Accelerating Diffusion of Renewable Energy Policy Within the European Union

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Introduction

As a whole, the European Union produces more than three times the renewable energy per capita than anywhere else in the world. One possible explanation for this staggering statistic can be found by examining the impact that energy policy diffusion has had on increasing the size of the European renewable energy sector. In cooperative federalist systems like the European Union (EU), empirical research demonstrates that there is tremendous potential for energy policy to be diffused between member states (Jorgens and Busch, 5). Energy policy diffusion occurs when an EU member state deliberately borrows elements of another country's energy policy in order to achieve nearly identical policy outcomes. Typically, this occurs through information flows and communications between national governments (Rogers). Unlike policy convergence, which examines similarity in policy outcomes, diffusion traces the process of transferring renewable energy policy from one EU member state to another.

Given that fossil fuel emissions threaten to destabilize global temperatures and climate change only continues to intensify with the passage of time, it is crucial that policies intended to lessen fossil fuel dependence are implemented rapidly. If energy policy diffusion is facilitated, EU member states can adopt the most effective renewable energy policies on an accelerated timetable rather than formulating policies from scratch. This reduces transaction costs, aids with capacity building, and enables EU member states to learn from countries that have more experience implementing renewable energy policies.

This white paper has three core objectives:

1) It seeks to highlight how federalism can both facilitate and hinder renewable energy policy diffusion within the European Union.

2) Based on analyzing past successes and failures, it examines how EU institutions and member states could be better equipped to nurture energy policy diffusion in the future. It then devises innovative solutions to some of the barriers that have continued to impede renewable energy policy diffusion.

3) It elaborates on the role that renewable energy policy diffusion will play in meeting the goals set forth by the Paris Agreement, the 2030 Energy Strategy set by the European Commission, and Agenda 2030, which is set by the United Nations Development Programme.

PART I- Theoretical Framework

Three Types of Energy Policy Diffusion in the European Union

In scholarship focused on policy diffusion within the EU, there is a tendency to use the Europeanization framework in order to distinguish between three types of policy diffusion: top-down diffusion, bottom-up diffusion, and horizontal cross-loading (Solorio and Jorgens, 14). Since the EU has limited competences in the energy policy domain, cross-national diffusion is the most prominent mechanism of diffusion. In the energy policy domain, EU member states have historically had the freedom to determine which national support instruments they believe will best promote renewable energy generation within their own borders, as long as they meet centralized renewable energy targets. Horizontal cross-loading promotes policy convergence resulting from diffusion, while bottom-up and top-down diffusion often causes clashes to develop between harmonization and subsidiarity.

In the context of renewable energy policy in the European Union, harmonization refers to the process of moving towards a common EU-wide renewable energy support instrument. By contrast, the subsidiarity principle "aims to ensure that all decisions are taken as closely as possible to the citizen" and that member states are able to serve as veto points for approving key EU decisions.[1] Subsidiarity is not dissimilar from the traditional notion of checks and balances, wherein member states review EU draft directives in order to ensure that EU institutions do not attempt to overstep their authority. The subsidiarity of EU member states was expanded under treaties such as the Amsterdam Treaty and the Maastricht Treaty, thus making it difficult to challenge member state sovereignty in the energy policy domain. Harmonization has proven to be more difficult than originally anticipated by EU institutions, given that some member states adopted feed-in-tariff instruments, while others opted for quota systems or tradable certificates early in the history of the European Energy Union (Solorio and Jorgens, 2012).

Competitive versus Cooperative Federalism

The European Union is a cooperative federalist system rather than a competitive federalist system of governance like the United States. On the one hand, cooperative federalism is based upon the principle that member states have concurrent powers in most legislative areas, including renewable energy policy, instead of strictly enumerated powers in each domain of policy-making. Thus, along with subsidiarity, cooperative federalism empowers member states to draft their own renewable energy policies rooted in national preferences. In a cooperative federalist arrangement, member states are typically working cross-nationally or together with EU institutions to achieve the same overarching energy goals (Solorio and Jorgens, 20).

On the other hand, competitive federalism can foster contentious relationships between subnational actors by virtue of the fact that they compete for funding from the federal government and for outside investments. As an energy entrepreneur, a state like California will undoubtedly have very different interests in the renewable energy policy domain than a state like Texas.[2]

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[1] Virginie Dumoulin. Head of European Partnerships for the French Environmental Ministry. Personal Communication. November 9, 2017.

[2] Virginie Dumoulin. Head of European Partnerships for the French Environmental Ministry. Personal Communication. November 9, 2017.

How Federalism Enhances Renewable Energy Policy Diffusion

Within the institutional context of the EU, cooperative federalism helps facilitate cross-national policy diffusion in a multitude of ways. Firstly, federalist systems like the European Union allow member states to serve as laboratories for policy experimentation. Thus, policies can be tested at the national level before they are adopted by supranational institutions like the European Commission and the European Council.

Secondly, countries in federalist systems of governance are required to abide by supranational energy directives. When the European Commission sets a central renewable energy target, for example, all EU member states are expected to draft their own national renewable energy plans. This creates the pressure to solve common problems and drives member states to search for innovative solutions. In this scenario, countries like Germany that have successfully boosted their renewable energy generation are able to diffuse their renewable energy policies to member states that are struggling to meet EU-wide renewable energy directives (Jacobs, 200).

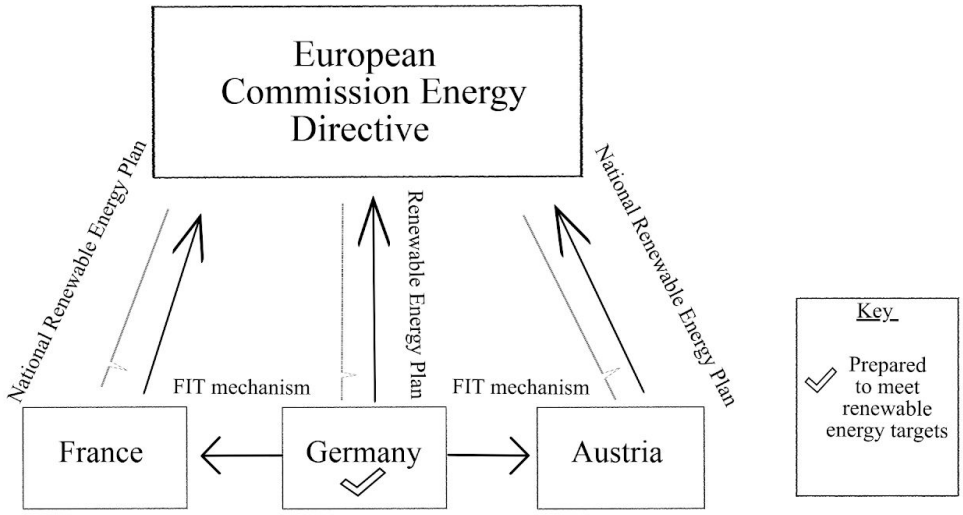

Fig 1. Cross-National Diffusion between EU Member States

Figure 1 demonstrates how a European Commission Energy Directive can accelerate diffusion between EU member states. In 2000, the EU issued a draft of the first renewable energy source (RES) directive, mandating for the first time that member states submit nationally determined renewable energy plans. This incentivized multiple EU countries, including France and Austria, to place renewable energy higher on their political agendas. In turn, France and Austria began looking towards other countries with strong renewable energy track records in order to find solutions. Germany, a country that helped pioneer the feed-in-tariff (FIT) mechanism in its Electricity Act (EEG), served as a model. It was in Germany's best interest to diffuse feed-in-tariff mechanisms to other EU member states, since this increased the likelihood that feed-in-tariffs would eventually be diffused to the EU wide level. Thus, German parliamentarians, including the energy commissioner at the time (Hans Josef Fell) had extensive communications with environment ministers in neighboring EU member states and sent them a

draft of the German FIT law.[3] Within the next ten years, over 15 other EU member states had also incorporated the FIT mechanism into their national renewable energy plans due in large part to policy transfer and cross-national diffusion (Busch and Jorgens, 6).

How Federalism Hinders Renewable Energy Policy Diffusion

However, the federalist structure of the EU also poses some substantial challenges for diffusing energy policy from a top-down or bottom-up level. It is especially difficult to coordinate energy policy between 28 EU member states. This is evidenced by the fact that harmonization of renewable energy support instruments has still not occurred at the EU level (Solorio and Jorgens, 2012). Thus, it is much easier to diffuse renewable energy policies and support mechanisms cross-nationally than it is to institutionalize energy policy on the European level.

In addition, EU institutions sometimes promote renewable energy policies that member states are reluctant to implement. If one member state has already adopted feed-in-tariffs or quotas, for instance, they may not be willing to alter their renewable energy policies in order to conform to EU-wide standards (Solorio and Jorgens, 17). This can cause conflicts of interest to arise between EU member states and EU institutions whereby EU member states advance their national preferences. In some cases, more influential member states can also unduly influence energy policy diffusion by blatantly disregarding the directives issued by EU institutions. Examples of these barriers will be addressed below through a comprehensive overview of past attempts to diffuse renewable energy from the European Commission.

Cooperative Federalism	**Resulting Characteristics**	**Effects on Policy Diffusion**
Advantage: ● Institutional Structure Promotes Leadership ● Centralized Legislative Priorities	● Enhances policy experimentation ● Supranational Energy Targets and National Energy Plans	● Only successful policies are diffused ● States race to find common solutions, accelerating diffusion
Disadvantages: ● Conflicting National Priorities ● Clash between Harmonization and Subsidiarity	● 28 member states have to coordinate policy ● States preserve national pref. to maintain some level of independence.	● Vertical policy diffusion is handicapped ● Countries block diffusion of policies that go against national pref.

Table 1. Benefits and Disadvantages of Cooperative Federalism in Promoting Policy Diffusion

As this table demonstrates, the institutional structure of the EU can be a double-edged sword. While it promotes cooperation and enhances policy experimentation, it often blurs the line between harmonization and subsidiarity. Given that harmonization is likely unrealistic, cross-national diffusion continues to be the most viable method for enhancing policy diffusion in cooperative federalist systems of governance.

History of Past Attempts to Diffuse Renewable Energy Instruments from the European Union Level to Member States

One of the most prominent efforts to harmonize renewable energy support instruments in the

[3] Hans Josef Fell. Former German Energy Commissioner. Personal Communication. November 10, 2017.

European Union took place in the late 1990s with the introduction of the green certificate program. In 1998, the European Commission decided to introduce a draft directive aimed at establishing a European market for the trade of renewable certificates. This directive aimed to eliminate barriers to free trade in order to foster cooperation between EU member states and protect states from facing "unfair competition."

Over the span of the next four years, five EU countries including Belgium, Italy, Sweden, Denmark, and Poland shifted from a feed-in-tariff renewable energy instrument to a green certificate program. This is an excellent example of top-down diffusion, and the influence that EU institutions have in shaping the direction of national renewable energy policy. Member states are concerned about complying with EU directives, and thus will often rethink their renewable energy policies to align better with the direction of EU-wide policy making (Busch and Jorgens, 7).

Early on, it was evident that influential EU member states that used feed-in-tariff support instruments, like Germany, would oppose the green certificate directive. It was relatively expensive for EU member states that had already adopted the FIT instrument to switch to using alternative renewable energy support instruments. This is an example of a consequence of the institutional structure of the EU, where member states become reluctant to shoulder the costs of EU integration and centralized decision-making. After Germany publicly announced its intention to disregard the green certificate directive draft issued by the European Commission, the European Commission temporarily eschewed its attempts to harmonize renewable energy support instruments and decided to postpone the decision until 2012.

In this instance, top-down diffusion was abandoned as a result of two primary factors: a general fear of integration arising in member states that had pioneered technologies other than green certificates, paired with a concern that EU directives would require certain member states to incur significant economic losses in the process of conforming to new EU-wide targets. This led to a mixed response, whereby states like Germany and Spain were against the expansion of the EU-wide green certificate proposal, while other states, including new members of the EU, were in support of implementing a green certificate program (Busch and Jorgens, 8).

In 2005, the European Commission published a report that presented the FIT mechanism as the most viable EU-wide renewable energy support instrument. It appeared that Germany and other states' lobbying efforts had been successful. Though European Union member states are now switching to an auction-based system for renewable energy support instruments, the feed-in-tariff mechanism remained the most prevalent renewable energy support instrument in the EU for over fifteen years. Cross-national diffusion was the main contributor to the spread and subsequent success of feed-in-tariffs, rather than diffusion from a top-down approach.

However, certain barriers arise that prevent member states from coordinating as effectively as they did with feed-in-tariff mechanisms. When so many countries have a stake in institutional decision-making in a federalist system, some are likely to oppose a decision (known foot-dragging), while others are likely to remain indecisive about whether or not to implement a policy directive, referred to as "fence-sitting" (Solorio and Jorgens, 18).

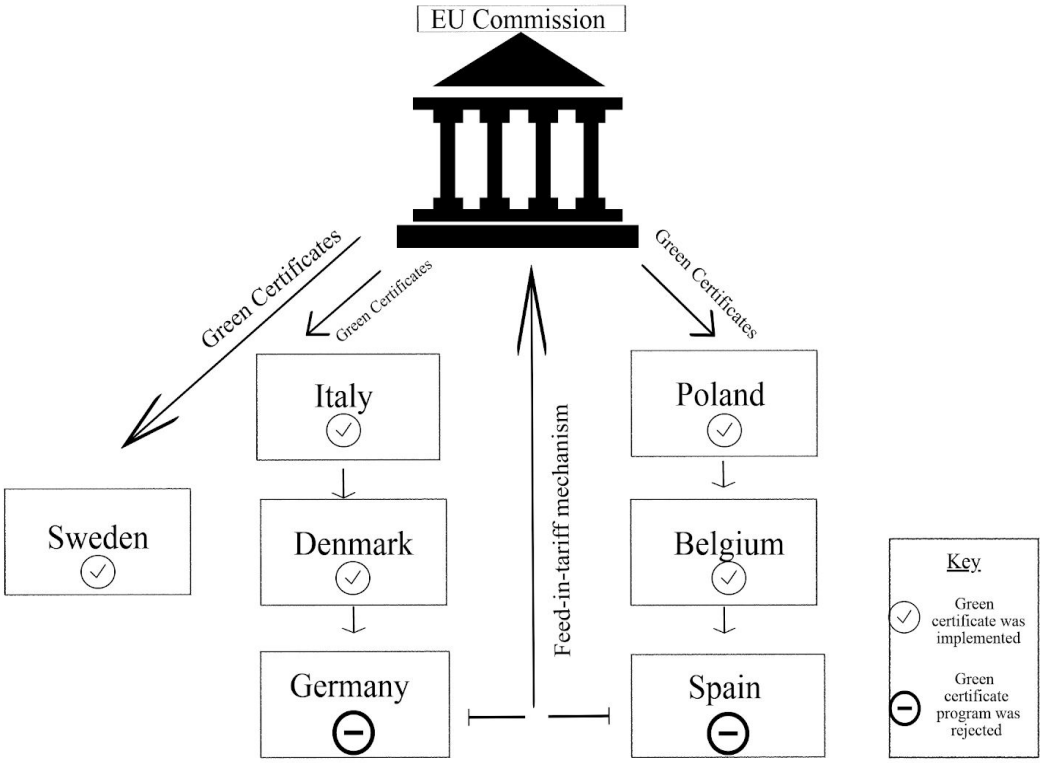

Fig 2. How top-down diffusion from Brussels to EU member states operated within the context of the European Commission's green certificate program directive

Figure 2 demonstrates how policy was diffused to EU member states when the green certificate program draft directive was first announced by the European Commission. While the green certificate program was successfully diffused to several EU member states, Germany and Spain resisted its implementation and forged a bilateral partnership to strengthen their position in negating the European Commission. Thus, the flow of diffusion stopped with Germany and Spain, who in turn pushed to diffuse the alternative option, a feed-in-tariff mechanism, to the European Commission. This demonstrates diffusion from the bottom-up, or from member states to the EU.

PART II- Solutions

Recommendations to Facilitate Energy Policy Diffusion between Member States

As mentioned above, there are many barriers to renewable energy policy diffusion that are tied to the European Union's federalist system. These include poor coordination, differing national circumstances, and various priorities for economic development. However, many effective mechanisms can contribute to overcoming these barriers to transnational problem solving efforts. Our recommendations include suggestions to strengthen existing platforms as well as to create new arrangements to accelerate energy policy diffusion. In response, we propose a three-step strategic plan to nurture renewable energy policy diffusion:

1) Reform the hierarchical structure of the European Union to promote energy policy coordination and knowledge-sharing, ultimately promoting policy diffusion

2) Establish more robust partnerships between member states and NGOs in order to promote capacity building and energy policy diffusion

3) Create a framework for an EU-wide progress tracking mechanism modeled after the Global Stocktake Review, to monitor progress toward achieving energy targets as well as to share the design of policy support mechanisms and energy schemes

Enhancing Transparency and Cooperation in EU Environmental Policy-Making

Policy-making in the European Union incorporates complex and unique processes that differ based on the type of legislation proposed. For example, renewable energy legislation follows a distinct and complex hierarchy. This centralized structure institutionalizes a fragmented process of implementing renewable energy targets among individual member states (Skjaerseth 81). In order to enhance transparency within the European Union's environmental policy-making process, it is crucial to demystify how the hierarchy of governance operates.

Table 1: Key Actors in EU Energy Policy

Actor	Role
European Commission	Drafts and implements energy policies, sets agenda, initiates directives, and frames issues
Directorates of European Commission	All directorates (**Energy, Competition, Research, and Environment)** must approve proposals before sending to EU parliament; Meetings are attended by both ministers only when cross-disciplinary issues are on the agenda
European Court of Justice	Judges interpretation and application of European Energy Charter; Rulings supercede national law and directly affect member states
European Parliament's Committee for Energy, Research and Tech	Greater priority on consumer affairs and environmental issues than the European Commission; Meets with interest groups, and forms views based on their input
Council of Ministers	Energy commissioners and environment ministers meet to adopt or reject directives; Committees are devoted to specialized areas, like energy and environment
The European Council	28 heads of states represent broad interests of member states to EC and coordinates linkage at biannual summits

Source: Matlary, Janne Haaland. "Energy Policy in the European Union." MacMillan Press LTD. 1997.

The table above illustrates the existing silo between the member states' environmental ministers and energy commissioners. Both at the level of the European Commission and the European Council, environmental ministers and energy commissioners play vital roles, but do not always take advantage of opportunities to achieve mutual goals. Sometimes, policy is created in one institution without sharing between EU divisions, while at other times, policy is coordinated in an interdepartmental fashion (Busch, 29). It is worth noting that the directorates only convene when a policy intersects with the topic of both energy and environment, like a carbon tax (Matlary, 115). In contrast, certain issues are confined to their respective directorate. For example, conservation policies are established by the environmental directorate without consulting the energy directorate. Due to the fact that institutional arrangements already compel

them to work together on certain issues, it would be ideal to organize more frequent meetings between energy commissioners and environmental ministers, further accelerating the transition to clean energy.

Promote Inter-Ministerial Communication

Much of the decision-making on energy policy happens prior to the time that the Council of Ministers convenes for a meeting. Institutionally, the Council prioritizes either adoption or sanction of policies. A majority of the time, the content of the legislation is negotiated outside of the meetings by civil servants, because the process seeks consensus. Therefore, to promote the agenda of renewable energy, we recommend that the Council of Ministers *institutionalize an annual meeting to convene energy and environmental ministers*. This would elevate the priority of policy linkage and augment communication.

Institutionalizing an annual interministerial conference will overcome the divide between environmental and energy commissioners, allowing member states to reap the benefits of lesson sharing (Jacobs, 16). Organizing an interministerial conference provides a framework for transnational problem solving on a more regular basis (10). By overcoming the siloes between energy and environmental ministries, a process of alignment unfolds, fostering policy diffusion.

Support Capacity Building through Bilateral Partnerships

In international climate change negotiations, capacity building is traditionally viewed as a means by which developed countries provide support to developing countries. However, based on the success of previous bilateral partnerships, we believe that meaningful partnerships can also occur between developed countries. In response to the threat of harmonization and centralized standard-setting, member states often take matters into their own hands by voluntarily pursuing bilateral partnerships. For example, when states were not on track to achieve the 2010 targets, the European Parliament recommended binding national targets. Though the European Commission did not pursue this suggestion, the possibility of legally binding directives propelled voluntary bilateral cooperation (Jacobs, 231). For example, Germany and France began to share best practices on wind energy deployment. Over the past decade, members of the German and French Green parties cooperated to exchange information about renewable energy policies. Policy diffusion is evident in the case of the Germany-French wind partnership where they implemented location-specific tariffs on wind energy as well as in the European adoption of feed-in tariffs. These examples of transnational communication through partnerships offer an opportunity to "institutionalize cross-national policy learning" (232).

Certain countries, particularly Germany, Denmark, and the UK stand out as "green leaders" who already have incentives to promote their interests to other member states and have already invested in their own energy markets (Jordan, 10).[4] By sharing knowledge, energy entrepreneurs can increase the potential for their own policies to be adopted by various EU institutions.

Lesson sharing also allows less environmentally progressive governments (ex. Poland) who lag behind in renewable commitments, to learn from other member states in order to solve their own domestic problems with deploying renewables in the internal energy market (Jordan, 4). In the

[4] Green leaders are those who enhanced the scope of EU env policy because they push the EU to adopt standards that are "as high if not higher" than own national standards. They intend to reap "first mover advantages" by sharing with "less progressive" states.

case of positive lesson sharing, member states will adopt programs that have successfully increased renewable energy deployment (Skjaerseth, 128). They typically either copy renewable energy legislation or create hybrid versions that are more compatible with their domestic politics, thus supporting diffusion.

Cross national capacity building and lesson sharing can be institutionalized by *setting up a five year mentor/ mentee system, referred to as the Renewable Energy Accelerator program,* between member states. More experienced member states would agree to supervise renewable energy policy formulation in less experienced member states. After agreeing to serve as advisors, EU member states will need to commit to checking in on the progress of their mentees, and will create plans that highlight what they hope to accomplish in the five years that their relationship is active. To incentivize these mutually beneficial partnerships, the EU must create a platform for every country to feasibly pursue implementation of the Renewable Energy Accelerator Program. We believe this would require minimal cost, as many countries already have roles devoted to fostering european partnerships within their environmental ministries.[5] The person serving in this capacity could oversee the program and manage communications from the member state to the EU level.

Holding Member States Accountable to Climate Action Plans

The structure of renewable energy policy in the European Union is similar to that of the Paris Agreement.[6] At the United Nation Framework Convention on Climate Change, the EU negotiates in a block on behalf of the 28 member states. In response to the "Nationally Determined Contributions" decided for the Conference of the Parties, member states must generate individual strategies to contribute to the overall target. Similarly, the EU sets internal directives to achieve the 2030 Energy Strategy, which requires countries to source at least 27 percent of energy from renewable sources by 2030, a percentage that would be much higher if there was greater consensus between member states in formulating renewable energy goals .[7] The EU must overcome resistance from member states and harness momentum toward ambitious targets in order to achieve the mitigation goals set out in the Paris Agreement.

In Article 14, the Paris Agreement advises parties to periodically assess progress "in light of the best available science." Implementing this section of the agreement will require a concerted attempt to track global emissions reductions. Within the European Union, specifically, this process of tracking is impeded by a lack of transparency. For example, the information provided on the EU website and the UNFCCC focuses on the overarching plan set by the EU bloc rather than individual member state commitments. This fails to account for the individual goals and strategies pursued by member states.

There are existing platforms both internally and externally to track progress on renewable energy deployment. The EU's 2009 directive, which established mandatory renewable energy targets and institutionalized punishments for non-compliance, requires member states to submit reports to the European Commission every two years. Member states must adhere to a template that

[5] Virginie Dumoulin. Head of European Partnerships for the French Environmental Ministry. Personal Communication. November 9, 2017.
[6] Karsten Neuhoff, Personal Communication, November 8, 2017.
[7] "2030 Energy Strategy." European Commission website.

requires them to submit certain information; including, shares of renewables in different sectors, descriptions of support mechanisms, and progress made towards eliminating non-economic barriers (Boassan, 81). The volume of reports from individual member states serves as a consortium of cross-national policies for the Commission to reference as models when designing centralized renewable energy support mechanisms. Just because EU directives require states to submit subnational plans, however, does not automatically facilitate information sharing in the energy policy domain through cross-national diffusion. Therefore, it is critical to develop channels that allow member states to share environmental policies.

To catalyze information-sharing, we recommend *establishing a virtual platform where energy data and progress toward achieving renewable energy targets is published on a unified portal across member states*. This digital version of an EU stocktake, modeled to fulfill the vision of Article 14, serves as a platform for states to overcome information problems and share best practices. Opening up an online directory for tracking progress can make EU policy-making more transparent and allow the general public to monitor member states. Civil society groups that are mobilized for climate action can use this data to inform their campaigns and put pressure on member states to achieve their renewable energy targets.

This solution speaks to the shift toward a "pledge and review" style of governance, a common strategy used to hold nations accountable to their commitment to emissions reductions (Jordan and Huitema 5). The European Parliament's Committee on Energy, Research, and Technology advocates for this movement away from subsidiarity, suggesting that a more forceful, supranational role for EU institutions is required to achieve renewable energy targets (Mallary, 125). In addition, transparency will expose the weaknesses of member states that are faltering on their commitments to renewable targets, thus creating greater urgency to solve common problems. This applies more pressure on member states as they look to green leaders for innovative solutions, thus catalyzing policy diffusion.

Elevating the Role of Civil Society in Climate Action

According to a report by Busch and Jörgens, international organizations are "perceived as reliable sources of information in international policy discourse" (Jacobs, 204). They facilitate monitoring and release reports on best practices. For example, REN21 is a network that tracks policy adoption across nations. Although it releases an annual status report that outlines the energy sources and support mechanisms used in each country, the report lacks information on how renewable energy support instruments were designed in various member states. These organizations fail to recognize the influence of organizations that are functioning at a local level. If given the appropriate platform, non-governmental organizations, with the public interest in mind, have tremendous potential to accelerate momentum on energy targets.

Table 2: How Environmental NGOs Interact with Policy-Making

NGO	Role
JUSTICE AND ENVIRONMENT European Network of Environmental Law Organizations	Network of 12 public interest environmental law groups from 10 member states; Promote implementation of environmental legislation
CDP DRIVING SUSTAINABLE ECONOMIES	Improve access to emissions data for use in policy-making; Work with businesses and governments
CEE bankwatch network	Monitors public investments made by EIB and Structural and Cohesion Policy funds ; Proposes sustainable alternatives
EUROPEAN ENVIRONMENTAL BUREAU	Federation of 140 environmental civil society organizations; Influence EU environmental and sustainable development policies
Friends of the Earth	Network of 31 environmental organizations; Engage in energy policy processes to strengthen EU commitments

Source: "European Environmental and Climate NGOs." LIFE Operating Grants. European Commission. 2015.

Table 2 shows how non-governmental organizations are already interacting with the policy-making process in the European Union. There are many non-governmental organizations focused on environmental issues and they often work to influence the policy making process by releasing reports that assess the energy and climate policies of the EU as a whole as well as within individual member states.

The European Commission requires input from interest groups in order to create policies on topics outside its scope of expertise. Through committee meetings, interest groups gain access to early stages of the policy-making process and have the opportunity to influence policy outcomes (Boassan, 200). However, the exchange of information through committees sometimes allows certain interest groups to attain an elite status, granting them privileged access to the Commission's internal procedures.

There are ways to improve upon this structural arrangement in order to facilitate transparency and enhance information sharing. To improve upon this system, the EU should facilitate the vertical integration of civil society into the policy-making process. Therefore, while there is an opportunity for business and industry to be involved on EU level, nonprofit organizations should be more formally integrated into renewable energy policy formulation.

We recommend that the EU *incorporate the interests of civil society by developing an institution devoted to representing the interests of environmental NGOs*. This coalition of NGOs, structured similarly to the Intergovernmental Panel on Climate Change (IPCC), would release official reports summarizing relevant findings from their respective organizations. Whereas the IPCC provides "policy-relevant" information on climate science, the NGO Network would release "policy-prescriptive" reports that would allow environmental groups to make recommendations

to policy-makers and governments of member states.[8] Additionally, by reporting on the achievements of individual member states, NGOs would share options for policies amenable to renewable energy expansion and pressure member states to accelerate climate progress, holding them accountable to their national targets.

Looking Ahead: Aligning National Goals in the Context of International Climate Platforms

In order to meet the goals set out in the Paris Agreement and to limit the increase in global average temperature to well below 2°C, emissions must peak by 2020 at the latest. This will require a concerted effort by the 197 parties to the United Nations Framework Convention on Climate Change to rapidly reduce emissions. In the European Union, this effort is supported by cooperation and coordination of climate policies between member states.

In response, there is an effort to align the implementation of the Paris Agreement with Agenda 2030, an agenda that advances the 17 sustainable development goals identified by the United Nations Development Programme. These goals are recognized by policy-makers as key elements of the EU's commitment to 'Global Governance in the 21st Century" as they will catalyze policy diffusion and integration of cross national priorities (Gregerson 12). Jointly pursuing the sustainable development goals (SDGs) could provides a framework for collaboration between member states. This ambitious initiative demands creative cooperation across the public, private, and nonprofit sectors. Sustainable development requires advocates of strong centralized environmental governance to build alliances with actors in similar policy domains, in this case, across ministries of energy and environment in the member states. Environmental policy integration of this nature requires a "belts and braces" approach to governance, which bridges standard-setting with accountability mechanisms. This includes the innovative usage of reports, target-setting, peer review and benchmarking exercises along with regulations and subsidies (Gregerson 17).

To support enhanced alignment of energy targets with the SDGs, the EU can *create an opportunity for member states to earn recognition through a Sustainable Development Goal certification process*. This model would be similar in structure to the US LEED[9] certification program. SDG certificates would recognize member states that have both successfully implemented renewable energy policies and diffused them to another member state. In order to earn a certification, however, member states must participate in the mentor/mentee relationship described in the section above. The sustainable development goals will realize policy diffusion between member states by allowing them to prioritize climate policy in accordance with human development indicators.

Conclusion

As long as they have subsidiarity, member states will maintain the ability to establish individual renewable energy policies that contribute to the overall renewable energy targets established by the European Union. Even in a cooperative federalist system of governance like the EU, however, energy policies are often formed in an isolationist manner, which curtails progress.

[8] "IPCC Fact Sheet." Intergovernmental Panel on Climate Change Website.
[9] Leadership in Energy and Environmental Design (**LEED**) is a rating system devised by the United States Green Building Council (USGBC) to evaluate the environmental performance of a building and encourage market transformation towards sustainable design.

Thus, it is critical to enhance cooperation between member states in order to accelerate the transition to clean energy and to create an environment ripe for knowledge sharing. In order to increase ambition to achieve renewable energy targets, we offer six solutions to foster policy diffusion:

1) Institutionalize an annual meeting to convene energy and environmental ministers
2) Set up a five year mentor/ mentee system, referred to as the Renewable Energy Accelerator program
3) Establish a virtual platform to monitor renewable energy deployment across member states
4) Incorporate the interests of civil society by developing an institution devoted to representing the interests of environmental NGOs
5) Create an opportunity for member states to earn recognition through a Sustainable Development Goal certification process

By virtue of the federalist structures that enable energy policy diffusion between member states, the European Union serves as a model for other nations that aspire to deliver on their promises within the context of the Paris Agreement. Policy diffusion is one of the least costly and most effective ways of addressing the salient global threat of climate change. Though it has its flaws, the EU has emerged as a global leader in renewable energy policy formulation and provides an excellent example of the crucial role that policy diffusion can play in enhancing renewable energy generation. Moving forward, using the aforementioned solutions to eliminate barriers to policy diffusion is a critical step towards enabling member states to make the shift to a future powered by 100% renewable energy.

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