Republic of China: Initiation of Countervailing Duty Investigation	https://www.govinfo.gov/content/pkg/FR-2025-01-15/pdf/2025-00656.pdf
90 FR 3792, January 15, 2025	Active Anode Material from the People's Republic of China: Initiation of Less-Than-Fair-Value Investigation	https://www.govinfo.gov/content/pkg/FR-2025-01-15/pdf/2025-00656.pdf

APPENDIX B

LIST OF STAFF CONFERENCE WITNESSES

CALENDAR OF PUBLIC PRELIMINARY CONFERENCE

Those listed below appeared as witnesses at the United States International Trade Commission's staff conference:

Subject: Active Anode Material from China

Inv. Nos.: 701-TA-752 and 731-TA-1730 (Preliminary)

Date and Time: January 8, 2024 – 12:00 p.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 (**Daniel B. Pickard**, Buchanan Ingersoll & Rooney, PC)
In Opposition to Imposition (**Matthew R. Nicely**, Akin Gump Strauss Hauer & Feld LLP)

In Support of the Imposition of the Antidumping and Countervailing Duty Orders:

Buchanan Ingersoll & Rooney, PC
Washington, DC
on behalf of

American Active Anode Material Producers ("AAAMP")

Emily de La Bruyère, Co-Founder, Horizon Advisory

Viren Hira, General Manager Business Development & Investor Relations, Syrah Resources Limited

Sunit Kapur, Chief Executive Officer, Epsilon Advanced Materials

Craig Taylor, Vice President of Operations, Anovion Technologies

Daniel B. Pickard)
) – OF COUNSEL
Claire M. Webster)

In Opposition to the Imposition of
Antidumping and Countervailing Duty Orders:

Akin Gump Strauss Hauer & Feld LLP
Washington, DC
on behalf of

Tesla Inc. ("Tesla")

Dinesh Swamynathan, Senior Director, Battery Cell Supply Chain, Tesla

Gaurav Chhabra, Senior Manager, Battery Cell Supply Chain, Tesla

Rochelle Weber, Manager, Cell Design, Tesla

Miriam Eqab, Associate General Counsel, Trade, Tesla

Jennifer Lutz, Partner, ION Economics

Matthew R. Nicely)
Yujin K. McNamara)
) – OF COUNSEL
Julia K. Eppard)
Sydney L. Stringer)

Mayer Brown LLP
Washington, DC
on behalf of

Panasonic Corporation of North America ("PNA")
Panasonic Energy Corporation of North America ("PEC")

Preston Zhang, Sr. Manager Strategic Material Engineering, Panasonic Energy of North America, Division of Panasonic Corporation of North America

Sydney Mintzer)
) – OF COUNSEL
Jacob Reiskin)

REBUTTAL/CLOSING REMARKS:

In Support of Imposition (**Daniel B. Pickard**, Buchanan Ingersoll & Rooney, PC)
In Opposition to Imposition (**Matthew R. Nicely**, Akin Gump Strauss Hauer & Feld LLP)

APPENDIX C

SUMMARY DATA

Table C.1
AAM: Summary data concerning the U.S. market, by item and period
Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent (exceptions noted); Interim period 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. consumption quantity:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▲***
Producers' share (fn1)	***	***	***	***	***	▲***	▲***	▼***	▲***
Importers' share (fn1):									
China	***	***	***	***	***	▲***	▲***	▼***	▼***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▲***	▲***
All import sources	***	***	***	***	***	▼***	▼***	▲***	▼***
U.S. consumption value:									
Amount	***	***	***	***	***	▲***	▲***	▲***	▼***
Producers' share (fn1)	***	***	***	***	***	▲***	▲***	▼***	▲***
Importers' share (fn1):									
China	***	***	***	***	***	▲***	▲***	▼***	▼***
Nonsubject sources	***	***	***	***	***	▼***	▼***	▲***	▲***
All import sources	***	***	***	***	***	▼***	▼***	▲***	▼***
U.S. importers' U.S. shipments of imports from:									
China:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▲***	▲***	▲***	▼***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
Nonsubject sources:									
Quantity	***	***	***	***	***	▲***	▼***	▲***	▲***
Value	***	***	***	***	***	▲***	▼***	▲***	▲***
Unit value	***	***	***	***	***	▼***	▼***	▲***	▼***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
All import sources:									
Quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Value	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit value	***	***	***	***	***	▲***	▲***	▼***	▼***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▼***	▼***
U.S. producers':									
Practical capacity quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Production quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Capacity utilization (fn1)	***	***	***	***	***	▼***	▼***	▼***	▼***
U.S. shipments:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▲***
Value	***	***	***	***	***	▲***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▲***	▲***	▼***	▼***
Export shipments:									
Quantity	***	***	***	***	***	***	***	***	***
Value	***	***	***	***	***	***	***	***	***
Unit value	***	***	***	***	***	***	***	***	***
Ending inventory quantity	***	***	***	***	***	▲***	▲***	▲***	▲***
Inventories/total shipments (fn1)	***	***	***	***	***	▲***	▲***	▲***	▼***
Production workers	***	***	***	***	***	▲***	▲***	▲***	▲***
Hours worked (1,000s)	***	***	***	***	***	▲***	▲***	▲***	▲***
Wages paid ($1,000)	***	***	***	***	***	▲***	▲***	▲***	▲***
Hourly wages (dollars per hour)	***	***	***	***	***	▼***	▼***	▼***	▲***
Productivity (pounds per hour)	***	***	***	***	***	▼***	▲***	▼***	▲***
Unit labor costs	***	***	***	***	***	▼***	▼***	▲***	▼***

Table continued.

Table C.1 Continued
AAM: Summary data concerning the U.S. market, by item and period
Quantity=1,000 pounds; Value=1,000 dollars; Unit values, unit labor costs, and unit expenses=dollars per pound; Period changes=percent (exceptions noted); Interim period January through September

Item	Reported data					Period change comparisons			
	Calendar year			Interim		Calendar year			Interim
	2021	2022	2023	2023	2024	2021–23	2021–22	2022–23	2023–24
U.S. producers':									
Net sales:									
Quantity	***	***	***	***	***	▲***	▲***	▼***	▲***
Value	***	***	***	***	***	▲***	▲***	▼***	▲***
Unit value	***	***	***	***	***	▲***	▲***	▼***	▼***
Cost of goods sold (COGS)	***	***	***	***	***	▲***	▲***	▲***	▲***
Gross profit or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▼***
SG&A expenses	***	***	***	***	***	▲***	▲***	▲***	▲***
Operating income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▼***
Net income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▼***
Unit COGS	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit SG&A expenses	***	***	***	***	***	▲***	▲***	▲***	▼***
Unit operating income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▲***
Unit net income or (loss) (fn2)	***	***	***	***	***	▼***	▼***	▼***	▲***
COGS/sales (fn1)	***	***	***	***	***	▲***	▲***	▲***	▼***
Operating income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***
Net income or (loss)/sales (fn1)	***	***	***	***	***	▼***	▼***	▼***	▲***
Capital expenditures	***	***	***	***	***	▲***	▲***	▲***	▼***
Research and development expenses	***	***	***	***	***	▲***	▼***	▲***	▲***
Total assets	***	***	***	***	***	▲***	▲***	▲***	***

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.--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

U.S. PRODUCERS' RESPONSES REGARDING MATERIAL RETARDATION

Table D.1 AAM: U.S. producers' trial production commencement since January 1, 2021, by firm

Count in number of firms reporting; quantity in 1,000 pounds; NA is not applicable

Firm	Commenced trial production	Date commenced	Quantity
Anovion	***	***	***
GrafTech	***	***	***
NOVONIX	***	***	***
SKI US	***	***	***
Syrah	***	***	***
All firms	***	NA	***

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

Table D.2 AAM: U.S. producers' commercial production commencement since January 1, 2021, by firm

Count in number of firms reporting; quantity in 1,000 pounds; NA is not applicable

Firm	Commenced commercial production	Date commenced	Quantity
Anovion	***	***	***
GrafTech	***	***	***
NOVONIX	***	***	***
SKI US	***	***	***
Syrah	***	***	***
All firms	***	NA	***

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

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

Table D.3 AAM: U.S. producers' narrative description of production operations, by firm

Firm	Nature of production operations
Anovion	***
GrafTech	***
NOVONIX	***
SKI US	***
Syrah	***

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

Table D.4 AAM: U.S. producers' commercial production suspension or cessation, by firm

Count in number of firms reporting; NA is not applicable

Firm	Suspended or ceased production	Date non-production	Recommencement
Anovion	***	***	***
GrafTech	***	***	***
NOVONIX	***	***	***
SKI US	***	***	***
Syrah	***	***	***
All firms	***	NA	NA

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

Table D.5 AAM: U.S. producers' previous production before January 1, 2021, by firm

Count in number of firms reporting; NA is not applicable

Firm	Previously produced	Date ceased
Anovion	***	***
GrafTech	***	***
NOVONIX	***	***
SKI US	***	***
Syrah	***	***
All firms	***	NA

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

Table D.6 AAM: U.S. producers' production of other products prior to producing AAM, by firm

Count in number of firms reporting; NA is not applicable

Firm	Previously produced other products	Narrative response regarding other products
Anovion	***	***
GrafTech	***	***
NOVONIX	***	***
SKI US	***	***
Syrah	***	***
All firms	***	NA

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

Table D.7 AAM: U.S. producers' narrative response regarding machinery required to produce AAM, by firm

Firm	Narrative regarding machinery required to produce AAM
Anovion	***
GrafTech	***
NOVONIX	***
SKI US	***
Syrah	***

Source: Compiled from data in response to Commission questionnaires.

Table D.8 AAM: U.S. producers' AAM technical specifications and designs derived from other products, by firm

Count in number of firms reporting; NA not applicable

Firm	Technical specifications and/or designs derived from other products	Narrative response regarding AAM technical specifications and designs
Anovion	***	***
GrafTech	***	***
NOVONIX	***	***
SKI US	***	***
Syrah	***	***
All firms	***	NA

Source: Compiled from data in response to Commission questionnaires.

Table D.9 AAM: U.S. producers' AAM production added to existing facility, by firm

Count in number of firms reporting; NA is not applicable

Firm	Production added to existing facility	Narrative response regarding AAM production added to existing facility
Anovion	***	***
GrafTech	***	***
NOVONIX	***	***
SKI US	***	***
Syrah	***	***
All firms	***	NA

Source: Compiled from data in response to Commission questionnaires.

Table D.10 AAM: U.S. producers' narrative response regarding marketing strategy, by firm

Firm	Narrative regarding marketing strategy
Anovion	***
GrafTech	***
NOVONIX	***
SKI US	***
Syrah	***

Source: Compiled from data in response to Commission questionnaires.

Table D.11 AAM: U.S. producers' business plans, by firm

Count in number of firms reporting; NA is not applicable

Firm	Business plans developed	Narrative response regarding business plans
Anovion	***	***
GrafTech	***	***
NOVONIX	***	***
SKI US	***	***
Syrah	***	***
All firms	***	NA

Source: Compiled from data in response to Commission questionnaires.

Table D.12 AAM: U.S. producers' response regarding grants and/or loans from the Bipartisan Infrastructure Law, by firm

NA is not applicable

Firm	Grants and/or loans received	Narrative response regarding Bipartisan Infrastructure Law grants
Anovion	***	***
GrafTech	***	***
NOVONIX	***	***
SKI US	***	***
Syrah	***	***
All firms	***	NA

Source: Compiled from data in response to Commission questionnaires.

Table D.13 AAM: U.S. producers' narrative response regarding reaching a financial breakeven point, by firm

Reporting firm	Narrative regarding reaching a financial breakeven point
Anovion	***
GrafTech	***
NOVONIX	***
SKI US	***
Syrah	***

Source: Compiled from data in response to Commission questionnaires.

APPENDIX E

SUPPLEMENTAL PURCHASE COST DATA

Importer *** reported that it does not "source, import, or purchase the specific pricing products" defined in the Commission's questionnaire. At the request of staff, it reported purchase cost data for the AAM products it imports and stated "in ***'s opinion, these products are not competitive with Pricing Products 1 and 2 in the questionnaire, because those pricing products are uncoated and ***'s products are coated."[1]

Table E.1 AAM: Import landed duty-paid purchase costs and imported quantities of alternative product 1, by source and quarter as submitted by *

Count in number of firms reporting; quantity in 1,000 pounds; NA is not applicable

Period	China unit LDP value	China cost quantity
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: 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 "—".

Note: Alternative product 1 is ***.

[1] Additionally, importer Panasonic reported ***. Respondent Panasonic's postconference brief, Exhibit 7.

Table E.2 AAM: Import landed duty-paid purchase costs and imported quantities of alternative product 2, by source and quarter as submitted by *

Count in number of firms reporting; quantity in 1,000 pounds; NA is not applicable

Period	China unit LDP value	China cost quantity
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: 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 "—".

Note: Alternative product 2 is ***.

Figure E.1 AAM: Weighted-average landed duty-paid purchase costs, and quantities of imported alternative products 1 and 2, by source and quarter as submitted by *

Import purchase cost of alternative product 1 and 2

* * * * * * *

Volume of alternative product 1 and 2

* * * * * * *

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