



UKTPO Working Paper

SHOULD THE UK REJOIN PEM?

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Introduction

Whenever the topic of the Trade and Cooperation Agreement (TCA) review comes up, the Pan-European Mediterranean (PEM) origin cumulation zone is one of the topics mentioned as potentially in scope. Recently, several reports and organizations have included rejoining PEM as one of the recommendations for the new Government¹. Rejoining PEM is indeed one of the steps that could improve market access for products from all industries. It could also be done within the current format of the TCA. This means it could be done without changing the essential character of the relationships, i.e. one based on a simple and fairly basic trade agreement.

Rejoining PEM would allow cumulation of origin with a number of third countries in the region, including the EU. This could help UK businesses to (re)integrate themselves into European and regional supply chains.

But if that is the case why is this topic not gaining more momentum? One reason is that this is a fairly technical area and one where quantifying potential benefits for the UK is particularly tricky. It's also because, just like with other suggestions (e.g. veterinary agreement) there are trade-offs and costs. It is not a simple decision and

¹ Trade Facilitation Commission, Ensuring Economic Growth, <https://www.facilitation.trade/resources/>, The UK Trade & Business Commission, Trading our way to prosperity, A blueprint for policymakers (<https://www.tradeandbusiness.uk/blueprint#section-4-3>), and British Chambers of Commerce, The Trade and Cooperation Agreement Four Years on a Manifesto to Reset UK-EU Trade, (<https://www.britishchambers.org.uk/wp-content/uploads/2024/12/The-Trade-and-Cooperation-Agreement-Four-Years-On.pdf>)

one that requires an in-depth analysis. It's also not just about the electric vehicles (EV) industry, although it is an important point to consider.

This article aims to shed light on some of these complexities and present an overview of the pros and cons of rejoining the PEM Convention. It does not aim to provide a clear yes/no answer but rather to discuss trade-offs and considerations that would need to be taken into account by the new UK Government. It concludes with recommendations.

What is PEM?

The Pan-European-Mediterranean Zone was implemented in 2005. The idea was to create a cumulation zone between Europe and its neighbours and to encourage intra-regional integration by promoting trade and cooperation. The PEM Convention allows for the cumulation of origin between different countries within the zone. Cumulation of origin is one of the ways to allow for greater flexibility when it comes to using raw and semi-manufactured materials in the production process. It allows a member of the cumulation zone to use originating products from other members. While in the EU, the UK was a party.

The PEM zone currently comprises the EU, Iceland, Liechtenstein, Norway, Switzerland, the Faroe Islands, Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestine, Syria, Tunisia, Türkiye, Albania, Bosnia and Herzegovina, the Republic of North Macedonia, Montenegro, Serbia, Kosovo, the Republic of Moldova, Georgia and Ukraine.

It is based on trade agreements with identical rules of origin between members. Basically, members of the Convention replace the rules of origin annexe or protocol in their bilateral trade agreement with a reference to the one within the Convention.

In 2019, the European Commission submitted a package of proposals including new, more flexible, PEM rules of origin. The aim was to bring the rules in line with modern trade agreements and complex global supply chains. The modernisation meant simpler, more business-friendly rules for companies and savings across supply chains in the region. The new rules have been provisionally applied by some of the parties on a bilateral basis since September 2021 in parallel with the old rules (under a transitional period).

What's changing under the new(ish) PEM rules of origin

After over a decade of talks and negotiations the new rules were finally going to be implemented on 1 January 2025. This happened in principle, however, due to a delay in ratification by Member States the transitional period was also extended until 1

January 2026². The two sets will continue to coexist and companies in countries that apply the transitional period can choose which ones they want to use. This also means a fairly complex network of cumulation provisions and types of origin certificates. After 31 December 2025, the revised, transitional rules of origin will apply throughout the entire PEM zone as the only set of rules³.

A number of simplifications have been introduced under the revised rules. This included a new set of product-specific rules (PSRs) and simplifications for calculating local value added. Subject to prior authorisation, traders are now able to use an average price or value where there was a percentage requirement for local value content. Drawback prohibition was removed allowing companies to use goods imported under different types of duty suspension in the production process without affecting the originating status.

Full cumulation was also introduced between some parties and with caveats. Full cumulation allows companies to take into account manufacturing across the entire PEM zone, not just originating inputs, when determining the origin of the product. It gives companies within the region more flexibility to source parts and components from outside the zone and further process and manufacture within the zone.

For the UK the modernisation means that the PEM we left would not be the same PEM we would be rejoining. The new flexibilities and PSRs, when fully implemented, would benefit UK businesses.

Rejoining PEM would mean changing the rules of origin under the TCA

The first point to mention is that rejoining PEM would not fundamentally change the nature of the trade relationship with the EU or third countries in the region. It would not have an impact on the amount or cost of paperwork required to import or export goods. It would not remove the requirement to submit health certificates, licenses or any other paperwork.

Joining PEM would require the UK to join the Convention and replace the rules of origin under their bilateral agreements with all PEM members by a reference to the PEM Convention (this would include replacing the TCA Annex II). It would allow for the cumulation of origin between the UK, the EU and all other PEM countries. In brief, it could remove some of the tariffs that are still in place under the TCA that result from companies' inability to meet TCA RoO due to wider regional supply chains.

² <http://data.europa.eu/eli/dec/2025/17/oj>

³ <http://data.europa.eu/eli/dec/2025/17/oj>

An example could be a company manufacturing in Turkey with inputs from Algeria and further processing the goods in the Czech Republic before importing them into the UK. At the moment, only the processing taking place in the Czech Republic counts towards meeting origin requirements for EU-UK trade. Under PEM, inputs and manufacturing in all these parties would count towards meeting origin requirements⁴. As such, it would be much easier for companies to qualify and benefit from preferential tariffs. Removal of tariffs on eligible products for imports into the UK is only one of the potential benefits. The same would be the case the other way around.

Rejoining could benefit UK companies in a number of ways

UK products could be more competitive in regional markets thanks to cumulation. More importantly, however, it would mean a step towards the reintegration of UK businesses into regional supply chains and a system that businesses in the region are familiar with and rely upon (with a caveat for the revision of rules). Complexity and divergence of customs rules are never good for business. This could be helpful for various types of business models.

A similar point was raised recently by the Trade Facilitation Commission in a report on Ensuring Economic Growth. One of the recommendations was rejoining PEM and having “identical rules of origin across 24 trade agreements”⁵. This would reduce administrative burden and costs for companies internally. The Commission correctly points out that the lack of familiarity with rules of origin is one of the most common reasons why companies don’t use preferences. Having one set of rules of origin in all regional trade agreements would be a simplification. However, traders would still need to be able to find, understand and apply rules under agreements with other partners such as Australia, Japan etc. The recent British Chambers of Commerce report also talked about rejoining PEM to provide additional supply chain flexibility⁶.

Doesn’t the UK already have some of these benefits under the roll-over agreements?

For bilateral trade between the UK and the EU, there is no option to cumulate origin with other countries. However, many of the UK’s roll-over agreements (the

⁴ There is a bit of a caveat here for full vs standard regional cumulation but that is outside the scope of this article.

⁵ Trade Facilitation Commission, Ensuring Economic Growth, <https://www.facilitation.trade/resources/> p.43

⁶ BCC, The Trade and Cooperation Agreement Four Years on a Manifesto to Reset UK-EU Trade, <https://www.britishchambers.org.uk/wp-content/uploads/2024/12/The-Trade-and-Cooperation-Agreement-Four-Years-On.pdf>

agreements the UK copied when leaving the EU and amended) include a rare clause for cumulation with the EU. This type of cumulation, known as cross-cumulation or third-party cumulation allows to cumulate origin with countries that are not parties to the agreement⁷. As a result, the UK and for example, South Korea can treat EU inputs as originating in their bilateral trade which they cannot do under their respective trade deals with the EU. The EU does not provide a similar option under its bilateral agreements.

There is, however, an issue with some of the roll-over agreements: they do not work in practice. Despite this type of cumulation being allowed in the text, some of the UK's trading partners have been known to refuse to grant preference.

Cross-cumulation is still relatively rare and its alignment with the WTO principles has never been confirmed. Most importantly, it does not meet the two, long-established, cumulation conditions mentioned at the beginning of this article that these third parties are accustomed to:

- 1) All countries are joined by an FTA; and
- 2) These agreements have identical rules of origin.

As a result, companies still end up paying tariffs on goods imported into the UK that technically meet conditions of roll-over agreements.

There is little to no information available on this publicly but customs practitioners, including the author, have come across this issue in their client work. Both HMRC and DBT have confirmed that they are aware of the issue and are working with the respective trading partners to resolve the situation. Progress was made with some trading partners, while with others, at least earlier this year, the issue was still ongoing. The problem is that without official guidance on this companies tend to find out as they are trying to import into the UK. Unfortunately, this is generally the case after they have relocated their supply chains to minimize the impact of Brexit (for example from Turkey). Rejoining PEM would fix these issues. It would allow for transparency and predictability in terms of cumulation rules.

Measuring the benefits of PEM for the UK is tricky

Despite the above, there are still some key points to consider. One of the arguments often brought up when discussing replacing TCA rules with PEM rules is that the TCA rules are more bespoke and better reflect the needs of the UK industry. On the

⁷ See more: <https://tradeandborders.com/brexit-and-origin-a-case-for-the-wider-use-of-cross-cumulation/> and <https://tradeandborders.com/you-are-not-a-true-brexit-geek-until-you-know-about-extended-cumulation/>

Chapter level, the new PEM rules include a number of simplifications and flexibilities that go beyond what's offered in the TCA⁸. Product-specific rules differ substantially. Which set is more flexible will depend on 1) the industry and 2) the company's supply chain. For individual products (commodity codes), some companies might find the TCA rules more adjusted to their particular circumstances. The opposite may also be true. This again points to the decision on whether or not the UK should rejoin PEM not being a straightforward one.

UK companies have been operating under the TCA rules for a couple of years. For those of them who have never imported and exported before, understanding the TCA RoO was quite a challenge. Supply chains have been impacted by the TCA rules. The PEM rules have changed but so have the conditions for the UK. A change of RoO governing the UK's key trading relationship would be a significant change for UK traders (and for the affected EU traders for that matter).

This should be considered in the context of the ongoing introduction of Brexit formalities and border processes on the UK side, increasing geopolitical tensions, introduction of new regulations in the EU (Carbon Border Adjustment Mechanism, Deforestation Regulation, ban on forced labour etc) and ongoing IT changes and reforms of customs legislation on both sides. The last thing businesses want, particularly in the UK, is more change. Unless it substantially simplifies and improves trade.

This is where the difficulty lies. The potential benefits of PEM are difficult to measure. As with any trade agreements whether or not a company benefits from preferential tariffs depends on the specificities of their supply chain. We not only see differences between industries but more importantly, significant differences between companies in the same industry. While some similarities exist within industries, there are also frequent examples of companies within the same industry being able/not able not take advantage of the same RoO under the same agreement. Rejoining PEM would likely be overall beneficial for UK companies, but there might be some sectors and companies that would be negatively affected. Understanding who these companies/sectors are and what would be the overall impact of the UK rejoining PEM is the missing piece of the puzzle. This would require in-depth analysis.

Some high-level attempts to estimate the potential benefits have been made. For example, the CIPT used the OECD Trade in Value Added (TiVA) database to estimate the benefits of rejoining PEM⁹. The TiVA is based on a set of indicators measuring the value added by each country in the production process. These indicators are a set of economic formulas based on a range of assumptions and data sources which are not

⁸ For example, tolerance for applicable products increased from 10% to 15% of ex-works price, full, regional cumulation, commitment to an electronic certificate of origin etc.

⁹ <https://citp.ac.uk/publications/should-the-uk-join-pem>

customs data¹⁰. The way customs authorities establish origin across the supply chain also differs significantly from the origin assumptions in the TiVA value-added dataset. The authors of the CIPT blog list further limitations of this methodology, for example, the fact that data is aggregated on the industry level. Such analysis can only serve as a rough approximation of the impact of PEM.

That said, the conclusion of the article, that rejoining PEM will not significantly impact the GDP, is very likely correct. Free trade agreements in general do not have a particularly high impact on GDP. For example, the UK's accession to CPTPP is estimated to impact the GDP in the long term by 0.08%¹¹.

At the same time, even small benefits represent an improvement and while overall small, they can greatly benefit those companies who can use them. So that in itself, should not be an argument against joining PEM.

Yet with only high-level, anecdotal evidence in support of PEM and a lack of proper analysis of trade-offs and impact, rejoining PEM is not a straightforward decision for the UK Government.

An in-depth analysis of how the loss of TCA product-specific rules would impact UK companies is needed. This would need to be a company-level analysis of specific supply chains rather than a high-level "restrictiveness of RoO" research. The latter type of research doesn't reflect companies' preferences and is based on a number of assumptions that might not apply to real-life scenarios.

In terms of the broader benefits of PEM, utilization rates of PEM should be available. For example, this data should be available from customs authorities of the parties. In the EU, when submitting a customs declaration claiming preference, importers (or rather their brokers) are required to use document codes for the proof of origin. That gives customs authorities a good idea of imports cleared under PEM, both old and revised. In principle, therefore, the Commission should have fairly precise data on what is being imported under PEM using cumulation with other parties as well as on how much is being imported under the revised rules.

¹⁰ For example, the TiVA data is based on industry codes and not HS codes.

¹¹

https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1027860/dit-cptpp-uk-accession-strategic-approach.pdf

High-level comparison of both sets of rules

Rules of origin under the TCA and new PEM overlap for many products. PEM is more similar to the TCA than old PEM rules. However, some notable differences in both wider provisions and product-specific rules exist.

First of all, the new PEM rules are written in a more user-friendly language. Especially for non-experts. A “MaxNOM 50 % (EXW)” rule means the same as a “manufacture in which the value of all the materials used does not exceed 50 % of the ex-works price of the product” rule. The second one will be more understandable for non-specialised audiences. The “CTH” rule is the same as “manufacture from materials of any heading, except that of the product”. The second one is much clearer.

Tolerance allows the use of a limited amount of non-originating inputs in the product without disqualifying it from originating. The default tolerance rule¹² under the TCA is 10% of the ex-works price of the product for industrial products other than textiles and clothing. Under the new PEM rules, it's 15%.

For chemicals the default or most commonly used rule of origin differs under the two agreements¹³. For example, the default rule for organic chemicals under Chapter 29 is somewhat more flexible under the TCA. Both rules include various alternative criteria: a value-added criterion (both at 50%) and a specific processing criterion. Both also include a change in classification criterion but where the PEM sets it at the heading level with a 20% tolerance, the TCA sets it at a sub-heading level. While it's not exactly a like-for-like comparison, a change in classification on a heading level requires more substantial processing than on a sub-heading level.

For pharmaceutical products of Chapter 30, the situation is similar. The new PEM rules offer a choice between specific processing and a change in heading. The TCA, on the other hand, has a specific processing option, a change on a subheading level (requiring less processing than for a heading), and a 50% value-added rule. The TCA rule could therefore be considered more flexible.

An important caveat to add here is that for both the chemicals and pharmaceutical industries rules of origin are by far not the biggest issue. Even with flexible rules of origin, regulatory issues (e.g. REACH) would continue to pose a problem for the industry¹⁴.

¹² One that applies for the majority of products and chapters, with some exclusions such as textiles and clothing covered by separate notes.

¹³ Product-specific rule used across different codes in this industry and the overall rule for chapters before exceptions are applied.

¹⁴ For example, <https://www.ft.com/content/401fca38-d156-4128-b46e-7682a30a3d66>

The benefits of PEM regional cumulation for the textile industry have previously been covered ¹⁵. Rules of origin in this sector are inherently complex. Not only there is a separate list of exceptions, tolerances and rules for that sector but the rules are based on specific processing requirements. In the EU, the general principle requires at least two stages of processing to take place in the region of the agreement.

The TCA rules offer products containing two or more basic textile materials a tolerance when the weight of the non-originating basic textile materials, taken together, does not exceed 10 % of the total weight of all the basic textile materials used¹⁶.

Under the new PEM rules, tolerance is available for non-originating basic textile materials used in the manufacture of that product which, taken together, represent 15 % or less of the total weight of all the basic textile materials used¹⁷.

PEM rules also increase the tolerance for other certain textile products from 8% available under the TCA to 15%¹⁸. However, the expanded cumulation provisions would be an advantage for those UK companies importing textile and apparel items processed in the region.

There are also some differences in certification of preference between the TCA and PEM.

Under the TCA any exporter can self-certify that their product is originating. In principle, self-certification is possible under PEM for any consignments below EUR 6,000 and consignments above this threshold by a trader with an approved exporter status. An approved exporter status is granted by national customs administrations. It can be obtained by completing a one-off application in which the trader confirms their understanding of the relevant rules of origin. It is possible that self-certification under PEM would require UK traders to hold an approved exporter authorisation¹⁹. While this might be an additional step for UK traders, it may not be a bad thing.

It's not stressed enough that self-certification of origin is only allowed provided that companies comply with rules of origin. Using a reduced tariff rate under a trade agreement requires a confirmation that the products meet the conditions. Companies providing an origin certificate for their clients are legally liable for the correctness of this certificate. That means that they are legally liable for understanding and verifying

¹⁵ See: <https://tradeandborders.com/brexit-and-the-european-cumulation-of-origin-the-case-of-the-textile-industry/>

¹⁶ Note 7 - Tolerances applicable to products containing two or more basic textile materials

¹⁷ Note 6 - Tolerances applicable to products made of a mixture of textile materials

¹⁸ Note 8 to Annex II of the TCA and Note 7 to Annex I of the new PEM rules

¹⁹ This is obtained via a C1454 form <https://www.gov.uk/government/publications/import-and-export-application-for-approved-exporter-status-c1454>

whether their product meets the rules of origin. This is the case even for statements of origin placed on a commercial invoice. For example, even though the TCA does not require an approved exporter status, Article 56 states that:

A statement on origin shall be made out by an exporter of a product on the basis of information demonstrating that the product is originating, including, information on the originating status of materials used in the production of the product. The exporter shall be responsible for the correctness of the statement on origin and the information provided.

Using a trade agreement without understanding the rules of origin would be considered tax avoidance and non-compliance and could lead to audits and penalties from HMRC. It also means putting foreign clients at risk as the preferential tariff claim might be rejected. Post-Brexit many UK traders exported to the EU under the TCA without verifying their products for origin purposes. Lack of awareness caused many exporters to simply copy-paste the text of the origin statement on their commercial invoices by default. The level of compliance remains low to this day. The EU customs authorities picked up on this widespread non-compliance and increased checks. This is not in HMRC's or UK businesses' interest.

While an approved exporter authorisation is a one-off task to complete, it gives the exporter, HMRC and the foreign importer an additional layer of confidence that the origin statement has been verified. It also promotes compliance amongst UK traders.

In addition, there is no self-certification by the importer under PEM. However, in the author's experience, this is mainly used by UK importers, when the EU exporter does not provide an origin statement due to not being familiar with TCA rules of origin. Here again, having identical rules might be an advantage. On the other hand, the PEM rules allow for a third-party certification which might be an advantage under some circumstances.

Would rejoining PEM work for the automotive industry?

Rules of origin for the automotive industry, and more specifically EVs and batteries, were given substantial media coverage in recent years²⁰. In brief, the value-added requirements introduced under the TCA for battery packs, battery cells and electric and hybrid vehicles would be very difficult to meet. This is because such batteries tend to originate in China, South Korea and Japan and there currently isn't sufficient capacity in Europe and UK to meet the demand. Alternative, transitional rules of origin with lower value-added thresholds were introduced from entry into force of the

²⁰ For example, <https://www.ft.com/content/465b8ee1-7d32-4c62-bbbc-de6a3ed9d185>

TCA until 31 December 2023. Under the original TCA provisions, the first increase in the value-added threshold and 10% tariffs would apply from January 2024 to products not meeting the rules of origin.

The January 2024 “cliff edge” was avoided due to a last-minute agreement between the EU and the UK to extend the initial, transitional rules²¹. According to Alessandro Marongiu, a Senior Trade Policy Manager at SMMT (the Society of Motor Manufacturers and Traders), “extension of existing facilitative rules was the only option available to avoid the imposition of multi-billion tariffs crippling bilateral trade on the vehicles needed to reach our respective decarbonisation goals, economic growth and market transformation”²².

The “full” rules will now apply from 1 January 2027. While discussing the extension, the European Parliament suggested that the UK should rejoin PEM to address the issue²³. In addition to extending the grace period, the deal also included a lock-in mechanism to prevent further extensions and ensure “no changes will be possible before 2032”²⁴.

The table below shows rules of origin for battery packs, cells and hybrid and electric vehicles under: 1) TCA transitional rules available until 2027, 2) the final, full TCA rules applicable as of 1.1.2027, 3) old PEM rules, and 4) revised PEM rules currently applied by some PEM members and fully entering into force as of 1 January 2026. It is worth pointing out that PEM rules do not currently have separate conditions for battery packs, cells and EVs.

²¹ For more information and background see

[https://www.europarl.europa.eu/RegData/etudes/ATAG/2024/757643/EPRS_ATA\(2024\)757643_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2024/757643/EPRS_ATA(2024)757643_EN.pdf)

²² Statement from SMMT obtained by the author in December 2024

²³ See:

[https://www.europarl.europa.eu/RegData/etudes/ATAG/2024/757643/EPRS_ATA\(2024\)757643_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/ATAG/2024/757643/EPRS_ATA(2024)757643_EN.pdf)

²⁴ <https://www.consilium.europa.eu/en/press/press-releases/2023/12/21/eu-uk-relations-council-greenlights-extension-of-current-rules-of-origin-for-electric-vehicles-until-the-end-of-2026/>

Figure 1 Rules of origin comparison

Product	TCA transitional rules (current)	TCA full rules (2027)	Old PEM	Revised PEM
	Less restrictive TCA rule	More restrictive TCA rules	More restrictive PEM rule	Less restrictive PEM rule
Packs (85.07) Accumulators containing one or more battery cells or battery modules and the circuitry to interconnect them amongst themselves, often referred to as "battery packs", of a kind used as the primary source of electrical power for propulsion of vehicles of headings 87.02, 87.03 and 87.04	CTSH; Assembly of battery packs from non-originating battery cells or battery modules; or CTSH; Assembly of battery packs from non-originating battery cells or battery modules; Or MaxNOM 70 % (EXW)	CTH except from non-originating active cathode materials; Or MaxNOM 30 % (EXW)	Manufacture: —from materials of any heading, except that of the product, and —in which the value of all the materials used does not exceed 40 % of the ex-works price of the product Or Manufacture in which the value of all the materials used does not exceed 30 % of the ex-works price of the product	Manufacture from materials of any heading, except that of the product Or Manufacture in which the value of all the materials used does not exceed 50 % of the ex-works price of the product
Cells (85.07) Battery cells, battery modules and parts thereof, intended to be incorporated into an electric accumulator of a kind used as the primary source of electrical power for propulsion of vehicles of headings 87.02, 87.03 and 87.04	CTH; Or MaxNOM 70 % (EXW)	CTH except from non-originating active cathode materials; Or MaxNOM 35% (EXW)	Manufacture: —from materials of any heading, except that of the product, and —in which the value of all the materials used does not exceed 40 % of the ex-works price of the product Or Manufacture in which the value of all the materials used does not exceed 30 % of the ex-works price of the product	Manufacture from materials of any heading, except that of the product Or Manufacture in which the value of all the materials used does not exceed 50 % of the ex-works price of the product
EVs (87.02-87.04) vehicles with both internal combustion piston engine and electric motor as motors for propulsion capable of being charged by plugging to external source of electric power ("plug-in hybrid");	MaxNOM 60 % (EXW)	MaxNOM 45 % (EXW) and battery packs of heading 85.07 of a kind used as the primary source of electrical power for propulsion of the vehicle must be originating.	Manufacture in which the value of all the materials used does not exceed 40 % of the ex-works price of the product	Manufacture in which the value of all the materials used does not exceed 45 % of the ex-works price of the product
EVs (87.02-87.04) Others	MaxNOM 60 % (EXW)	MaxNOM 45 % (EXW)	Manufacture in which the value of all the materials used does not exceed 40 % of the ex-works price of the product	Manufacture in which the value of all the materials used does not exceed 45 % of the ex-works price of the product

The old PEM rules are more restrictive than the transitional TCA rules as are the revised PEM rules. On the other hand, the revised PEM rules are less restrictive than the full TCA rules. This means that as of the end of 2026, if the situation does not change, it would be easier for the UK industry to meet PEM rules than the TCA rules.

While it is relatively easy to compare the value-added thresholds, the alternative rules are also worth noting. Change in tariff heading (CTH) under the full TCA rules requires more processing within the FTA zone than change in tariff sub-heading (CTSH) under the transitional TCA rules. The additional condition for battery packs for EVs under the full TCA rules adds a further restriction. The full rules also include a more restrictive condition on materials (for example an ongoing issue around the definition of Active Cathode Materials under the TCA²⁵). The revised PEM rules, on the other hand,

²⁵ The industry asked for further guidance on the definition of Active Cathode Materials in order to be able to apply PSRs. This definition is needed to ensure compliance and harmonization of application. For more see <https://www.gov.uk/government/publications/third-trade-specialised-committee-on-customs-cooperation-and-rules-of-origin-minutes/3rd-eu-uk-trade-specialised-committee-on-customs-cooperation-and-rules-of-origin-under-the-eu-uk-trade-and-cooperation-agreement>, https://assets.publishing.service.gov.uk/media/639325c0e90e0769bb7aaa95/2nd_TSC_for_Customs_Cooperation_and_Rules_of_Origin_-_Meeting_minutes.pdf, and <https://www.gov.uk/government/publications/minutes-of-the-trade-specialised-committee-on-customs-cooperation-and-rules-of-origin-7-october-2021/trade-specialised-committee-on-customs-cooperation-and-rules-of-origin-minutes-of-the-first-meeting>

remove the value-added criterion from the alternative, change in classification rule under the old PEM.

This means that until 2027, rejoining PEM would mean stricter rules of origin than currently enjoyed by the industry. According to Alessandro, while the TCA was being negotiated “both old PEM rules and reformed PEM rules were generally deemed unworkable for batteries and related technologies due to the lack of an e-mobility regional supply chain”²⁶.

The rules of origin for batteries and EVs under the TCA were designed to encourage a gradual increase in domestic production of EV batteries²⁷. It is currently unclear what the situation will look like at the end of 2026. However, recent news about Northvolt, a Swedish battery producer, is not particularly optimistic²⁸.

A number of factors impact the price of EVs, batteries, packs and key materials used in their production. Battery and pack costs as a share of the total cost of an electric vehicle have been falling over time and are projected to fall further^{29 30}. The limits introduced by the full TCA RoO are strict enough to pose a problem for European and British manufacturers despite the falling prices. The table below presents the top five sources of imports of electric vehicles and batteries into the UK.

²⁶ Statement from SMMT obtained by the author in December 2024

²⁷ A goal that is important for both parties’ decarbonisation strategy. For the EU, it is part of the ‘Fit for 55’ deal.

²⁸ See <https://www.reuters.com/technology/northvolt-crisis-may-be-make-or-break-europes-ev-battery-ambitions-2024-11-22/>

²⁹ See <https://www.goldmansachs.com/insights/articles/electric-vehicle-battery-prices-are-expected-to-fall-almost-50-percent-by-2025>

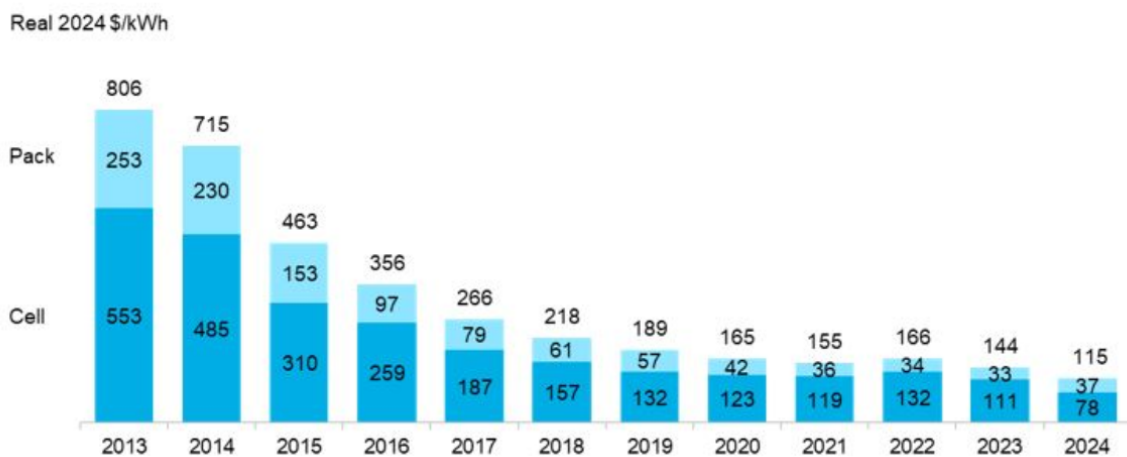
³⁰ For an analysis of lithium-ion battery pack prices see here: <https://about.bnef.com/blog/lithium-ion-battery-pack-prices-see-largest-drop-since-2017-falling-to-115-per-kilowatt-hour-bloombergnef/>

For a further analysis of the fluctuations in the cost of batteries to the pack from 2021 see: https://about.bnef.com/blog/battery-pack-prices-fall-to-an-average-of-132-kwh-but-rising-commodity-prices-start-to-bite/#_ftn1

Figure 2 Imports of EV vehicles and batteries. Statistics provided by Jun Du, Centre for Business Prosperity from Aston University

UK HMRC Partner Origin Imports from _World					
Source: Trade Data Monitor collected and compiled by Centre for Business Prosperity, 11-12-2024.					
870380, Other vehicles, equipped only with electric motor			850760 Batteries		
Partner	Unit	2023	Partner	Unit	2023
Germany	USD	5,313,621,830	China	USD	1,790,780,975
China	USD	4,595,172,148	Germany	USD	481,581,036
South Korea	USD	1,353,736,983	United States	USD	281,812,315
Belgium	USD	829,868,159	Japan	USD	255,678,648
Japan	USD	608,758,172	Hungary	USD	165,202,829

Figure 3 Volume-weighted average lithium-ion battery pack and cell price split, 2013-2024 ³¹



Source: BloombergNEF. Note: Historical prices have been updated to reflect real 2024 dollars. Weighted average survey value includes 343 data points from passenger cars, buses, commercial vehicles and stationary storage.

The SMMT is cautiously optimistic about PEM. Alessandro noted that:

“With ongoing efforts to localise large parts of the battery supply chain in the EU-UK region, it is possible that, in the future, a critical mass of automotive and battery manufacturers might be in a position to meet PEM origin rules but might not be able to comply with the TCA 2027 rules. In addition, joining PEM would allow us to access a regional cumulation zone, offering opportunities to British suppliers and solving the systemic puzzle for UK automotive businesses using a large proportion of EU content in trade with Euro-Mediterranean trading partners as the UK remains – and wants to

³¹ <https://about.bnef.com/blog/lithium-ion-battery-pack-prices-see-largest-drop-since-2017-falling-to-115-per-kilowatt-hour-bloombergnef/>

remain – a critical and integrated participant in the full European automotive ecosystem and supply chain”³².

However, Alessandro also noted that “the industry does not have a definitive view on accessing PEM and a superficial assessment limited to comparing rules for finished vehicles and batteries is not enough to support joining PEM” and “assessing potential costs from a further change in rules across the entire automotive supply chain is complex”³³. Here again, an in-depth analysis based on company-level data would be required to understand the potential impact.

Rejoining PEM will not by itself “solve” the issue of RoO for EVs and batteries.

“While slightly more flexible than future TCA requirements, PEM rules can be met only by substantially localising the most valuable parts of the battery supply chains in the European region, at a time when regulatory challenges and a weakening demand for battery electric vehicles are already impacting our industry, with massive investments in plants and new zero emission products under intense pressure. In this context, only sound industrial strategies on both sides of the Channel can permanently avoid the threat of tariffs”³⁴.

It’s also the case that it would be difficult for the sector to support rejoining PEM before 2027. That is unless a solution is found and the current transitional rules for EVs are allowed to coexist with PEM rules. However, it would be politically challenging in the context of Brexit and given the EU’s approach to any cherry-picking. There could also be an option for grandfathering TCA rules of origin under PEM. As always, the difficulty isn’t the lack of technical solutions but political agreement. There have been several new developments in the EV industry in 2024 and 2025 will likely bring new geopolitical tensions that might make this option more acceptable for the EU. The bottom line is that the core of the PEM agreement is one set of identical rules of origin for all members. This will remain the case.

Recommendations and conclusions

Rejoining PEM is likely to be beneficial for UK industries. The main benefits include: 1) the ability for UK companies to profit from regional cumulation and the resulting strengthening of regional supply chains, 2) the harmonization of rules across the region, and 3) the ability to take advantage of additional flexibilities under the revised PEM rules.

It’s likely that there might also be negative effects for certain companies, not to mention the teething problems of changing RoO. Assessing the overall benefits and

³² Statement from SMMT obtained by the author in December 2024

³³ Statement from SMMT obtained by the author in December 2024

³⁴ Statement from SMMT obtained by the author in December 2024

understanding the negative effects in advance would require the UK Government to undertake a number of steps:

- Conduct an in-depth analysis of the impact of revised PEM rules on UK companies and supply chains based on company-level data;
- Open public UK consultation on rejoining the revised PEM;
- If the UK does not currently have access to this data, discuss the current PEM utilization rates with the Commission.

It is unlikely that, even if the solution to EV battery rules was found, the UK would rejoin in 2025 avoiding the last year of coexisting rules and a complicated cumulation matrix. The upcoming months could therefore be used for the above actions. The decision to rejoin should not be taken based on anecdotal evidence alone but as part of an evidence-based, data-driven policy. It should result from a clear need identified by the UK industry and the steps to mitigate any negative consequences should be identified and planned in advance. As such, rejoining PEM should fit within the new Government's long-term trade policy of an EU-UK trade relationship reset and wider regional policy.