THE FUTURE OF EU CLIMATE CHANGE TECHNOLOGY & SUSTAINABLE ENERGY DIPLOMACY

By
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With contributions by **Miriam Dalli MEP** and
Margot Wallström

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About the contributors:

Margot Wallström is the current Minister of Foreign Affairs in Sweden, and has held the office since October 2014. Wallström has had a long and illustrious career in both Swedish and European Union Politics. She has served in the Swedish government as the Minister for Civil Affairs (1988-1991), Minister for Culture (1994-1996), Minister for Social Affairs (1996-1998), as well as having been a representative in Swedish parliament from 1979-1985. From 1974-1977, Wallström served as Ombudsman of the Swedish Social Democratic Party.

In European Politics she served as a European Commissioner for the Environment from 1999-2004 and as the first Vice President of the European Commission from 2004-2010. She became Chair of the Ministerial Initiative of the Council for Women World Leaders in 2007. In 2010 Ban Ki-Moon appointed her the first ever Special Representative on Sexual Violence in Conflict. Upon the completion of her term as Special Representative of the United Nations, Wallström became chair of the University Board of Lund University in Sweden.

Miriam Dalli MEP was elected to the European Parliament in May 2014. Miriam Dalli was elected on behalf of the Partit Laburista and is part of the Socialists and Democrats (S&D) Group within the European Parliament. She became a lawyer after successfully completing her Doctorate of Law at the University of Malta. Her thesis focuses on the financial services sector and is entitled Investment Advisors: Legal Obligations towards Investors. Miriam Dalli obtained a first class degree in her LL.B. course which leads to the conferment of Bachelor of Laws. She is a Communications graduate (University of Malta, 1998) and she obtained an MA in European Studies (University of Malta, 2003) and an MBA (University of Malta, 2001).

Miriam was the first female news editor on the island heading a TV and Radio newsroom between 2005 and 2009. She worked intensely during every electoral campaign from 1996 onwards. During the 2013 general election campaign she was instrumental in communicating the PL message as laid down in the party's electoral manifesto.

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Foreword

This timely collaboration has been a welcome opportunity to contribute to the necessary debate over how the EU continues to lead on climate change following the adoption of the Paris Agreement. Climate change is a transnational challenge like no other. The EU, which has been a key innovator in multi-level governance, now tackles the climate challenge while being beset by myriad interconnected crises. The EU's capacity to innovate – and to act collectively – will be vital to meeting this urgent challenge in the years ahead.

Therefore we are pleased to introduce this joint publication of the Foundation for European Progressive Studies (FEPS), the Transnational Law Institute of King's College London and Fondation Jean-Jaurès on the future of EU diplomacy concerning climate change technology and sustainable energy.

It represents the culmination of a project which has engaged EU and Member State policymakers, United Nations officials, representatives of the progressive parties and organisations at European level and members of academia, the private sector and civil society to identify opportunities for EU external action to achieve ambitious, progressive climate outcomes.

We wish to express our gratitude to the team of inspiring researchers who have worked on this initiative, and trust in the impact that their work will no doubt have to enhance this important debate.

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EU collective action for an ambitious and just response to climate change

(Photo credit: Kristian Pohl/Regeringskansliet)

Climate change is the challenge of our time. With a disproportionate impact on the world's most vulnerable people, climate change nevertheless affects all. It harms our shared environment, is a threat multiplier of security challenges and exacerbates gender inequalities. The message from science is that we are all in this together: south and north, west and east.

So the adoption and early entry into force of the Paris Agreement are enormous achievements, but there is much more to be done to implement the agreement and accelerate climate action. The European Union, its Institutions and its Member States have for many years been vital contributors to the idea of a stronger role for foreign policy in international climate policy; what is often called climate diplomacy. Now, the EU must build on the success of its climate diplomacy, for example the developing of policies and markets that drive positive change, in order to intensify the work towards more ambitious climate action.

Climate technology and sustainable energy are key to realising the opportunities of transitioning to a low-carbon development pathway. The EU has led by example and by cooperating with our partners around the world. We must continue to invest in green solutions to build capacity for this much-needed transition, which is why Sweden – through its coalition government consisting of the Social Democratic Party and the Green Party – has made the largest per capita commitment to the Green Climate Fund.

Europe's progressives continue to have an important role to play in grounding EU action in the principles of solidarity and social justice. As the global community confronts the challenge of turning agreement into outcomes, EU collective action will be more important than ever.

Margot Wallström,
Minister for Foreign Affairs of Sweden
Formerly Special representative of the UN Secretary-General (SRSG) on Sexual Violence in Conflict,
European Commissioner for Environment 1999 – 2004,
European Commissioner for Institutional Relations and Communication Strategy 2004-2009.

Reflections on the Paris Conference

By Miriam Dalli MEP

Few meetings have the potential to have a direct impact on every living being on the planet. The COP 21 in Paris did. The Paris conference was a turning point for global climate-related legislation. For the first time, the international community has been able to approve an international climate agreement, which legally binds nations into working towards fixed greenhouse gas reduction targets. The conference brought 195 countries together, making it an incredible testament to global cooperation.

The scientific community and governments alike came a long way since the effect of greenhouse gases were recognised as a cause of increasing average temperature, better known as global warming. The critical framework is now in place, helping to push governments and businesses to move away from the use of fossil fuels and to invest in a sustainable and clean energy future.

Following the Paris agreement, parties now have to report their emissions every five years. The ultimate aim for this is to keep the rise in temperatures to below a maximum of 2 degrees Celsius above pre-industrial levels, aiming at 1.5 degrees Celsius. As a mechanism for transparency, countries are bound to have an inventory of their gas emissions, reporting on progress and external reviewing. However, the agreement reached at the Paris conference is only the beginning for the world to fight climate change. It is imperative that countries begin the ratification process as soon as possible, bearing in mind that climate change effects are still an ongoing issue. Droughts, rising sea levels, floods, lost crops and people movement will not stop without immediate attention and substantial change.

Until a few days ago I was disheartened at what I considered a lack of will from the European Union to ratify the Paris agreement, particularly since the EU was one of the leading forces that helped reach an ambitious agreement in Paris. That's why it was extremely positive to read that on Friday, September 30, the European Union secured a fast-track deal paving the way for the EU bloc to ratify the Paris Agreement on climate change. Now, the European Union must be proactive and stand as a climate legislation leader by taking the necessary steps in backing up this agreement.

By doing so, Europe will have a strong incentive to diversify its sources of energy used across all the Member States, while striving further to ensure energy security. Forward-looking investment at this stage is a major key to the success of reaching the set goals in the Paris Agreement. More research,

development and innovation are necessary to make renewable energy more affordable and accessible and to push such projects towards commercialization. If this happens, the EU will provide a substantial global impact acting as an ambitious and responsible climate leader by directly reducing emissions while encouraging other nations to follow suit and update their national commitments and practices to be greener and cleaner. In another sense, the EU's adoption of the agreement will send a strong, clear message to EU citizens themselves that sustainability is crucial and that it is a priority that needs to be tackled now. Moreover, this action will inspire many to act in more environmentally conscious ways in their daily lives.

Even though the critical legislative foundation has been laid, there is still space for further improvements. Case in point are the shipping and aviation sectors, which were entirely excluded from the Paris agreement. According to Transport and Environment, it is possible that shipping is responsible for seventeen percent of global carbon emissions. If these emissions are left unregulated, by 2050 it is expected that shipping and aviation will contribute to forty percent of all carbon emissions. If these sectors are left unaddressed, the goals of the Paris Agreement will be futile, basically washing away all the hard work which has already been accomplished by uniting so many nations together.

Another area of concern is the fact that the agreement did not include a specific date for the peaking of emissions. The later the peak is reached, the more problematic it will become to keep global warming below the agreed 1.5 degrees Celsius. Not having a set date may have the potential to derail plans for emission reductions for many nations. At this point, it is crucial to have credible national plans outlining how economies will be decarbonised. These requirements are necessary to ensure that the work that is already accomplished isn't in vain. It is equally important to consider the differences between all of the nations involved, taking into account their size and industrialization, among other factors. It is also necessary to assist developing states to adapt to climate conditions and to mitigate their increasing emissions in their industrialisation process. This is another area where investment is critical for successful emissions reduction. Research and development of green technology innovation are immeasurably essential to give nations of any size or economic standing a fighting chance to meaningfully reduce their emissions.

So what’s the next step for the global community? Less than a year after COP21, we will once again celebrate the world's commitment to climate action in Marrakesh from the 7th till the 18th of November. COP22 will once again give us the opportunity to put the negotiations and targets agreed on in Paris into action by taking the next step and implementing them. COP22 will call on countries to revise their national contributions in fighting climate change and reducing CO2 emissions from 2020 onwards. Marrakesh will specifically focus on the Mediterranean area, further highlighting the importance of protecting the most vulnerable nations and islands within the Agreement.

COP21 is a great starting point for strong climate legislation. The fight for a better and more stable environment is extraordinarily important for the future of societies in the EU. Without a viable environment, there is no industry or economy. Without a sustainable environment, we do not have a secure future. Although it is a good beginning, it is still critical to see more happen before 2020. The

Paris conference was successful in educating countries and citizens, both rich and poor, on the current ongoing crises. World leaders, investors and climate activists are hopeful.
We as Socialists and Democrats are committed to continuing our work, empowering people to pursue our fight for a more ambitious climate strategy and, significantly, strengthened international commitments.

However, just this isn't enough! It is only by making a global effort – leaders, industries and citizens alike – that we can indeed manage to reach the aspired target of the Paris Agreement.

Miriam Dalli MEP

Report: The future of EU climate change technology and sustainable energy diplomacy

By Stephen Minas[1]

Executive summary

EU climate and sustainable energy diplomacy following the Paris Agreement

- The Paris Agreement has the potential to be a major inflection point in the global response to climate change. The Agreement explicitly locates primary regulatory agency and implementation concerning climate mitigation at the national level, through Nationally Determined Contributions (NDCs), and is also significant for enhancing the role of non-state actors in the UNFCCC process. The EU contributed to ambitious outcomes at the Paris conference.

- The strengths of EU diplomacy – normative leadership and deep programmatic, personnel and financial resources – are particularly apt to contribute to an implementation or 'action' phase, which climate and sustainable energy diplomacy has entered following the Paris conference. This diplomatic weight can be seen in the UNFCCC negotiations and other processes of climate and energy diplomacy. The EU's climate diplomacy is also buttressed by its preeminent role in development assistance. In addition to the scale of EU diplomatic resources is their ability to function as a network, with EU Institutions and Member States mobilizing collectively and bringing particular strengths to particular missions.

- The EU has long been acknowledged as a global leader in shaping the norms and processes of climate response. This tradition of active and ambitious diplomacy on climate change has been made possible by the EU's adoption of innovative climate regulation and by the development of substantial sustainable energy markets. As a result of its climate policies, the EU has become a world leader in climate mitigation and the production of sustainable energy.

- If it is to fulfil its potential, EU climate technology and sustainable energy diplomacy must contend with a number of significant challenges, including: the proliferation of international processes through which climate and sustainable energy policy are pursued; the growing urgency of stimulating technology development, transfer and uptake; and the increasing relative importance of large emerging economies as providers of climate technology and finance and as policy entrepreneurs.

[1] I am grateful to Charlotte Billingham and Dr Sander Chan for their valuable comments and suggestions. I am responsible for the content of this report and for any errors.

Climate diplomacy and progressive politics

- Progressive political movements have had a large impact on climate policy in the last decades. In the case of the EU, the EU's domestic and external commitment to social justice and solidarity has been an important contributor to the effectiveness of EU climate diplomacy. In particular, these principles have allowed the EU to make common cause with developing and climate-vulnerable countries.

- In turn, the EU's progressive political parties have contributed to EU climate diplomacy, including through engaging in unprecedented coordination ahead of the Paris climate conference to develop a united front for ambitious outcomes. The effective conduct of COP21 by the French Presidency of the Paris conference was also a significant success for Europe's progressives in climate diplomacy.

- The EU has an opportunity to build a strategic narrative for Paris implementation that reflects progressive priorities, including how policies for implementation can create jobs, improve quality of life and tackle energy poverty.

Opportunities for EU external action in key processes

- There are significant opportunities to advance a more integrated diplomacy in the field of climate technology and sustainable energy. There is a need for more coherent activity across the different international processes and organizations.

- The United Nations Framework Convention on Climate Change (UNFCCC) remains the central process for the conduct of international climate diplomacy, including with respect to climate technology.

- Under the UNFCCC, the EU could pursue enhanced international cooperation on climate technology by negotiating for ambitious implementation of the Paris Agreement's technology article and the related work in the COP21 Decisions, as well as by further engaging with the Climate Technology Centre and Network.

- The improved forum on response measures under the UNFCCC constitutes an important opportunity to work towards a 'just transition' for the workforce as an integral part of the global response to climate change and transition to sustainable energy.

- The recently operationalised Green Climate Fund (GCF) is a vital new partner for financing transformational change. The GCF is mandated to 'promote the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries' for climate mitigation and adaptation.

- The 2030 Agenda for Sustainable Development, including the Sustainable Development Goals, is an opportunity to bring processes together while providing high-level impetus for sustainable energy.

- The EU is well-placed to pursue outcomes which facilitate the trade in climate technologies, including sustainable energy, through the complex latticework of trade regimes, including the Energy Charter Process.

- Additional important processes present opportunities to act as force-multipliers of climate and energy diplomacy. The EU has opportunities to encourage further coherence across relevant processes.

Harnessing networks to advance climate technology and sustainable energy diplomacy

- Collective action to deal with climate change is now pursued through a diffusion of forums. Much of this distribution of activity is organized through networks of actors, of varying degrees of cohesion. The EU can bring unparalleled expertise and capacity to the further mobilization of networks.

- To harness networks to pursue truly transformational change, the EU must empower non-state actors within its borders and engage creatively with transnational networks that include both public and private actors.

- Large components of the private sector have become key allies in the development and implementation of ambitious climate policies. This is particularly important in the realm of technology.

- An important component of engagement with non-state actors is the financial sector. Following a period of institutional and programmatic creativity, with the adoption of the Paris Agreement and SDGs and creation of the Green Climate Fund and other multilateral financial institutions, climate finance is a major opportunity for the EU to further its climate objectives. The further stimulation of private climate finance as a discrete priority of EU climate diplomacy would build on EU leadership in corporate and financial sustainability.

- A fuller engagement with private finance is necessitated by the inadequacy of current and projected public finance for climate action.

- The EU can act as a 'connector' and 'coordinator' by better integrating the Global Climate Action Agenda with its own diplomatic initiatives, in order to support the core UNFCCC business of capacity building, technology and finance. As a complex supranational structure with multiple centres of agency, the EU is better placed to play such an orchestrating role than national governments which can operate in command-and-control style.

Introduction

As the European Commission has identified, 'globalisation of energy flows and the increased variety of international actors is creating momentum to develop a new approach to rule-based energy governance worldwide'.[2] This study will examine opportunities for the EU to play a leading role in crafting the norms of worldwide climate and energy governance by harnessing networks of public and private actors. If ever climate change was viewed as a narrowly 'environmental' issue, today there are multiple pressing elements to diplomacy concerning climate change, including security, migration and trade.[3] Within the broader field of climate diplomacy, this report is focused on diplomacy concerning climate change technology and sustainable energy.

Strengthening the European Union's climate change diplomacy was the focus of a workshop which brought together key stakeholders at the Foundation for European Progressive Studies (FEPS) in Brussels on 1 June. The workshop was hosted by FEPS in partnership with the Transnational Law Institute (TLI) of the Dickson Poon School of Law, King's College London, and Fondation Jean-Jaurès. The workshop was held on a not-for-attribution basis. Therefore, this report draws on the proceedings of the workshop but contributions have been anonymised.

The significance of the Paris Agreement

The Paris Agreement, adopted in December 2015 at the 21st Conference of Parties to the UNFCCC, is applicable to all UNFCCC parties. The Agreement is a departure from the Climate Convention's binary differentiation of responsibilities between Annex I and Non-Annex I countries, instead using the less fixed categories of 'developed' and 'developing' countries 'in the light of different national circumstances'.[4] The Agreement will enter into force on 4 November 2016, which is thirty days following ratification by 'at least 55 Parties to the Convention accounting in total for at least an estimated 55 percent of the total global greenhouse gas emissions'.[5] The speed with which the Paris Agreement will enter into force, less than a year following adoption, may be contrasted with the UNFCCC's previous major implementing agreement the Kyoto Protocol, which was agreed in 1997 but only entered force in 2005.

The Paris Agreement commits to the long-term goal of restricting global average temperature increase to 'well below 2°C above pre-industrial levels', while 'pursu[ing] efforts' to limit the increase to 1.5°C.[6] It further requires parties to 'achieve a balance between anthropogenic emissions by

[2] European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A policy framework for climate and energy in the period from 2020 to 2030, COM(2014) 15 final, Brussels, 22.1.2014, 17.
[3] For a treatment of climate change and EU foreign policy generally, see Luca Bergamaschi, Nick Mabey, Jonathan Gaventa and Camilla Born, 'EU Foreign Policy in a Changing Climate: A Climate and Energy Strategy for Europe's Long-Term Security', E3G, Discussion Paper, June 2016.
[4] See, e.g., Conference of Parties, Adoption of the Paris Agreement, Proposal by the President, Draft decision -/CP.21, Annex: Paris Agreement, FCCC/CP/2015/L.9/Rev.1, 12 December 2015, Article 4(4).
[5] Paris Agreement, Article 21(1).
[6] Ibid, Article 2(1)(a).

sources and removals by sinks of greenhouse gases in the second half of this century'.[7] The Paris Agreement requires parties to submit nationally determined contributions (NDCs) set out national climate targets and actions. The Agreement requires each country to submit an NDC every five years,[8] with each NDC submitted by a country to be more ambitious than the last.[9] A five-yearly 'global stocktake' will track progress against the Agreement.[10] The Paris Agreement therefore explicitly locates primary regulatory agency and implementation concerning climate mitigation at the national level. According to one workshop participant, NDCs will be 'fundamentally important' for technology. Another participant commented that a 'key difference' from the pre-Paris negotiation is 'we have the INDCs. We can build on the experience and needs of governments'. The challenge of 'making NDCs live' is also central to EU climate diplomacy, as recognised by the Council of the EU in February 2016.

The Paris outcomes are also significant for enhancing the role of non-state actors – referred to in the COP decisions as 'non-Party stakeholders' – in the UNFCCC process. The COP decision adopting the Paris Agreement '[w]elcomes the efforts of all non-Party stakeholders to address and respond to climate change, including those of civil society, the private sector, financial institutions, cities and other subnational authorities'.[11] The decision provides a number of avenues for non-state actor participation. The decision '[e]ncourages Parties to work closely with non-Party stakeholders to catalyse efforts to strengthen mitigation and adaptation action'.[12] It '[w]elcomes the efforts of non-Party stakeholders to scale up their climate actions, and encourages the registration of those actions in the Non-State Actor Zone for Climate Action platform'.[13] It encourages states, UNFCCC bodies and international organizations to cooperate with non-Party stakeholders to strengthen the technical examination process on mitigation, which through a series of meetings identifies opportunities for accelerated climate action.[14] It encourages non-Party stakeholders to engage in the new technical examination process for adaptation.[15] The decision also creates the roles of two 'high-level champions', appointed by the outgoing and incoming COP presidencies, to facilitate 'voluntary efforts, initiatives and coalitions', including through engagement with non-Party stakeholders.[16]
The Paris Agreement has been hailed as the 'biggest success in decades' for European diplomacy.[17] The EU contributed to ambitious outcomes to various elements of the Paris negotiation, for example, concerning transparency in NDCs. It is however important to place the EU's contribution to the Paris outcome into context. In particular, bilateral diplomacy between the United States and China was profoundly important.[18] Additionally, as one workshop participant noted, the Paris Agreement

[7] Ibid, Article 4(1).
[8] Ibid, Article 4(9).
[9] Ibid, Article 4(3).
[10] Ibid, Article 14.
[11] Decision 1/CP.21: Adoption of the Paris Agreement, FCCC/CP/2015/10/Add.1, 29 January 2016, par. 133.
[12] Ibid, par. 118.
[13] Ibid, par. 117.
[14] Ibid, par. 109(a).
[15] Ibid, par. 119.
[16] Ibid, par. 121.
[17] Nick Mabey, 'You can't deliver a new EU by avoiding energy and climate change', E3G, 16 September 2016, https://www.e3g.org/library/you-cant-deliver-a-new-eu-by-avoiding-energy-and-climate-change
[18] Jackson Ewing, 'How U.S.-China Cooperation Spurred Global Momentum on Climate Change', Asia Society, 25 July 2016, http://asiasociety.org/blog/asia/how-us-china-cooperation-spurred-global-momentum-climate-

happened not solely because of the EU but because parties were collectively ready to take the step: 'The success of diplomacy relies on taking into account all points of view of all parties'.

Key features of EU climate and sustainable energy diplomacy after Paris

Diplomatic goals

The adoption of the Paris Agreement has necessitated reassessment of climate diplomacy targets for what is a new period of negotiation and implementation. In February 2016, the Council of the EU approved key elements for EU climate diplomacy in 2016, under three strands of action (based on a joint paper by the Commission and EAS):[19] 'Maintaining climate change advocacy as a strategic priority in diplomatic dialogues, public diplomacy and external policy instruments; Supporting implementation of the Paris Agreement and the intended nationally determined contributions (INDC), in the context of low-emission and climate-resilient development; and Increasing efforts to address the nexus of climate change, natural resources, including water, prosperity, stability and migration'.[20]

Under the strand of supporting Paris implementation, '[t]he role of climate diplomacy is also to advocate for public and private financial flows consistent with the pathway towards low greenhouse gas emissions and climate resilient development as referred to in the Paris Agreement, including by widening the range of contributors'.[21] Pursuant to this, the EU and Member States will 'work together in exploring innovative mechanisms for mobilising additional climate finance from private investors'.[22] The Council also noted that 'EU diplomacy should engage Parties from third countries to encourage updating of their INDCs in order to raise ambitions towards the fulfilment of agreed goals'.[23]

In the context of its worsening dependence on fossil fuel imports and declining domestic oil and gas production, the rapid dissemination of sustainable energy is also a strategic imperative for the EU.[24] The European Commission has argued that 'Increased international [climate] action would also help to sustain the long-term competitiveness of the Union's industrial base'.[25] In its discussion of low

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change; Radoslav S. Dimitrov, 'The Paris Agreement on Climate Change: Behind Closed Doors' (2016) 16(3) *Global Environmental Politics* 1-11.

[19] Council of the European Union, Note: European climate diplomacy after COP21: Elements for continued climate diplomacy in 2016, 5853/16, 8 February 2016.

[20] Council of the European Union, Outcome of the Council Meeting, 6122/16, Brussels, 15 February 2016, par. 5.

[21] Ibid, par. 8.

[22] Ibid, Annex (p 6).

[23] Ibid, par. 4.

[24] Oil and gas imports costs the EU over €400 billion in 2012, equivalent to 3.1 % of EU GDP. This compares to an average import bill of around €180 billion for the period 1990-2011. The IEA has projected EU reliance on imported oil to rise to over ninety percent by 2035, with reliance on gas imports rising to eighty percent. European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A policy framework for climate and energy in the period from 2020 to 2030, COM(2014) 15 final, Brussels, 22.1.2014, 11.

[25] Ibid, 18.

carbon technologies, the European Commission has noted that 'cost reductions of between 30 and 80% are expected as new energy technologies mature'.[26]

The specific, near-term climate diplomacy goals outlined above should not be seen in isolation but rather as mechanisms to progress broader frameworks, including the 2030 climate and energy framework, the Energy Union and the Global Strategy. These policy frameworks are discussed below.

Diplomatic capacity

To achieve these goals, the EU and its Member States bring unparalleled capacity to the practice of climate and energy diplomacy. This may be in part attributed to the sheer weight of the EU as a bloc of industrialised economies, combined with the diplomatic tradition of Member States. Indeed, complaints of European 'over-representation'[27] at summits such as the G20 rather underscore the success of EU and Member State diplomacy in securing representation at key gatherings (with notable exceptions, such as the decisive meeting of the 2009 Copenhagen climate summit).[28]

This diplomatic weight can be seen in the UNFCCC negotiations and other processes of climate and energy diplomacy. According to one estimate, the total number of EU and Member States delegates to the Paris conference was 1,688, far exceeding the delegations of Canada (382), China (326), Brazil (319), the Russian Federation (315) and India (182).[29] Alongside Member States, the EU has a seat at the table of key high-level meetings including the G7, the G20 and the Clean Energy Ministerial.

In other forums, the EU also enjoys significant advantages. For example:

- A majority of the International Energy Agency's members are EU Member States.[30]
- Six of the 24 Green Climate Fund Board members are EU nationals.[31]
- Key climate and energy secretariats are headquartered in the EU, including the UNFCCC, the IEA, UNIDO, IRENA's Innovation Technology Centre, the Climate Technology Centre and Network (CTCN) and the Energy Charter Secretariat.

The EU's climate diplomacy is also buttressed by its preeminent role in development assistance. The EU and its Member States are the leading provider of official development assistance to developing countries, with around €58 billion provided in 2014. In the same year, the EU and its Member States committed around €14.5 billion to developing countries for climate-related purposes, including €2.1

[26] Ibid, 16.
[27] Grant C, 'Is Europe Doomed to Fail as a Power?' (Centre for European Reform, 2009) 10.
[28] 'At the last moment a small group of leaders, with Obama at the forefront, put together a short document, the Copenhagen Accord. The EU's representatives were excluded – a humiliation for them.' Giddens A, 'Preface' in Ed Wallis (ed), *Bringing it Home: Making a global deal on climate change a reality* (The Fabian Society/FEPS 2015).

[29] Robert McSweeney, 'Analysis: which countries have sent the most delegates to COP21?', Carbon Brief, 8 December 2015, https://www.carbonbrief.org/analysis-which-countries-have-sent-the-most-delegates-to-cop21
[30] IEA, 'Member Countries', http://www.iea.org/countries/membercountries/
[31] Green Climate Fund, 'The Board', http://www.greenclimate.fund/boardroom/the-board/members

billion from the EIB.[32] The EU's commitment to developing countries is also operationalized through the Global Climate Change Alliance+ (GCCA+), which provides technical support for climate programs across 38 countries, with a focus on LDCs and SIDS.[33] During his 2016 State of the Union address, Commission President Juncker also announced the creation of a European External Investment Plan (EIP) to invest in Africa and EU Neighbourhood countries, in order to 'contribute to implementing the 2030 Agenda on Sustainable Development Goals and the Addis Agenda on Financing for Development'.[34] Additionally, through its 'Green Economy Transition' program, the European Bank for Reconstruction and Development (EBRD)[35] has invested US$ 24 billion in over 1,000 projects since 2006.[36] The EBRD has also been the leading multilateral development bank in providing finance for private sector adaptation to climate change.[37]

In addition to the scale of EU diplomatic resources is their ability to function as a network, with EU institutions and Member States mobilizing collectively and bringing particular strengths to particular missions. A paper from the Commission and EAS concerning 2015 climate diplomacy highlights the EU's mobilization of 'the world's largest diplomatic network consisting of circa 3,000 EU Delegations and Member State embassies and circa 90,000 diplomats'. This network 'gave the EU and MS a collective influence greater than the sum of their parts.'[38] Key activities identified included an "INDCs demarche" to approximately 65 countries in March, the organization of a 'Climate Diplomacy Action Day' in around fifty countries in June and a 'high-level outreach/démarche' in around seventy countries in the weeks prior to COP21.[39] Recommendations based on the 2015 experience include: 'Integrate climate policy as a priority in broader dialogues and meetings, e.g. the yearly HoD meeting or regional conferences of delegations'.[40]

While the unique nature of the EU as a supranational project enables its diplomatic activity, it also constrains. As a union of sovereign Member States, the EU can lack the negotiating agility or quick decision-making of single governments. This challenge was identified by Commission president Jean-Claude Juncker in last month's State of the Union Address: 'Slow delivery on promises made is a phenomenon that more and more risks undermining the Union's credibility. Take the Paris agreement. We Europeans are the world leaders on climate action … But Europe is now struggling to show the way and be amongst the first to ratify our agreement ... We should be faster ... [I]t is about

[32] European Commission, Climate action progress report, including the report on the functioning of the European carbon market and the report on the review of Directive 2009/31/EC on the geological storage of carbon dioxide, COM(2015) 576 final, Brussels, 18.11.2015, 16.
[33] European Commission, 'Global Climate Change Alliance+', http://www.gcca.eu
[34] European Commission, 'State of the Union 2016: Strengthening European Investments for jobs and growth', 14 September 2016, http://europa.eu/rapid/press-release_IP-16-3002_en.htm
[35] The EBRD is not an EU institution but includes as financing members the EU, EIB and EU Member States, as well as other countries from around the world. http://www.ebrd.com/shareholders-and-board-of-governors.html
[36] EBRD Climate Finance Global Partnerships: Accelerating the Response to Climate Change in 2015, European Bank for Reconstruction and Development, 2015, 3.
[37] Building an Evidence Base on Private Sector Engagement in Financing Climate Change Adaptation: Report prepared for EBRD, Vivid Economics, 7 May 2015, 6.
[38] Council of the European Union, Note: European climate diplomacy after COP21: Elements for continued climate diplomacy in 2016, 5853/16, 8 February 2016, p 3.
[39] Ibid, p 10.
[40] Ibid, p 11.

Europe's global influence.'[41] What happened next shows how this problem can be overcome. Following a concerted effort to fast-track ratification, the European Parliament approved ratification of the Paris Agreement in October 2016.[42] The fast-tracking of Paris ratification evinced EU determination to maintain a leading position on climate change in the post-Brexit environment.

Normative leadership on climate change

The EU has long been acknowledged as a global leader in shaping the norms and processes of climate response. This leadership has been built on the twin pillars of internal action to rein in greenhouse gas emissions and external action to negotiate robust frameworks and assist other nations in their own climate actions.

Within the UN climate negotiations themselves, the acknowledged leadership position of the EU in climate policy was the result of hard work and by no means inevitable. Indeed, early policy statements were quite cautious. In a 1988 Communication to the Council, the Commission stated: 'Reduction of greenhouse gas concentrations does not seem at this stage a realistic objective but could be a very long-term goal'.[43] Nevertheless, within two years the EU supported mandatory limits on emissions for developed countries, with the goal of capping emissions by 2000 at 1990 levels.[44] The EU built its reputation as a climate leader in the years following the entry into force of the UNFCCC through forging negotiating coalitions with developing countries, as described elsewhere in this report. Indeed, The building of coalitions for climate action has played to what one workshop participant identified as 'the strength of the EU' – normative power centred on social justice. The EU maintained a leading position in the pre-Paris negotiation, for example becoming the first major economy to submit its Intended Nationally Determined Contribution to the UNFCCC Secretariat in March 2015.[45]

This tradition of active and ambitious diplomacy on climate change has been made possible by the EU's adoption of comparatively forward-leaning climate regulation and by the development of substantial sustainable energy markets. This success is built on the unique nature of the EU as a supranational project. For example, the existence of the Single Market has itself incentivized the EU's private sector play a constructive role in the development of a 'regulatory level playing field across

[41] European Commission, 'State of the Union Address 2016: Towards a better Europe - a Europe that protects, empowers and defends', 14 September 2016, http://europa.eu/rapid/press-release_SPEECH-16-3043_en.htm
[42] European Commission, 'Paris Agreement to enter into force as EU agrees ratification', 4 October 2016, http://ec.europa.eu/clima/news/articles/news_2016100401_en.htm
[43] Commission of the European Communities, 'The Greenhouse Effect and the Community', Communication to the Council, Commission Work Programme Concerning the Evaluation of Policy Options to Deal with the 'Greenhouse Effect', COM (88) 656 final, 16 November 1988 (Brussels: CEC) 44.
[44] Falkner R, *Business Power and Conflict in International Environmental Politics* (Palgrave Macmillan 2008) 105.

[45] 'The Road from Paris: assessing the implications of the Paris Agreement and accompanying the proposal for a Council decision on the signing, on behalf of the European Union, of the Paris agreement adopted under the United Nations Framework Convention on Climate Change', Communication from the Commission to the European Parliament and the Council, Brussels, 2.3.2016, COM(2016) 110 final, 2.

the EU' climate change.[46] Similarly, the EU 2030 climate framework, while imperfect, is acknowledged as 'the only climate deal of its kind, where so many member states can come together and agree on a common policy'.[47]

This model of collective action has enabled the EU to pursue innovative climate policy initiatives on a vast scale. Perhaps the preeminent example is the EU Emissions Trading System (ETS). The EU ETS has accounted for three quarters of global carbon trading volume and turnover.[48] According to a recent study by the Korea-based Global Green Growth Institute, '[t]he experience of the EU-ETS has shown that the scheme has supported European firm's [sic] dominance of the global export of renewable energy products, thus maintaining Europe's supremacy in the production of renewable energy.'[49] The EU ETS has suffered from well-publicised problems, which policymakers have attempted to address with each subsequent iteration of the scheme. Most recently, the Commission has introduced a proposal to revise the ETS to make it fit-for-purpose for the 2030 climate goals.[50] Despite its shortcomings, however, the EU ETS has been recognised as an important model for climate policy and nations including China and the Republic of Korea have sought EU cooperation in the development of emissions trading systems in their jurisdictions.[51] The EU Global Strategy identifies a need to 'become more joined up across our external policies, between Member States and EU institutions, and between the internal and external dimensions of our policies', while noting that this holds particular relevance for implementation of the Sustainable Development Goals.[52] Internal expertise and experience with climate policies and markets is already an important enabler of EU external action in this field. The recent ETS cooperation agreements with Korea and China point to a scalable model of bilateral cooperation based on EU climate policy expertise.

As a result of its climate policies, the EU has become a world leader in climate mitigation and the production of sustainable energy. Since 1990, the EU's economy has grown by 46 percent while emissions (excluding LULUCF and including international aviation) fell by 23 percent – the world's most dramatic decoupling of economic activity from climate change-causing emissions. During the

[46] Falkner R, *Business Power and Conflict in International Environmental Politics* (Palgrave Macmillan 2008) 126.

[47] Billingham C, 'Can Europe Lead the Way?' in Ed Wallis (ed), *Bringing it Home: Making a global deal on climate change a reality* (The Fabian Society/FEPS 2015) 32.

[48] 'Establishing China's Green Financial System: Report of the Green Finance Task Force' (Research Bureau of the People's Bank of China/UNEP 2015) 10.

[49] GGGI, 'Korea's Green Growth Experience: Process, Outcomes and Lessons Learned' (Global Green Growth Institute 2015) 69.

[50] 'The Road from Paris: assessing the implications of the Paris Agreement and accompanying the proposal for a Council decision on the signing, on behalf of the European Union, of the Paris agreement adopted under the United Nations Framework Convention on Climate Change', Communication from the Commission to the European Parliament and the Council, Brussels, 2.3.2016, COM(2016) 110 final, 9.

[51] European Commission, 'EU launches €3.5 million emissions trading cooperation project with Korea', 8 July 2016, http://ec.europa.eu/clima/news/articles/news_2016070801_en.htm; European Commission, 'EU steps up cooperation on emissions trading with China: new €10 million project announced', 28 June 2016, http://ec.europa.eu/clima/news/articles/news_2016062801_en.htm

[52] European Union, Shared Vision, Common Action: A Stronger Europe, A Global Strategy for the European Union's Foreign And Security Policy, June 2016, 11.

same period, EU GHG intensity almost halved.[53] In 2014, emissions covered by the 2020 Climate and Energy Package 'were 23% below the 1990 level and decreased by 4 % compared to 2013'.[54] Also since 1990, carbon intensity of energy supply across European OECD members has fallen by fourteen percent - the largest reduction of any region.[55]

The renewable share of EU total power capacity has increased from 24 percent in 2000 to 44 percent in 2015, making renewables the EU's leading electricity source.[56] In 2015, '[r]enewables accounted for the majority (77%) of new EU generating capacity for the eighth consecutive year, and the region continued to decommission more capacity from conventional sources than it installed'.[57] Over ninety percent of installed offshore wind energy capacity is in Europe.[58] Clearly, the EU is already a renewable energy superpower.

The development of sustainable energy in the EU has enjoyed strong support from public finance. The European Investment Bank (EIB) issued the first green bond in 2007[59] and has over $17 billion in green bonds, making it the largest single issuer globally, both in aggregate and during the years 2014 and 2015.[60] The EIB has pledged to allocate a minimum of 25% of overall lending to climate-related investments, amounting to €19 billion in 2014.[61] The EIB currently has over $15 billion in labelled green bonds outstanding.[62] More broadly, 'Western Europe is the largest region for labelled green bond issuance accounting for over 40%'.[63]

In short, the strengths of EU diplomacy – normative leadership and deep programmatic, personnel and financial resources – are particularly apt to contribute to an implementation or 'action' phase, which climate and sustainable energy diplomacy has entered following the Paris conference. The constraints on EU diplomacy – lack of speed and negotiating agility – are less likely to be significant drawbacks on this implementation phase, with the overarching political framework of the Paris Agreement having already been adopted. During the June workshop, one participant in the Paris

[53] European Commission, Climate action progress report, including the report on the functioning of the European carbon market and the report on the review of Directive 2009/31/EC on the geological storage of carbon dioxide, COM(2015) 576 final, Brussels, 18.11.2015, 5.

[54] Ibid, 4.
[55] Track the energy transition: Where we are, how we got here, and where we need to be, International Energy Agency, Paris, December 2015, 6.
[56] 'Renewables 2016: Global Status Report' (REN21 2016) 33.
[57] Ibid.
[58] UNEP (2016) Green Energy Choices: The benefits, risks and trade-offs of low-carbon technologies for electricity production. Report of the International Resource Panel. E. G. Hertwich, et al, (eds.) p 208.
[59] Zhang Chenghui, et al, 'Synthesis', in 'Greening China's Financial System', International Institute for Sustainable Development/ Development Research Center of the State Council (2015) p 16.
[60] 'Bonds and Climate Change: The State of the Market in 2016 - a $694bn Climate-Aligned Bond Universe' (Climate Bonds Initiative/HSBC 2016), 6.
[61] McDaniels J and others, 'Building a Sustainable Financial System in the European Union: The Five "R"s of Market and Policy Innovation for the Green Transition' (UNEP 2016) Inquiry: Design of a Sustainable Financial System, 18.

[62] 'Bonds and Climate Change: The State of the Market in 2016 - a $694bn Climate-Aligned Bond Universe' (Climate Bonds Initiative/HSBC 2016), 12.
[63] Ibid, 15.

negotiation observed that the incoming task for EU diplomacy is to support Paris Agreement implementation and that enhancing focus on technology can enable the EU 'to be more specific in terms of how we can help countries'.

Policy framework

2030 energy and climate framework:

The EU adopted its first package of climate and energy policies in 2008, setting targets for 2020. A subsequent EU framework, to govern climate change and energy policy for the period 2020-2030, was agreed in late 2014. The 2014 package was developed after years of economic and financial crisis.[64] The 2030 Framework for Climate and Energy was adopted at the October 2014 European Council.[65] The EU's 2030 targets include at least a forty percent reduction in GHG emissions on a 1990 baseline, an increase of renewable energy to at least 27 percent of gross final energy consumption and improved energy efficiency by at least 27 percent compared to current projections (to be reviewed in 2020 with regard to a thirty percent target). The forty percent emission reduction target is reproduced in the EU's Intended Nationally Determined Contribution (INDC) under the UNFCCC.[66]

The Commission has found that current policies are insufficient to meet the 2030 target of forty percent emissions reductions, and has therefore proposed a revised EU ETS Directive and additional legislation.[67] The Framework increases the mandated emissions reductions under the ETS (which includes the energy sector and industry) to 43 percent, compared to the 2020 target of 21 percent, and increases the mandated emissions reductions from sources not covered by the ETS, such as road transport, housing and agriculture, to thirty percent as compared to the 2020 target of ten percent. The 2008 financial crisis contributed to a 'huge' drop in demand for EU ETS credits, causing the price of permits to plunge and remain low.[68] However, researchers have found that the EU ETS 'has increased low-carbon innovation among regulated firms by as much as 10%, while not crowding out patenting for other technologies'.[69] The revised EU ETS Directive maintains that at least half of the EU

[64] European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A policy framework for climate and energy in the period from 2020 to 2030, COM(2014) 15 final, Brussels, 22.1.2014, 2.
[65] European Council, Conclusions - 23/24 October 2014, EUCO 169/14, Brussels, 24 October 2014.
[66] SUBMISSION BY LATVIA AND THE EUROPEAN COMMISSION ON BEHALF OF THE EUROPEAN UNION AND ITS MEMBER STATES, Riga, 6 March 2015, http://www4.unfccc.int/submissions/INDC/Published%20Documents/Latvia/1/LV-03-06-EU%20INDC.pdf
[67] European Commission, Climate action progress report, including the report on the functioning of the European carbon market and the report on the review of Directive 2009/31/EC on the geological storage of carbon dioxide, COM(2015) 576 final, Brussels, 18.11.2015, 10.

[68] Alex Bowen, Chris Duffy and Sam Fankhauser, ''Green growth' and the new Industrial Revolution', Policy brief, Grantham Research Institute on Climate Change and the Environment/Global Green Growth Institute, January 2016, 9.
[69] Calel, R. and Dechezleprêtre, A., 2014. Environmental policy and directed technological change: Evidence from the European carbon market. The Review of Economics and Statistics, March 2016, 98(1): 173

ETS auctioning revenues are to be used for 'climate and energy related purposes'.[70] It has been estimated that the EU ETS will raise over €150 billion in the ten years to 2025.[71]

As a workshop participant stated, it is politically important for the energy transition in the EU to demonstrate that climate mitigation is not 'just a philanthropic exercise' but that it can also be an important driver of jobs and growth.[72] The Commission has estimated that approximately 9 million jobs in 2014 'were linked to the transition to a low carbon economy', with about 18 million such jobs expected by 2030.[73] In addition, there is evidence that 61 percent of 'knowledge spillovers' from EU low-carbon innovation are captured within the EU - a considerable benefit additional to the mitigation of climate change.[74] However, many continue to see renewable energy as a cost instead of 'a major business opportunity' that can also make the life of many people better. Plainly, there is scope for further policy elaboration that would address such perceptions. A recent workshop found that '[f]ew concrete plans exist on how to achieve a deep transformation of the [EU] energy system' beyond 2040, potentially resulting in challenges to the achievement of long-term decarbonization.[75]

Energy Union:

The present Juncker Commission has prioritized energy, with the Energy Union portfolio held at vice-president level and a commissioner for climate change and energy.[76] In February 2015, the Commission launched its Energy Union package. Originally proposed in 2010,[77] the Energy Union

[70] European Commission, 'Auctioning', http://ec.europa.eu/clima/policies/ets/auctioning/index_en.htm

[71] 'In the longer term, with carbon pricing applied more widely across the European economies and the price of carbon rising, the revenues are likely to be higher still'. Bowen A, Carbon pricing: how best to use the revenue?, Policy brief, Grantham Research Institute on Climate Change and the Environment/Global Green Growth Institute, November 2015, 5.

[72] Such a stance may necessitate a deeper reconsideration of industrial policies. Research from IRENA indicates that while overall global employment in the renewable energy industry has continued to grow, in Europe renewable energy employment contracted in 2014 for the fourth year in a row. According to the report, 'economic crises and adverse policy conditions led to reduced investments'. IRENA, 'Renewable Energy and Jobs - Annual Review 2016' (International Renewable Energy Agency 2016) 14.

[73] European Commission, 'Speech of Vice-President Šefčovič at FEPS event "The new social contract: A fair transition" – Launch of the report and discussion', 29 September 2016, http://europa.eu/rapid/press-release_SPEECH-16-3241_en.htm

[74] Antoine Dechezleprêtre, Ralf Martin and Samuela Bass, Climate change policy, innovation and growth, Policy brief, Grantham Research Institute on Climate Change and the Environment/Global Green Growth Institute, January 2016, 15.

[75] Pinar Akcayoz De Neve, et al, 'Climate Strategies Post-COP21 and Sustainable Economies in Europe: Post-Workshop Report', Environment and Natural Resources Program, Belfer Center for Science and International Affairs, Harvard Kennedy School, August 2016, p 3, http://belfercenter.ksg.harvard.edu/publication/26896/climate_strategies_postcop21_and_sustainable_economies_in_europe.html

[76] Arrowsmith G and Billingham C, 'Energy Union: New Energy for the EU' (Foundation for European Progressive Studies 2015) FEPS Studies, 8.

[77] Andoura S, Hancher L and Van der Woude M (2010) Notre Europe 'Towards a European Energy Community: A Policy Proposal' 11 March 2010 http://www.delorsinstitute.eu/011-2155- Towards-a-European-Energy-Community-A-Policy-Proposal.html

initiative responds to long-acknowledged challenges of inadequate connections between EU energy markets, diverse national regulatory frameworks and a high (and rising) dependence on energy imports.[78]

The Energy Union strategy has five dimensions: Energy security, solidarity and trust; A fully integrated European energy market; Energy efficiency contributing to moderation of demand; Decarbonising the economy; and Research, Innovation and Competitiveness.[79] The energy efficiency work program includes increasing energy efficiency in buildings and decarbonizing transport. The 'decarbonising the economy' dimension includes the EU climate policy and 'becoming the world leader in renewable energy'.[80] The Energy Union is being implemented through a fifteen-point plan of action.[81]

2016 has been the Year of Delivery for the Energy Union. During this year, the Commission has presented the Security of Supply package and adopted an Effort Sharing Regulation on 2030 emission reduction targets and a strategy on low-emission mobility. Further steps will include revision of the Energy Efficiency Directive, the Energy Performance of Buildings Directive and the Renewable Energy Directive and a proposal on Energy Union governance.[82] In November 2016, the Commission is due to release an 'integrated research, innovation and competitiveness strategy for the Energy Union'.[83]

Finance for climate and energy policies:

Climate measures have become a leading funding priority for the EU, which has agreed to spend at least twenty percent of the 2014-2020 budget (up to €180 billion) on 'climate change-related action'.[84] The EU Investment Plan for Europe was launched in late 2014 in order to mobilize €315 billion in investments over 2015-17, including through the European Fund for Strategic Investment (EFSI), which targets strategic sectors including renewable energy. By January 2016, over half of approved EFSI projects were in 'sustainability-related areas'.[85] Thirteen out of 64 approved EFSI

[78] McNeil C, 'Running on Empty: Why the UK Needs Europe for More Affordable and Secure Energy' (IPPR/FEPS 2013).

[79] European Commission, Energy Union Package: A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy, COM(2015) 80 final, Brussels, 25.2.2015, p. 4.
[80] Ibid, p. 15.
[81] Ibid, pp. 19-21.
[82] European Commission, 'Speech of Vice-President Šefčovič at the Inter-Parliamentary Meeting of the European Forum for Renewable Energy Sources (EUFORES)', 7 October 2016, http://europa.eu/rapid/press-release_SPEECH-16-3342_en.htm
[83] European Commission, 'European Union joins Mission Innovation, a global initiative on clean energy', 3 June 2016, http://europa.eu/rapid/press-release_IP-16-2063_en.htm
[84] European Commission, 'Supporting climate action through the EU budget', http://ec.europa.eu/clima/policies/budget/index_en.htm
[85] McDaniels J and others, 'Building a Sustainable Financial System in the European Union: The Five "R"s of Market and Policy Innovation for the Green Transition' (UNEP 2016) Inquiry: Design of a Sustainable Financial System, 15.

projects have been renewable energy projects.[86] In his 2016 State of the Union address, Commission President Juncker announced that the EFSI would be extended from its initial scope of €315 billion during 2015-2018 to at least half a trillion euros by 2020.[87] The Commission has also stated that 'EFSI 2.0 will put the focus on financing more cross-border and sustainable projects, linking the EFSI to the ambitious targets from COP21 climate deal'.[88]

In the context of climate technology, EU investment in RD&D has been a particular strength. The UNFCCC Technology Executive Committee has observed that the EU's Horizon 2020 program 'is an example of a regional research and innovation (R&I) programme that supports companies, in particular, innovative small- and medium-sized enterprises, and other types of organizations engaged in R&I, including by helping to gain access, via financial instruments, to risk capital, including loans, guarantees, counter-guarantees and hybrid, mezzanine and equity finance.'[89]

EU Global Strategy:

In June 2016, Commission Vice-President and High Representative Francesca Mogherini unveiled the Global Strategy for European Foreign and Security Policy. The Global Strategy has been developed to better marshall the resources of the EU and Member States to advance shared EU values and interests and to respond to global challenges. The Global Strategy identifies five priorities for EU external action. The first priority, 'The Security of Our Union', includes the element of 'Energy Security', nominating the Energy Union as 'an integrated effort to work on the internal and external dimensions of European energy security'.[90]

Another priority for external action is 'Global Governance for the 21st Century': 'The EU is committed to a global order based on international law, which ensures human rights, sustainable development and lasting access to the global commons. This commitment translates into an aspiration to transform rather than to simply preserve the existing system. The EU will strive for a strong UN as the bedrock of the multilateral rules-based order, and develop globally coordinated responses with international and regional organisations, states and non-state actors.'[91] Under this broad priority, the Global Strategy addresses climate change: 'The EU will lead by example by implementing its commitments on sustainable development and climate change. It will increase climate financing, drive climate mainstreaming in multilateral fora, raise the ambition for review foreseen in the Paris agreement, and work for clean energy cost reductions.'[92] Additionally on energy, the strategy

[86] European Commission, 'European Union joins Mission Innovation, a global initiative on clean energy', 3 June 2016, http://europa.eu/rapid/press-release_IP-16-2063_en.htm
[87] European Commission, 'State of the Union Address 2016: Towards a better Europe - a Europe that protects, empowers and defends', 14 September 2016, http://europa.eu/rapid/press-release_SPEECH-16-3043_en.htm
[88] European Commission, 'State of the Union 2016: Strengthening European Investments for jobs and growth', 14 September 2016, http://europa.eu/rapid/press-release_IP-16-3002_en.htm
[89] Technology Executive Committee, TEC Brief #6, Enhancing Access to Climate Technology Financing, UNFCCC, November 2015, 5.
[90] European Union, Shared Vision, Common Action: A Stronger Europe, A Global Strategy for the European Union's Foreign And Security Policy, June 2016, 22.
[91] Ibid, 10.
[92] Ibid, 40.

commits the EU to 'encourage multilateral mechanisms aimed at ensuring sustainable energy patterns both by developing our own sustainable policies and by deepening dialogue with major energy consumers and producers'.[93]

The Strategy's commitment to fostering resilience in partners is also directly relevant to climate change, particularly concerning technology for adaptation and sustainable energy in developing partners. The Strategy commits the EU to ''enhance energy and environmental resilience. Energy transition is one of the major challenges in our surrounding regions, but must be properly managed to avoid fuelling social tensions. Climate change and environmental degradation exacerbate potential conflict, in light of their impact on desertification, land degradation, and water and food scarcity … [E]nergy and environmental sector reform policies can assist partner countries along a path of energy transition and climate action. Through such efforts, we will encourage energy liberalisation, the development of renewables, better regulation and technological transfers, alongside climate change mitigation and adaptation.'[94]

Finally, the Global Strategy commits the EU to 'promote and support cooperative regional orders worldwide', including through support for regional organizations. The strategy notes that 'cooperative regional orders' are not just the work of multilateral organizations but 'comprise a mix of bilateral, sub-regional, regional and inter-regional relations'.[95] Inter-regional trade, including 'the goal of an eventual EU-ASEAN agreement', is nominated as an important component of this agenda.[96] The EU has developed programmes for climate cooperation with other regional orders, such as ASEAN,[97] as well as with the Eastern Neighbourhood Partnership Countries and Russia.[98] The October 2016 agreement to establish a dialogue between ASEAN and EU officials in 2017 on sustainable development to promote cooperation on the 2030 Agenda and the Paris Agreement is a positive step in deepening inter-regional cooperation.[99]

The Foreign Affairs Council of the EU welcomed the Global Strategy at its July meeting. The High Representative has stated that she intends to present an implementation framework with processes and timelines in Autumn 2016.[100]

[93] Ibid, 42-43.
[94] Ibid, 27.
[95] Ibid, 32.
[96] Ibid, 38.
[97] Sustain EU-ASEAN, https://sustain-eu-asean.net
[98] Clima East, http://www.climaeast.eu
[99] Bangkok Declaration on Promoting an ASEAN-EU Global Partnership for Shared Strategic Goals at the 21st ASEAN-EU Ministerial Meeting (AEMM), Bangkok, Kingdom of Thailand, 13-14 October 2016, par. 16. https://eeas.europa.eu/headquarters/headquarters-homepage/12024/bangkok-declaration-on--promoting-an-asean-eu-global-partnership-for-shared-strategic-goals-_en
[100] Council of the European Union, Foreign Affairs, Outcome of the Meeting, 11355/16, Brussels, 18 July 2016, p. 6.

Current challenges

Proliferation of international processes

The number of international tracks through which climate and sustainable energy policy are pursued have multiplied in recent years, in particular following the failure of the 2009 Copenhagen conference to adopt a comprehensive new agreement under the UNFCCC.[101] For many countries with smaller diplomatic services, this proliferation of negotiating tracks presents a problem of resources. For the EU, it has presented problems of coordination. In 2014, the European Commission noted that 'climate action has been fragmented and customised to specific economic conditions', with the '"bottom up" nature of the Copenhagen-Cancun pledging process ... a significant, although inadequate, step forward towards a more inclusive regime'.[102] As international processes have multiplied, relevant institutions have turned to networking and collaboration as a countervailing force to fragmentation. For example, IRENA is pursuing 'strategic partnerships', serving as the Renewable Energy Hub within SE4ALL and processes such as the Clean Energy Ministerial (CEM), G7 and G20, The World Future Energy Summit and the Africa Renewable Energy Initiative.[103]

Stimulating technology transfer, development and uptake

It is broadly accepted that technology is crucial to the mitigation of climate change, in the form of low emissions energy including renewables, energy efficiency, and other technological interventions that reduce, prevent or replace greenhouse gas emitting processes. Technology is also important to adaptation to the effects of climate change. When it comes to the present and future transnational regulation of climate change technology, the following intertwined developments of the past two decades exert shaping influence: broadening understanding of climate change technology to encompass processes of mitigation and adaptation beyond just the 'hardware' of clean energy; the increasing sophistication and effectiveness of climate change technologies; increasing competitiveness of climate change technologies such as certain forms of clean energy, as against incumbent, fossil fuel intensive technologies; proliferation of models and sources for financing climate change technology; and the broad distribution of climate change technology and finance across jurisdictions and as between public and private actors.

The centrality of energy to the global climate response is reflected in the fact that 99 percent of INDCs make mention of it (followed by waste at 75 percent).[104] The UN's synthesis report of national INDCs identifies several common '[p]riority areas for future implementation'. These include

[101] van Asselt H, 'Alongside the UNFCCC: Complementary Venues for Climate Action' (Centre for Climate and Energy Solutions 2014).

[102] European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A policy framework for climate and energy in the period from 2020 to 2030, COM(2014) 15 final, Brussels, 22.1.2014, 17.

[103] IRENA, 'Work Programme and Budget for 2016-2017: Report of the Director-General', A/6/4, 17 January 2016, 5.

[104] UNFCCC, Aggregate effect of the intended nationally determined contributions: an update, Synthesis report by the secretariat, FCCC/CP/2016/2, 2 May 2016, p 32.

renewable energy, using policies such as renewable energy targets, feed-in tariffs, investment programmes and the improvement of the grid infrastructure, and energy efficiency, including through the use of smart grids, energy efficiency standards and other policies.[105] Both renewable energy and energy efficiency were highlighted in 'many' INDCs. Renewables actions included feed-in tariffs, investment programmes and grid infrastructure upgrades. Energy efficiency actions included smart grids and energy conservation standards. 'A few' countries opted to include quantified renewable energy targets.[106]

Renewable energy:

Renewable energy refers to forms of energy that are generated without depleting finite resources, notably fossil fuels but more controversially also water. Renewables are used in four different markets: 'power generation, heating and cooling, transport, and rural/off-grid energy services'.[107] Annual investment in new renewable energy capacity increased from $39.5 billion in 2004 to $214.4 billion by the end of 2013. Over the same period, renewable power capacity excluding large hydro increase from 85 GW to 560 GB, compared with a much more modest increase in total global power generation capacity of 3800 GW to 5800 GW.[108] Investment in renewables in 2014 was over five times the amount of a decade previously.[109] Renewable energy capacity has increased by around one third over five years,[110] there was record investment in renewables in 2015,[111] with investment in renewable power capacity more than double the money spent on new coal and gas generation, and renewable power generation costs are falling. 2015 also saw the largest ever annual increase of renewable power capacity, some 147 GW.[112]

Energy efficiency:

As was observed during the workshop, technology is not just about production and distribution but also includes technologies for more efficient consumption. Technologies which increase the efficiency of the use of fossil fuel based energies also contribute to the mitigation of climate change, by reducing the amount of a given energy source required to generate a given output, e.g. electricity or more broadly, units of GDP. There remains vast untapped potential for investments in energy efficiency to contribute to mitigation of climate change. Dubbed the 'first fuel' by the IEA, the

[105] Ibid, par. 157-158.
[106] UNFCCC, Synthesis report on the aggregate effect of the intended nationally determined contributions: Note by the secretariat, FCCC/CP/2015/7, 30 October 2015, http://unfccc.int/resource/docs/2015/cop21/eng/07.pdf
[107] REN21. 2015. Renewables 2015 Global Status Report (Paris: REN21 Secretariat) 27.
[108] Lins C, et al, 'The First Decade, 2004-2014: 10 Years of Renewable Energy Progress' (REN21 2014) 8.
[109] IRENA, 'Work Programme and Budget for 2016-2017: Report of the Director-General', A/6/4, 17 January 2016, 3.
[110] IRENA, 'Renewable energy breaks growth record in 2015', 10 April 2016, https://irenanewsroom.org/2016/04/10/renewable-energy-breaks-growth-record-in-2015/
[111] 'Global Trends in Renewable Energy Investment 2016', March 2016, http://fs-unep-centre.org/publications/global-trends-renewable-energy-investment-2016
[112] 'Renewables 2016: Global Status Report' (REN21 2016) 17.

amount of energy use ordered by OECD nations investments in energy efficiency between 1974 and 2010 exceeded the demand met by another energy resource.[113] As a previous FEPS report has argued: 'Energy efficiency should be seen as a major priority: it offers the opportunity to address all of Europe's energy challenges at once.'[114]

Innovation and RD&D:

The centrality of technology may be seen as a particular challenge to the role of the EU, as a great deal of European innovation capacity is at Member State level.[115] 'Innovation' is perhaps no easier to define than 'technology'. One formulation which IRENA has employed refers to 'novel technology or improved goods, services or alternatives to produce goods and services'.[116] Carlsson and Stankiewicz have argued that these processes are better conceived as technological innovation systems rather than standalone inventions or even research, development and demonstration (RD&D) divorced from its systemic context.[117] At each stage of the innovation ecosystem, from research and development to demonstration market development to commercial diffusion, regulatory environment is crucial: 'The regulatory conditions under which innovation takes place are of central importance These conditions are specific to the technology in focus and the specific market in which these products compete'.[118] Climate technology cannot be thought of in isolation from its enabling environment. Implementation of climate technology plans will rely upon the availability of 'skilled personnel' and supporting infrastructure.[119] More broadly, a country's 'national system of innovation', encompassing actors, institutional context and linkages between these, plays an important part in determining technological capacity.[120] Support for the development of climate

[113] 'Capturing the Multiple Benefits of Energy Efficiency' (International Energy Agency 2014) OECD/IEA, 18.

[114] Arrowsmith G and Billingham C, 'Energy Union: New Energy for the EU' (Foundation for European Progressive Studies 2015) FEPS Studies, 19.

[115] Pinar Akcayoz De Neve, et al, 'Climate Strategies Post-COP21 and Sustainable Economies in Europe: Post-Workshop Report', Environment and Natural Resources Program, Belfer Center for Science and International Affairs, Harvard Kennedy School, August 2016, pp 6-7. http://belfercenter.ksg.harvard.edu/publication/26896/climate_strategies_postcop21_and_sustainable_economies_in_europe.html

[116] Ayuso M, Boshell F and Roesch R, 'RD&D for Renewable Energy Technologies: Cooperation in Latin America and the Caribbean' (International Renewable Energy Agency 2015) 7.

[117] Bo Carlsson and Rikard Stankieqicz, 'On the Nature, Function, and Composition of Technological Systems', in Carlsson, ed., *Technological Systems and Economic Performance: The Case of Factory Automation* (Kluwer Academic Publishers 1995), cited in Gallagher KS, *The Globalization of Clean Energy Technology: Lessons from China* (The MIT Press 2014) 17.

[118] Ayuso M, Boshell F and Roesch R, 'RD&D for Renewable Energy Technologies: Cooperation in Latin America and the Caribbean' (International Renewable Energy Agency 2015) 7-8.

[119] Technology Executive Committee, 'TEC Brief : Using Roadmapping to Facilitate the Planning and Implementation of Technologies for Mitigation and Adaptation' (UNFCCC 2013) 7.

[120] Technology Executive Committee, 'Strengthening National Systems of Innovation to Enhance Action on Climate Change', TEC Brief #7, UNFCCC, November 2015.

technology innovation policy frameworks would therefore by a particularly valuable intervention.[121] The latest global snapshot of national climate policy plans discloses significant focus on climate technology. Climate technology features prominently in the synthesis report of Intended Nationally Determined Contributions.

The increasing relative importance of large emerging economies

As the European Commission has acknowledged, in the years since the adoption of the first EU climate package in 2008 '[t]here has been a decisive shift in the centre of gravity of global energy demand towards emerging economies, notably China and India'.[122] This emergent centrality of developing countries, and in particular large emerging markets, can be tracked through various measures during the currency of the UNFCCC. This transition is illustrated by the figures on global financing of renewable energy. In 2015, Europe's new financing for renewables stood at $48.8 billion - a 21 percent decline from 2014.[123] In contrast, financing from China has increased by seventeen percent to $102.9 billion and the total developing world figure was $156 billion, up nineteen percent from 2014. The changes over a decade are even more dramatic. In 2004, Europe's $24.8 billion in finance for renewables represented 53 percent of the global total, and China's $3 billion accounted for six percent. In 2015, Europe represented seventeen percent of the global total (slightly exceeding the United States' share), while China accounted for 36 percent. From 2004 to 2015, Europe's financing for renewables had almost doubled - and developing world financing had been multiplied by seventeen.[124] The broadening of solar PV installations across Latin America, Africa and the Middle East is one example of the diffusion of climate technology to developing countries.[125] It remains to be seen whether the centrality of developed nations, driven by policy and commercial imperatives, will be buttressed by the new international institutions of the large emerging economies.[126]

Within the developing world, the largest concentration of activity is in Asia. The region of East Asia has become both the largest producer and consumer of renewable energy and the largest investor in renewable technology.[127] East Asia has become particularly increasingly important to the

[121] Technology Executive Committee, 'Enhancing Access to Climate Technology Financing', TEC Brief #6, UNFCCC, November 2015, p. 7.
[122] European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A policy framework for climate and energy in the period from 2020 to 2030, COM(2014) 15 final, Brussels, 22.1.2014, 2.
[123] The slowdown of investment has been partly attributed to the 'relatively high penetrations' of renewables in the EU. 'Renewables 2016: Global Status Report' (REN21 2016) 30.
[124] Frankfurt School-UNEP Centre/BNEF. 2016. Global Trends in Renewable Energy Investment 2016, http://www.fs-unep-centre.org (Frankfurt am Main), 14.
[125] REN21. 2015. Renewables 2015 Global Status Report (Paris: REN21 Secretariat) 21.

[126] These include the recent creation of BRICS New Development Bank and the Asian Infrastructure Investment Bank, both of which announced intentions from client technology. An additional institutional factor may be implementation of China's One Belt, One Road trade initiative. Vassilis Ntousas, 'Back to the Future: China's 'One Belt, One Road' Initiative', FEPS Policy Brief, Foundation for European Progressive Studies, March 2016, http://www.feps-europe.eu/assets/6b12aa95-9d47-466f-a791-fa02a5d5c7d3/backtothefuture-feps-policybriefpdf.pdf
[127] REN21. 2015. Renewables 2015 Global Status Report (Paris: REN21 Secretariat) 21.

development of clean energy, with China and South Korea filing the most patents for biofuels, solar and wind energy in recent years.[128] In the green bond market, fully 36% of climate aligned bonds were issued by Chinese entities, followed by 16% from the United States. (From other emerging markets, South Korea issued 3% and India and the Russian Federation each accounted for 2%).[129] It has been estimated that Asia's financial system will, over the next fifteen years, become twice as large as the financial systems of the United States and Europe combined.[130]

China dominates developing country activity in climate technology markets to a degree that has no parallel in the developed world. China's unique prominence is a result of its scale, its political economy and its peculiar mixture of centralized planning and regional and business entrepreneurialism. In 2014, China alone represented an estimated eighty per cent of the global market for solar water collectors.[131] In 2013, China surpassed Europe for the first time in the installation of solar PV capacity.[132]

Of course, economic growth and development for the '88 percent of the world's population who live outside the West' can only be welcomed.[133] But as the European Commission has warned, '[w]hereas the EU is at present a global leader for low carbon technologies, other major and fast growing economies have singled out a strategic interest to compete in these new markets.'[134] The challenge for the EU is to find ways to continue to play a leading role in the development of climate technology and sustainable energy while commanding a smaller share of global markets that are being transformed by the large emerging economies.

[128] WIPO, 'Renewable Energy: New Study Shows Patenting Growth', 11 June 2014, http://www.wipo.int/pressroom/en/stories/green_tech.html

[129] Bonds and Climate Change: The State of the Market in 2016 - a $694bn Climate-Aligned Bond Universe' (Climate Bonds Initiative/HSBC 2016) 15.

[130] 'Aligning the Financial Systems in the Asia Pacific Region to Sustainable Development: Asia-Pacific High-Level Consultation on Financing for Development' (UNEP 2015) Inquiry: Design of a Sustainable Financial System, 19.

[131] REN21. 2015. Renewables 2015 Global Status Report (Paris: REN21 Secretariat) 22.

[132] UNEP (2016) Green Energy Choices: The benefits, risks and trade-offs of low-carbon technologies for electricity production. Report of the International Resource Panel. E. G. Hertwich, et al, (eds.) p 310.

[133] Mahbubani K, *The Great Convergence: Asia, the West, and the Logic of One World* (Public Affairs 2013) 11-12.

[134] European Commission, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: A policy framework for climate and energy in the period from 2020 to 2030, COM(2014) 15 final, Brussels, 22.1.2014, 17-18.

Climate diplomacy and progressive politics

The contribution of progressive politics to climate diplomacy

Progressive political movements have had a large impact on climate policy in the last decades.[135] Within the climate context, 'progressive' can refer to both a generically centre-left or centrist political stance and to ambitious policy to mitigate and adapt to climate change. One workshop participant argued that the issue of 'social justice' links these two definitions of 'progressive' and provides a shared normative agenda. Similarly, another participant urged progressives to approach climate change in a like way to issues that progressive parties have 'addressed successfully', using the notions of solidarity and justice. However, it was also observed that 'the climate agenda blurs and redraws the traditional political divides'. Examples given include divestment from fossil fuels and the mobilization of private finance for climate action. As Nick Mabey has observed, '[c]limate politics may lack the clarity of debates between Leninist revolutionaries and democratic socialists in the early 20th century, but the sustainability problems of the 21st raise their own political fights about how best to drive necessary change.'[136] One concept that may be used to unite the agendas behind the two meanings of 'progressive' climate policy may be that of 'intergenerational solidarity', which, according to Louis Lemkow, is 'about framing our socio-environmental policies in terms of the welfare and wellbeing of future generations'.[137]

The EU's domestic and external commitment to social justice and solidarity has been an important contributor to the effectiveness of EU climate diplomacy. In particular, these principles have allowed the EU to make common cause with important subsets of the G77 and China negotiating group of developing countries, including the Least Developed Countries and Small Island Developing States. This coalition was particularly important to securing the 2011 Durban mandate to develop a 'protocol, another legal instrument or an agreed outcome with legal force' under the UNFCCC, applicable to all Parties, by no later than 2015, to come into effect and be implemented from 2020.[138] This diplomacy was reprised in 2015 to assemble a coalition of developing and developed countries to push for inclusion of a long-term goal, five-yearly reviews, common transparency rules and ambitious commitments on climate finance in the Paris deal. In December 2015, this grouping was unveiled as the 'High Ambition Coalition' and included the EU and 79 African, Caribbean and Pacific countries. The coalition was effective because it cut across traditional negotiating divides, for example including Brazil[139] from the BASIC group of large emerging economies and, eventually, the

[135] Climate Policy & Political Parties, 'Climate Policy and Political Parties Project, 2013-2015: Executive Summary', 9 October 2015, http://climatepolitics.eu/climate-policy-and-political-parties-project-2013-2015-executive-summary/

[136] Mabey N, 'Understanding "Success" in Paris' in Ed Wallis (ed), *Bringing it Home: Making a global deal on climate change a reality* (The Fabian Society/FEPS 2015) 23-24.

[137] Lemkow L, 'Intergenerational Solidarity, Sustainability and Climate Change' (2012) 2 *Queries* 64.

[138] Establishment of an Ad Hoc Working Group on the Durban Platform for Enhanced Action, Decision 1/CP.17, FCCC/CP/2011/9/Add.1, 15 March 2012, paragraphs 2, 4.

[139] European External Action Service, Opening session of the EU-Brazil climate change event: Clima, Somos Todos Responsáveis (03/11/2015), http://eeas.europa.eu/archives/delegations/brazil/press_corner/all_news/news/2015/20151101_04_en.htm

United States.[140] Following Paris, the 'High Ambition Coalition' has remained a feature of the climate diplomacy of the EU. In September, the EU joined with the Marshall Islands and Mexico under the rubric of the 'High Ambition Coalition' at the 2016 International Civil Aviation Organization (ICAO) Assembly to urge states to participate in the global market-based measure to control CO2 emissions from international aviation as soon as it begins.[141]

The contribution of European progressives to EU climate diplomacy

One of the key messages of the June workshop was that 'progressive political parties can make a difference'. A couple of presenters pointed to evidence of advances in climate and sustainable energy policy during the tenure of European progressives parties in government or in opposition, including as members of coalitions. The example of the Danish Social Democrats in government in the 1990s, expanding renewable energy, and in government again after 2011, adopting a voluntary 2020 emissions reduction target and introducing a Climate Act, was cited. Within coalitions, attention was drawn to the role of the German Social Democrats in 'grand coalition' governments following 2005. It was submitted that the party composition of Member State governments therefore has the potential to 'influence the leadership credentials of the European Union' concerning climate change. Concurrently, a challenge for progressive movements while in government is to embed ambitious climate action in the political mainstream, in order to minimize changes of government being accompanied by sharp policy regressions.

At the EU level, EU progressive parties engaged in unprecedented coordination ahead of the Paris climate conference to develop a united front for ambitious outcomes. This was the first time that the EU's progressive political family united to produce a manifesto for a UNFCCC COP. The PES through its structures, involving its member organisations which include the S&D Group, FEPS and the Committee of the Regions, developed a common position on the Paris negotiation.[142] According to a workshop participant, the purposes of this exercise were to 'to identify the objectives of the political family' and to 'express our support to the French presidency'.[143]

Concerning the former objective, it was acknowledged that climate change is sometimes not seen as a 'fundamental core policy' that progressive parties should address. Some assume that climate change is a 'problème de luxe' of interest only to the affluent. In fact, the effects of climate change fall disproportionately upon the poor, including in urban areas. The workshop heard that 'we have to focus on social justice to solve this contradiction' between perceptions of the climate issue and its

[140] European Commission, 'Historic climate deal in Paris: speech by Commissioner Miguel Arias Cañete at the press conference on the results of COP21 climate conference in Paris', 14 December 2015, http://europa.eu/rapid/press-release_SPEECH-15-6320_en.htm

[141] THE 39TH INTERNATIONAL CIVIL AVIATION ORGANISATION ASSEMBLY SECURING A MARKET-BASED MEASURE TO ACHIEVE CARBON NEUTRAL GROWTH FROM 2020, Joint Statement by the European Union, the Republic of the Marshall Islands and Mexico as participants in the High Ambition Coalition, 16 September 2016, http://ec.europa.eu/clima/news/docs/2016091601_letter_en.pdf

[142] Progressives4Climate, Our call for real action on climate change, '21 Progressive Proposals for COP21', http://www.socialistsanddemocrats.eu/progressives4climate

[143] It was recalled that 'not many were keen to host COP21 and we were glad that Hollande decided to do it. [It was] very symbolic for our [political] family'.

actual impacts. This political work may have important consequences for diplomacy. As another workshop participant observed, diplomats operate on the basis of implicit consent of citizens. 'The more legitimate the consent, the better'. The work of the PES and its national member parties to relate climate change to the concerns of their constituents may play a role in nudging the mandate of EU climate negotiators in the direction of greater ambition. Indeed, the interlinked 'trilemma' of carbon reduction, energy security, independence and energy affordability arguably makes the climate issue inseparable from the traditional core business of progressive parties.[144]

The conduct of conference diplomacy by the French Presidency of the Paris conference can also be considered 'progressive' in a couple of additional respects. First, it pursued a 'no surprises' policy. With the method of negotiation stated clearly throughout the year, through formal and informal sessions. During the crucial second week of the COP, Laurent Fabius, French Minister of Foreign Affairs and International Development devised a clear method and told parties clearly what he intended to do. 'Nobody was left behind', including through the workings of the coalitions of parties representing their members. The presidency showed itself to be impartial as between the parties. Second, the presidency pursued 'high ambition' outcomes rather than consensus at any cost. This resulted in 'taking risks but not sides'. In addition, the necessary 'refocusing of the climate finance agenda from the billions to the trillions' received a strong push from the French COP presidency. Early in 2015, COP president Fabius stated that 'it is essential that the financial system as a whole takes climate risk into account, anticipates ambitious targets and integrates this into investment decisions'.[145]

Opportunities to drive progressive outcomes through climate diplomacy

The workshop heard that the EU has an opportunity to build a 'strategic narrative' for Paris implementation that reflects progressive priorities, including how policies for implementation can create jobs and improve quality of life, including through tackling energy poverty.[146] Such a narrative would work to overcome the 'oppositional structure' of jobs/growth versus climate action that has long troubled climate policy. As Jonas Gahr Støre, Leader of the Norwegian Labour Party, recently wrote: 'As progressives, we should not see climate change as yet another issue, but rather a framework around all policies.' He continued: 'the answer is rooted in fairness and equity ... It is about setting our societies on a sustainable course by putting a true cost on carbon and other climate gases, and it is about offering incentives and investments that will produce new technologies and new knowledge.'[147]

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[144] Stetter E, 'Introduction – Towards a Progressive European Energy System' in Charlotte Billingham (ed), *Solidarity: Towards 2030 Ambitions in Energy Policy* (FEPS 2013) 4.

[145] Nick Robins, 'How Paris Became the Capital of Climate Finance', Inquiry: Design of a Sustainable Financial System, Inquiry Working Paper 16/06, April 2016, p 5.

[146] European Commission, 'Energy poverty may affect nearly 11% of the EU population', 25 June 2015, https://ec.europa.eu/energy/en/news/energy-poverty-may-affect-nearly-11-eu-population

[147] Støre JG, 'Values and Facts Are on Our Side!' in Neera Tanden and Matt Browne (eds), *Global Progress: New Ideas for the Future of the Progressive Movement* (Center for American Progress/Canada 2020, 2016) 80.

Opportunities for EU external action in key processes

The EU Global Strategy proclaims that 'our external action will become more joined-up … A strong [European External Action Service] working together with other EU institutions lies at the heart of a coherent EU role in the world … New fields of our joined-up external action include energy diplomacy, cultural diplomacy and economic diplomacy.'[148] There are significant opportunities to advance a more integrated diplomacy in the field of climate technology and sustainable energy. A key message from the workshop was the need for 'more integrated' activity across the different international processes and organizations: 'We need to strengthen the networking'. This would address the ongoing problem of sometimes 'disjointed' processes. For example, with the Paris Agreement the UNFCCC is moving into R&D. However, the IEA has been working on R&D for decades, in the process building up significant expertise and networks that could be utilized in Paris Agreement implementation.

Concerning climate technology and sustainable energy, the challenge is to realize the EU's potential to both navigate the broader networks of climate governance and to optimize the effectiveness of the EU's own 'unparalleled networks'[149] in those external processes. One step that could be adopted is a policy of actively seeking and creating closer linkages between international processes that are of direct relevance to one other, in order to enhance collaboration, minimize duplication and enable more coordinated EU external action. The current efforts to enhance the linkages between the UNFCCC Financial Mechanism and Technology Mechanism is an indication of a broader agenda that could be pursued – an agenda that it ultimately reliant on parties rather than secretariats.

There have been indications that the EU is prepared to push for closer integration across international processes. For example, it recently called for the UNFCCC High-Level Champions to strengthen linkages with other processes by 'bring[ing] the positive message of the climate change agenda and the associated opportunities into the relevant fora outside the UNFCCC', such as the G7, G20, other multilateral environmental agreements, sectoral bodies such as IRENA and regional bodies.[150] The following sections examine opportunities for effective, 'joined-up' diplomacy across a range of key processes.

[148] European Union, Shared Vision, Common Action: A Stronger Europe, A Global Strategy for the European Union's Foreign And Security Policy, June 2016, 49.
[149] Ibid, 44.
[150] 'Submission by the Slovak Republic and the European Commission on Behalf of the European Union and Its Member States: Submission on the Road Map for Global Climate Action – Invitation for Submission by the Co-Champions' (2016) 2, http://www4.unfccc.int/Submissions/Lists/OSPSubmissionUpload/75_253_131145158291059909-SK-01-08-EU%20Submission%20GCAA.pdf

United Nations Framework Convention on Climate Change (UNFCCC) – the central international process for climate technology

The United Nations Framework Convention on Climate Change (UNFCCC) is the central process for the conduct of international climate diplomacy, including with respect to climate technology. The Convention was agreed in 1992 and came into force in 1994. It enjoys near-universal membership. (Uniquely among regional bodies, the EU is a party to the Convention.) The Convention commits nations to 'stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system'.[151] The Conference of Parties (COP) is UNFCCC's governing body, charged with reviewing Convention implementation and making decisions to promote effective implementation.[152] Annual meetings of the COP began in 1995, charged with strengthening the implementation of the Convention. Key developments have included the 1997 adoption of the Kyoto Protocol, the 2007 Bali Action Plan for post-2012 climate action, the 2010 Cancun Agreements, which further developed the UNFCCC's institutional capacity, and the 2015 Paris Agreement.

Technology Mechanism – an expanded role under the Paris outcomes:

The Technology Mechanism has a 'policy arm' called the Technology Executive Committee (TEC) and an 'implementation arm' called the Climate Technology Centre and Network (CTCN). The TEC's members are appointed in a personal capacity and provide advice to the COP. The TEC has been used by the COP to work through some of the most challenging technology issues in the climate negotiations. As one workshop participant noted, TEC policy advice to the COP is 'fundamentally important' in the context of the new challenge of implementing the Paris Agreement. A particularly important activity is process of Technology Needs Assessments (TNAs), which identify priority technologies for climate mitigation and adaptation in developing countries and lead to the development of Technology Action Plans (TAPs).[153] The TEC is mandated to further implement the UNFCCC's technology transfer framework, including with respect to TNAs. In this year's key messages to the UNFCCC COP, the TEC has recommended the creation of linkages between the TNA process and NDCs and National Adaptation Plans (NAPs), allowing TAPS to be utilised 'as a platform for NDC and NAP implementation'.[154] This is a practical recommendation that the EU could take up in its diplomacy, in order to better integrate technology into the vital process of NDC implementation.

The CTCN 'facilitate[s] a network of national, regional, sectoral and international technology networks, organizations and initiatives', providing technical assistance to developing countries.[155] Much of CTCN activity is focused on addressing the needs of SIDS and LDCs. The diversity of CTCN activities reflects the fact that it responds to the needs of parties. There is scope for the EU to

[151] United Nations Framework Convention on Climate Change, FCC/INFORMAL/84/Rev.1, 1992, Article 2.
[152] Ibid, Article 7(2).
[153] Technology Needs Assessments - History and Current State, http://unfccc.int/ttclear/templates/render_cms_page?s=TNA_history
[154] Joint annual report of the Technology Executive Committee and the Climate Technology Centre and Network for 2016, UNFCCC, Advance Version, FCCC/SB/2016/1, Annex II, 23 September 2016, par. 7.
[155] The Cancun Agreements, Decision 1/CP.16, paragraph 123.

increase its utilization of the CTCN to assist developing country NDC implementation. For example, the EU and Member States could engage with the CTCN to strengthen national systems of innovation in developing countries.[156]

The Paris Agreement includes a dedicated article on international cooperation for technology development and transfer. It commits nations to 'strengthen cooperative action on technology development and transfer', including through the establishment of a new 'technology framework'.[157] The Agreement calls for the Climate Convention's Technology and Financial Mechanisms to both support '[a]ccelerating, encouraging and enabling innovation' of technology, for 'collaborative approaches to research and development, and facilitating access to technology, in particular for early stages of the technology cycle, to developing country Parties'.[158] The Paris COP also decided to strengthen the Technology Mechanism.[159]

Response measures – a valuable forum for pursuing a 'just transition':

Climate technology is also important to countries which are vulnerable to negative impacts of response measures to climate change because they are heavily reliant on fossil fuel production. 'Most' such countries flagged the pursuit of 'economic diversification with mitigation co-benefits' in their INDCs, including through clean energy investment and energy efficiency.[160] The Climate Convention requires parties to take into consideration what is needed to 'to meet the specific needs and concerns of developing country Parties arising from the adverse effects of climate change and/or the impact of the implementation of response measures'.[161] The issue has been dealt with by a forum on response measures under the UNFCCC. During the UNFCCC's currency, the response measures agenda has broadened from a focus on the concerns of fossil fuel exporters to encompass broader economic impacts of climate policies.

At the Paris conference, the COP decided to 'improve' the forum, focusing its work on 'concrete examples, case studies and practices in order to enhance the capacity of Parties, in particular developing country Parties'. The improved forum meets twice a year and may constitute technical expert groups. The COP adopted a work program for the forum consisting of '[e]conomic diversification and transformation' and '[j]ust transition of the workforce, and the creation of decent work and quality jobs'. The work program must address the needs of all parties and particularly developing countries.[162] As such, the forum can be seen as an opportunity to pursue EU priorities. As Maroš Šefčovič, European Commission Vice-President for Energy Union, recently observed: 'The idea

[156] Technology Executive Committee, 'Strengthening National Systems of Innovation to Enhance Action on Climate Change', TEC Brief #7, UNFCCC, November 2015, p. 11.
[157] Paris Agreement, Article 10(2)-(4).
[158] Ibid, Article 10(5).
[159] Conference of Parties, Adoption of the Paris Agreement, paragraphs 66-71.
[160] UNFCCC, Aggregate effect of the intended nationally determined contributions: an update, Synthesis report by the secretariat, FCCC/CP/2016/2, 2 May 2016, par. 189.
[161] UN Framework Convention on Climate Change, Article 4.8.
[162] Decision 11/CP.21, Forum and work programme on the impact of the implementation of response measures, FCCC/CP/2015/10/Add.2, 29 January 2016.

of a "Just Transition" is an important element if we want to succeed in moving away from fossil fuels whilst investing in the clean and innovative technologies that create sustainable jobs and regional development.'[163]

Green Climate Fund – a vital new partner for financing transformational change:

In 2011, the UNFCCC COP created[164] the Green Climate Fund (GCF) to become 'the main global fund for climate change finance'.[165] Together with the Global Environment Facility (GEF), the GCF is one of two operating entities of the UNFCCC Financial Mechanism. A process to improve coordination between these financial bodies and the Technology Mechanism of the UNFCCC is currently underway.[166] The GCF is mandated to 'promote the paradigm shift towards low-emission and climate-resilient development pathways by providing support to developing countries' for climate mitigation and adaptation.[167] The Fund may receive financial inputs from both public and private sources.[168] The GCF is mandated to provide funding, inter alia, for 'technology development and transfer'.[169] The GCF's Board, which is responsible for funding decisions, must 'ensure adequate resources for capacity-building and technology development and transfer. The Fund will also provide resources for innovative and replicable approaches'.[170] The GCF is also required to have a 'private sector facility'.[171] The GCF Board has approved a large number of policies and procedures, including a Strategic Plan to guide the Fund during the Initial Resource Mobilization period, which extends to 2018.

The GCF does not itself manage projects in recipient countries. Rather, it channels funding through a growing list of accredited entities, including UN agencies, development banks and public and private financial institutions. European accredited entities include Agence Française de Développement (AFD), Deutsche Bank, the EIB, the European Bank for Reconstruction and Development and others. Currently, the GCF has received over $10 billion in capitalization and aims to commit $2.5 billion in funding in 2016 to a diverse range of projects.[172] The outcomes of this month's GCF Board meeting disclose increasing cooperation between the GCF and European financial institutions. Of the $745 million in funding approved at the meeting, by far the largest component was $378 million for EBRD

[163] Maroš Šefčovič, 'Foreword', in Sanjeev Kumar, Arianna Americo and Charlotte Billingham, 'The New Social Contract: A JustTransition', FEPS/Change Partnership, Brussels, 2016, p. 5.
[164] Decision 3/CP .17, FCCC/CP/2011/9/Add.1.
[165] GCF Governing Instrument, par. 32.
[166] Pursuant to a COP21 mandate,[166] the Technology Mechanism and the operating entities of the Financial Mechanism held a workshop on linkages between them in May 2016. Decision 13/CP.21, Linkages between the Technology Mechanism and the Financial Mechanism of the Convention, FCCC/CP/2015/10/Add.2, 29 January 2016, par. 8.
[167] GCF Governing Instrument, par. 2.
[168] Ibid, par. 30.
[169] Ibid, par. 35.
[170] Inid, par. 38.
[171] Ibid, par. 41.
[172] Green Climate Fund, 'GCF Board closes key policy gaps as project pipeline reaches $1.5 billion', 11 March 2016, http://www.greenclimate.fund/-/gcf-board-closes-key-policy-gaps-as-project-pipeline-reaches-1-5-billion

Sustainable Energy Financing Facilities. There were also four European institutions among the eight new Accredited Entities approved by the Board.[173]

2030 Agenda for Sustainable Development – strengthening impetus for sustainable energy

The Sustainable Development Goals (SDGs) were adopted by the UN General Assembly in 2015 and set global targets to be met by 2030.[174] There are seventeen Goals, 193 Targets and over 200 indicators. The SDGs include goals on both energy and climate change. SDG 7 is to '[e]nsure access to affordable, reliable, sustainable and modern energy for all'. Target 7.2 encourages states to, '[b]y 2030, increase substantially the share of renewable energy in the global energy mix'. Target 7.a calls on states to 'enhance international cooperation to facilitate access to clean energy research and technology, including renewable energy . . . and promote investment in energy infrastructure and clean energy technology'.

The 2030 Agenda for Sustainable Development also includes new governance structures to support SDG implementation. The High-Level Political Forum on Sustainable Development is responsible for follow-up and review of the 2030 Agenda.[175]. The Technology Facilitation Mechanism (TFM)[176] is composed of a UN Interagency Task Team on Science, Technology and Innovation for the SDGs (IATT), a Multi-stakeholder Forum on Science, Technology and Innovation for the SDGs (STI Forum) and an online information platform.[177] The UN is also in the process of developing a Technology Bank for the Least Developed Countries (LDCs), to be operationalized in 2017.[178] The 'bank' would not be a lending financial institution, but would rather aim to strengthen the science, technology and innovation (STI) capacity of LDCs by means of an STI 'Supporting and Enabling Mechanism' and an 'Intellectual Property Bank'. The Technology Bank would be based in Gebze, Turkey.[179]

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[173] Green Climate Fund, 'GCF Board approves USD 745 million in funding proposals', 14 October 2016, http://www.greenclimate.fund/-/gcf-board-approves-usd-745-million-in-funding-proposa-1?inheritRedirect=true&redirect=%2Fhome

[174] UN General Assembly, 'Resolution adopted by the General Assembly on 25 September 2015: 70/1 Transforming our world: the 2030 Agenda for Sustainable Development' (21 October 2015) UN Doc A/RES/70/1.

[175] 'High-Level Political Forum on Sustainable Development', https://sustainabledevelopment.un.org/hlpf In addition, the UN Secretary-General is required to submit an annual report on progress toward the SDGs. The first such report is at https://documents-dds-ny.un.org/doc/UNDOC/GEN/N16/159/62/PDF/N1615962.pdf?OpenElement

[176] UNGA, 'Draft resolution submitted by the President of the General Assembly: Addis Ababa Action Agenda of the Third International Conference on Financing for Development' (23 July 2015) UN Doc A/69/L.82, Annex, para. 123.

[177] 'Technology Facilitation Mechanism', https://sustainabledevelopment.un.org/TFM

[178] Nathalie Risse, 'UN Secretary-General Reports on LLDCs, Transmits Draft Charter for LDCs Technology Bank to UNGA', IISD, 15 September 2016, http://sd.iisd.org/news/un-secretary-general-reports-on-lldcs-transmits-draft-charter-for-ldcs-technology-bank-to-unga/

[179] Technology Bank for the Least Developed Countries: Note by the Secretary-General, Charter of the Technology Bank for the Least Developed Countries, A/71/363, 29 August 2016.

Harnessing trade regimes – the Energy Charter Process

The European Energy Charter[180] was adopted in 1991 as a non-binding political declaration setting out principles of international energy cooperation, including between net importers and net exporters. Subsequently, the Energy Charter Treaty and the Energy Charter Protocol on Energy Efficiency and Related Environmental Aspects were signed in 1994 and entered into legal force in 1998. The parties to the Treaty include fifty-two states, the European Community and Euratom.[181] The Treaty's provisions concern protection of foreign investments, non-discriminatory conditions for trade, dispute resolution and the promotion of energy efficiency. Article 19 requires parties to 'minimise in an economically efficient manner harmful Environmental Impacts' from energy use.[182] The Protocol on Energy Efficiency provides, inter alia, for international cooperation on energy efficiency through an extensive range of activities listed in the Protocol's Annex. The Energy Efficiency Group was recently created as a subsidiary body of the intergovernmental Energy Charter Conference to drive the energy efficiency work of the Energy Charter Process.[183]

In addition to the legally binding instruments of the Treaty and Protocol, the International Energy Charter (IEC) was adopted by over seventy countries in May 2015.[184] The IEC, which is not legally binding, provides an updated politicial declaration to frame the Energy Charter Process and serve as a basis of dialogue with non-signatories of the 1991 European Energy Charter. The IEC commits signatories to certain principles, including 'energy efficiency and environmental protection', which 'impl[ies]' sharing clean energy development, and 'market-oriented energy prices which more fully reflect environmental costs and benefits'.[185] The EU and its Member States have been leading players in the development of the Energy Charter Process, including as signatories to both the Treaty and the IEC. The Energy Charter Secretariat is based in Brussels.

The Energy Charter Process is one component of a complex latticework of trade governance including the World Trade Organization, regional and bilateral frameworks.[186] The EU participates in each of these processes as the 'biggest player on the global trading scene'[187] and is therefore well-placed to pursue outcomes which facilitate the trade in climate technologies, including sustainable energy.

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[180] Formerly known as the Concluding Document of The Hague Conference on the European Energy Charter. http://www.energycharter.org/process/european-energy-charter-1991/

[181] International Energy Charter, 'Overview', http://www.energycharter.org/process/overview/

[182] 'The International Energy Charter: Consolidated Energy Charter Treaty with Related Documents', last updated 15 January 2016, http://www.energycharter.org/fileadmin/DocumentsMedia/Legal/ECTC-en.pdf

[183] International Energy Charter, 'Energy Efficiency Group', http://www.energycharter.org/who-we-are/subsidiary-bodies/energy-efficiency-group/

[184] 'International Energy Charter', http://www.energycharter.org/fileadmin/DocumentsMedia/Legal/IEC_Certified_Adopted_Copy.pdf

[185] International Energy Charter, Title I, 3.

[186] For an overview of energy governance and the EU's energy trade relations, see Leal-Arcas R, Grasso C and Alemany Rios J, 'Multilateral, Regional and Bilateral Energy Trade Governance' [2015] *Renewable Energy Law and Policy Review* 38.

[187] European Commission, 'EU position in world trade', http://ec.europa.eu/trade/policy/eu-position-in-world-trade/

Additional important processes for climate technology and sustainable energy

These processes should not be seen as alternatives to the above international regimes on climate change, sustainable development and trade. Rather, they present opportunities to act as force-multipliers of those processes. To an extent this is already happening. The EU has opportunities to encourage further coherence across relevant processes.

- **International Renewable Energy Agency (IRENA):** With a mandate to support countries to transition to renewable energy,[188] IRENA's work is divided into 'thematic programme areas'.[189] As was noted during the workshop, despite its recent creation IRENA has built significant capacity in member states, including through the IRENA Innovation Technology Centre in Bonn, Germany, which produces, global, regional and country-level and technology-specific renewables 'roadmaps'.[190] IRENA's Director-General has stated that 'partnerships remain embedded in every aspect of IRENA's programmatic activities'.[191] An example of this partnership-driven approach is the SIDS Lighthouses Initiative.[192] IRENA has also been an active participant in the UNFCCC technical examination process.[193]

- **Sustainable Energy for All Initiative (SE4All):** Launched by the UN Secretary-General in 2011, SE4All is a multi-stakeholder partnership led by the UN and World Bank with three objectives to be achieved by 2030: 'Ensure universal access to modern energy services; Double the global rate of improvement in energy efficiency; and Double the share of renewable energy in the global energy mix'.[194] To coordinate these activities, SE4All has designated regional hubs, as well as thematic hubs including renewable energy (IRENA) and energy efficiency (the Copenhagen Centre on Energy Efficiency). This last institution was established in 2013 as a partnership of the Danish Government, UN Environment (UNEP) and the Technical University of Denmark (DTU). The Copenhagen Centre collaborates with institutional partners including multilateral development banks and IRENA. In addition to the Danish Government's participation in SE4All's energy efficiency hub, the EU as a whole has been a major supporter of the initiative. In 2013, the EU pledged EUR 500 million for SE4All.[195]

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[188] What We Do, International Renewable Energy Agency, http://www.irena.org/Menu/index.aspx?PriMenuID=53&mnu=Pri (accessed 10 January 2016). For more detail, see IRENA 2014-15: At a Glance, International Renewable Energy Agency, 2016, http://www.irena.org/DocumentDownloads/Publications/IRENA_2014-2015_At%20A%20Glance.pdf (accessed 16 January 2016).

[189] IRENA, 'Work Programme and Budget for 2016-2017: Report of the Director-General', A/6/4, 17 January 2016.

[190] 'IRENA Innovation and Technology Centre', http://www.irena.org/menu/index.aspx?mnu=Subcat&PriMenuID=44&CatID=112&SubcatID=457

[191] International Renewable Energy Agency, 'Work Program and Budget for 2014–2015: Report of the Director-General' (18 January 2014) A/4/3, para. 16.

[192] Information on SIDS is available at 'SIDS Action Platform' (2015) <http://www.sids2014.org> accessed 4 December 2015.

[193] 'Technical Expert Meetings', http://climateaction2020.unfccc.int/tep/technical-expert-meetings/

[194] Sustainable Energy for All, 'Our Objectives', http://se4all.org/our-vision_our-objectives

[195] Yvetot C and Iwinjak F, 'Why We Need a Strong EU to Achieve a Global Energy Agenda' in Charlotte Billingham (ed), *Solidarity: Towards 2030 Ambitions in Energy Policy* (FEPS 2013) 32-33.

- **International Energy Agency (IEA):** The IEA has significantly increased its work on sustainable energy in recent years. The IEA has developed a set of 'technology roadmaps' for low-carbon energy.[196] Among other projects, the increased focus on sustainable energy can be seen in the composition of IEA Technology Collaboration Programmes (TCPs).[197] TCPs were established in 1975 as the 'principal IEA tool for multilateral technology collaboration', enabling collaboration among IEA members on RD&D.[198] Eighty percent of TCP activity has focused on applied research.[199] As of 2015, nearly 300 entities located across 51 countries were signatories to TCPs.[200] Today, a large number of TCPs address climate technology and sustainable energy.

- **International Civil Aviation Organization (ICAO) and International Maritime Organization (IMO):** The Subsidiary Body for Scientific and Technological Advice (SBSTA) of the UNFCCC is mandated to address the control of emissions from fuel used for international transport, taking into account the work of the IMO concerning shipping emissions and the ICAO concerning aviation emissions.[201] The IMO and ICAO have both introduced emissions regulation. The EU was unsuccessful in its push to include international transport emissions in the Paris Agreement. Nevertheless, this month representatives to ICAO agreed to adopt a new global market-based measure to address aviation emissions.[202] Since 2013, the IMO has had a mandate to regulate the energy efficiency of shipping under Annex VI of the International Convention for the Prevention of Pollution of Ships (MARPOL).[203]

- **Montreal Protocol:** The Montreal Protocol on Substances that Deplete the Ozone Layer was agreed in 1987 to phase out chemicals contributing to the growing hole in the ozone layer. However, the substitutes for the banned chemicals, hydrofluorocarbons (HFCs), are a potent greenhouse gas contributing to global warming. In October 2016, national negotiators agreed to amend the Montreal Protocol to phase out HFCs.[204]

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[196] See Renewables, International Energy Agency, http://www.iea.org/topics/renewables/ (accessed 10 January 2016).

[197] For an overview, see IEA, 'Technology Collaboration Programmes: Highlights and Outcomes' (International Energy Agency 2016).

[198] IEA, 'Technology Collaboration Programmes: Highlights and Outcomes' (International Energy Agency 2016) 6.

[199] Ibid, 8.

[200] Ibid, 9.

[201] FCCC/CP/1995/7/Add.1, Decision 4/CP.1, paragraph 1(f) (6 June 1995).

[202] ICAO, 'Historic agreement reached to mitigate international aviation emissions', 6 October 2016,http://www.icao.int/Newsroom/Pages/Historic-agreement-reached-to-mitigate-international-aviation-emissions.aspx

[203] 'Mandatory energy efficiency measures for international shipping adopted at IMO environment meeting', Marine Environment Protection Committee (MEPC) – 62nd session: 11 to 15 July 2011, Briefing: 42, July 15, 2011, International Maritime Organization, http://www.imo.org/en/MediaCentre/PressBriefings/Pages/42-mepc-ghg.aspx#.VmVszXprurU (accessed 7 December 2015). The IMO is expected to established a working group on shipping emissions at the October 2016 meeting of its Marine Environment Protection Committee. http://www.imo.org/en/MediaCentre/IMOMediaAccreditation/Pages/MEPC-70.aspx

[204] UNEP, 'Countries agree to curb powerful greenhouse gases in largest climate breakthrough since Paris', 15 October 2016, http://www.unep.org/newscentre/Default.aspx?DocumentID=27086&ArticleID=36283&l=en

Towards enhanced collaboration: The case of Renewable Energy and Energy Efficiency Partnership (REEEP), the CTI Private Finance Advisory Network and UNIDO

A lack of communication between the financial sector and project developers is an ongoing problem. On the project developer side, there can be a lack of understanding about investor expectations. This disconnect is addressed through the Climate Technology Initiative (CTI), which promotes development and diffusion of climate technologies through cooperation between the public and private sectors and between OECD countries and Non-OECD countries. The CTI collaborates on a clean energy project pipeline with the Renewable Energy and Energy Efficiency Partnership (REEEP), which was formed as one of over two hundred Type II Partnerships agreed at the 2002 World Summit for Sustainable Development in Johannesburg to 'stimulate public-private cooperation toward sustainable development'.[205] REEEP invests in early stage clean energy ventures in developing countries, with a focus on SMEs. REEEP provides initial capital to allow innovative projects which may otherwise struggle to break even to demonstrate their viability to the market, thereby 'de-risking' projects for subsequent investment.[206] Often, SMEs which have successfully financed a business model and technology prototype will face difficulties attracting finance for subsequent project development.[207] The Private Finance Advisory Network (PFAN) addresses this problem of the 'missing middle' by coaching and mentoring project developers included in the REEEP portfolio of investments, including by identifying and screening business plans to strengthen the capacity of project developers to submit proposals that meet industry standards.

PFAN comprises a network of experts, utilizing local consultants to strengthen in-country capacity. PFAN has country networks in Africa, Asia, the CIS & Central Asia and Latin America. PFAN does not work with mature projects that have otherwise attracted funding but is focused on smaller projects. PFAN has closed some 87 projects, with almost three hundred projects inducted into the Project Development Pipeline.[208] In 2016, PFAN passed the milestone of having raised over $1 billion in financing for clean energy in developing countries.[209] From 2016, PFAN will be cohosted by REEEP and UNIDO, allowing PFAN to broaden its services. PFAN will transition to become a project activity of UNIDO, with its activities executed through REEEP. The REEEP-PFAN-UNIDO collaboration is an emerging example of close networking as a countervailing force to institutional fragmentation.

The CTI's eight member states – all OECD members – include Germany and Sweden. Donors to REEEP include the European Commission and the governments of Austria, Germany, Ireland, Sweden and the U.K.[210] During the Paris conference, DG Clima agreed to fund a REEEP/UNIDO clean energy technology transfer project in South Africa. The project concerns waterworks and will contribute to realizing South Africa's INDC.[211]

[205] REEEP 2016 Annual Report, 10.

[206] REEEP, 'Clean Energy for Green Growth' (2016). REEEP also hosts the Climate Knowledge Brokers Group (CKB), a network of over 150 data and knowledge providers.

[207] REEEP 2016 Annual Report 16.

[208] CTI PFAN, 'About', http://cti-pfan.net/about/

[209] REEEP, 'PFAN Passes $1 Billion Mark in Clean Energy Financing', 8 September 2016, http://www.reeep.org/news/pfan-passes-1-billion-mark-clean-energy-financing

[210] John Tkacik Merja Laakso Sigmund Kluckner, 'Beyond Energy: 2016 Annual Report', REEEP (2016) 4.

[211] REEEP Annual Report 2016, 48-49.

Harnessing networks to advance climate technology and sustainable energy diplomacy

Recent years have seen 'an exponential growth of climate action'.[212] Collective action to deal with climate change is now pursued through a diffusion of forums. Significantly, far from obstructing this development, the UNFCCC COP presidencies and secretariat have provided a platform and encouragement for non-state climate initiatives through the Non-State Actor Zone for Climate Action (NAZCA) and the Lima-Paris Action Agenda (LPAA).[213]

Much of this distribution of activity is organized through networks of actors. Networks can be defined broadly as 'a group of people connected by shared idea or goal'.[214] These networks, of varying degrees of cohesion, include: Networks of subnational governments that facilitate cooperation on climate measures between members and undertake advocacy in the UN climate negotiations. The largest network is the recently established Global Covenant of Mayors for Climate & Energy.;[215] Networks that build on existing regional architecture to conduct research, share knowledge and support policy development in participating countries.[216] For example, the ten-member Association of Southeast Asian Nations (ASEAN) has proposed actions including a regional network on 'environmentally sound technology', cooperation on technology transfer and an ASEAN Climate Change Initiative;[217] Judicial networks including the Asian Judges Network on Environment[218] and the judges brought together through UNEP's Environmental Rule of Law programme.[219]

Among the key challenges posed at the June workshop was the following: 'How can the EU assert norm leadership through networks?' In part, this question is a response to the increasingly network-centric modalities of the diplomatic processes discussed above. However, it is also a recognition that the EU can bring unparalleled expertise and capacity to the mobilization of networks. One workshop participant argued that the EU is uniquely placed to participate in the 'overlapping networks' of climate and energy governance: 'We have to make use of those networks and use them progressively.' In the best case scenario, the EU can be a leading contributor to what another workshop participant termed an 'active and enlightened form of network governance' – working through the UN, G20 and other global loci of action to drive ambitious and progressive outcomes.

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[212] Stephen Minas, 'Business Momentum, Forest Protection Breakthrough In Pre-Paris Climate Talks' (Eco-Business, 2015) <http://www.eco-business.com/opinion/business-momentum-forest-protection-breakthrough-in-pre-paris-climate-talks/>

[213] 'NAZCA - Climate Action' (2015) <http://climateaction.unfccc.int/>

[214] In the words of one June workshop participant.

[215] 'Global Covenant of Mayors for Climate & Energy', https://www.compactofmayors.org/globalcovenantofmayors/

[216] Examples include the African Climate Policy Centre, which forms part of a joint initiative of the African Union Commission, the African Development Bank and the UN Economic Commission for Africa, and the Caribbean Community Climate Change Centre. 'African Climate Policy Centre', United Nations Economic Commission for Africa, <http://www.uneca.org/acpc> accessed 24 September 2015; 'Caribbean Community Climate Change Centre', <http://www.caribbeanclimate.bz> accessed 24 September 2015.

[217] 'ASEAN Socio-Cultural Community Blueprint' (2015) <http://www.asean.org/archive/5187-19.pdf>

[218] Asian Judges Network on Environment (AJNE) (2015), http://www.asianjudges.org

[219] United Nations Environment Programme (UNEP), 'Environmental Rule of Law' (2015)<http://www.unep.org/delc/worldcongress/Home/tabid/55710/Default.asp>

Inclusion of non-state actors

Agency to tackle climate change is increasingly distributed among private as well as public actors. This means that to harness networks to pursue truly transformational change, the EU must empower non-state actors within its borders and engage creatively with transnational networks that include both public and private actors. Much work is already being done on this score, with scope to expand and systematize efforts.

The increased agency of non-state actors in the mitigation of climate change, including through the development and financing climate technology, has transformed the context for the transnational regulation of climate technology from that which prevailed in 1992. Non-state actors include cities, regional governments, businesses and financiers which have, individually and in coalitions, implemented or at least committed to climate mitigation actions. As one workshop participant put it, the 'nons' comprise 'everyone who isn't a government, i.e. everyone else in the world'. These are often 'the workers on the ground delivering tangible results'. According to a 2015 UNEP report, programs to cut emissions by cities, regions and businesses could prevent approximately 1.8 gigatons of emissions in 2020.[220] The inclusion and mobilization of non-state actors is especially important given the ongoing inadequacy of aggregated national mitigation targets, as recently highlighted by the COP21 and COP22 High-Level Champions.[221]

The inclusion of non-state actors in climate diplomacy may also have the effect of encouraging progressive outcomes by extending representation to otherwise marginalized perspectives. As the SE4All Initiative has noted in the context of UNFCCC engagement of non-state actors, it is necessary to ensure that 'the most disenfranchised are also represented and part of the process such as the poorest of society and women (not only around gender discussions but also as effective solution providers).'[222]

Non-state actors have sometimes been treated as 'second tier citizens' in the 'insular', acronym-laden world of government-to-government climate negotiations.[223] That non-state actors are vital to the implementation of ambitious climate technology goals has not always been apparent to climate negotiators.

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[220] UNEP, 'Initiatives by Non-State Actors to Curb Emissions Can Help Win the Fight against Climate Change - New UN Report', 10 June 2015, http://www.unep.org/newscentre/Default.aspx?DocumentID=26827&ArticleID=35194&l=en

[221] 'Regarding the involvement of non-Party stakeholders, the main takeaway from submissions is that the champions must recognize that current NDCs are not sufficient to be on track for the "well below 2°C" and that non-Party stakeholders' commitments can facilitate bold climate action collaborating with Parties on the implementation of their NDCs/national plans'. UNFCCC, 'Submissions on the Roadmap for Global Climate Action: Synthesis Written by the COP21 and COP22 Champions' Teams' (UNFCCC 2016) 1 <http://newsroom.unfccc.int/climate-action/synthesis-report-submissions-on-the-roadmap-for-global-climate-action/>

[222] SE4All, 'Sustainable Energy For All: Submission on the Roadmap for Global Climate Action' (2016) 4 <http://unfccc.int/files/parties_observers/submissions_from_observers/application/pdf/645.pdf>

[223] In the words of one workshop participant.

The 2014 UN Secretary-General's climate summit has been identified as a 'defining moment' for mobilizing non-party stakeholders within the UN system. According to one workshop participant, the involvement of so many economic actors has created a discourse of climate ambition being compatible with economic development and even growth. Following the 2014 Climate Summit, the LPAA was launched at COP20 as a collaboration of the UNSG office, the Secretariat of the UNFCCC, the Peruvian presidency of COP20 and the upcoming French COP21 presidency. The LPAA's objective was to 'scale up the level of ambition, by promoting best-in-class initiatives and attracting other actors inside the concrete climate action sphere'. According to the French team that worked on the LPAA, it 'resulted in a massive mobilization of state and non-state actors, involving almost 10,000 stakeholders — States, cities, regions, companies, investors and NGOs — from 180 countries in more than 70 cooperative initiatives'.[224]

A key difference between the Copenhagen and Paris conferences was the inclusion of non-state actors in the latter. One workshop participant partly attributed the success of the UN and COP presidencies in facilitating the Paris negotiation to fostering communication and collaboration within and across networks, with a consistent focus on the end goal of an ambitious outcome. To this end, the Secretariat facilitated a series of opportunities for networks to engage in the process. Additionally, national delegations to the COP would be met by a 'coalition' of non-state actors on a particular issue, e.g. the long-term goal, which holds relevance for long-term investors such as pension funds. It was argued that COP21 'heralded the dawning of a new diplomatic era', in which the efforts of national officials are bolstered by groups and coalitions 'within the formal process', as well as by non-state actors.

The Paris conference, according to one workshop participant, was a 'unique coordination opportunity' for networks of non-state actors, many of which were willing to set aside established differences in pursuit of a success outcome. In this context, the UN and COP presidency were able to assume a 'pseudo-coordinating role'. Post-Paris, however, the role of non-state actors in the UNFCCC process is now somewhat 'up for grabs'. Another participant called for 'institutionalization and continuity of the post-Paris agenda'.

Following Paris, the role of non-state actors in the UNFCCC process has been somewhat formalized by the COP21 decision and the institution of the High-Level Champions, as described above, and the continuation of the LPAA as the Global Climate Action Agenda.[225] One workshop participant described the Champions' role as 'political momentum' to carry the action agenda forward. A recent call for submissions for parties and non-party stakeholders (NPS) found wide support for the Champions to act as 'an interface that ensures dialogue and collaboration among NPS and countries

[224] 'Return on Experience from the Lima-Paris Action Agenda's French Managing Team in Response to the Champions' Call for Contribution Regarding the Roadmap for Global Climate Action' (2016) 1 <http://unfccc.int/files/parties_observers/submissions_from_observers/application/pdf/619.pdf>

[225] UNFCCC, 'Global Climate Action Agenda: Climate Champions Release Detailed Roadmap', http://newsroom.unfccc.int/climate-action/global-climate-action-agenda/

to implement national policies, in particular NDCs and NAMAs'.[226] There is potential for the EU to contribute to these efforts by orchestrating comparable actions at regional level, in order to mobilize European non-state actors.

The private sector

Within the private sector, growing urgency in climate mitigation can be seen as a result from a combination of changing assessments of corporate interest and investment forecasts, pressure from consumers and employers, and deepening engagement in the international politics of climate change itself. Falkner has identified 'an unambiguous trend towards greater business involvement in international politics'.[227] In lobbying prior to the 1992 adoption of UNCED outcomes, including the climate convention, private sector representatives focused on 'no regrets' measures, such as energy efficiency, that would not require the sacrifice of business interests.[228] The vastly increased prominence of non-state actors in the UNFCCC process following over two decades of engagement may be seen in the Lima-Paris Action Agenda.[229]

One example of increased business activity is the spate of voluntary program by businesses to decarbonize, sometimes pursued through joint public-private approaches and motivated by competitiveness and stakeholder pressure.[230] Those stakeholders include shareholders, which have spurred individual businesses to act on climate change through the 'movement' of socially responsible investment (SRI).[231] (The EU is well-placed to capitalize on this momentum. Paris has become the leading centre for volume of SRI funds under management, with EUR22 billion by May 2015.[232])

In part, the influence wielded by private-sector actors is dependent on the immaturity of a given international regime. When a regime enters an 'implementation phase', corporations will make

[226] UNFCCC, 'Submissions on the Roadmap for Global Climate Action: Synthesis Written by the COP21 and COP22 Champions' Teams' (UNFCCC 2016) 2 <http://newsroom.unfccc.int/climate-action/synthesis-report-submissions-on-the-roadmap-for-global-climate-action/>

[227] Falkner R, *Business Power and Conflict in International Environmental Politics* (Palgrave Macmillan 2008) 191.

[228] Ibid, 107.

[229] Van Asselt H, et al, 'Maximizing the Potential of the Paris Agreement: Effective Review in a Hybrid Regime' (2016) Stockholm Environment Institute Discussion Brief, 4.

[230] Examples include UK Climate Change Agreements, Dutch Long-Term Agreements, the Japanese Voluntary Action Plan (Keidanren) and the GHG Protocol Product and Supply Chain Initiative. 'Complementary Measures for Decarbonisation: Looking beyond Pricing and Regulation to Motivate Private Businesses and State-Owned Enterprises' (International Energy Agency 2015) OECD/IEA.

[231] Richardson BJ, 'Climate Finance and Its Governance: Moving to a Low Carbon Economy through Socially Responsible Financing' (2009) 58 International and Comparative Law Quarterly 597.

[232] Nick Robins, 'How Paris Became the Capital of Climate Finance', Inquiry: Design of a Sustainable Financial System, Inquiry Working Paper 16/06, April 2016, 6.

decisions in response to international and/or national regulation with important implications for the success of that regulation: 'Regulation … is not simply "technology-forcing" but interacts with, and crucially depends on, choices made in the corporate sector.'[233]

If during the negotiation of the 1992 climate convention 'the EU moved ahead of what its business constituency was willing to support',[234] today large components of the private sector have become key allies in the development and implementation of ambitious climate policies. This is particularly important in the realm of technology given, as is widely observed, technological developments usually come from the private sector.[235] A promising recent development is the creation at the Paris conference of Mission Innovation, which the EU joined in June 2016 (following six Member States which joined at is inception).[236] The members of Mission Innovation pledge to double their government investment in clean energy research and innovation over five years. Concurrently, the major private sector investors which have formed the Breakthrough Energy Coalition have committed to investing in early stage commercialization of research in Mission Innovation countries.[237]

Networks to mobilize climate finance

An important component of engagement with non-state actors is the financial sector. Following a period of institutional and programmatic creativity, with the adoption of the Paris Agreement and SDGs and creation of the Green Climate Fund and other multilateral financial institutions, climate finance is a major opportunity for the EU to – in the words of the Global Strategy – 'participate fully in the global marketplace and co-shape the rules that govern it'.[238]

A fuller engagement with private finance is necessitated by the inadequacy of current and projected public finance for climate action. As REEEP Governing Board Chairman Henry Derwent recently observed, the GCF 'and other new financial institutions have gotten off to a slow start, and will have challenges in delivering sufficient timely investment to those countries and sectors most in need of climate finance on their own'.[239] So much is being recognized in a variety of forums in which the EU is an influential player. Regionally, for example, the new Mediterranean Strategy for Sustainable

[233] Falkner R, *Business Power and Conflict in International Politics* (Palgrave Macmillan 2008) 9.

[234] Ibid, 105.

[235] Independent Commission on Multilateralism, 'The Impact of New Technologies on Peace, Security, and Development', Discussion Paper, April 2016, p. 5.

[236] European Commission, 'European Union joins Mission Innovation, a global initiative on clean energy', 3 June 2016, http://europa.eu/rapid/press-release_IP-16-2063_en.htm

[237] 'Introducing the Breakthrough Energy Coalition', http://www.breakthroughenergycoalition.com/en/index.html

[238] European Union, Shared Vision, Common Action: A Stronger Europe, A Global Strategy for the European Union's Foreign And Security Policy, June 2016, 17.

[239] REEEP 2016 annual report, 8.

Development identifies an '[o]ver-reliance on public funding and state-led initiatives' concerning climate change.[240]

An additional argument for concerted engagement with private finance is that financing models applicable to energy in general, and renewables in particular, can be quite specific. For example, a Silicon Valley "cleantech bubble" from 2006 and 2008 has given way to substantially reduced venture capital funding for clean technology: 'betting on cleantech start-ups just did not make sense for VCs, because cleantech could not deliver the outsized returns found in other sectors.'[241] 'Financial incentive regulation', including tax credits and feed-in tariffs, aims to address the often high start-up costs and uncertainty of new climate technology ventures/investment, while providing price signals to attract institutional investors.[242] The comparatively risky nature of private climate technology ventures in part determines the forms of capital that they can attract. For example, venture capital can take on the risk of investing in early stage clean technology company, whereas the risk tolerance of private equity firms gravitates to investments and more mature technology, and commercial banks become income involved far later in the commercialization cycle.[243]

Research indicates that the unfavourable risk-return profile of many climate technologies is the leading cause of underinvestment.[244] There remains a dearth of both bankable projects and risk-bearing capital, particularly concerning deployment of technology in new markets.[245] Institutions such as the UNFCCC Technology Executive Committee have identified 'blended climate finance' as part of the solution, with public investors taking a subordinate position to private investors, thereby reducing the risk borne by private capital and sending a positive signal to the market.[246] The EU and EU-based financial institutions have been leading innovators in enabling access to risk capital for climate technology, including through Horizon 2020 (discussed above) and the GET FiT program in East Africa.[247]

The further stimulation of private climate finance as a discrete priority of EU climate diplomacy would build on EU leadership in corporate and financial sustainability, which can be illustrated in a few figures: 47% of Principles for Responsible Investment (PRI) signatories and 37% of Equator Principles signatures are based in the EU, while an estimated 63.7% of global assets 'managed in accordance with the integration of environmental, social and governance (ESG) factors' are managed

[240] UNEP/MAP (2016). *Mediterranean Strategy for Sustainable Development 2016-2025*. Valbonne. Plan Bleu, Regional Activity Centre, 22.
[241] Raval A, 'Saudi Arabia Looks beyond Oil to Exploit Its Sunshine' *Financial Times* (8 September 2015) https://www.ft.com/content/d08be460-3a06-11e5-bbd1-b37bc06f590c (accessed 25 August 2016).

[242] Bowman M, *Banking on Climate Change: How Finance Actors and Transnational Regimes Are Responding* (Kluwer Law International 2015) 112.

[243] Ibid, 201.

[244] Climate Policy Initiative (CPI). 2013. Risk Gaps: A Map of Risk Mitigation Instruments for Clean Investments. San Francisco: CPI.
[245] Technology Executive Committee, 'Enhancing Access to Climate Technology Financing', TEC Brief #6, UNFCCC, November 2015, p. 3.
[246] Ibid.
[247] Get FiT Uganda, 'About Get FiT', http://www.getfit-uganda.org/about-get-fit/

from Europe.[248] The EU's financial sector is also a source of expertise and capacity in this regard. Research has shown that whereas business risk mitigation is the leading driver of 'climate-related behavior' of banks in Australia, in Europe banks are 'primarily focused on capturing opportunities created by adopting and innovating green strategies'.[249] EU knowledge and leadership on sustainable finance can be applied to new initiatives of climate diplomacy, such as the operationalization of the GCF Private Sector Facility.

It must be acknowledged that elements of the progressive political family have historically been uncomfortable with the private sector and private finance. However, 'embracing radical collaboration' has been essential to the recent progress in climate diplomacy: 'Bringing unusual or unlikely voices together' as 'the cogs of progressive change' has worked, with a standout example being the 2014 US-China Joint Statement on Climate Change.[250] The joint opinion article by UNFCCC executive secretary Christiana Figueres and COP21 president Laurent Fabius, the Socialist French foreign minister, arguing that '[g]lobal businesses must lead the way on climate change' is one example of shibboleths being set aside in pursuit of the objective.[251] As David Miliband has recently observed, '[w]hen [the left] puts values in the driving seat –what is sometimes called "ethical socialism" – then policy imagination is the result. When it is willing to use markets and the voluntary sector as well as the state as agents of change, the left in Britain and around Europe has shown the capacity not only to win the confidence of the public but also to change the country'.[252]

The opportunity for the EU

The EU Global Strategy states that while the EU 'will lead by example on global governance, … it cannot deliver alone': 'It will act as an agenda-shaper, a connector, coordinator and facilitator within a networked web of players. It will partner with states and organisations, but also with the private sector and civil society'.[253] In its recent submission to the UNFCCC High-Level Champions, the EU stated that 'we do not see the involvement of non-state actors as a substitute for the responsibilities of and actions by governments, but as a complement thereto'. The EU stated that it sees the action agenda 'playing an important role in catalysing enhanced voluntary action by all actors through providing a space for showcasing, sharing information and raising awareness on climate action.'[254]

[248] McDaniels J and others, 'Building a Sustainable Financial System in the European Union: The Five "R"s of Market and Policy Innovation for the Green Transition' (UNEP 2016) Inquiry: Design of a Sustainable Financial System, 11.

[249] Bowman, Banking on Climate Change, 111.

[250] These observations were made during the June workshop.

[251] Laurent Fabius and Christiana Figueres, 'Global businesses must lead the way on climate action', *Guardian*, 19 May 2015, https://www.theguardian.com/environment/2015/may/19/global-businesses-must-lead-the-way-on-climate-action

[252] David Miliband, 'New Times: David Miliband on why the left needs to move forward not back, New Statesman, 21 September 2016, http://www.newstatesman.com/politics/uk/2016/09/new-times-david-miliband-why-left-needs-move-forward-not-back

[253] European Union, Shared Vision, Common Action: A Stronger Europe, A Global Strategy for the European Union's Foreign And Security Policy, June 2016, 43.

[254] 'Submission by the Slovak Republic and the European Commission on Behalf of the European Union and Its Member States: Submission on the Road Map for Global Climate Action – Invitation for Submission by the Co-

The EU has willing partners in this effort among non-party stakeholders, as evidenced by the recent formation of a 'Coalition on Multi-level Multi-stakeholder Governance' for Paris implementation by the European Economic and Social Committee, the Committee of the Regions, the OECD and Comité 21.[255]

The EU can act as a 'connector' and 'coordinator' by better integrating the 'action agenda' with its own diplomatic initiatives, in order to support the core UNFCCC business of capacity building, technology and finance. As a complex supranational structure with multiple centres of agency, the EU is better placed to play such an orchestrating role than national governments which can operate in command-and-control style.

The EU is also well-placed to contribute to what one workshop participant termed the 'design considerations' of the post-Paris action agenda. These include continued high-level political commitment and the on-going need to 'convene, mobilize and facilitate actors and processes'. Many initiatives do not have reporting mechanisms and there is a need 'minimal criteria for recognition to avoid greenwashing'. EU experience with standardization and the creation of 'meta-regulation' overseeing industry self-regulation can make an important contribution to building credible processes for oversight on non-state climate action.

Champions' (2016) <http://www4.unfccc.int/Submissions/Lists/OSPSubmissionUpload/75_253_131145158291059909-SK-01-08-EU%20Submission%20GCAA.pdf>

[255] 'Designing the framework for bottom-up climate action', EESC, 5 October 2016, http://www.eesc.europa.eu/?i=portal.en.events-and-activities-bottom-up-climate-action

Conclusion

When it comes to the global response to climate change, the EU has much to be proud of. Successive EU and Member State policymakers have created a legacy of ambitious, effective multilateralism, up to and including the adoption and early entry into force of the Paris Agreement. The progressive strand of EU politics has been an important and distinctive contributor to this legacy. Now, in the post-Paris implementation phase of climate diplomacy, the challenge for the EU is to remain a leading contributor, with EU norms and processes exerting a significant influence, in the face of a proliferation of international processes, the centrality of technology to implementation and the rising relative importance of large emerging economies.

This report has canvassed opportunities for effective, 'joined-up' EU external action across key international processes. It has also examined the potential for the EU to further harness transnational networks, including public and private actors, to further EU diplomatic goals in respect of climate change. Both of these strands of action would draw on the EU's unique composition, in consequence of which 'EU foreign policy is not a solo performance: it is an orchestra which plays from the same score.'[256] The opportunity is to advance objectives that are inherently progressive, with ambitious climate action inseparable from the realization of 'social justice' at home and around the world,[257] by implementing and innovating practices of network-centric diplomacy that respond to the complexity of the climate challenge.

[256] European Union, Shared Vision, Common Action: A Stronger Europe, A Global Strategy for the European Union's Foreign And Security Policy, June 2016, 46-47.
[257] Lemkow L, 'Intergenerational Solidarity, Sustainability and Climate Change' (2012) 2 *Queries* 64, 67.

Recommendations

Opportunities for EU action:

Diplomacy for progressive climate outcomes:

- Maintain the 'High Ambition Coalition' for progressive climate outcomes and extend it into other international forums beyond the UNFCCC.

- Pursue a '[j]ust transition of the workforce, and the creation of decent work and quality jobs' under the UNFCCC work program on response measures.

- Develop a strategy for maintaining and extending EU normative leadership on climate and sustainable energy as a key diplomatic asset.

- Utilize non-state actor platforms such as the Global Climate Action Agenda to empower the disenfranchised in climate governance.

Technology in climate diplomacy:

- Actively seek and create closer linkages between international processes that are of direct relevance to one another, in order to enhance collaboration, minimize duplication and friction and enable more coordinated EU external action. It is particularly important to create linkages between processes of climate change and trade regulation.

- Participate in enhanced international cooperation on technology research, development and demonstration, including through the UNFCCC Technology Mechanism.

- Focus climate technology and sustainable energy-related development assistance on systematic interventions, e.g. support for the development of national systems of innovation and climate technology innovation policy frameworks.

- Contribute to the Green Climate Fund's development as a distinctive climate finance body promoting a 'paradigm shift' toward low-carbon development, including through de-risking large-scale investments.

- Scale-up the model of bilateral and inter-regional cooperation based on EU climate technology and energy expertise.

Networks as a tool of contemporary diplomacy:

- Participate in the expansion and improvement of networks which marshal both public and private capabilities concerning climate technology, such as the Climate Technology Centre and Network.
- Look for opportunities to integrate the climate change 'Action Agenda' into EU diplomatic initiatives.

- Offer EU expertise in standardization and regulation to boost the accountability and credibility of non-state actor initiatives and tackle 'green-washing'.

- Further extend region-to-region cooperation beyond the official sector to encompass civil society and the private sector as drivers of progress, e.g. with ASEAN.

- Engage with novel and developing models of financing to increase the impact of public finance for climate action.

<u>Opportunities for action by progressive movements:</u>

- Enhance coordination between PES, the S&D Group, FEPS and the PES Group in the Committee of the Regions on EU climate and sustainable energy external action to build on the success of the Paris conference manifesto.

- Actively pursue opportunities at the national party and government levels to facilitate progressive international outcomes on climate and sustainable energy, building on the success of the French COP presidency.

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