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# Integrating global energy and climate governance: The changing role of the International Energy Agency

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## HIGHLIGHTS

- Assesses integration between global energy and global climate governance.
- Analyzes organizational change in the IEA and its impact on governance integration.
- Discusses recent activities and advocacy by the IEA in relation to climate change.

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## ABSTRACT

Despite the long-recognized interlinkages between global energy consumption and climate change, there has historically been only limited policy interaction, let alone integration, between the two fields. This compartmentalization is mirrored in scholarship, where much research has focused on the fragmentation of, respectively, global energy and global climate governance, but only little has been said about how these fields might be integrated. Our analysis of the International Energy Agency's (IEA) changing activities in recent years shows that governance integration – both within global energy governance and between global energy and climate governance – is now happening. The IEA has broadened its portfolio to embrace the full spectrum of energy issues, including renewable energy and climate change; it has built and is expanding key partnerships with both the UN climate convention and the International Renewable Energy Agency (IRENA); and it has become an authoritative advocate for the inter-related goals of a low-carbon transition and climate change mitigation. We show that these developments are not the result of a top-down plan, but have rather emerged through the Agency's various efforts to pursue its energy-centric mandate in a fast-changing global policy environment.



## 1. Introduction

Since the 19th century, global carbon dioxide emissions from fossil fuel combustion have grown from almost zero to over 31 gigatonnes annually, making energy consumption the most important source of greenhouse gas (GHG) emissions by far (IEA, 2013a, see also IPCC, 2014). Despite the rise of renewable energy technologies, global dependence on coal, natural gas and oil for electricity generation, heating and cooling, transportation and industrial processes continues, with rapid rises of GHG emissions after a temporary slowdown in the wake of the 2008 global financial crisis (see e.g. BP, 2014). In addition, emissions are generated through the consumption and production of energy related to land use, notably in the clearing of land, the use of machines and oil-based plant fertilizer, and biofuel agriculture. As a consequence, global carbon dioxide emissions in 2012 were almost 60% higher than in 1990 (Peters et al., 2012). IPCC (2014) estimates suggest that if current emissions trajectories continue, it will be impossible to keep the rise in global average surface temperatures to 2 °C above pre-industrial levels (see also World Bank, 2014).[1]

Surprisingly, despite the long-recognized clear interlinkages between global energy consumption and climate change,[2] there

[1] Others have argued that the 2 °C goal – the oft-predicted threshold for dangerous climate change – is misleading and should be "ditched" as it is not scientifically meaningful and only politically motivated when emissions reduction progress to date does not match up with actual demands (Victor and Kennel, 2014).

[2] As one of our anonymous reviewers has pointed out, some analysts dispute the precise nature of the linkage between greenhouse gas (GHG) emissions and climate change. Although we recognize that there are complexities and uncertainties in climate science and possible outcomes of GHG emissions, our focus is on the process by which the IEA has added climate change to its portfolio.

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has historically been only limited policy interaction, let alone integration, between the two fields. For years, the climate convention process did not directly define the climate change problem as one largely about energy use. The 1997 Kyoto Protocol mentions energy only six times (of which twice in the Annex), there is no single mention of fossil fuels or coal, and oil and gas are only mentioned once in Annex A (UNFCCC, 1997). Many country delegations to official negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) have historically been led by environment and foreign ministry representatives rather than officials from ministries responsible for energy or natural resources, underlining the policy-making disconnect between energy systems and their environmental impact.[3]

The same problem manifests at the national level. Although since the late 2000s some countries have sought to integrate responsibility for energy and climate policy by creating new ministries – prominent examples being Denmark's Ministry of Climate and Energy (created in 2007) and the UK's Department of Energy and Climate Change (created in 2008) – institutional separation remains the norm, and compartmentalization has been observed to continue even after location of national responsibility for both fields in the same ministry.[4] Moreover, although a growing number of governments have set national GHG emissions targets for the medium and long term, only few have also managed to design, let alone successfully implement, an energy policy in line with the acknowledged urgent need to decarbonize their economies.[5]

The problem is compounded by the institutional architecture of global energy governance (see e.g. Escribano, 2015; Goldthau and Witte, 2010; Van de Graaf, 2013a), which remains highly fragmented and ill-equipped to effectively address the core policy challenges related to both energy use and – the focus of our paper – its consequences for global climate change. Adopting a general conceptual frame developed by Biermann et al. (2009b, 2010), we define as the global governance architecture the "overarching system of public and private institutions that are valid or active in a given issue area," i.e. as comprising "organizations, regimes, and other forms of principles, norms, regulations and decision-making procedures" (Biermann et al., 2009b: 15). It was geopolitics and crisis that impelled the emergence in the second half of the 20th centusumer countries realized that in order to preserve their respective interests and reduce ry of a globe-spanning governance architecture in the energy field, when oil producer and contransaction costs they would be well served by forming organizations amongst like-minded members.[6] Consequently, the onset of global climate change as an inescapable policy problem, and the need to decarbonize national energy systems if emissions reduction goals are to be met, have posed great challenges to an architecture whose main participants have largely been used to focussing on energy supply and demand dynamics rather than the environmental implications of fossil fuel combustion.[7]

And yet, as this article shows, significant moves towards the integration of energy and climate policy are emerging in unexpected ways. By analyzing the activities in recent years of the International Energy Agency (IEA), often considered the key organization in the fragmented landscape of global energy governance (see e.g. Leverett, 2010; Florini, 2011; Van de Graaf, 2012), we argue that the IEA is becoming an important and influential agent in the integration of global climate and energy governance. We focus on significant developments in three areas: the broadening of the IEA's issue portfolio, its increasing cooperation and partnership with the UNFCCC and the International Renewable Energy Agency (IRENA), and its growing advocacy for mitigating climate change and transitioning to a low-carbon future. We find that the IEA's increasingly consequential role in integration both within global energy governance and between the energy and climate governance fields derives not from a designed strategy or top-down plan, but emerges through its various efforts to pursue its energy-centric mandate in a complex and fast-changing global policy environment. That is, rather than a response to explicit demands from its member states, the IEA's role in integrating global energy and climate governance emerges through organizational change and adaptation impelled by today's global policy environment and novel ways in which it is exercising its organizational autonomy.[8]

## 2. Methods

### 2.1. Literature review

The compartmentalization between energy and climate change policy addressed above is also reflected in academic research and writing, with scholarships of environmental and energy governance largely evolving as if in two separate streams. While the International Relations (IR) literature addressing the management of global environmental issues dates back to the 1972 United Nations Conference on the Human Environment in Stockholm, the field did not fully "come into its own" until the late 1980s and 1990s (O'Neill, 2009: 7). It is during this time that IR scholars began to seriously address the formation of international environmental regimes and institutions (see e.g. Bernauer, 1995; Haas et al., 1993; Sprinz and Helm, 1999; Wettestad, 1999; Young, 1989). During the following two decades, the field grew further while also incorporating the new concept of *global governance* as different from an international, state-centered perspective. Scholars began conducting more research into the role played by international organizations, non-governmental organizations, transnational advocacy networks and business actors (see e.g. Biermann et al., 2009a; Falkner, 2008; Ford, 2003; Oberthür and Stokke, 2011; Pattberg, 2007; Wapner, 1995). However, global climate change governance (as a particular kind of environmental governance) has arguably received the most scholarly attention in recent years, with a wide range of publications focusing on all aspects of the global climate governance architecture (see e.g. Biermann et al., 2010; Bulkeley et al., 2014; Bulkeley and Newell, 2010; Gupta, 2014; Held et al., 2011, 2013; Helm, 2005; Helm and Hepburn, 2009; Hoffmann, 2011; Stevenson and Dryzek, 2014). An

[3] Interview with former senior UK negotiator to the climate convention, March 2015. The former negotiator also pointed out that due to a lack of interest in climate change and broader environmental concerns and, relatedly, an absence of environment ministries or equivalent, some countries (e.g. OPEC members) were for many years represented only through their energy and resource ministries. On renewable energy policies in Arab OPEC countries, see e.g. (Atalay et al., 2016).

[4] Interview with national official involved in the IEA, August 2014.

[5] Denmark is a notable example of success. Apart from creating institutional synergies at ministerial level, and long being a leader on climate change mitigation, Denmark is working towards the goal of completely decarbonizing its energy system by 2050 through an integrated policy framework. According to the 2015 Climate Change Performance Index, Denmark has the world's best climate policy, followed by Sweden and the UK (Burck et al., 2015).

[6] This architecture may be described as bifurcated in that it initially split into oil producer and consumer country institutions, respectively, the two most prominent of these being the IEA (consumers) and OPEC (producers).

[7] Interview with IEA official, September 2014.

[8] For a critical discussion of international organizations as autonomous actors in world politics, i.e. independent from their (state) members, see Barnett and Finnemore (1999, 2004). In contrast to Barnett and Finnemore's criticism, the analysis here shows how the IEA's changing role is in fact serving to overcome the collective action problems inherent to the fragmentation of global energy and climate governance and the divide between them. For an in-depth discussion of the autonomy of international bureaucracies as different from international organizations see Biermann and Siebenhüner (2009).