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# The international political economy of export credit agencies and the energy transition

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## ABSTRACT

If the world is to achieve an energy transition to address climate change, global finance must shift rapidly away from fossil fuels and toward clean energy. Despite the prominence of global finance in International Political Economy (IPE), it is striking that one of the key institutions – export credit agencies (ECAs) – that provide a significantly larger volume of public investment in fossil fuels than multilateral financial institutions, such as the World Bank, has been largely overlooked in the literature. In this commentary, we argue that IPE scholars are well placed to lead research on the role of ECAs in the energy transition. Specifically, we consider ECA behaviour, such as lending decisions, to be the outcome of interest, and propose three possible sets of factors that are likely to shape ECA lending: Namely, domestic political economy factors, climate governance and international security. In doing so, we set out a research agenda for IPE in relation to ECAs by laying out a series of research questions and linking them to adjacent streams in the literature. This largely unexplored research agenda has great potential to expand not only our understanding of ECAs in IPE, but also the shape of the energy transition in the 21st century.

## KEYWORDS

Export credit agencies; energy; finance; climate; governance

## Introduction

If the world is to achieve a rapid energy transition to avoid the worst effects of climate change, what will be required is nothing short of a revolution in global finance away from fossil fuels and toward clean energy (McDaniels & Robins, 2018). Recent estimates suggest investments of approximately \$1.6 trillion annually through 2030 will be necessary to meet construction targets for low carbon and climate-resilient infrastructure in low and middle-income countries (Voegele & Puliti, 2022). In International Political Economy (IPE) and related fields, most work on financing the energy transition has focused on capital market actors, such as investment banks, and multilateral financial institutions (MFIs), such as the World

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Bank. Public bilateral financial institutions, or institutions that are owned by a single country and direct investments towards other individual countries, such as export credit agencies (ECAs), have been largely overlooked (Hughes & Downie, 2023; Klasen et al., 2022).

Export-credit agencies are publicly-owned banks that provide credit and insurance products to support national exports. Specifically, they offer direct loans to foreign buyers for the purchase of the owner country's export products, as well as insurance for exporting firms that covers against a number of commercial and political risks affecting payment. ECAs are 'bilateral' public financial institutions in that they are generally owned by a single country and make investments between that country and another recipient country (or a company or state-owned entity within that country), so there are two countries involved in an ECA transaction. The lack of attention paid to these institutions by scholars of IPE is an important oversight not least because in many OECD economies these financial institutions have historically been at the center of trade policy and export promotion (Blackmon, 2017; Becker & McClenahan, 2003; Gianturco, 2001). In the energy sector, ECA financing is not only larger than that provided by multilateral financial institutions, but it has been vital to the development of carbon intensive sectors by locking in recipient countries to fossil fuel energy systems, leveraging private finance by reducing risk premiums and shaping international standards that influence private bank policies.

Two recent examples of lending from the United Kingdom Export Finance Department (UKEF) illustrate both the perils and promise of ECA lending for the global energy transition. In 2017, UKEF provided \$400 million in credit and insurance products to support the construction of the Offshore Cape Three Points Oil and Gas project in Ghana, increasing Ghanaian reliance on fossil fuels for electricity, and UK jobs dependent on the construction and maintenance of the hydrocarbon infrastructure (UKEF, 2017). In contrast, in 2019 UKEF provided over \$600 million in credit guarantees to support the construction of offshore wind farms in Taiwan leading to over 900 megawatts in electricity generation potential. As with the Ghanaian investment, this project reduced Taiwan's reliance on fossil fuels and contributed to jobs in the British wind industry. In both projects, UKEF played a critical role in the structure of the deal by de-risking the investments of co-financiers (UKEF, 2019).

In this context, it is fair to claim that ECAs merit scholarly attention. Despite the pathbreaking work that IPE scholars have done on international financial institutions, including contemporary work following the global financial crisis (Fioretos & Heldt, 2019; Helleiner, 2011, 1995), ECAs have received only minimal attention. IPE research on ECAs has tended to focus on the effects of emerging economy ECAs on the OECD Arrangement on Export Finance (Bunte et al., 2022; Hopewell, 2019, 2021). The paucity of research connecting ECAs to pressing questions in the political economy of energy finance may reflect the fact that climate and energy issues remain a 'blind spot for IPE'. As others have argued, climate issues have at best been of marginal concern to IPE scholars despite the fundamental challenges they pose to the field (Paterson, 2021).

In this commentary, we argue that IPE scholars are well placed to lead research on the role of ECAs in the energy transition. In doing so, we propose three puzzles that scholars should explore to better understand ECA energy portfolio allocations,

which we specify as the outcome of interest. First, why do leading theories of the political economy of trade policy not appear to explain ECA energy lending? Second, how and why do ECAs fall through the gaps of global and national climate governance architectures? Third, ECAs were important actors in the geopolitics of oil in the 20th century. What role will they play in the evolving energy landscape of the 21st century? In answering these questions, scholars should also examine the potential trade-offs between the benefits to the ECA host country of export credits for renewable energy, such as improved manufacturing capacity, and those that may or may not accrue to the recipient country, such as improved energy security.

Through these puzzles, we set out a research agenda for IPE in relation to ECAs. We lay out a series of research questions for each line of inquiry and link these to adjacent streams in the literature. In the next section, we elaborate on the types of ECAs and canvass their importance to achieving a clean energy transition, including by highlighting the direction of their financial flows. In the sections thereafter, we consider each of the possible explanations for ECA behaviour.

## Export credit agencies and the energy transition

Global energy finance can be broken into three basic categories: Capital markets (investment banks, corporate finance, private equity, hedge funds), multilateral financial institutions (the World Bank, International Monetary Fund, the Global Environmental Facility), and public bilateral financial institutions controlled by national governments (national development banks, export credit agencies). The first two categories have been the subjects of considerable research (for capital markets, see Gillan et al., 2021; for MFIs, see Arndt et al., 2017; Kim & Lee, 2021). However, bilateral financial institutions have not received commensurate attention. This is a critical oversight considering that they account for a significantly larger volume of public investment in fossil fuels than MFIs. Between 2006 to 2022, MFI investments in fossil fuels amounted to approximately \$151 billion USD, while total investments from G20 bilateral financial institutions (including development finance banks and export credit agencies) amounted to over \$1 trillion USD (OCI, 2022).<sup>1</sup> ECAs, also referred to as export-import banks, are the single largest class of bilateral financial institutions investing in fossil fuels, with an average of \$40 billion per year from 2018 to 2020 (Censkowsky et al., 2022; DeAngelis & Tucker, 2021). ECAs are categorically distinct from both MFIs and private capital in that they are under the control (directly or indirectly) of national governments and are thus tools of national policy (rather than international development agendas or shareholders).

ECAs are financial institutions established and funded by governments for the primary purpose of national export promotion. They generally come in the form of State-Owned Enterprises (The United States ExIm, Export Development Canada), units within central bureaucratic departments (UKEF, the New Zealand Export Credit Office), or private corporations under contract with the government to provide export-credits (Germany's Euler-Hermes) (see Morrison, 2012, for a thorough review).<sup>2</sup> Typically, ECAs promote national exports by providing credit and insurance products that would otherwise be unavailable on the private market to exporting firms from the host country. ECA's primary financial instruments are loans to

foreign purchasers of the exporting countries' goods (buyer credits), and insurance policies that guarantee payment to the exporting firm in the event of nonpayment owing to commercial or political risks (supplier credit insurance) (Blackmon, 2017; Stephens, 1999). Buyer credits can be offered directly to foreign governments, but are most frequently granted to state-owned companies and private firms wishing to import a particular good or service, while seller credit insurance is granted to private exporting firms from the host country. Some ECAs may specialize in one form of export credit support, while others may provide a wide suite thereof.

ECAs are 'lenders of last resort' in that their products are only to be offered in cases where the exporter is unable to secure requisite financing from the private market; ECA products are thus a public subsidy intended to correct for market failure, and assume levels of risk and cost that are not commercially viable. Because of the restriction to this risk-profile, ECA backed-deals tend to share core characteristics, especially in the energy sector; they are usually large-scale infrastructure projects that have a long-term (greater than two years) timetable for completion and are part of the foreign government's development agenda. Such projects carry unique risks. Longer completion times mean longer repayment timelines and thus greater repayment risk due to changing economic or political conditions (Morrison, 2012; Stephens, 1999).

ECAs are potentially a vital part of efforts to redirect financial investment away from fossil fuels and towards clean energy technologies. Since the Paris Agreement in 2015, ECAs have come under growing pressure to align their lending practices with international climate goals. For example, in 2021, 39 governments and financial institutions committed to 'end new direct public support for the international unabated fossil fuel energy sector' and instead align their international public finance with the 1.5°C temperature target of the Paris Agreement. In addition, in 2021 Export Development Canada became the first ECA to adopt a net zero target by 2050, though other ECAs especially in Japan and South Korea have been reluctant to follow suit (Hale, 2021).

The pressure on ECAs is likely to grow given the scale of their lending to the energy sector, and the nature of public opinion in many of the democracies in which they are located. Canada, China, Japan, and South Korea have all spent in excess of 50 billion USD in Fossil Fuel-related export financing alone since 2004 (OCI, 2022). As shown in [Figure 1](#), clean energy represents a small fraction of ECA spending for almost all countries in the sample.<sup>3</sup>

As the UN Sustainable Development Goals place greater emphasis on shifting financing in the developing world away from hydrocarbons, the destination of ECA energy lending is also likely to be a source of pressure for reform. As represented in [Figure 2](#), Asia-Pacific, Eastern and Central Europe, Latin America and the Caribbean, and the Middle-East and North Africa have all been the target of at least USD 50 billion in export credit financing for fossil fuels. While not in the top half of lending destinations, Sub-Saharan Africa and South Asia have both been significant targets of fossil fuel export finance (40 and 30 billion USD respectively).

## The political economy of ECAs

Given the centrality of ECA finance to the global energy transition, IPE scholars should focus on understanding what drives their energy portfolio decisions. We

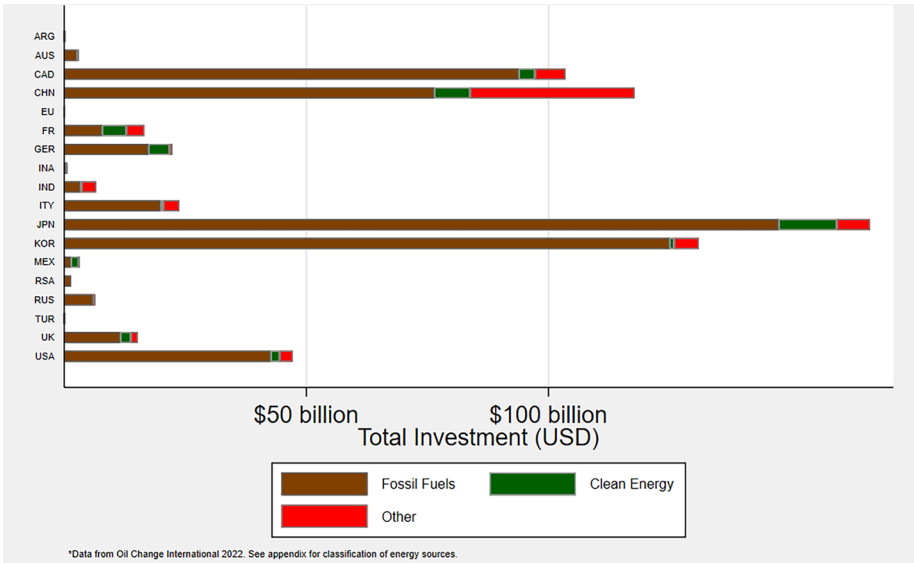


Figure 1. Total energy investment by G20 export credit agencies 2006–2020.

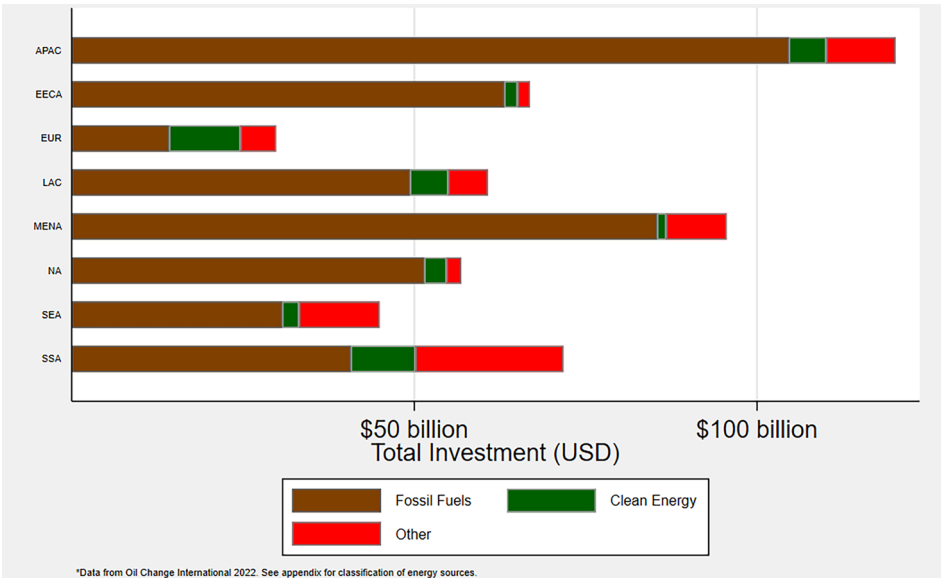


Figure 2. Total G20 ECA energy investment by Destination Region 2006–2020.

propose three puzzles that will motivate research to understand this outcome, and link each puzzle to relevant strands of literature to help orient future scholarship. First, ECA energy portfolios appear to diverge from the expectations of both classic political economy of trade (PET) and New Trade Theory (NTT) models of corporate trade preferences. What is missing from these theories that can better explain the distribution of export credits in the energy sector? Second, the architecture of

global climate governance has expanded substantially in recent years to shift public and multilateral investment away from fossil fuels, but ECA energy portfolios do not mirror this pattern. Where is the governance gap, and why have ECAs fallen through it? Third, ECAs played a prominent role in the geopolitics of fossil fuels in the 20th century. How are they being leveraged to serve the strategic priorities of states in the new energy landscape of the twenty-first, and what can past ECA lending patterns tell us about the future of energy security? As we will demonstrate, IPE scholars are well-positioned to respond to these puzzles, benefitting from strong research traditions and analytical frameworks for understanding financial institutions, trade, and the strategic interactions of states and markets (Braun, 2016; Helleiner, 2011; Wade, 2004).

### ***Domestic political economy***

Export-credits are a form of government subsidy provided to corporations, and so a natural first step is to ask whether major theories of corporate trade preferences can explain their distribution. However, there is very little research leveraging classic political economy of trade (PET) or new theories of trade (NTT) to explain ECA portfolios. This may be because scholars consider export credits simply as another subsidy and thus a secondary effect explained by broader theories of corporate trade policy preferences. Yet our preliminary research suggests ECA energy portfolios are not easily explained by these theories.

First, if we consider export credits a generic government subsidy, a classic PET preferences model (Rodrik, 1995) assuming unified industry lobbying would expect countries with competitive renewable energy industries underpinned by strong factor endowments to distribute larger shares of their energy export credit portfolios to renewable energy firms than those with weaker renewable energy industries. But this is not the case. For example, if we compare Fang et al.'s (2018) systematic measurement of the competitiveness of G20 renewable energy industries based on resources, capital, technology, and labor, to ECA energy lending as displayed in Figure 1, we see wide inconsistencies. The United States has the second most competitive renewable energy industry in the G20, yet it spends far less on green export credits as a proportion of total export energy lending than Japan, ranked 7th for industry competitiveness. France's renewables industry is ranked 8th yet provides a much larger share (and absolute value) of green export credits than the United States. The strength of national economic factor endowments for green energy industry do not exhibit a clear relationship with ECA energy lending.

Second, NTT, which distinguishes itself from PET by focusing on the effects of firm size, productivity, and wages (rather than sector or factor endowments) on corporate trade preferences, would expect ECAs to offer export credits to large, highly productive firms participating in product markets in which foreign competitors benefit from government support in obtaining large economies of scale for production, climbing steep learning curves, and investing in research and development (R&D) (Melitz & Redding, 2012; Milner & Yoffie, 1989). These were the conditions under which ECAs in the United States and EU engaged in strategic subsidy competition in the aviation industry, a central case study in the strategic trade policy literature (Irwin & Pavcnik, 2004; Carbaugh & Olienyk, 2001; Krugman, 1988). These are also the characteristics of renewable energy technology markets,

and most G20 governments take measures to support renewable energy firms given these market imperfections (Fang et al., 2018; IEA, 2022).

However, if NTT theories of strategic trade policy are accurate, why are export-credit allocations to green energy not more evenly distributed across the G20? In other words, where are the reciprocal trade policies? Scholars of the political economy of trade preferences should investigate why renewable energy firms from the United States have not received export credit support to balance subsidized competition from China. Is Japan's considerable export credit support for renewable energy a strategic response to Chinese subsidization? We might also ask, taking into consideration NTT insights, whether firm-level characteristics explain some of this variation. Analysis of micro-level data on export patterns reveal that more productive, and higher wage-paying firms are more likely than others to become exporters (Melitz & Redding, 2012). If engaging in strategic trade requires large, highly productive firms, do we only see export subsidy balancing in national renewables sectors composed of such companies?

Answers to some of these questions may come from comparative political economy, which draws attention to the 'policy space' available to countries for state-led industrial growth. In studies of the German development bank KfW, Naqvi et al. (2018) and Volberding (2021) demonstrate how a hard currency, strong sovereign credit ratings, a strong bargaining position in international financial agreements, and domestic political support positioned the bank to finance directed credit programs that drove Germany to the forefront of the global renewables market. Nahm (2022) emphasizes how the export-led growth models of China and Germany, and specifically 'early and aggressive' moves to leverage state capital to dominate clean energy technologies, enabled these countries to realize the economic benefits of a green growth model rather than a consumption-based model. Early economic returns from pro-climate policies fostered robust pro-climate political-economic coalitions in support of additional climate policies – a finding consistent with the literature on policy cycles (Meckling et al., 2017). In contrast, Hopewell (2017) demonstrates how stark political divisions and resurgent market fundamentalism in the United States limited industrial policy space, an important finding not only because it further highlights the importance of domestic politics to understanding industrial policy output, but also because the resultant diminished support for large American exporting firms contradicts the expectations of NTT.

ECAs' energy lending may also be explained by institutional requirements that link ECA lending to domestic production. Some ECAs have stringent 'domestic content' requirements that make project financing conditional on the percentage of project content (goods and services) produced in the host country (the United States, Germany), while others have no such restrictions (Canada) (ExIm, 2020). On one hand, high domestic content requirements should mean greater economic returns for the host country, and this may be essential for domestic political support. On the other, such requirements restrict the sectors in which ECAs are able to lend; an ECA from a country with a miniscule solar industry but a 50% domestic content requirement will struggle to find eligible solar projects to finance, even if solar is a sector for which the public desires greater state investment. Domestic content requirements, and the balance of economic gains from ECA-lending between host and recipient countries, is a potential source of political contestation worth exploring.



Finally, scholars in the critical tradition have leveraged comparative methods to explore how national variations in the construction of the ‘public sphere’ and the role of the state can account for the capital allocations of publicly-owned banks (Marois, 2021). Indeed, variations in the interwoven relations between state, capital, labor, and society can lead to different institutional configurations of export-credit agencies that may account for their energy positions.

Scholars can employ comparative case study methods to respond to the puzzle of ECA energy portfolios by focusing on a number of key research questions. First, how do variations in national political-economic positions relative to the global economy constrict or expand the policy space for ECAs to promote green export growth? Research can focus on variables such as domestic political support, ECA capital structures, national currency strength, and the extent to which international treaties restrict the extent of state economic intervention. For example, as we discuss below, OECD countries are party to an arrangement on export credits that restricts lending to ‘commercial’ interest rates, while non-OECD countries are technically free to engage in sub-commercial subsidies. Second, scholars can draw on historical political economy methods to account for dynamic effects such as policy feedbacks, including whether early export-credit lending to green (or brown) energy leads to the formation of coalitions that catalyze policy environments that further support their industry (or disadvantage the competition) (Nahm, 2022). Third, and drawing from both PET insights on the influence of factor endowments on subsidies and NTT insights on the importance of sector composition, scholars can closely examine the relationships between large exporting energy firms and ECAs to account for how path-dependencies, elite networks, and lobbying contribute to (or help dislodge) incumbent firm advantages.

### ***Climate governance***

Climate governance at the global and national levels has expanded significantly in recent years as evidenced by the many institutions, rules, and initiatives established to augment the energy transition. However, as our descriptive empirics demonstrate, ECAs stand out from MFIs and other public financial institutions in their massive investment in fossil fuel industries. To what extent have global and national climate and energy governance initiatives attempted to incorporate ECAs, and where and why have they failed to redirect export credits to help close the green energy financing gap? We approach this puzzle on two levels, international and national, because each presents distinct challenges for governance and compliance that speak to different literatures.

### ***Global climate governance***

At the global level, there is a considerable body of research that has explored the raft of actors, institutions and treaties that seek to address climate change and energy (Dauvergne, 2018; Downie, 2022; Van Asselt, 2014). These include international organizations, such as the United Nations, multilateral financial institutions, such as the World Bank, and epistemic communities, such as the Intergovernmental Panel on Climate Change (IPCC) (Haas, 2015). The density of the regime has led many scholars to argue that there is a ‘climate regime complex’ (Keohane & Victor,

2011). Despite the growing interest in the role of global climate finance (Sovacool et al., 2017; Steckel et al., 2017), it remains unclear where ECAs are located within this complex.

In contrast, the regime governing public bilateral institutions seems rather thin. Putting aside the fact that ECAs are national institutions and much of their governance is at the national level, which we discuss below, very little research has explored to what extent they are governed by global arrangements. For example, finance ministers involved in multilateral negotiations may include ECA portfolios as part of broader international commitments to emissions reductions, thereby linking ECAs to the larger regime complex (Skovgaard, 2012). And, so-called ‘clubs’ of finance ministers, such as the G7, G20, and the OECD are incorporated into the regime complex, both through their own meetings and their overlapping participation in broader forums such as the UN climate summits. These same clubs have been at the center of ECA cooperation on non-environmental issues, which dates back as early as the 1970s when the G7 began to coordinate rules on export promotion programs to limit suboptimal competition and protect them from international trade law (Moravcsik, 1989).

The most significant institutional pressure that ECAs face in relation to climate and energy perhaps results from what is now known as the OECD Arrangement. The Arrangement refers to a loosely formalized set of guidelines and reporting initiatives for ECAs from OECD countries. The protocols following from the arrangement are designed to ensure that ECAs operate by commercial principles and avoid costly subsidy competitions (Blackmon, 2017). While the OECD arrangement is not directed at climate change, under pressure from NGOs and the MFIs in the 1990s, the OECD began to layer a set of environmental and social governance initiatives on top of its commercial arrangement. In 2012, OECD governments used the Arrangement to begin to target ECA funding of fossil fuels (Liao, 2021): Specifically, to allow longer credit periods and lower interest rates for renewable energy project finance, and to phase out low-efficiency coal power plants. To date, these initiatives have only marginally affected ECA portfolios, which remain overwhelmingly concentrated on fossil fuel related export projects (Shishlov et al., 2021).

If the OECD serves as an organizational tether between ECAs and the regime complex for climate, then it is a thin one. The Common Approaches are voluntary, minimal in scale, and rely almost entirely on the strength and scope of national commitments to decarbonization. That the OECD has been an ineffective forum for the adoption of strong environmental standards makes sense from the perspective of classic theories of collective action and cooperation (Keohane & Victor, 2011; Olson, 1965). Membership in the OECD Arrangement is contingent on a shared, narrow interest in a particular club good; avoidance of costly export-subsidy competition. Decarbonization, on the other hand, encounters considerably more interest diversity in this particular club of countries, some of which yield enormous financial benefits from the hydrocarbon economy, others which face strong democratic pressures to divest from fossil fuels, and certainly plenty that fall into both camps. Accordingly, IPE scholars might ask: How have the OECD arrangements governing export finance influenced ECA lending? And further, how effective are they at governing policy issues with very different collective action problems?

In answering these questions, scholars might also explore how the rise of ECAs from non-OECD countries, such as China, threaten existing global governance arrangements. In a series of articles and a book, Hopewell (2019, 2020, 2021) has documented how emerging market ECAs enjoy a competitive advantage by remaining outside of the OECD Arrangement on export credits. As a result, they are free to engage in sub-commercial export subsidies that allow them to outcompete OECD countries. While this would normally result in retaliation that would render such behaviour irrationally costly, OECD countries' adherence to the agreement prevents any such action. These rising nations not only disregard the commercial principles of the OECD Arrangement, but also the social and environmental standards of the Common Approaches. This has meant that so-called 'South-South' ECA-backed deals commonly result in the construction of coal-fired power plants and other fossil-fuel infrastructure (Hopewell, 2019).

### ***National climate governance***

While much research has been dedicated to resolving these challenges at the global level, much less scholarly attention has been paid to the impacts of fragmented domestic governance arrangements in relation to climate change. Subnational fragmentation, that is, fragmentation between national institutions that can undermine policy coordination efforts across government, is often viewed as a second-order problem (Cejudo & Michel, 2017). This may be because theoretically it is more straightforward; the project of reintegrating national bureaucracies benefits from the hierarchical administrative authority of the nation-state. And yet fragmented climate governance on the national level is hardly a rare phenomenon; the disjunct between G20 countries' public commitments to emissions reductions and their bilateral public financial flows in the energy sector seem proof enough of this (Shishlov et al., 2021).

Analyzing why countries that push strong domestic environmental protections and emissions reductions strategies with one hand aggressively promote global fossil fuel production *via* ECAs with the other could be a productive focus for collaboration between scholars of IPE and public administration, governance and policy studies, the latter of which have a broad research program aimed at diagnosing and responding to the problems of fragmentation (Cejudo & Michel, 2017). From a public administration angle, scholars can examine whether attempts at policy integration have been successful in extending 'whole of government' environmental goals into ECA lending, and how variations in ECAs' statutory identity (state-owned entities, government departments, private corporations under government contract) affect their compliance (Trein & Ansell, 2021). While matters of administrative organization (i.e. siloing, agencification) will be important to understanding how subnational fragmentation affects ECA lending, so will incorporating interests and politics as causal variables that may help explain how such forms of public organization come to be. To this end, literature on the role of politics in reforming public economic institutions may be instructive (see Hacker et al., 2022).

### ***International security***

The final set of factors that can be expected to influence ECA lending decisions are national security considerations. As outward-facing agencies, ECAs face

pressure to support (or at least remain consistent with) broad foreign policy objectives. In the context of energy, this will typically translate to achieving energy security. While energy security has many dimensions (Cherp & Jewell, 2011), to illustrate we focus on the most common, which treats energy security as security of supply. This perspective on energy security has been labelled the 'sovereignty perspective' because the main vulnerabilities come from a foreign power being able to manipulate a state's energy supplies for their own advantage (Cherp & Jewell, 2011; Jewell et al., 2016). In what follows, we consider the role of ECAs in securing access to hydrocarbon energy, how this role is shifting in the context of the energy transition to new resources and technologies, such as critical minerals, and what this might mean for ECA lending. In doing so, we connect the study of ECAs to the traditional concerns of realists and international security scholars that focus on securing supplies of oil and gas (Glaser, 2013; Hughes & Long, 2015), and to scholars in the IPE tradition that have begun to consider the domain of energy, and the role of institutions, including in relation to the emerging geopolitics of renewable energy (Stegen, 2018; Van de Graaf et al., 2016).

Research on security of supply has traditionally focused on access to oil (Fried & Trezise, 2010; Stringer, 2008). The primary way by which states have attempted to maintain security of oil supplies has been through diversification (Kalicki, 2007; Yergin, 2006), and ECAs often play key roles. For example, ECAs can support the diversification of energy import partners. An ECA from country A can expand the flow of imports from new potential import partner country B by offering country B low-interest credit to finance the purchase of country A's exploration and energy services (e.g. construction of production facilities, sale of capital equipment) to build production and export capacity. Such credit can come in exchange for a guarantee from country B to export some portion of their new energy capacity to country A. This strategy was central to China's import-partner diversification strategy in the 2000s when China National Offshore Oil Corporation (CNOOC) leveraged low-interest loans from China Export-Import Bank (CHEXIM) to develop oil production and secure imports from Brazil, Russia, Venezuela, and Kazakhstan (Vivoda & Manicom, 2011).

Similarly, ECAs can play a crucial role in source-diversification by underwriting exploration, experimentation, and demonstration activities in novel energy technologies and fuels in potential import-partners. Such investments can be unattractive to private investors because of their untested nature and the political environments in which they take place. However, these activities can lead to the construction of entire new energy economies upon which importers can partially rely. Of course, source diversification does not necessarily imply reduced fossil fuel dependence; depending on countries' existing energy mixes, it may call for greater or different types of hydrocarbon investment. Following the collapse of the Soviet Union, Western ECAs poured financing into developing Russian natural gas production, reducing European dependence on Middle Eastern oil (Becker & McClenahan, 2003).

In this context, there are numerous avenues by which IPE scholars could examine how concerns around energy security might drive ECA behaviour. For instance, scholars could map the geopolitical distribution of ECA energy lending. What do lending patterns tell us about state energy security strategies? How do countries use export-insurance for energy services to build strategic supply infrastructure that increases access? Lake (2011) depicts global order as sets of security 'complexes' in

which major powers offer ‘security contracting’ to weaker countries; how does ECA support for energy infrastructure contribute to security complexes? What domestic factors other than supply make a country a likely target for ECA-backed energy infrastructure investment?

As the energy transition accelerates, concerns around energy security are shifting from an almost exclusive focus on hydrocarbons, to the supply of new technologies, such as batteries, and resources that comprise them, such as lithium. Indeed, scholars and policymakers have already begun to consider who the winners and losers of the energy transition will be (Blondeel et al., 2021; Downie, 2022; IRENA, 2019; Scholten et al., 2020). Once again ECAs are likely to be central to state attempts to secure supply, yet their role has been overlooked in the literature.

Perhaps the greatest commonality between the old energy landscape and the new one is the competition for access to critical minerals, including the subgroup of rare earth minerals, which are critical for the construction of batteries, solar panels, and digital electricity grid infrastructure. The World Bank estimates that demand for such minerals could surge in the coming decades, with demand so high that production would need to increase by more than 450% by 2050 (Hund et al., 2020). To increase strategic supplies of critical minerals, states can deploy ECAs as they have with traditional mining industries, attempting to secure mining services contracts for their country’s firms through buyer credits, which can be offered at increasingly generous rates in exchange for leasing rights or preferential terms of trade. The clearest example of this approach has been China’s activity in Sub-Saharan Africa, which leverages a combination of generous export credits and bilateral aid to secure leasing rights in the Congo (Brautigam, 2010). China, which already enjoys a near-monopoly in refining capacity for rare earth minerals, is engaging in an aggressive bid to control the future of semiconductor and battery production (Jaffe, 2021). The European Union and the United States have both deployed industrial strategies intended to balance against China’s increasing renewable technology resource dominance, and both invoke ECAs to help construct robust markets for renewable energy technology and supplies largely decoupled from Chinese systems of production (Murphy et al., 2022; Timmers, 2022).

Accordingly, IPE scholars could ask questions that are more closely connected to the changing geopolitics of energy, such as what role ECAs can play in securing supplies of critical minerals? Or, for instance, how might ECAs assist states wishing to strategically deploy their renewables technologies to win allies in an era of renewed strategic competition? And drawing on the strong institutional tradition in IPE, what role will existing institutions that govern ECAs, such as the OECD Arrangement, and those that do not, such as the IEA or IRENA, hold in the context of this new international environment? For example, as the OECD arrangement on export finance is subject to greater challenges from non-OECD ECAs willing to commit to non-commercial subsidies in order to win export markets, OECD countries will face great pressure to leverage more generous export subsidies in favour of renewable energy exporting firms – and as the latest OECD modernisation package agreed to in 2023 shows, they already are (OECD, 2023).

## Conclusion

In this commentary, we have argued that ECAs are important actors in the global energy transition. We have presented data on the size and scope of their influence in the energy sector and explored linkages between ECAs and existing fields of inquiry. Scholars of IPE are uniquely positioned to investigate the function and effects of ECAs given their expertise in financial institutions, the political economy of the state, and governance. Specifically, we suggest that IPE scholars should seek to better understand ECA behaviour by asking the following questions, among others: What are the prospects for renewable energy firms to receive more export finance? How have developing countries used export finance to support their renewable energy sectors? To what extent do international institutions responsible for climate governance influence ECA energy lending? What political economic forces explain fragmented climate governance at the national level, as evidenced by ECA portfolios' divergence from national commitments to climate mitigation? Finally, how are governments leveraging export credit to support energy security strategies? How might this evolve given the changing geopolitics of energy? This largely unexplored research agenda has great potential to expand our understanding of the shape of the energy transition in the 21st century, and to direct public focus on key actors that are too often excluded from discussions about confronting climate change.

## Notes

1. Computed by authors using Public Finance for Energy Database, 2022 (<https://energyfinance.org/#/data>). Figures include sum total of all listed transactions for MFIs, bilaterals, and export credit agencies for entire database period (2006–2022).
2. In some idiosyncratic cases, export credit may be a line of business incorporated in some larger agency with a broader range of commercial activities, or different export related financial services may be split across various agencies such as with the Italian SACE SpA and Cassa Depositi e Prestiti).
3. Figures 1 and 2 were compiled by the authors using data from Oil Change International (OCI). Data is freely accessible at: <https://energyfinance.org/#/> Energy sources were classified as follows, based on the coding rules used by OCI.

**Fossil Fuels** includes oil, fossil gas, and coal sectors, as well as related projects (i.e. extraction, exploration, transport).

**Clean** includes low-carbon energy sources with limited impacts on environments and communities. Includes solar, wind, tidal, geothermal, and mini-hydro.

**Other** includes projects where the energy sources are unclear/unidentified. It also includes non-fossil fuel sources that have negative impacts on environments and communities, including large hydropower, biofuels, biomass, incineration, and nuclear power. Per OCI, 'more than 70% of the finance in other is for transmission and distribution projects and other projects where the associated energy sources are unclear' (OCI, 2023).

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No potential conflict of interest was reported by the author(s).

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