Politics and Governance
2024 • Volume 12 • Article 8221
https://doi.org/10.17645/pag.8221

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Open Access Journal

Industrial Alliances for the Energy Transition: Harnessing Business Power in the Era of Geoeconomics

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Submitted: 2 February 2024 **Accepted:** 18 June 2024 **Published:** 7 August 2024

Issue: This article is part of the issue "The Geoeconomic Turn in International Trade, Investment, and Technology" edited by Milan Babić (Roskilde University), Nana de Graaff (Vrije Universiteit Amsterdam), Lukas Linsi (Rijksuniversiteit Groningen), and Clara Weinhardt (Maastricht University), fully open access at https://doi.org/10.17645/pag.i383

Abstract

In a context of rising geoeconomic competition, the EU is embracing stronger industrial interventionism to address societal challenges and reduce external dependencies in strategic sectors. Developing this type of strategic industrial policy requires close government–firm relations. This article investigates whether and how the EU succeeds in articulating public–private collaboration in the pursuit of strategic goals by examining the role of the recently launched EU Industrial Alliances in clean energy technologies. We build on a "governed interdependence" (GI) approach to assess whether the Alliances resemble the embedded public–private networks that are common in states deploying strategic industrial policy. Our findings, obtained through desk research, surveys, and qualitative interviews, offer a mixed picture. On the one hand, in line with GI, the Industrial Alliances provide a novel, institutionalised venue for public–private collaboration, led by geostrategic objectives and contributing to reducing information gaps and fostering policy coordination. On the other hand, Industrial Alliances adhere less well to a GI system in their composition and structure, and in their loose articulation of risk-socialisation mechanisms.

Keywords

business power; clean energy technology; geoeconomics; industrial alliances; industrial policy

1. Introduction

Since 2017, the EU has launched 11 Industrial Alliances, a new collaboration format between public and private actors designed to achieve strategic objectives in critical technologies and value chains, such as electric batteries, cloud systems, and semiconductor technologies. Industrial Alliances are part of the EU's

attempt to articulate a more robust industrial policy in response to the challenge of the digital and energy transitions and growing geopolitical confrontation. When industrial policy has strong geopolitical drivers, it can be more specifically referred to as strategic industrial policy and a form of domestically-oriented *economic statecraft*, namely "government initiatives designed to reach for or push the high-tech frontier in order to fend off, outflank, or move in step with clearly defined rival powers" (Weiss & Thurbon, 2021, p. 474). States' ability to deploy this "new economic statecraft" presupposes close government–firm relations (Aggarwal & Reddie, 2021, p. 2). The launch of the Industrial Alliances thus indicates the EU's ambition to develop this form of domestic economic statecraft, complementing the gamut of new external economic policy tools that seek to enhance the bloc's economic security (cf. Garcia-Duran et al., 2023; Heldt, 2023; Rosén & Meunier, 2023).

However, scholarly analyses investigating these recent trends are divided in assessing whether the EU has the capacity and instruments to deploy industrial policy, let alone economic statecraft. On the one hand, the EU has embraced a "geodirigiste" industrial policy in strategic technological sectors (Seidl & Schmitz, 2023; see also Di Carlo & Schmitz, 2023; Terzi et al., 2023) as part of a broader geoeconomic turn of the Single Market (Babic et al., 2022; Bauerle Danzman & Meunier, 2024; Herranz-Surrallés et al., 2024). On the other hand, some studies emphasise that the EU does not have the fiscal capacity or levers of governance and control that states have at their disposal (McNamara, 2023). More generally, the EU's composite nature often complicates its ability to deploy geoeconomic policies (Christiansen, 2020; Gehrke, 2020; Weinhardt et al., 2022). Moreover, the shift towards a more interventionist industrial policy further represents a departure from the EU's traditionally market-centric economic approach and the technocratic legitimacy basis of the EU as a polity, leading to new cleavages and coalitional politics (McNamara, 2023; Seidl & Schmitz, 2023).

Given that geoeconomic measures might disrupt the free play of market forces, one of the potential new sources of friction is between government and business actors (Choer Moraes & Wigell, 2020, 2022). The risk of misalignment is particularly high in the EU, given the so-called "geoeconomic paradox" (Olsen, 2020, p. 43), underlining how decades of market liberalisation have strengthened European private companies, complicating the EU's ability to deploy economic instruments for geopolitical purposes. Despite calls for a less state-centric approach when studying geoeconomic trends (cf. Babic et al., 2022, pp. 4–5; Moisio, 2019, p. 4), the emerging literature on EU strategic industrial policy has so far neglected public–private relations, as studies focus either on mapping and explaining the preferences and strategies of public actors (Di Carlo & Schmitz, 2023; McNamara, 2023; Seidl & Schmitz, 2023; Terzi et al., 2023) or on the reaction of private companies to the geoeconomic turn (Choer Moraes & Wigell, 2020; Eckert, 2024; Vlasiuk Nibe, 2023), rather than the interface between the two.

To start addressing this gap, this article assesses the extent to which and how EU Industrial Alliances succeed in articulating public–private collaboration in pursuing strategic goals and what challenges emerge in that process. Specifically, it focuses on Industrial Alliances in the clean tech sector: the European Battery Alliance (EBA), launched in 2017; the European Raw Materials Alliance (ERMA) and the European Clean Hydrogen Alliance (ECH2A), both established in 2020; and the European Solar Photovoltaic Industry Alliance (ESIA), in place since 2022. This sector is analytically relevant since it is the single most important driver of the EU's industrial policy activities. Three of the six strategic areas identified in the New Industrial Strategy for Europe are energy-related (European Commission, 2020): batteries, raw materials, and hydrogen. Moreover, the urgency and strategic character of the energy transition turned up a notch with Russia's full-scale war

on Ukraine since February 2022, leading the EU to adopt the REPowerEU Plan to decouple from Russia as an energy supplier and speed up the deployment of clean energy sources (European Commission, 2022a). Accordingly, the Green Deal Industrial Plan acknowledges that "net-zero energy technologies are at the centre of strong geostrategic interests and the core of the global technological race" (European Commission, 2023).

Analytically, the article builds on the approach of "governed interdependence" (GI), introduced by Weiss (1995), to understand the articulation of government–firm relations in states seeking to deploy strategic trade and industrial policy in technological sectors. While this approach was initially developed to study public–private collaboration in East Asian economies, GI has regained attention in the context of the growing linkage between industrial and security policies in Western economies, most notably to examine government–firm relations in the US (Weiss, 2014; Weiss & Thurbon, 2021). The rising global competition for clean energy technologies has also motivated further refinement of the GI framework applied to China (Fu, 2023) and other leading Asian green-tech powers (Kang & Jo, 2021; Kim, 2019). Therefore, we argue that GI still provides a useful benchmark for assessing whether and how the EU is on the path to deploying strategic industrial policy, particularly in the domain of clean energy technologies. The analysis triangulates data from desk research, surveys, qualitative interviews, and participant observation. Our findings suggest that EU Industrial Alliances only partially adhere to the idea of embedded state–industry networks in GI systems. The analysis thus contributes to identifying the EU's shortcomings and challenges in developing instruments of domestic-oriented economic statecraft.

The remainder of this article is organised into three sections. Section 2 further discusses recent literature on industrial policy in a hardening geoeconomic context and develops the analytical benchmarks to assess and cross-compare the role of the EU Industrial Alliances. Section 3 presents our findings on the emerging features and functions of the Alliances considered. The final section concludes by discussing the main novelties and challenges of Industrial Alliances as an instrument to govern public–private relations in a geoeconomic context.

2. Assessing Public–Private Collaboration in EU Industrial Policy

To address the EU industrial policy "trilemma," namely "to combine decarbonisation with economic growth and jobs and world competitiveness, while also reinforcing resilience and sovereignty/autonomy/security of supply," a close and purposeful interaction between public and private actors is required (Tagliapietra & Veuglers, 2023, p. 19). The GI approach is relevant in that regard, as its original goal was to identify the forms of public–private collaboration that underpin an effective strategic industrial policy (Weiss, 1995, p. 605). The underlying assumption was that developing economic statecraft in technological sectors requires maintaining "embedded state–industry networks" (Weiss, 1995, p. 595), whereby the state's bureaucracy can gather information and coordinate agreements with private actors. In recent elaborations of the concept, GI is used to describe "a relationship between the state and private actors that involves considerable negotiation, collaboration and partnering, one that is pursued for mutual benefit but is ultimately governed by public objectives" (Weiss & Thurbon, 2021, p. 476). What makes GI stand out in the landscape of international political economy is its explicit aim to transcend the divide between statist and market approaches to technological innovation (Weiss, 2014, p. 18). Its focus is rather on the ability of government actors to elicit consensus and cooperation from the private sector.

Within the EU, these strategic state–industry collaborative arrangements have recently taken the form of Industrial Alliances. Di Carlo and Schmitz (2023, p. 8) conceptualise them as a "brokering" element of

industrial policy, a form of network governance that envisages "states connecting scientists working in universities, government laboratories or business settings to stimulate innovation." To examine the Alliances' contribution to articulate closer public–private collaboration in the pursuit of strategic goals, we develop an analytical framework that explores the extent to which the Alliances resemble the properties and functions of embedded state–industry networks of a GI system and identifies the tensions emerging in that process. The next subsections spell out these analytical dimensions (see Table 1 for a summary) and the methodological choices driving the data collection and analysis.

2.1. Properties of Embedded State–Industry Networks

The first element to examine is the *size and diversity* of membership. Creating broad networks of firms is particularly relevant when industrial policy aims to achieve technological leadership. Developing advanced technologies requires going beyond large firms in established industries and demands "a more inclusive and much less centralised approach" (Weiss & Thurbon, 2021, p. 478). Accordingly, EU Industrial Alliances are meant to be inclusive and cover different value chain segments in the respective sector. However, inclusiveness might also be a challenge when articulating close state–industry collaboration. One important factor outlined by Weiss (1995) is that a robust GI is more likely where nationals own the private sector, the assumption being that domestic firms are more committed to a well-functioning industrial ecosystem than foreign companies. Given that economic statecraft aims to promote the technological leadership of the "domestic" industry vis-à-vis strategic competitors, we would expect Industrial Alliances to be formed mainly by EU-based business actors. However, the idea of "open strategic autonomy," adopted as the new EU trade policy doctrine (European Commission, 2020), and the realities of some global value chains point in the direction of greater geographical spread, including non-EU actors (e.g., Schneider, 2023; Vlasiuk Nibe, 2023). Moreover, partnering with like-minded countries is a building block of Europe's economic security strategy (Rosén & Meunier, 2023; Timmers, 2022). Examining the Alliances' composition and membership criteria can thus provide valuable information about how the EU balances these seemingly contradictory requirements between inclusivity and exclusivity and, therefore, autonomy and openness.

The second element is the degree of *goal consensus*. A fundamental characteristic of GI is that the relationship between the state and private actors is "pursued for mutual benefit but is ultimately governed by public objectives" (Weiss & Thurbon, 2021, p. 476). In other words, GI necessitates squaring commercial and geostrategic goals, which may not always be aligned. For instance, Weiss (2014) extensively documented the frequent reluctance of US' high-tech firms to collaborate in government security-oriented programmes seeking technological primacy. Within the EU, studies focusing on Germany's recent shift towards strategic industrial policy have also identified major divisions within the German business community on whether to support the government's agenda (Germann, 2023; Schneider, 2023). Therefore, the alignment of industry actors with EU geoeconomic policies is not a given, and responses can range from lobbying in favour of such measures to active resistance (cf. Choer Moraes & Wigell, 2022; Eckert, 2024). The capacity of Industrial Alliances to reconcile geostrategic and commercial goals is thus relevant for articulating a fruitful relation of GI.

The third element is the level of *centralisation*. As an institutional form, GI is "neither simply bottom-up nor solely top-down" (Weiss, 2014, p. 18). Rather, it envisions a balance between an autonomous and dynamic industrial ecosystem and centralised mechanisms to ensure that the private sector contributes to the set strategic targets. EU Industrial Alliances are designed to foster bottom-up and horizontal interactions, with

private actors assuming a leading role in the management of the network. However, from a GI perspective, if the Alliances are to comply with the geopolitical drivers of industrial policy, they also require a prominent steering role from the European Commission. In the original framework, the presence of a committed, capable, and expert bureaucracy was actually one of the main factors explaining the successful articulation of GI (Weiss, 1995, pp. 596–597). It is, therefore, crucial to comprehend how the Alliances balance bottom-up and top-down dynamics and the extent to which expertise and bureaucratic capacity influence the steering ability of the European Commission.

2.2. Functions of Embedded State–Industry Networks

At the most basic level, state–industry networks contribute to *reducing information gaps*. For GI to produce the desired effects, state bureaucracy needs adequate mechanisms to gain knowledge of industrial conditions (Weiss, 1995, p. 596). The purpose of institutionalised state–industry links is to maintain close channels for gathering and sharing information, thus increasing the chances of a better policy design and implementation (Weiss, 1995, p. 601). In further elaborations of the approach, Weiss emphasised that the ability of the state to "extract and exchange vital information with producers" is key to the development of GI, understood as a form of infrastructural power, echoing Michael Mann's influential conceptualisation of the ways in which the state exercises power through linkages and negotiation rather than coercion (Mann, 1993, as cited in Weiss, 2006, p. 168). The Alliances' contribution to reducing information gaps, thereby increasing the Commission's chances to exert infrastructural power, can be exploratively assessed by the frequency and type of formal events, as well as working meetings and other internal communication channels. A possible tension when establishing routinised information flows is how the Alliances juggle between engaging all the members and facilitating close and agile exchanges. Therefore, we analyse how the Alliances articulate information flows, whether they are truly bidirectional, and whether they prioritise encompassing information or target a restricted group of members for a more substantive exchange of views.

A second function of state–industry networks is *policy coordination*, contributing to a joint articulation of strategic industrial policy. However, a condition for fruitful GI is that policymaking structures remain insulated from special interests (Weiss, 1995, p. 598). Some of the recent literature engaging with GI has examined this tension between connectedness and insulation in government–business relations, arguing that business actors in critical technological sectors have, over time, gained more power and autonomy vis-à-vis states (Kang & Jo, 2021; Kelton et al., 2022). This debate is also relevant for the analysis of the Industrial Alliances. On the one hand, the Alliances may become instrumental in generating policy solutions. These can be assessed by examining whether they produce joint statements or practical initiatives affecting policy debates and sectorial priorities. On the other hand, the more substantial the role of the Alliances in that regard, the more they may raise normative-political concerns regarding the transparency and insulation of policymakers from business interests. While the Commission explicitly indicates that the Alliances do not play a role in policymaking (European Commission, n.d.), some NGOs have criticised them as a new form of "corporate capture" (Friends of the Earth Europe, 2021). The contention is that the Alliances might "unduly influence political processes and direct public spending" (Friends of the Earth Europe, 2021, p. 2), thereby impinging upon the EU's democratic legitimacy and eroding the epistemic basis of EU policies, as policymakers might rely more on business actors than on independent experts. Whether this tension between interconnectedness and insulation is a concern that affects how the Alliances work is also relevant for investigating the articulation of GI in the EU.

Table 1. Analytical dimensions and empirical indicators for the study of GI in the Industrial Alliances.

Analytical dimensions		GI	Indicators
Alliances properties	Size and diversity	Inclusive industry networks, but exclusive of third-country firms	Membership structure (share of business actors, share of non-EU members) Stringency of the admissions procedure (who can join the Alliances and based on what elements)
	Goal consensus	Blending of geostrategic and commercial goals	Ambition of EU targets and type of instruments (market incentivising or restricting) Structure of the market and global value chains (how limiting the situation of the technological value chain is for a full geoeconomic display)
	Centralisation	Balancing bottom-up dynamics with top-down direction from expert bureaucracy	Governance structure of the Alliances (who manages the Alliances, how varied and inclusive the managing board is) Relation between Commission and coordinating bodies (what steering roles does the European Commission assume, why these roles are performed by the European Commission or other bodies)
Alliances functions	Reducing information gaps	Institutionalised and substantive information flows	Format and frequency of meetings (high-level or working-level meetings, restricted or broad participation) Internal communication channels (presence of newsletters, recurrence of and participation in steering committee meetings)
	Policy coordination	Joint articulation of industrial policy, yet maintaining insulation from special interests	Publications (joint statements, strategic plans) Perceptions regarding the insulation of decision-makers from specific business interests (descriptions of and accusations targeting the lack of transparency in the Alliances' procedures)
	Risk socialisation	Proactive techno-governance measures	Alliances' contribution to promoting public and private investment (engagement with public and private investors, existence of project pipelines) Link between the Alliances and risk-socialising measures (e.g., unlocking state aid measures, EU financing programmes, public–private innovation partnerships)

Last but not least, in a GI system, state–industry networks serve the purpose of *socialising the risk* of technological innovation, including by coordinating investment in strategic industrial sectors. Government and businesses share the responsibility for raising capital, developing new products and technologies, finding new markets, and training a skilled workforce (Weiss, 1995, p. 594). While all advanced states intervene in some way or another in techno-industrial governance, they can do so to different degrees, ranging from mere R&D expenditure to more active involvement, for example, by assuring demand for technological innovations, taking equity in innovation firms, or co-developing industry standards to outflank foreign competitors (Weiss, 2014). A system of GI implies the adoption of instruments on the proactive end of the continuum. For example, the US has long used all these forms of public–private collaboration, in what Weiss characterises as the "National Security State" (Weiss, 2014). Similarly, though motivated more by

geoeconomic than geopolitical concerns, East Asian economies have also intensified public–private collaboration in critical technologies. For example, studying South Korea and Taiwan, Kim (2019) identifies *hybridised industrial ecosystems* as a new "institutional mutation" of GI, characterised by a "genuine fusion of public and private features" (Kim, 2019, p. 160). Besides this high level of public–private integration, their success lies in linking up all segments of the production and innovation value chain rather than focusing on the different components. Besides external pressures, the degree of state involvement and choice of instruments is also determined by domestic factors, such as state–society relations (Weiss & Thurbon, 2021). For example, in the US, the dominant anti-statist ethos is said to have led to unconventional forms of state intervention (Weiss, 2014). A tension between ingrained state–society relations and proactive industrial governance could emerge in the EU, given its traditional market-liberal orientation and centrality of competition policy in ensuring a level playing field in the internal market. It is thus relevant to examine where the Industrial Alliances sit in the continuum between passive and proactive forms of risk-sharing collaboration.

2.3. Methodological Considerations

Our selection of four energy-related Industrial Alliances (EBA, ERMA, ECH2A, and ESIA) launched between 2017 and 2022 aims at ensuring some level of comparability yet capturing differences related to the industry characteristics or the stages of development. Our empirical analysis relies on publicly available information from the Alliances' website, EU and European Institute of Innovation and Technology (EIT) documents, and news articles retrieved via web research (around 50 documents) from January 2017, when the first Industrial Alliance was launched, and April 2024. The public data was used to construct our databases on the membership of the Alliances, their basic organisational structure, and activities performed. Moreover, nine semistructured interviews (Rubin & Rubin, 2012) were conducted between April and December 2023. Interviewees included five industry actors from EIT InnoEnergy, Hydrogen Europe, Eurobat, and the European Association for Electromobility, as well as four European Commission policy officers involved in managing the Alliances considered (see Table 2 for an overview).

A survey gathered additional insights from 13 private European companies in the critical raw materials, batteries, solar, and hydrogen sector and business associations representing the clean energy industry involved in one or more of the Alliances examined. Conducted between February and May 2023, the survey investigated private perceptions of the linkages between the energy transition and geopolitics and the relationship with national and supranational institutions in the energy transition. The survey was created and managed via Qualtrics. Thirteen questions investigated the participants' perceptions of the linkages between geopolitics, the race for clean energy technologies, and economic collaboration across firms and national and supranational institutions. Survey participation requests were sent to 33 individuals, of which 20 were employed in business organisations and 13 in relevant firms. In total, 13 people completed the survey, with a response rate of 39%. The responses were completely anonymised, and links are non-traceable.

This article combines endogenous and exogenous analysis. Specifically, we are interested in how the actors involved perceive the Alliances and echo any of the tensions discussed above while complementing such views with our own assessment of how they come close to or differ from the GI benchmark. Semistructured interviews are thus used as the main research method to address the scarce availability of online data. While interviews allow insiders' perspectives to emerge and outline the Alliances' purpose, the triangulation with

Table 2. Overview of interviews.

Interview	Date	Affiliation
1-BA	8 May 2023	Business association
2-BA	9 May 2023	Business association
3-BA	10 May 2023	Business association
4-COM	5 December 2023	European Commission
5-COM	13 December 2023	European Commission
6-COM	14 December 2023	European Commission
7-COM	19 December 2023	European Commission
8-EIT	22 December 2023	EIT
9-EIT	22 December 2023	EIT

data obtained via desk research allows the reconstruction of the (in)consistencies between insiders' views and public information. At the same time, the survey's findings were used to shape our views about public–private collaboration in the energy transition.

3. The EU Green Industrial Alliances at Work

3.1. Properties: Balancing Inclusiveness, Effectiveness, and Control

Dissecting data on the membership of the examined Alliances raises two important observations. The first is their remarkable *size*, ranging from less than 150 members of the ESIA to around 1,000 members of the ERMA and EBA and more than 1,700 members of the ECH2A. The second observation is the Alliances' variation in terms of the type of actors and their geographical spread (see Figure 1). While members do not have to be strictly EU-based, the Alliance's inclusivity ends where applicants cannot demonstrate their intention to contribute to strengthening the EU's industrial ecosystem. Moreover, while individual companies and business associations account for about two-thirds of the Alliances' membership, the remaining includes a wide variety of stakeholders, including research organisations, NGOs, trade unions, financial institutions, and regional or national public authorities.

EU-based actors compose most of the examined Alliances' members (see Figure 2). This is particularly true for the ESIA, which represents a sector increasingly overtaken outside the EU. However, across the Alliances, there is a consistent presence of actors from states of the European Economic Area (EEA) and the European Free Trade Area (EFTA), but most importantly, of overseas actors. Most members outside the EU and the EEA/EFTA are OECD countries, particularly the US, Australia, Canada, and South Korea, but not exclusively. In the ERMA, the high proportion of non-EU actors includes a sizeable African component, especially in the first segments of the value chain, focusing on primary raw materials. More surprising is the inclusion of companies from China (e.g., CNGR Advanced Materials Co., Svolt Energy Technology, and Botree Cycling in the EBA), given the country's portrayal as a strategic competitor.

When asked about the rationale behind the Alliances' membership, respondents indicated that the purpose of Industrial Alliances is to "grow as much as possible" and "bring all kinds of different interests together" as long as applicants "fulfil the membership criteria" (Interview 6-COM). Membership is granted if the

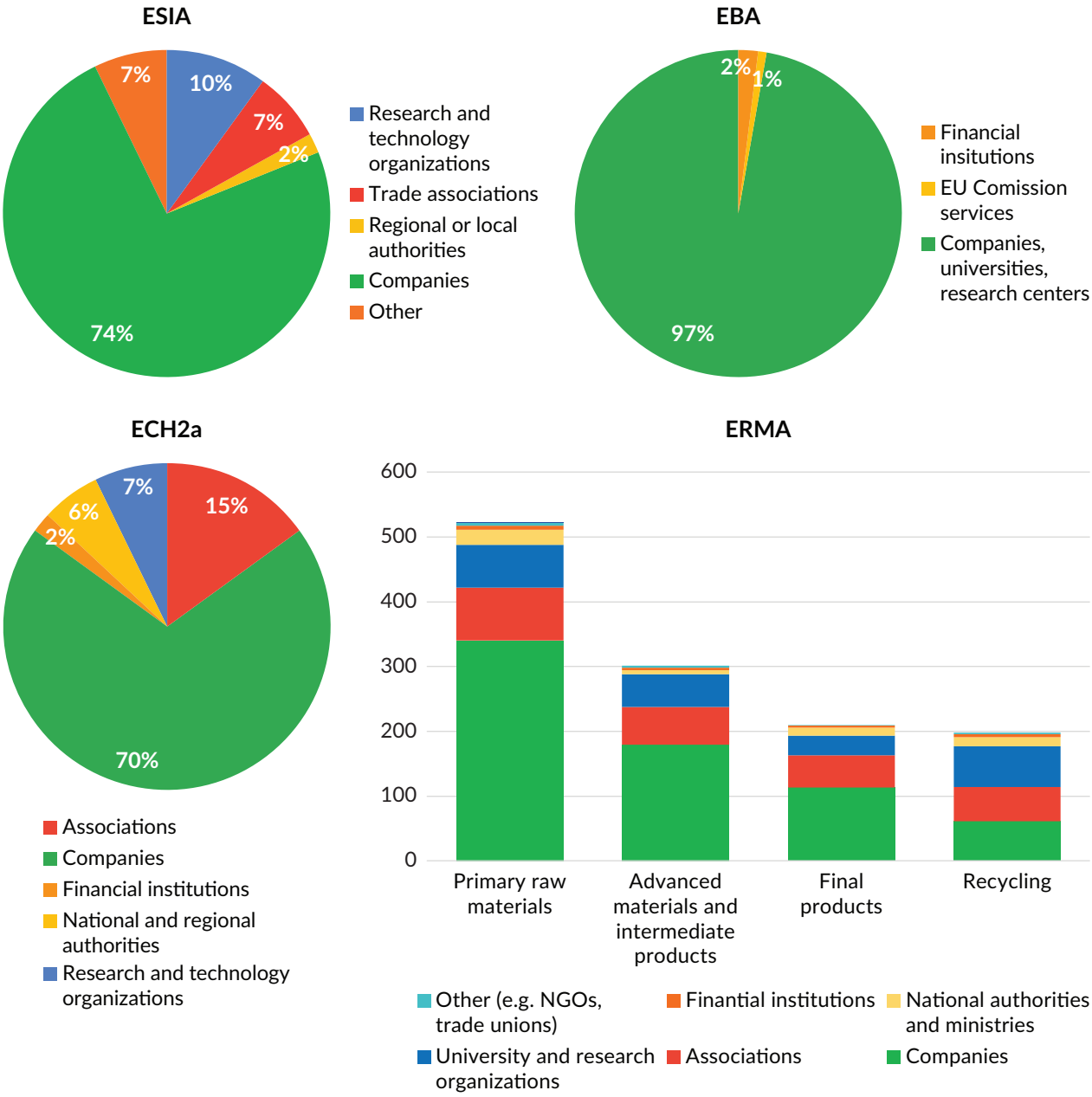

Figure 1. Membership of ESIA, EBA, ERMA, and ECH2A (by type of actors).

applicants demonstrate their intention or capacity to produce the relevant materials or technologies in the EU and create European value chains (Interviews 2-BA, 3-BA, and 6-COM). Such criteria result in "excluding some requests when the company has no such plans…or when the company is a non-EU company which is mainly interested in selling products in Europe" (Interview 8-EIT). The balance between inclusivity and exclusivity also depends on sectorial features. For the battery sector, for example, the relevant industry's position towards the geostrategic value of technological supply chains is "hard to define…because there are European companies, which are based in Europe, which see a protectionist policy as an advantageous one, while others do not" (Interview 3-BA). This is because batteries need materials that, in most cases, are not available in Europe; therefore, expecting the European battery industry to be self-sufficient and exclusive of competing actors "is a question that…from a certain point of view, is not possible" (Interview 3-BA). The case

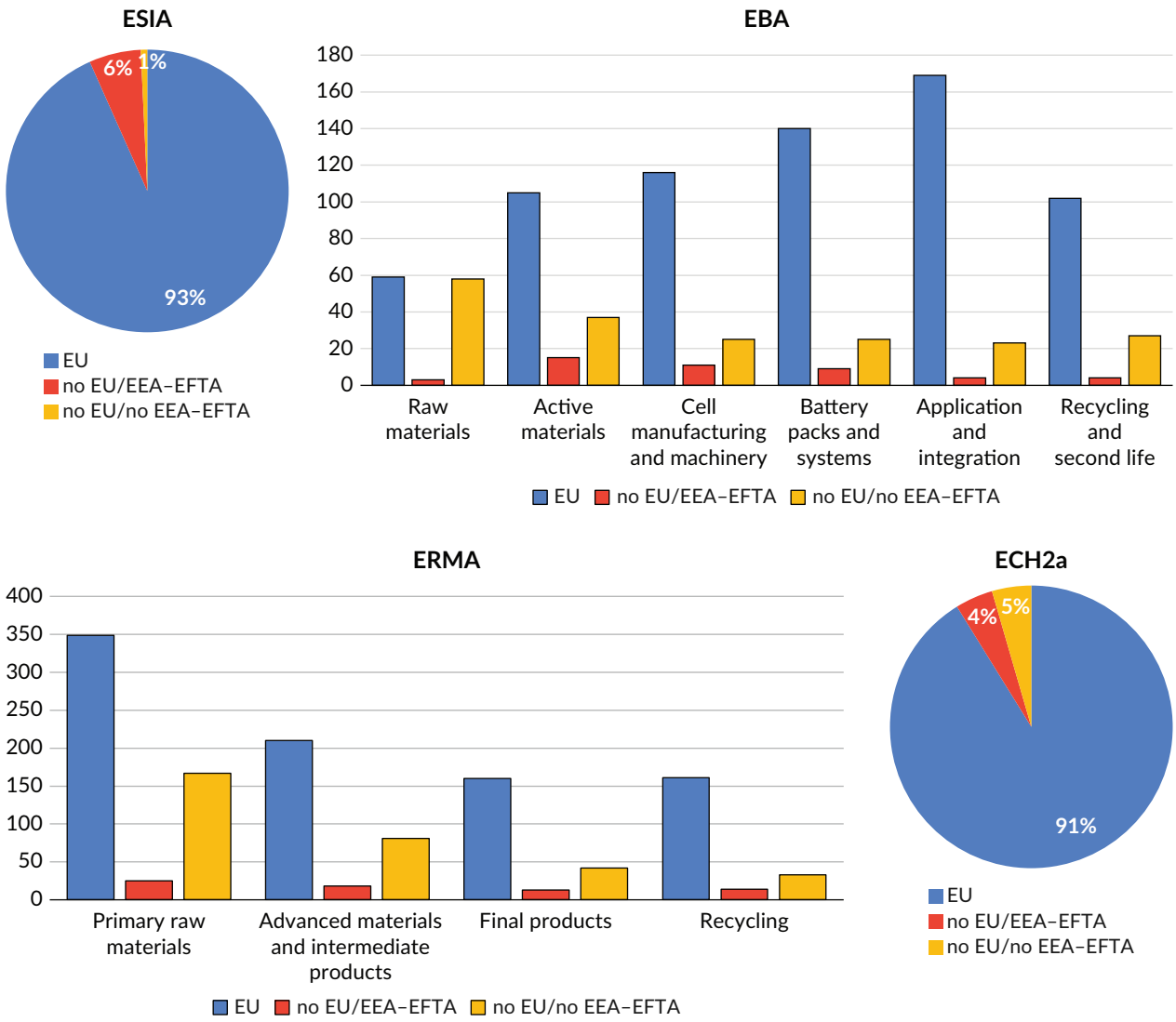

Figure 2. Membership of ESIA, EBA, ERMA, and ECH2A (by geographical origin).

of the solar industry, which has mostly been lost to China (Interview 7-COM), is starkly different and advocates for a more geostrategic approach to adapt to the "new geopolitical energy focused on Net-Zero" (SolarPower Europe, 2023). In sum, the Alliances are generally more inclusive than what would be expected in a GI system. They promote the development and growth of EU-based industrial ecosystems without excluding partnerships that could eventually benefit the European industry, even though this may result in the presence of companies from strategically competing countries.

These sectorial differences are also important for the degree of *goal consensus* in the Alliances in terms of blending geostrategic and commercial objectives. As stated by one of the Commission's officials, "differences among different Alliances depend on the different features of each market" (Interview 7-COM). In the context of the ESIA, "there is geopolitical momentum as the industry has been taken over almost completely outside the EU, especially in China" (Interview 7-COM). The Alliance "was launched with the goal to have 30 gigawatts of manufacturing capacity," but Chinese dominance along most of the supply chain and the reinvigorated discourses on energy resilience following Russia's invasion of Ukraine have further

stressed the energy security dimension (Interview 6-COM). Such a situation also explains why the European Commissioner responsible for the Internal Market, Thierry Breton, personally hosted a ministerial meeting on the European solar photovoltaic industry under the umbrella of the ESIA to stress the importance of sustaining and re-growing an EU-based solar manufacturing industry (Directorate-General for Energy, 2023).

While the day-to-day work of the Alliances focuses more on the commercial-technical goals, such as creating investment pipelines or standardisation, the "pursuit of public objectives, the energy transition in this case, and the need to reinforce relevant industrial ecosystems in front of third countries' competition remains a priority" (Interview 7-COM). The purpose of the Alliances is "to look at the full value chain" (Interview 8-EIT); in the case of hydrogen, "the aim of the Alliance was to bring hydrogen from lab to market," so the Alliance "has the goal to support the large-scale deployment of clean hydrogen in order to decarbonise the industry…but also…the mobility sectors when it comes to trucks or shipping" (Interview 5-COM). For this purpose, the Alliances "bring together not only the private sector but also the public sector" so that "everybody has a different role" towards the same objective (Interview 5-COM). The Alliances thus adhere to the notion of GI by calibrating geostrategic and technical-commercial narratives according to the state of each industrial ecosystem; by so doing, they remain fora where discussion and conciliation are favoured to prevent internal conflict and defections.

The level of *centralisation* also partly depends on the relevant industrial features. However, the expertise of the leading organisations and the Commission's resources are determining factors for the degree of control assumed by the EU bureaucracy in the Alliances. The Commission "plays a significant role in all of them, although to different degrees" (Interview 7-COM). For instance, the EBA and ESIA are managed by EIT InnoEnergy, a company founded by 27 shareholders and supported by the EIT, an independent EU innovation body created under the framework of Horizon Europe (EIT, 2021). EIT InnoEnergy is one of the EIT Knowledge and Innovation Communities, which consist of partnerships dedicated to addressing specific global challenges, such as climate change. As one of their representatives described it, EIT InnoEnergy is "an investor in start-ups and scale-ups…in the energy transition field of work" (Interview 8-EIT). Born in 2009, it received "a mandate from the European Commission to start the first Industrial Alliance…a concept that [they] almost created together with Vice President Šefčovič at the time" (Interview 8-EIT). Similarly, EIT RawMaterials is the organisation that the Commission entrusted to manage ERMA's stakeholders' consultation process across the entire value chain and channel investments. Conversely, the European Commission takes care of ECH2A's operational work. The entrustment of the EBA and ERMA to the respective EIT innovation communities followed its capacity to act as an incubator and attract investment in the respective sectors.

While considerations of expertise drive the decision to entrust the management of the Alliances to EIT, resource efficiency is also important (Interviews 4-COM and 6-COM). As argued by one of the interviewees, "EIT has a lot of expertise and, at this point, they are very experienced with the Alliances" (Interview 6-COM); it works in close contact with companies and possesses market intelligence, saving the Commission's resources (Interviews 4-COM, 5-COM, and 6-COM). However, efficiency comes at the cost of limited oversight and information-gathering capacity by the Commission. Some interviewees acknowledged a trade-off in having less insight and voice into the day-to-day management of the Alliances (Interviews 4-COM and 5-COM). This also explains the higher centralisation of the ECH2A. Given the size of the hydrogen ecosystem and the multitude of parties involved, internal management of the Alliance was

preferred, as it is "an advantage when you want to have action or quick information"; moreover, "[the Commission] can have access to different roundtables, different co-chairs, and the steering committee. It's easier. And then [the Commission] know[s that it] can also monitor a little bit more" (Interview 5-COM). Overall, in terms of GI, the tendency to entrust the management of the Alliances to an autonomous industry actor (though supported by EU funding) does not fully align with the idea of a strong bureaucracy with in-house expertise.

3.2. Alliance Functions: Towards the Co-Production of Policies?

Reducing information gaps is a crucial activity of Industrial Alliances. Of the four examined Alliances, the ECH2A has the most encompassing information channels. It has a steering committee, which includes the Commission and the facilitating organisation of each of the six roundtables that define the Alliance's workstreams. Each roundtable can include up to 50 members, and the Commission ensures some balance in terms of geographical spread and type of actors, for example, ensuring a good representation of SMEs (about 20%) and at least two NGOs per roundtable. The steering committee meets around six times a year to exchange updates from the Commission on policy streams and the roundtables' work. Moreover, the ECH2A organises two Hydrogen Forums a year, featuring speeches from high-level political figures and thematic discussions, allowing all the Alliance's members to participate. Finally, every one to two months, the ECH2A circulates a newsletter across the membership to synthesise significant updates from events or calls from the European Commission which are relevant to the hydrogen ecosystem, to update all members about the work inside the roundtables, and to share cases of successful clean hydrogen projects (Interview 5-COM).

Comparatively, the EBA focuses on ad hoc and restricted meetings, which include only a segment of the membership or happen bilaterally (Interview 8-EIT). EIT InnoEnergy formed "a core group of CEOs that were a bit of a [sounding] board for the Commission on a number of topics, especially post-Covid reaction to the US Inflation Reduction Act and the energy crisis" (Interview 8-EIT). The EBA also runs targeted meetings to keep the European Commission informed, especially at the high level, for example, in ministerial meetings, where "the Battery Alliance was reporting to the ministers in terms of the status of the value chain, what is needed in that state" (Interview 8-EIT). In between, the information flows in ESIA mostly occur within the steering committee, which includes the Commission, EIT InnoEnergy, and two industrial associations, namely SolarPower Europe and the European Solar Manufacturing Council. These meetings are occasions to discuss the work inside the Alliance's four working groups led by key industry players, including Carbon, Enel Greenpower, Engie, IBC, Meyer Burger Technology AG, and Wacker Chemie AG. The ESIA also runs an annual forum, which has only convened once so far. In turn, the ERMA does not have a steering committee, but it hosts an annual EIT Materials Summit and is involved in organising the Raw Materials Week. In sum, in line with the idea of embedded state–industry networks in GI, the Alliances have built an institutionalised framework for the circulation of information in a bidirectional way. The channels of information appear to be more encompassing in the Alliances where the Commission plays a major role, particularly in the ECH2A, suggesting a correlation between widespread information-gathering strategies, oversight capacity, and the need to build in-house expertise.

In terms of *policy coordination*, the Alliances aspire to work "towards a shared goal and to discuss concrete actions…in a structured and efficient way [to] deliver on the goal" (Interview 9-EIT). Therefore, the Alliances are driven by specific EU-level targets. For example, the ESIA aims to reach a series of concrete actions to

re-industrialise the European solar photovoltaic industry and achieve the Green Deal targets to develop an industry to supply an annual capacity of 30 GW by 2025, adding €60 billion of new GDP every year in Europe and creating more than 400,000 new jobs (ESIA, 2023). In the context of the ECH2A, the European Commission and 20 CEOs signed a Joint Declaration in May 2022, whereby the signatories committed to a tenfold increase of their electrolyser manufacturing capacity by 2025, enabling an annual production of 10 million tons of renewable hydrogen by 2030 in the EU as set out in the REPowerEU Communication (European Commission, 2022b).

Moreover, the Alliances actively contribute to producing strategic action plans in close collaboration with the European Commission. In 2017, the EBA contributed to shaping the Communication on the mobility strategy for Europe. In the words of an interviewee, "the goals were set together with the Commission in 2017, and the action plan was devised between 2017 and 2018 and resulted in the Commission's official paper" (Interview 8-EIT). In 2018, the EBA also contributed to developing the Strategic Action Plan on Batteries (European Commission, 2019), setting out a comprehensive framework of regulatory and non-regulatory actions to support the battery value chain in Europe. The ERMA produced a call for action on rare-earth magnets and motors and another on energy storage and conversion materials, identifying the relevant bottlenecks and ways to improve such segments at the European level (Interview 4-COM).

In this sense, the Alliances influence policymaking, raising the question of whether EU bureaucracy is adequately insulated from special business interests. However, when asked about whether the Alliances could be seen as a privileged channel for business to affect the Commission's work, one interviewee stated, "I would not say that they have in the Alliance the ideal place to have these very bold lobbying activities because they do not need, especially the big players…the Alliances to do that" (Interview 5-COM). On the contrary, the Commission perceives the Alliances as a way to gather intelligence, identify the major policy gaps, set priorities, and increase the likelihood that the industry will invest and contribute to European ecosystems (Interview 7-COM). The Alliances' output (analyses, reports, and position papers on specific issues) often concentrates on highly technical aspects. Other topics can be politically more sensitive, such as the work of the ECH2A on permitting, standardisation, or the potential impact of the US Inflation Reduction Act. While so far, there has been limited political or public contestation regarding the role of Industrial Alliances, these have occasionally been put under the spotlight by transparency NGOs and some political groups in the European Parliament (cf. Taylor, 2021). In sum, the Alliances have assumed the function of providing some light forms of policy coordination, with relatively limited concerns regarding the ability of the European Commission to remain insulated from special business interests.

Finally, on *risk socialisation*, the Alliances remain on the passive end of the techno-governance spectrum envisaged by GI. While facilitating investment constitutes a core function of the Alliances, their contribution is limited to matching activities rather than direct involvement in innovation, e.g., through subsidies or public–private partnerships. The EU has developed risk-sharing instruments, most notably in the form of guarantees. As a successor of the European Fund for Strategic Investment introduced by the Juncker Commission, the EU currently counts on the InvestEU programme (2021–2027), powered with €26 billion in guarantees, to increase the risk-bearing capacity of the European Investment Bank (EIB) and national promotional banks to mobilise private investment in areas such as the green transition. The most proactive mechanisms concern hydrogen, where the Commission is involved in de-risking production and imports of green hydrogen through auctions supported by specific financial instruments. Regarding subsidies for clean

energy technologies, the EU does not provide direct support. However, it has relaxed its state aid rules to allow member states to subsidise battery and hydrogen technologies (€6.1 and €17.5 billion, respectively). To qualify as Important Projects of Common European Interest, projects "should be particularly important in size or scope or imply a very considerable level of technological or financial risk, or both" (European Commission, 2021, p. 14). Risk-sharing is thus at the core of the Important Projects of Common European Interest. Nevertheless, more ambitious EU-level risk-sharing mechanisms, such as the European Sovereignty Fund proposed by Commission President Von der Leyen to promote strategic technologies "made in Europe" in response to the nearly $400 billion in clean-tech subsidies of the US Inflation Reduction Act, did not get the support of the EU member states (Simon, 2024).

In this framework, the Alliances endeavour to help companies access finance by facilitating the matching between projects and investors, organising investor days and ministerial meetings involving private investors and the EIB (Interview 7-COM). Some of the project proposals of the ESIA were presented during the solar photovoltaic ministerial meeting in December 2023, during which the EIB was one of the attendees (Interview 6-COM). Other examples include the ECH2A's Green Hydrogen Investment Day, organised in November 2023 in collaboration with EIT InnoEnergy's European Green Hydrogen Acceleration Centre, where many projects could be pitched to various investors. The year before, the same Alliance launched two calls for projects with the EIB (Interview 5-COM). The ERMA also runs a Clean Technology Materials Task Force to mobilise and coordinate funding. One example of successful unlocking of private investment is the EBA Strategic Battery Materials Fund, launched in January 2024 by EIT InnoEnergy and Demeter (a major European private equity and venture capital firm), consisting of €500 million to boost domestic capacities for strategic battery materials and increase raw materials supplies from EU Raw Material Partnership countries, such as Canada, Namibia, and Argentina.

The Alliances also develop "project pipelines," which are overviews of project proposals in the respective sectors that the managing organisations collect and assess according to criteria such as project maturity. The Alliances are particularly intended to grow investments in their respective sectors. Most successfully, the EBA generated investments for about 160 projects since 2016, when "there was no industry" (Interview 8-EIT). However, as the same interviewee noted, "[Europe] is still under a lot of pressure and challenge within this industry to deliver on the commercialisation of those projects. It takes time to be competitive." The number of project proposals ranges from 840 project proposals in ECH2A to 150 for ERMA and 20 projects for ESIA. Including projects in the pipeline, however, does not guarantee their realisation. They can be seen as windows onto the potential of an emerging industry. Overall, the Alliances play a role in bringing the markets' attention to public support schemes, though in a rather passive form, by delegating to EIT, InnoEnergy, and RawMaterials the task of bringing in private capital and encouraging the formation of new industrial ecosystems without exacerbating dependencies on state support.

4. Conclusion

GI, understood as a specific form of institutionalised state–industry collaboration guided by public goals, "has become central to the effective execution of economic statecraft" (Weiss & Thurbon, 2021, p. 7). As the EU tries to boost its industrial policy in response to geopolitical and geoeconomic pressures, this article examined whether government–firm relations at the EU level, organised in the new format of Industrial Alliances, also take some of the qualities described in a GI system. The recently launched EU Industrial

Alliances were examined as important institutional innovations in that regard, as their explicit aim is to support EU strategic autonomy by increasing the capacity to innovate and domestically produce critical technologies, goods, and materials. However, our analysis has revealed a more mixed picture.

On the one hand, in line with GI, Industrial Alliances provide an institutionalised venue for public–private collaboration led by geostrategic objectives that contribute to reducing information gaps and fostering policy coordination. All examined Alliances provide structured channels of communication that allow the European Commission to better understand the industry's conditions and align its strategies with industrial priorities. By purposefully covering all the segments of the value chains in their respective technologies, the Alliances also echo the GI-inspired notion of hybridised industrial ecosystems. On the other hand, Industrial Alliances adhere less well to a GI system in their composition and structure, and their loose articulation of risk-socialisation mechanisms. In terms of membership, the Alliances are generally more open to third-country firms than expected by GI. Besides a normative commitment to openness, this inclusiveness reflects the high level of EU dependency on global technological value chains. The structure and management of the Alliances also reveal a shortage of resources and in-house expertise on the European Commission side to fulfil the steering functions that GI assigns to state bureaucracies.

However, the dimension where the EU practice differs most from GI is the degree of risk-socialisation mechanisms. The EU has comparatively limited instruments to elicit cooperation from the private sector. Hydrogen is the sector where the EU is most proactive, with the largest amount of state aid projects, specific financial instruments, and risk-sharing schemes embedded in the European Hydrogen Bank, and a clear goal to develop standards that give EU electrolyser producers an edge over competitors. However, while the EU has set strategic goals, such as the domestic manufacturing of 40% of clean technologies by 2030, it does not directly engage in public–private innovation partnerships, which is a key defining trait of the forms of GI that have developed in the US and East Asian economies. It has few mechanisms to link national subsidies to EU-level performance targets.

The EU's multilevel character and ingrained state–society relations contribute to explaining the shortcomings and challenges of the EU acting as effectively as other global players in an increasingly confrontational world. For decades, as it is characterised as a regulatory state (Majone, 1994), the EU has traditionally avoided linking the Single Market with geopolitical and security considerations. Quite the contrary, in domains such as energy policy, the EU rather concentrated on dismantling strong government–firm relations at the national level to unlock the economic potential of the Single Market. Therefore, the shift from market-creating to market-directing industrial policy (Seidl & Schmitz, 2023), while broadly accepted discursively, remains difficult to implement in practice. Given that the most powerful tools of strategic industrial policy reside at the national level (e.g., state aid), the EU's attempts to emulate the state capitalist tools of the US or China might ironically imply a weakening of the EU's ability to integrate and control member states (Fu, 2024, p. 789). Therefore, the risk of fragmentation and accentuation of regional inequalities within the EU due to the recent wave of industrial policy is a mounting source of concern (Di Carlo & Schmitz, 2023, pp. 24–25; Wigger, 2023).

The EU's difficulty in building up economic statecraft via industrial policy, supported by a robust GI, contrasts with the EU's relative success in articulating and leveraging its external tools of economic statecraft via trade and investment policy (cf. Bauerle Danzman & Meunier, 2024). Unpacking the causes and consequences of

this gap between EU domestic and outward-oriented economic statecraft constitutes an important avenue for further research on the interaction between geoeconomics and European integration. The way in which the EU develops and combines these two dimensions of statecraft is likely to have a profound impact on state–market–society relations, the balance between national and European authority, and the EU's ability to navigate global energy and digital transformations.

Acknowledgments

We are grateful to Claire Dupont, Dag Harald Claes, and the colleagues of the Politics and Culture in Europe (PCE) cluster of Maastricht University for detailed comments on earlier versions of this article. We are also thankful to all the interviewees who generously shared their time and expertise. Our thanks also go to the anonymous reviewers and the academic editors of this thematic issue for helping us improve our article with sharp and constructive comments.

Funding

This article falls within the Project "Dangerous Assets? Foreign Investment Governance in Times of De-Globalization," funded by the Netherlands Organization for Scientific Research (NWO).

Conflict of Interests

One of the authors was a Blue Book Trainee at the European Commission DG Internal Market, Industry, Entrepreneurship and SMEs (DG GROW) at the time of writing this article. While that role has facilitated the identification of key individuals responsible for the internal management of Industrial Alliances, the research for this article was developed independently from it and interviewees were fully informed about the research purposes of the interview. The opinions expressed in this article are those of the authors only and should not be considered as representative of the European Commission's official position.

References

Aggarwal, V. K., & Reddie, A. W. (2021). Economic statecraft in the 21st century: Implications for the future of the global trade regime. *World Trade Review*, *20*(2), 137–151. https://doi.org/10.1017/S147474562000049X

Babic, M., Dixon, A. D., & Liu, I. T. (2022). *The political economy of geoeconomics: Europe in a changing world*. Springer. https://doi.org/10.1007/978-3-031-01968-5

Bauerle Danzman, S., & Meunier, S. (2024). The EU's geoeconomic turn: From policy laggard to institutional innovator. *Journal of Common Market Studies*, *62*(4), 1097–1115. https://doi.org/10.1111/jcms.13599

Choer Moraes, H., & Wigell, M. (2020). *The emergence of strategic capitalism: Geoeconomics, corporate statecraft and the repurposing of the global economy*. SSRN. https://doi.org/10.2139/ssrn.3707290

Choer Moraes, H., & Wigell, M. (2022). Balancing dependence: The quest for autonomy and the rise of corporate geoeconomics. In M. Babić, A. D. Dixon, & I. T. Liu (Eds.), *The political economy of geoeconomics: Europe in a changing world* (pp. 29–55). Springer. https://doi.org/10.1007/978-3-031-01968-5_2

Christiansen, T. (2020). The EU's new normal: Consolidating European integration in an era of populism and geoeconomics. *Journal of Common Market Studies*, *58*(S1), 13–27. https://doi.org/10.1111/jcms.13106

Di Carlo, D., & Schmitz, L. (2023). Europe first? The rise of EU industrial policy promoting and protecting the single market. *Journal of European Public Policy*, *30*(10), 2063–2096. https://doi.org/10.1080/13501763.2023.2202684

Directorate-General for Energy. (2023, December 1). Commissioner Breton hosts ministerial meeting

on European Solar PV Industry Alliance. *European Commission*. https://energy.ec.europa.eu/news/commissioner-breton-hosts-ministerial-meeting-european-solar-pv-industry-alliance-2023-12-01_en

Eckert, S. (2024). Business power in the single European market in an age of geopolitics. *Journal of Common Market Studies*, *62*(4), 973–992. https://doi.org/10.1111/jcms.13604

European Clean Hydrogen Alliance. (2022, May 4). Electrolyser Joint Declaration. *European Commission, Internal Market, Industry, Entrepreneurship and SMEs*. https://single-market-economy.ec.europa.eu/industry/strategy/industrial-alliances/european-clean-hydrogen-alliance_en

European Commission. (n.d.). *Industrial Alliances*. https://single-market-economy.ec.europa.eu/industry/strategy/industrial-alliances_en

European Commission. (2019). *Report on the implementation of the strategic action plan on batteries: Building a strategic battery value chain in Europe* (Document 52019DC0176—COM(2019) 176 final).

European Commission. (2020). *A new industrial strategy for Europe* (Document 52020DC0102—COM(2020) 102 final).

European Commission. (2021). Criteria for the analysis of the compatibility with the internal market of state aid to promote the execution of important projects of common European interest. *Official Journal of the European Union*, *2021*(C 528/02). https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv:OJ.C_.2021.528.01.0010.01.ENG

European Commission. (2022a). *REPowerEU plan* (Document 52022DC0230—COM(2022) 230 final).

European Commission. (2022b, May 4). *Electrolyser joint declaration*. https://ec.europa.eu/docsroom/documents/50357

European Commission. (2023). *A green deal industrial plan for the net-zero age* (Document 52023DC0062—COM(2023) 62 final).

European Institute of Innovation and Technology. (2021). *Innovation model*. Publications Office of the European Union. https://doi.org/10.2850/960484

European Solar Photovoltaic Industry Alliance. (2023, March 30). *European Solar PV Industry Alliance secures over 110 members to launch industrial action plan to reshape industry*. https://solaralliance.eu/news/european-solar-pv-industry-alliance-secures-over110-members-to-launch-industrial-action-plan-to-reshape-industry

Friends of the Earth Europe. (2021). *The EU's industry alliances—The new corporate capture that threatens democracy and the environment*. https://friendsoftheearth.eu/wp-content/uploads/2021/05/The-EUs-Industrial-Alliances.pdf

Fu, W. (2023). State infrastructural power through scalar practices: On China's decarbonisation endeavors. *Environment and Planning A: Economy and Space*, *56*(3), 784–801. https://doi.org/10.1177/0308518X231216579

Garcia-Duran, P., Eliasson, L. J., & Costa, O. (2023). Commerce and security meet in the European Union's trade defence instruments. *Politics and Governance*, *11*(4), 165–176. https://doi.org/10.17645/pag.v11i4.7030

Gehrke, T. (2020). *What could a geoeconomic EU look like in 2020?* (Policy Brief No. 123). Egmont Institute. https://www.egmontinstitute.be/app/uploads/2020/02/SPB123-final.pdf?type=pdf

Germann, J. (2023). Global rivalries, corporate interests and Germany's 'National Industrial Strategy 2030.' *Review of International Political Economy*, *30*(5), 1749–1775. https://doi.org/10.1080/09692290.2022.2130958

Heldt, E. C. (2023). Europe's global gateway: A new instrument of geopolitics. *Politics and Governance*, *11*(4), 233–234. https://doi.org/10.17645/pag.v11i4.7098

Herranz-Surrallés, A., Damro, C., & Eckert, S. (2024). The geoeconomic turn of the European single market?

Empirical trends and conceptual challenges. *Journal of Common Market Studies*, *62*(4), 919–937. https://doi.org/10.1111/jcms.13591

Kang, N., & Jo, K. (2021). State–business relations in flux: Capturing the structural power of business in South Korea's green industrial policy. *Journal of Contemporary Asia*, *51*(5), 713–736. https://doi.org/10.1080/00472336.2021.1915362

Kelton, M., Sullivan, M., Rogers, Z., Bienvenue, E., & Troath, S. (2022). Virtual sovereignty? Private internet capital, digital platforms and infrastructural power in the United States. *International Affairs*, *98*(6), 1977–1999. https://doi.org/10.1093/ia/iiac226

Kim, S.-Y. (2019). Hybridised industrial ecosystems and the makings of a new developmental infrastructure in East Asia's green energy sector. *Review of International Political Economy*, *26*(1), 158–182. https://doi.org/10.1080/09692290.2018.1554540

Majone, G. (1994). The rise of the regulatory state in Europe. *West European Politics*, *17*(3), 77–101. https://doi.org/10.1080/01402389408425031

McNamara, K. R. (2023). Transforming Europe? The EU's industrial policy and geopolitical turn. *Journal of European Public Policy*. Advance online publication. https://doi.org/10.1080/13501763.2023.2230247

Moisio, S. (2019). Rethinking geoeconomics: Towards a political geography of economic geographies. *Geography Compass*, *13*(10), Article e12466. https://doi.org/10.1111/gec3.12466

Olsen, K. B. (2020). Diplomats, domestic agency, and the implementation of sanctions: The MFAs of France and Germany in the age of geoeconomic diplomacy. *The Hague Journal of Diplomacy*, 15(1/2), 126–154.

Rosén, G., & Meunier, S. (2023). Economic security and the politics of trade and investment policy in Europe. *Politics and Governance*, *11*(4), 122–128. https://doi.org/10.17645/pag.v11i4.7858

Rubin, H. J., & Rubin, I. S. (2012). *Qualitative interviewing: The art of hearing data* (3rd ed.). Sage.

Schneider, E. (2023). Germany's industrial strategy 2030, EU competition policy and the crisis of new constitutionalism: (Geo-)political economy of a contested paradigm shift. *New Political Economy*, *28*(2), 241–258. https://doi.org/10.1080/13563467.2022.2091535

Seidl, T., & Schmitz, L. (2023). Moving on to not fall behind? Technological sovereignty and the 'geo-dirigiste' turn in EU industrial policy. *Journal of European Public Policy*, *31*(8), 2147–2174. https://doi.org/10.1080/13501763.2023.2248204

Simon, F. (2024, February 7). EU closes deal on scaled-back clean tech 'sovereignty fund.' *Euractiv*. https://www.euractiv.com/section/energy-environment/news/eu-closes-deal-on-scaled-back-clean-tech-sovereignty-fund

SolarPower Europe. (2023). *Keeping the 30 GW solar manufacturing ambition in Europe by 2025 in reach*. https://www.solarpowereurope.org/advocacy/position-papers/eu-green-deal-industrial-plan

Tagliapietra, S., & Veuglers, R. (2023). Industrial policy in Europe: Past and future. In S. Tagliapietra & R. Veugelers (Eds.), *Sparking Europe's new industrial revolution: A policy for net zero, growth and resilience* (pp. 13–27). Bruegel.

Taylor, K. (2021, May 4). EU's industry alliances need stricter oversight, say green critics. *Euractiv*. https://www.euractiv.com/section/energy-environment/news/eus-industry-alliances-need-stricter-oversight-say-green-critics

Terzi, A., Sherwood, M., & Singh, A. (2023). European industrial policy for the green and digital revolution. *Science and Public Policy*, *50*(5), 842–857. https://doi.org/10.1093/scipol/scad018

Timmers, P. (2022). *Strategic autonomy tech alliances: Political–industrial collaboration in strategic technologies*. Foundation for European Progressive Studies.

Vlasiuk Nibe, A. (2023). Legitimisation of foreign direct investment screening among business actors: The Danish case. *Politics and Governance*, *11*(4), 140–153. https://doi.org/10.17645/pag.v11i4.7258

Weinhardt, C., Mau, K., & Hillebrand Pohl, J. (2022). The EU as a geoeconomic actor? A review of recent European trade and investment policies. In M. Babic., A. D. Dixon, & I. T. Liu (Eds.), *The political economy of geoeconomics: Europe in a changing world* (pp. 107–136). Springer. https://doi.org/10.1007/978-3-031-01968-5_5

Weiss, L. (1995). Governed interdependence: Rethinking the government-business relationship in East Asia. *The Pacific Review*, *8*(4), 589–616. https://doi.org/10.1080/09512749508719160

Weiss, L. (2006). Infrastructural power, economic transformation, and globalisation. In J. A. Hall & R. Schroeder (Eds.), *An anatomy of power: The social theory of Michael Mann* (pp. 167–186). Cambridge University Press.

Weiss, L. (2014). *America Inc.? Innovation and enterprise in the national security state*. Cornell University Press.

Weiss, L., & Thurbon, E. (2021). Developmental state or economic statecraft? Where, why and how the difference matters. *New Political Economy*, *26*(3), 472–489. https://doi.org/10.1080/13563467.2020.1766431

Wigger, A. (2023). The new EU industrial policy and deepening structural asymmetries: Smart specialisation not so smart. *Journal of Common Market Studies*, *61*(1), 20–37. https://doi.org/10.1111/jcms.13366

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