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# Options for multilateral initiatives to close the global 2030 climate ambition and action gap - Policy field energy transition



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# **Options for multilateral initiatives to close the global 2030 climate ambition and action gap - Policy field energy transition**

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This policy paper is part of the research project “Accelerating global climate action before 2030” (FKZ 3719 41 109 0) that investigates intergovernmental cooperation initiatives by G20 countries and their possible contribution to accelerate climate action before 2030. The project focuses on four policy areas: energy transition, synthetic e-fuels, food supply and forest protection; this paper looks at energy transition. The project is financed by the Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, supervised by the German Environment Agency and carried out by the Ecologic Institute, Oeko-Institut and Climate Analytics. The policy papers are scientific in nature, and all reflections and suggestions are derived by the authors’ experiences and from careful analysis. They aim to identify options to accelerate climate action in order to meet the globally agreed goal of staying within a temperature increase of 1.5°C or well below 2°C above preindustrial levels, without intending to prescribe specific policies.

**Abstract: Options for multilateral initiatives to close the global 2030 climate ambition and action gap – Policy field energy transition**

To achieve the turnaround towards carbon neutrality, countries need to take much more ambitious action in this decade. One of the key fields of action is the transition of the energy sector – from fossil to renewable fuels, while drastically reducing energy consumption. This paper discusses options how such action can be enhanced through multilateral cooperation. To do so, it first provides an overview of the landscape of the most relevant international initiatives (partnerships, platforms, alliances and networks) that work on issues related to energy transition, particularly on promoting energy efficiency, the uptake of renewable energies, access to energy or the phase-out of fossil fuels. Out of these, five initiatives are analysed in greater detail and described in terms of their role and expected impact. Finally, the paper describes five potential initiatives for enhanced international cooperation on energy transition, particularly in the framework of the G20: an initiative to coordinate efforts for a green recovery from the COVID-19 crisis, an initiative to reduce the supply of fossil fuels, a club of national and sub-national governments that commit to a fully renewable energy supply, a dedicated institution to foster energy efficiency and energy conservation, and an alliance specifically aimed at the non-usual suspects.

**Kurzbeschreibung: Optionen für multilaterale Initiativen, um die globale 2030-Klima-Ambitionsücke zu schließen – Politikfeld Energiewende**

Um die Wende zu einer klimaneutralen Wirtschaftsweise einzuleiten, bedarf es in der Klimapolitik einer deutlichen Ambitionssteigerung in den 2020er Jahren. Eine zentrale Herausforderung ist die Energiewende – weg von fossilen und hin zu erneuerbaren Energieträgern, bei gleichzeitig deutlich gesteigener Energieeffizienz. Dieses Policy Paper erörtert, wie multilaterale Partnerschaften zu dieser Ambitionssteigerung beitragen können. Dazu gibt es zunächst einen Überblick über die Landschaft der wichtigsten internationalen Initiativen (Partnerschaften, Plattformen, Allianzen und Netzwerke), die zu Fragen der Energiewende arbeiten, insbesondere zur Förderung der Energieeffizienz, des Ausbaus erneuerbarer Energien, dem Zugang zu Energie oder dem Ausstieg aus fossilen Brennstoffen. Von diesen werden fünf Initiativen eingehender analysiert und hinsichtlich ihrer Rolle und ihren erwarteten Auswirkungen beschrieben. Schließlich beschreibt das Papier fünf mögliche Initiativen, um die internationale Zusammenarbeit zur Energiewende, insbesondere im Rahmen der G20, auszubauen. Dies sind eine Initiative für klimafreundliche Konjunkturpakete als Antwort auf die COVID-19-Pandemie, eine Initiative, um die Förderung fossiler Brennstoffe zu verringern, ein Club von Ländern und anderen Gebietskörperschaften, die sich eine vollständig erneuerbare Energieversorgung zum Ziel gesetzt haben, eine eigene Institution für Energieeffizienz und Energieeinsparung, und eine Allianz, die sich spezifisch an die Länder richtet, die in den bestehenden Initiativen, Foren und Netzwerken unterrepräsentiert sind.

## Table of content

- Table of content .....ii
- List of tables .....iii
- List of abbreviations .....iv
- Summary .....v
- 1 Introduction ..... 1
  - 1.1 Relevance of the policy field ..... 1
  - 1.2 Background and development regarding multilateral cooperation ..... 2
  - 1.3 Methodology and structure of this paper..... 3
- 2 Evaluation of existing initiatives for multilateral cooperation..... 4
  - 2.1 Selection of initiatives..... 4
  - 2.2 Role of the G20 and other relevant states in the policy field ..... 5
  - 2.3 Powering Past Coal Alliance ..... 6
  - 2.4 International Partnership for Energy Efficiency Cooperation..... 9
  - 2.5 Renewable Energy and Energy Efficiency Partnership ..... 11
  - 2.6 Sustainable Energy for All ..... 13
  - 2.7 IRENA Coalition for Action ..... 16
- 3 Options for increased multilateral cooperation..... 20
  - 3.1 Option 1: Global Initiative for a Green Recovery (GIGR) ..... 20
  - 3.2 Option 2: Initiative to Address the Supply of Fossil Fuels (SUPPLY) ..... 21
  - 3.3 Option 3: Government-level Alliance for 100% Renewables (Full-RE) ..... 23
  - 3.4 Option 4: Dedicated institution for Energy Efficiency (IEENA) ..... 24
  - 3.5 Option 5: Alliance Beyond the Usual Suspects (ABUS) ..... 25
- 4 Conclusions and recommendations ..... 27
- 5 References..... 30

**List of tables**

Table 1: Overview of potential initiatives in the field of energy transition ..... vi  
Table 2: Overview of initiatives in the policy field of energy transition .....4  
Table 3: Overview and summary evaluation of potential initiatives in the field of  
energy transition .....28

## List of abbreviations

<b>COP</b>	Conference of the Parties (to the UNFCCC)
<b>EU</b>	European Union
<b>G20</b>	Group of Twenty, International Forum comprising 19 of the largest countries and the EU
<b>G7 / G8</b>	Group of Seven, International Forum comprising Canada, France, Germany, Italy, Japan, the United Kingdom and the United States,
<b>IEA</b>	International Energy Agency
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IPEEC</b>	International Partnership for Energy Efficiency Cooperation
<b>IRENA</b>	International Renewable Energy Agency
<b>OECD</b>	Organisation for Economic Cooperation and Development
<b>PA</b>	Paris Agreement
<b>PPCA</b>	Powering Past Coal Alliance
<b>RE</b>	Renewable Energy
<b>REEEP</b>	Renewable Energy and Energy Efficiency Partnership
<b>SDG</b>	Sustainable Development Goal
<b>SEforALL</b>	Sustainable Energy for All
<b>UNEP</b>	United Nations Environment Programme
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change



## Summary

To achieve the turnaround towards carbon neutrality, countries need to take much more ambitious action in this decade. One of the key fields of action is the transition of the energy sector – from fossil to renewable fuels, while drastically reducing energy consumption. This paper discusses options how such action can be enhanced through multilateral cooperation.

To do so, it first provides an overview of the landscape of the most relevant international initiatives (partnerships, platforms, alliances and networks) that address issues related to energy transition, particularly on promoting energy efficiency, the uptake of renewable energies, access to energy or the phase-out of fossil fuels.

Out of a longlist of 19 relevant initiatives, five initiatives were selected to offer a mix of the different priority areas (energy efficiency, renewables and fossil fuel phase-out). These five initiatives are subsequently analysed in greater detail and described in terms of their role and expected impact:

- ▶ The Renewable Energy and Energy Efficiency Partnership (REEEP),
- ▶ The International Partnership for Energy Efficiency Cooperation (IPEEC),
- ▶ Sustainable Energy for All (SEforALL),
- ▶ The IRENA Coalition for Action, and
- ▶ The Powering Past Coal Alliance (PPCA).

Both the survey and the in-depth assessment have shown that there is already a plenitude of initiatives, alliances, partnerships and networks that is devoted to promoting different aspects of the energy transition. At the same time, the analysis has also shown that several gaps remain, which are not (or not adequately) addressed by the existing tools. To address these gaps, the policy paper sketches five potential initiatives for enhanced multilateral cooperation on energy transition:

- ▶ **Global initiative for a Green Recovery:** the stimulus and recovery packages that countries have adopted in response to the COVID-19 pandemic need to be aligned with the goals of the energy transition. This proposed initiative would foster exchange on recovery efforts across different countries, and possibly also provide coordination on some aspects.
- ▶ **Supply-side initiatives:** virtually all existing initiatives aim to reduce the consumption of fossil fuels, or increase the supply of non-fossil fuels. This initiative would provide for engagement and exchange on strategies to reduce the supply of fossil fuels and to manage their consequences, including finance, just transition and re-aligning fossil value chains.
- ▶ **Government-level initiative for 100% renewables:** similar to the existing club of private companies that have committed to a fully renewable electricity supply, this initiative would bring together states and sub-national entities that commit to such targets, as a knowledge forum for the challenges of transitioning to a fully renewable energy supply.
- ▶ **Dedicated institution for Energy Efficiency:** compared to the promotion of renewables, energy efficiency and energy conservation continue to receive less political attention.

Important international initiatives in this field have discontinued or await an uncertain fate. This could be resolved through a renewed and reinforced initiative, possibly as an institution dedicated solely to promoting energy efficiency –an international energy efficiency agency.

- **Alliance targeting the non-usual suspects:** the existing initiatives that are active in the field tend to convene the same set of “usual suspects” of ambitious and like-minded countries. This initiative would specifically target the countries that are less well represented in existing initiatives, by offering a framing and focus that is more commensurate with their political priorities and national circumstances.

The proposed potential initiatives differ in their ambition, and therefore also would have vastly different chances of being implemented. The following table provides an overview of the five potential initiatives and their assessment in terms of the criteria developed for this project (i.e. chances for success and effectiveness; efficiency and costs; transparency and international structures and sustainability and environmental integrity).

**Table 1: Overview of potential initiatives in the field of energy transition**

Criteria/options	1 GIGR Global Initiative for a Green Recovery	2 SUPPLY Initiative to Address the Supply of Fossil Fuels	3 Full-RE Government-level Alliance for 100% Renewables	4 IEEENA Dedicated institution for Energy Efficiency	5 ABUS Alliance Beyond the Usual Suspects
Chances for success and effectiveness	High	Medium	Medium	Medium	Low
Efficiency and Costs	High efficiency High costs	High efficiency High costs	High efficiency Moderate costs	High efficiency Moderate costs	Low efficiency High costs
Transparency, international structures	High	Medium	High	High	Low
Sustainability, environmental integrity	High	High	High	High	Medium
Priority	High	Medium	High	High	Low

Source: own compilation.

On the basis of this assessment, three initiatives in particular hold promise and should be pursued with high priority: **First, a Global Initiative for Green Recovery would represent a unique opportunity with potentially high impact**, yet would need to be enacted soon. **Second, the formation of a club of countries aiming for a fully renewable energy supply could send a strong signal** as a group that has accepted the challenge of transforming their energy systems. **And third, a dedicated institution focusing on energy efficiency could help to fill the current void in the multilateral landscape**, raise the political profile of energy efficiency and provide for the needed continuity in addressing it.

# 1 Introduction

## 1.1 Relevance of the policy field

The significance of the G20 for a global energy transition towards clean, affordable and sustainable energy is clear: taken together, the G20 countries account for 80% of global primary energy consumption and for 82% of global greenhouse gas emissions. With their accumulated financial and economic potential, they have the capacity to shape global energy systems. An analysis conducted as part of this project clearly showed the need – and the potential – for stronger multilateral action in the field of energy transition, in order to close the climate ambition gap and to move from incremental to transformative change. The paper spelled out a range of steps towards decarbonisation of the energy system, from electrification and sector coupling to zero emission buildings, and from fossil fuel phase-out in power generation to decarbonised industry (Fuentes Hutfilter et al. 2021).

Thus, there had been some hope that difficult decisions, which have proven impossible under the UNFCCC, could be more easily agreed in the more limited circle of the G20. Yet, the recent experience of addressing climate and clean energy issues in the G20, and in particular the energy and climate protection plan adopted under the German Presidency in 2017, has shown that climate protection remains highly contentious. On the upside, the German Presidency, and subsequently the Argentinian and Japanese ones, managed to preserve a minimum consensus under the "G19" (i.e. without the USA), in which the G19 re-committed itself to the Paris Agreement and its goals. Committing to binding agreements and goals that have already been agreed upon may seem like little, but in view of the current political constellation it is already a diplomatic success, especially since the G20 includes not only the US but also countries that have expressed criticism of the Paris Agreement (Brazil), that have signed but not yet ratified it (Turkey) or that have not played a constructive role in international climate negotiations (Saudi Arabia, Russia).

Part of the political strategy, not least under the German G20 presidency, was therefore to change the framing of important energy policy issues in such a way that they are not only presented as a contribution to climate policy goals, but are also highlighted as a means of promoting innovation, stimulating investment and driving forward the modernisation of the G20 economies. Also, as a result of this framing, different instruments and measures in the G20 are to varying degrees capable of gaining majority support. While measures to increase energy efficiency generally meet with comparatively broad acceptance, commitments to renewable energies are more controversial, especially if the expansion of renewables is explicitly linked to a move away from fossil fuels. Statements on CO<sub>2</sub> pricing have proven to be a no-go for a number of G20 countries, despite national efforts to implement such measures in several G20 countries, and despite unanimous appeals by stakeholder groups C20, B20 and T20, among others. Yet, more far-reaching measures, such as phasing out coal, would most probably meet a similar fate at the G20 level. The process of reducing inefficient environmentally harmful subsidies, initiated by the G20 in Pittsburgh in 2009, would seem to mark an exception – yet its fate and its actual impact remain unclear at current, making it seem like a relic from better times.

Beyond the G20 – energy and climate initiatives have also proliferated in various other fora, and have been addressed through an ever-expanding set of international organisations, initiatives, networks, partnerships, alliances and agencies (Sanderink 2020). This includes several UN-led

initiatives (or initiatives with significant involvement of the UN and its agencies), which often combine promotion of renewables, energy efficiency and climate protection with other goals, in particular social aspects such as access to energy, poverty alleviation and contribution to regional economic development.

At the end of 2020, several markedly positive developments could provide momentum for multilateral action on climate change in the years ahead. In the second half of 2020 alone, several G20 Members have committed to achieve climate neutrality by the middle of the century, and / or adopted net zero targets – the EU and its Member States, China, Japan, South Africa, South Korea, following a step that the United Kingdom had already taken in June 2019. The November 2020 presidential election and the incoming Biden presidency give reason to hope that the US will re-engage in multilateral action to address climate change. And furthermore, the climate strike movement, unfolding climate change and the experience of the COVID-19 pandemic have increased public consciousness about the fragility of the systems that support us, providing a groundswell for more ambitious action.

## **1.2 Background and development regarding multilateral cooperation**

Over the years, intergovernmental cooperation on energy transition issues has become fairly well established and to some extent institutionalised through a suite of organisations, networks, alliances, platforms, coalitions, partnerships and other fora.

- ▶ This holds in particular for the promotion and expansion of renewables. The leading example in this context is IRENA, and the only instance where a dedicated agency has been set up, devoted to promoting the expansion of renewable energies worldwide.
- ▶ Energy efficiency has long been a priority of the G20, carried by the agreement that increased cooperation on energy efficiency can raise economic productivity, improve energy security and achieve better environmental outcomes. Also, energy efficiency has proven to be less contentious among the G20 members than other aspects of climate and energy policy. The cooperation on energy efficiency is instituted through bodies such as the G20 Energy Efficiency Action Plan (EEAP) and the G20 Energy Efficiency Leading Programme (G20 EELP).
- ▶ Beyond energy efficiency, the G20 has put a focus on mobilising finance and investment for clean energies, stimulating innovation and suchlike. Initiatives targeting particular energy sources – promotion of renewables or, let alone, phasing out fossil fuels – have proven contentious among the G20 members, particularly those with large endowment of fossil fuels (Australia, Indonesia, Russia, Saudi Arabia and the US, others to a lesser extent).
- ▶ Some instruments and initiatives aim to foster cooperation on specific instruments or approaches that are relevant to the energy transition – e.g. to phase out inefficient fossil fuel subsidies, to pursue carbon pricing as an instrument of climate policy, and more recently to phase out coal.

From the landscape of the various initiatives, several have their origin in the G7 or G20 processes. These rarely achieve complete coverage of all G7/G20 members, but often involving up to three quarters, plus several other countries. On both accounts, there is a limited set of “usual suspects” – for instance, Turkey and Saudi Arabia are often found among the lacking members, whereas

many smaller European countries (e.g. Austria, Denmark, Norway and Switzerland) are among the additional members.

Several other initiatives trace their origins back to the UN processes aimed at promoting sustainable development, in particular the UN World Summits for Sustainable Development held in Rio and Johannesburg, as well as Agenda 2030, which is intended to achieve the Sustainable Development Goals.

Most initiatives active in the field involve national governments as actors, particularly those that originated from the G7/G20 process, with the G7/G20 members as obvious candidates. However, more recently there has also been a trend towards initiatives in the form of multi-stakeholder platforms, which also involve private businesses and business associations, NGOs and academia.

### 1.3 Methodology and structure of this paper

Section 2 of this paper provides a non-exhaustive overview of the multilateral initiatives on energy transition, with particular focus on intergovernmental initiatives. The section further assesses a subset of five initiatives in greater detail. Based on the findings of the assessment and the overview of the landscape of initiatives, section 3 finally identifies several options for developing new initiatives or enhancing existing ones. In doing so, it follows a methodology that is documented in the background document of this project (Böttcher and Cames 2021).

In the following, the five selected initiatives are briefly assessed. The assessment is based on the criteria laid out in the methodology report (Böttcher and Cames 2021). These include:

- ▶ **Chances of success and effectiveness:** what were the general lessons learned, success stories, failures, as well as internal and external hurdles that the initiative has faced? What were the obstacles to political feasibility?
- ▶ **Efficiency:** How cost-effective is the abatement potential that the initiative expects to mobilise, and how cost-effective is the initiative's approach for doing so?
- ▶ **Costs:** What are the (transaction) costs of the initiative in question? What other costs / benefits need to be considered?
- ▶ **Transparency and institutional structures:** Can the initiative be implemented within the existing international structures? To what extent does the multilateral framework offer the possibility of ensuring transparency on the cooperation between states and the resulting emission reductions? How can coherence between the instruments be increased?
- ▶ **Sustainability and environmental integrity:** To what extent does the proposed option for multilateral cooperation produce positive or negative ecological effects through the reduction of emissions? Which aspects of the UN Sustainable Development Goals (SDGs) are positively or negatively affected?

## 2 Evaluation of existing initiatives for multilateral cooperation

### 2.1 Selection of initiatives

Table 1 provides an overview of the most relevant international initiatives (partnerships, platforms, alliances and networks) which aim at promoting energy efficiency, the uptake of renewable energies, access to energy or the phase-out of fossil fuels. It also includes initiatives targeted at influencing the incentives and frameworks for their deployment, e.g. through carbon pricing, removal of inefficient subsidies, or improving access to finance. This overview is based on a broad screening of internet sources and expert interviews. It also lists the main members and target groups of the initiatives, i.e. whether the initiative is primarily government driven or includes a broader range of stakeholders, and since when the initiative has been active. From this longlist of candidates, five initiatives were selected which offer a mix of the different priority areas (energy efficiency, renewables and fossil fuel phaseout), and which are analysed in greater detail in the following: this includes the Renewable Energy and Energy Efficiency Partnership (REEEP), the International Partnership for Energy Efficiency Cooperation (IPEEC), Sustainable Energy for All (SEforALL), the IRENA Coalition for Action and the Powering Past Coal Alliance (PPCA).

**Table 2: Overview of initiatives in the policy field of energy transition**

Name of the initiative	Active since	Focus	Membership
Renewable Energy and Energy Efficiency Partnership (REEEP)	2002	Energy Efficiency, Renewables	National governments, businesses, NGOs
International Partnership for Hydrogen and Fuel Cells in the Economy (IPHE)	2003	Innovation	National governments
Renewable Energy Policy Network for the 21st Century (REN-21)	2005	Renewables	National governments, businesses, NGOs
International Carbon Action Partnership (ICAP)	2007	Economic instruments	National & subnational govt, municipalities
Pittsburgh Process for the Removal of Inefficient Fossil Fuel Subsidies	2009	Economic instruments	National governments
International Partnership for Energy Efficiency Cooperation (IPEEC)	2009	Energy Efficiency	National governments
United for Efficiency (U4E)	2009	Energy Efficiency	Businesses
Sustainable Energy for All (SEforALL)	2010	Energy Efficiency, Renewables	Businesses, NGOs
RE 100	2014	Renewables	Businesses
We mean business coalition	2014	Climate policy more broadly	Businesses, NGOs
IRENA Coalition for Action	2014	Renewables	International/intergovernmental organisations, Businesses, NGOs, research organisations

Name of the initiative	Active since	Focus	Membership
Carbon Pricing Leadership Coalition (CPLC)	2015	Economic instruments	National & subnational govt, business, NGOs
International Solar Alliance	2015	Renewables	National governments
Mission Innovation	2015	Innovation	National governments
Under 2 Coalition	2015	Renewables and climate policy more broadly	National & subnational govt, municipalities
Climate Vulnerable Forum (CVF) Marrakesh Vision (100% RE)	2016	Renewables	National governments, NGOs
Powering Past Coal Alliance (PPCA)	2017	Coal Phaseout	National & subnational govt, municipalities, business
Net Zero Carbon Buildings Commitment	2018	Energy Efficiency	Subnational govt, municipalities, businesses
Southeast Asia Energy Transition Partnership	2018	Energy Efficiency, Renewables	National governments, Philanthropies, NGOs

Source: own compilation.

## 2.2 Role of the G20 and other relevant states in the policy field

Of the five surveyed initiatives, IPEEC is most closely aligned with the G20. Having been founded as an initiative of the G8 plus five other countries from the ranks of the G20, it has, since then (until being disbanded in 2019) been active as an implementing agency of G20 programmes and activities in the area of energy efficiency, and been involved in the G20 energy discussions. Similarly, IRENA has also involved in G20 energy discussions under successive presidencies, yet was not as closely involved in the implementation of G20 action plans and programmes. The function of institutions like IPEEC is particularly important given the G20's lack of institutional capacity, and thus institutional memory: In absence of a permanent body, such as a secretariat, the fate of the various initiatives undertaken by the G20 depends on the emphasis that successive presidencies put on their continuation, and the support that they muster for them. Therefore, independent bodies such as IPEEC are an important tool to keep issues on the agenda, and to support the implementation of the various work programmes, initiatives and action plans that the G20 are prone to adopt.

SEforALL and REEEP, by contrast, do not originate from the G7/G20 orbit, but instead have closer ties to the UN and its various agencies that are active in the field of energy efficiency, renewable energy and access to energy. As a result, particularly SEforALL is also closely linked to the SDGs and their implementation. Yet, memberships of the initiatives obviously overlap, and the initiatives (in particular SEforALL) are also actively involved in G20 discussions. To some extent, they are also referenced in the implementation of G20 activities, e.g. the G20 Energy Access Action Plan adopted in 2015 under the Turkish G20 presidency, which references among other things the activities of SEforALL. Finally, the Powering Past Coal Alliance traces its roots neither to the

G20 nor to the UN, but rather emerged as a bottom-up initiative between several countries, without being associated with existing multilateral bodies or institutions.

## 2.3 Powering Past Coal Alliance

### 2.3.1 Short description

**History:** Launched in November 2017 (COP23) by Canada and the UK, with a declaration that members sign up to. In September 2019 (NY SG Climate Summit), membership was enabled for governments that “are in the process of developing and implementing ambitious actions on coal phase-out.” This enabled Germany to join – one of the first countries with substantial share of coal in power generation, with at the time not yet finalised decision on coal phase out. Currently (as of 12 August 2020), a total of 104 members have joined the Alliance (33 national governments, 28 sub-national governments, and 43 business organisations).

**Objective and expected impact:** Alliance of nations and states to move the world to commit to an end to the use of unabated coal power in line with the Paris Agreement. Goal for OECD countries to phase out coal by 2030 and global use to be reduced by two-thirds by 2040 and phased out by 2050<sup>1</sup>.

#### **Role / function / model of change:**

- ▶ **Commitment to clear goals through a declaration**, based on science linking goals to Paris Agreement temperature goal: Member countries commit to phasing out coal (OECD 2030, global 2050) and moratorium for new unabated coal fired power generation. All members commit to supporting clean energy investment and “restricting financing for unabated coal power” (In September 2019, criteria were opened up to allow for an “expanded membership” offer for national governments “in the process of developing and implementing ambitious action on coal phase out”.<sup>2</sup> This allowed Germany to join, which was, through the coal commission, discussing a coal phase out date not consistent with the declaration).
- ▶ Agreement to **Finance Principles with commitment** to phase out financial services for unabated coal-fired power and investment in clean energy
- ▶ **Peer-to-peer exchange of best practice** within membership
- ▶ **Just Transition Task Force (launched in July 2019)** – including trade unions, academics, civil society experts.
- ▶ **PPCA Finance Taskforce (launched in June 2020)** – joint advocacy, outreach
- ▶ **New:** support governments in shaping and implementing green recovery packages (post COVID-19).

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<sup>1</sup> Members sign up to the declaration

[https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/740899/powering-past-coal-declaration.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/740899/powering-past-coal-declaration.pdf)

<sup>2</sup> <https://poweringpastcoal.org/news/PPCA-news/membership-options-national-governments-declaration-group>



- ▶ **Outreach beyond membership** e.g. hosting Global Coal Transition Dialogue at Clean Energy Ministerial – aiming to increase membership
- ▶ **Partnerships** with Philanthropies (Bloomberg) and other programmes/initiatives (World Bank energy transition, EU Coal regions in Transition), ClimateAction 100+
- ▶ **Secretariat supporting activities:** hosted by E3G and Pembina Institute

**Participation:** Total of 104 members (as of June 2020) – six G20 Members (Canada, France, Germany, Italy, Mexico, UK; 27 other countries (of which 15 from Europe); 27 cities, provinces and states (including eight US states, one Australian territory and two Australian cities, one South Korean province) and a number of private companies – several utilities, some financials including six financial institutions that joined in June 2020 (including Swiss Re, Aberdeen Standard Investments, Desjardins Group)

### 2.3.2 Chances of success and effectiveness

The Powering Past Coal Alliance (PPCA) has been very successful in creating and accelerating momentum and encouraging national and subnational governments to push for phasing out coal, in a timeline consistent with the Paris Agreement. In a short period of time since its inception in 2017, it has gained a large number of members, not only national governments but many subnational governments and business/finance sector actors. It is hard to assess the role of the PPCA in this, but certainly there has been an increase in mainstreaming of what used to be a “radical” position in relation to the need to phase out coal.

An important element of the success story is a clear commitment signed by members, with clear targets linked to scientific evidence on Paris Agreement compatible benchmarks, and tailored to the respective membership group, including phase out dates for national governments, and finance principles translating these benchmarks into meaningful commitments for financial institutions.

Another success factor is the alliance of national and subnational governments with civil society and important actors in the private sector, and dynamic development broadening the focus for example in relation to the finance sector and recently also incorporating COVID-19 response strategies.

Initially, it was seen as a weakness that the alliance did not include any member countries heavily relying on coal. In this regard, Germany joining as a member was a step forward, which gave the alliance more weight and credibility, given Germany’s continuing strong reliance on coal in the electricity sector. Yet while adding Germany was only possible by opening up membership to governments not or not yet committing to the targets outlined in the declaration (phase out of coal by 2030 for OECD countries and 2050 globally), the PPCA still encourages members to commit to these. This could imply weakening pressure on governments such as Germany to commit to Paris Agreement consistent coal phase out timelines, as the phase-out adopted in Germany (2038, possibly 2035) clearly contradicts the Paris Agreement consistent benchmark and is an outlier among those countries that have decided on a coal phase out date.

Ambitious, pro-active and targeted outreach is an important element enhancing impact and leading to the PPCA being one important go-to-institution in relation to the need to phase out coal.

### 2.3.3 Efficiency

The Initiative addresses the single most important step to reduce emissions in line with Paris Agreement, so it focuses on a key element of emissions reductions to be achieved. Therefore, the initiative is very efficient in targeting this mitigation option, including focusing on phasing out unabated coal for power generation. Given the clear benefits and increasingly evident economic case for phasing out coal, there is a clear need to address the political economy factors that work against coal phase-out, such as the strong influence of incumbents and persistent narratives of “cheap” and “clean” coal. It is therefore an efficient investment to address these factors through communication and alliances to counteract these narratives and developing solutions to address barriers.

The targets endorsed by the PPCA are in line with the Paris Agreement, and despite opening up membership for countries not (yet) endorsing these, there is a clear encouragement to commit to these targets based on scientific analysis. Recently updated analysis shows that global phase out needs to be by 2040, rather than 2050 (Fuentes Hutfilter et al. 2021).<sup>3</sup>

### 2.3.4 Costs

While there is no information on costs, the PPCA is a relatively small organisation, with a secretariat team supporting co-chairs UK and Canada through administration and management of PPCA activities, events, and communications and funded through grants from these two governments.<sup>4</sup>

### 2.3.5 Transparency and international structures

The initiative is very transparent with targets and goals documented, a declaration with underpinning scientific analysis, and documenting membership and background. The flipside of the initiative’s focus on phasing out unabated coal in power generation is that it does not address the perspective of supply markets, i.e. the need to phase out coal production rather than only coal use.

### 2.3.6 Sustainability and environmental integrity

Phasing out coal and replacing it with renewable energy provides a large number of benefits for sustainability and environmental integrity (Fuentes Hutfilter et al. 2021). For a regional overview for South and South East Asia Climate Analytics (2019) provide a detailed overview of benefits for health (avoided air pollution) and vast impacts of coal production and consumption on environment (e.g. water, land) that can be avoided through a coal phase out.<sup>5</sup> SDGs positively affected are SDG 1 (no poverty) through access to affordable energy, SDG 3 (good health and well-being) through avoided air pollution, SDG 4 (quality education) (distributed renewable energy (RE) provides more opportunities for access), SDG 7 (affordable and clean energy) given coal is more costly and polluting than available RE alternatives, SDG 8 (decent work and economic growth) (impact on net employment, see some case studies in CAT Scaling up reports) SDG 11 (sustainable cities), and of course SDG 13 (climate action).<sup>6</sup>

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<sup>3</sup> [https://climateanalytics.org/media/report\\_coal\\_phase\\_out\\_2019.pdf](https://climateanalytics.org/media/report_coal_phase_out_2019.pdf)

<sup>4</sup> <https://poweringpastcoal.org/about/secretariat>

<sup>5</sup> <https://climateanalytics.org/media/decarbonisingasia2019-fullreport-climateanalytics.pdf>

<sup>6</sup> <https://climateanalytics.org/media/decarbonisingasia2019-fullreport-climateanalytics.pdf>, chapter 2, figure 2.13, and CAT Scaling up reports as cited in Background paper 1.

### 2.3.7 Scope for improvements and need for additional multilateral cooperation

The initiative would be more effective the more governments of countries/constituencies become members that are still considerably dependent on coal. Chile could be a good candidate, maybe South Korea and even Japan with recent policy developments. Full support by the G20 is currently unlikely given strong ideological support for coal in some G20 countries, in particular US, Australia, Indonesia. However, the initiative can support a G20 focused initiative focusing for example on just transition and avoiding stranded assets. Another aspect worth including is addressing the perspective of coal producing and exporting countries. Further membership from regional governments in some G20 countries such as Indonesia and Australia could be targeted. Another aspect is to focus more on what to transition to – in particular avoiding a move towards investment into gas instead of renewable energy.

## 2.4 International Partnership for Energy Efficiency Cooperation

### 2.4.1 Short description

**History:** During the 2008 Japanese G8 presidency, the G8 Members agreed to establish a worldwide forum to promote exchange and cooperation on energy efficiency, The IPEEC was then formally launched in Rome in May 2009 by the G8 as well as China, South Korea, Brazil, Mexico, India and the EU. IPEEC was disbanded in December 2019 – supposedly, its activities were to be taken over by a new platform established under the G20, the Energy Efficiency Hub housed at the IEA, yet this new institution has not become operational.<sup>7</sup>

**Objective and expected impact:** IPEEC was created to provide its members with a platform for cooperation on energy efficiency, in partnership with other international organisations (including the IEA). It served to identify and highlight best practices and success stories through which countries had successfully promoted the deployment of energy efficient technologies, and to foster cooperation among them in implementing such policies jointly.

**Role / function / model of change:**

IPEEC worked by providing information on energy efficiency policies to decision-makers, by facilitating the exchange of ideas and experiences, and by supporting countries to undertake joint projects implementing energy efficiency policies. Its work was structured around energy consumption sectors (appliances and equipment, buildings, industry, power, transport) and around cross-cutting challenges (finance, indicators, best practices and best available technologies).

As an independent entity, it was not formally a part of the G20, however was closely linked to the G20 and its activities in the area of energy efficiency, and served as an implementing body of G20 Energy Efficiency initiatives and programmes, including the 2014 Energy Efficiency Action Plan and the 2017 Energy Efficiency Leading Program (EELP). Together with UNEP Finance Initiative, IPEEC co-hosted the G20 Energy Efficiency Finance Task Group (EEFTG).

**Participation:** Initially, IPEEC's membership was comprised of the G8 plus China, South Korea, Brazil, Mexico, India and the EU. Since then Argentina, Australia and South Africa have joined IPEEC – effectively, thus, membership was the G20 minus Indonesia, Saudi Arabia and Turkey.

## 2.4.2 Chances of success and effectiveness

IPEEC's work on energy efficiency is structured around six thematic areas (buildings, appliances, power, industry, transportation and cross-cutting issues). These thematic areas were covered by a total of ten task groups, which each addressed specific challenges – from energy efficiency finance (EEFTG) to indicators for energy efficiency (IPEEI), as well as task groups focusing on aspects of transport, buildings or appliances. As these task groups were instituted ad-hoc, they did not result in a balanced coverage of the different thematic areas. Also, the task groups differed in terms of their endowment with staff resources, as well as in-kind support from their members, leading to mixed outcomes.

One important function of IPEEC was to raise the prominence of energy efficiency issues within the G20, and to keep the issue on the agenda. In the light of changing G20 presidencies and their changing priorities, having a dedicated institution allowed to keep energy efficiency on the agenda, and to anchor it as a strong element of G20 action in the field of energy, featuring prominently through the various action plans adopted over time.

Ultimately though, this did not prevent the demise of IPEEC – lacking political support to continue the work of IPEEC, the preferred route was to transfer activities to the newly established energy efficiency hub, which however has not started to work.

## 2.4.3 Efficiency

Generally speaking, energy efficiency can and should have a central role in a cost-effective emission reduction strategy: in many situations, enhancing energy efficiency represents the least-cost option to reduce emissions, expressed in the idea that energy efficiency should be the “first fuel”. In practice, however, enhancing energy efficiency requires detailed solutions for specific energy uses and applications. IPEEC has been able to contribute such solutions in several instances, as evidenced in a list of success stories, including several instances where countries have jointly developed and applied standards for energy-efficient solutions.<sup>8</sup> Beyond that, the documented output of the different task groups consisted mostly of workshops and reports – which are of course standards formats for knowledge sharing and exchange, but with varying effectiveness.

## 2.4.4 Costs

While there is no information on costs, IPEEC was a relatively small organisation, with a secretariat of five permanent staff. Task groups were mainly sustained by the voluntary contributions of their members, which was one reason for their varied performance.

## 2.4.5 Transparency and international structures

IPEEC had great value as one of the leading intergovernmental initiatives that was exclusively focused on energy efficiency issues: while energy efficiency is also covered by initiatives such as REEEP or SEforALL, and by institutions like the IEA, these only address energy efficiency as one among several energy-related issues. Yet, given the fact that energy efficiency in itself is already a dispersed area – which branches out into sub-challenges related e.g. to buildings, transport, appliances and others – there is a risk that the complexity of the energy efficiency challenge is not adequately addressed in an overarching initiative.

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<sup>8</sup> <https://ipeec.org/newsroom/127-celebrating-10-years-of-international-cooperation-on-energy-efficiency-matters.html>

One factor for embedding IPEEC in the broader energy policy landscape were the task groups, which played a role for reaching out to other initiatives and actors, albeit with varying success. As such, IPEEC – unlike other initiatives – was not construed as a multi-stakeholder platform from the outset.

#### **2.4.6 Sustainability and environmental integrity**

Possible positive effects on SDGs are to be expected in particular with SDG 7 (affordable and clean energy), and with SDG 9 (industry, innovation and infrastructure), also in view of the fact that two of the ten task groups focused on industrial energy efficiency issues. Beyond that, positive contributions would also be expected with regard to SDG 3 (good health and well-being) through reduction in air pollution. And of course, IPEEC contributed to SDG 13 (climate protection measures).

#### **2.4.7 Scope for improvements and need for additional multilateral cooperation**

(see Option 3 in chapter 4 below)

### **2.5 Renewable Energy and Energy Efficiency Partnership**

#### **2.5.1 Short description**

**History:** REEEP was launched in 2002 as an international multilateral partnership by the UK government (along with other partners) at the Johannesburg World Summit on Sustainable Development. Since 2004, it has been established as a legal personality in the form of an international NGO, headquartered in Vienna, Austria. Since 2016, REEEP has held the status of a quasi-international organisation under Austrian law, similar to the SEforALL initiative.

**Objective:** REEEP works to accelerate market-based deployment of renewable energy and energy efficient systems in developing countries by investing into clean energy markets, specifically promoting small- and medium-sized enterprises. It intends to facilitate the exchange of technologies, identify and remove policy and regulatory barriers in the renewable energy market and create such markets where they do not exist, as well as provide information for various stakeholders (Pattberg et al. 2014).

**Role / function / model of change:** REEEP achieves its objectives by investing in and working with small- and medium-sized enterprises offering clean energy solutions in frontier markets, primarily in East and Southern Africa and in Southeast Asia. It targets private actors by contributing matching funds for investments in concrete projects in the field of renewable energy deployment and energy efficiency. While REEEP has helped to implement such projects in 60 countries, the priority regions of the Partnership are in Sub-Saharan Africa (with Mozambique, Namibia, South Africa, Tanzania and Zambia as current priority countries), West Africa (Burkina Faso and Liberia) and Asia (Nepal and Cambodia) (REEEP Annual Report 2019).

**Participation:** Overall, REEEP has 359 Members, including national and regional governments as well as government agencies, businesses, NGOs, industry associations, financial institutions, and civil society organisations. Among the 45 national governments that are REEEP Members, there are 14 G20 countries (with the exception of China, India, Russia, Saudi Arabia, Turkey, EU), as well

as 31 other countries.<sup>9</sup> Of these national governments, nine were also listed as donors in the most recent annual report (2019). Among national donors, the most important contributions in the 2013 – 2019 programming period came from Austria, Switzerland, Sweden, Norway and the UK.

## **2.5.2 Chances of success and effectiveness**

REEEP generally has received positive to mixed reviews for its approach and performance. It is generally considered as having done good work on the ground, albeit with the criticism that its approach of focusing on individual projects risks being too piecemeal (The Partnering Initiative 2006). However, while the projects supported by REEEP were seen as – by and large – successful and effective, REEEP’s record is more mixed when it comes to influencing policies and raising the issue of energy efficiency and renewable energies in fora such as the G7 or G20 (Campe 2014). Others underline that the small-scale and local-level approach of REEEP works to increase accountability, transparency, flexibility and efficiency (Sanderink and Nasiritousi 2020). In addition, the effectiveness of REEEP as a network is limited by its funds: as one of its main functions is to invest into clean technologies, the scope of its activities directly depends on the financial resources available. However, REEEP has had mixed success in attracting such resources, and therefore remains modestly effective (Sovacool and Van de Graaf 2018, 320)

## **2.5.3 Efficiency**

In terms of REEEP’s overall approach, the initiative promises to achieve a high level of efficiency: by promoting the deployment of markets for energy efficiency and renewable energy solutions, and by removing barriers for business models in these fields, the initiatives would be expected to tap into a highly efficient emission abatement potential. In addition, the approach appears scalable to other countries and contexts.

In terms of the implementation, the initial approach to support programmes for only up to a year was judged to be inefficient. As of 2018-2019, this has expanded into a five-year process, including programme preparation, pre-implementation, and evaluating how to grow and scale programmes post-implementation.

## **2.5.4 Costs**

For the actual implementation, REEEP has established a relatively streamlined approach: REEEP issues calls for projects, upon which national governments propose suitable projects, which entails relatively limited search costs. The bargaining and decision costs are higher, however, in the subsequent stage as regional secretariats shortlist proposals and draw up contracts. In the following, the monitoring and enforcement costs are again modest, as the projects themselves are run by national governments or by private initiatives, with REEEP carrying little enforcement costs.

## **2.5.5 Transparency and international structures**

As long as emerging markets and developing countries remain open to foreign investment, implementation has been possible in the current international structure, and will remain possible. The distributed organisation of REEEP with its regional sub-organisations means that the initiative is relatively resilient to changes in political dynamics.

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<sup>9</sup> These are: Angola, Austria, Bolivia, Chile, Croatia, Finland, Ghana, Guatemala, Hong Kong, Hungary, Iceland, Ireland, Kyrgyzstan, Nepal, New Zealand, Norway, Romania, Senegal, Singapore, Slovakia, Sri Lanka, Saint Lucia, Switzerland, Netherlands, Philippines, Solomon Islands, Tonga, Tunisia, Tuvalu, Vanuatu and Yemen.

Yet, in terms of collaborations and flanking initiatives, one point to note is that REEEP has been focused predominantly on sub-Saharan Africa. This means that a growing number of interactions with Chinese state investment in the clean energy and energy efficiency sector are to be expected: in recent years, China has invested massively in energy projects in Africa, predominantly in hydroelectric projects.

Regarding the necessary multilateral frame needed to ensure emissions reduction in this policy field, the most important lever is continued support for the Paris Agreement and enforcement of NDCs for emerging markets and developing countries. This in itself provides incentives for governments and private actors to pursue clean energy projects for REEEP to support. Beyond climate policy, an important consideration is that the recipient needs to remain open to market-based approaches involving private entrepreneurship and free and fair competition.

A more contentious point concerns the role of REEEP in comparison to other initiatives with similar objectives. In this space, it is doubtful whether REEEP has managed to set itself apart from international institutions such as IRENA or international networks such as the Renewable Energy Policy Network for the 21<sup>st</sup> century (REN-21), which pursue similar objectives and address similar target groups. In this context, it has been criticised that REEEP's too broad mandate has prevented it from establishing its comparative advantage (Campe 2014, 96).

### **2.5.6 Sustainability and environmental integrity**

Beyond their climate effects, the supported clean energy projects also have positive effects in terms of reducing air pollution. Particularly in emerging markets and least developed countries, where air quality and associated health risks are often problematic, this is likely to be among the bigger positive side effects.

Negative side effects could materialise if supported wind, biofuels or hydro projects should result in negative impacts on habitats and wildlife, yet there is no concrete evidence of such impacts. Also, particularly for poorly managed large-scale projects, social issues can arise from competition for scarce land resources, including land seizure and forced relocation.

In terms of synergies with SDGs, possible positive effects could arise with regard to SDG 3 (good health and well-being) through reduction in air pollution; with SDG 7 (affordable and clean energy), and with SDG 9 (industry, innovation and infrastructure), as the supported projects drive development of clean energy industry in emerging markets and developing countries. And last not least, REEEP of course contributes to SDG 13 (climate protection measures).

In terms of negative impacts, as noted there can be trade-offs with SDG 15 (life on land).

### **2.5.7 Scope for improvements and need for additional multilateral cooperation**

In principle, the approach of REEEP is scalable and transferable to other contexts and locations: while REEEP has predominantly been active in Sub-Saharan Africa, the approach is generally applicable also to developing countries in South and Southeast Asia, Latin America and the Caribbean.

## **2.6 Sustainable Energy for All**

### **2.6.1 Short description**

**History:** SEforALL was originally launched in September 2011 by then UN Secretary General Ban Ki-Moon as a UN initiative. SEforALL has since been transformed from an intergovernmental initiative to an international organisation and network, which is open to a number of different

stakeholders – besides governments, it also partners with businesses, private and public banks, sub-national governments, civil society and others. It is headquartered in Vienna and established as a quasi-international organisation under Austrian law, with a satellite office in Washington.

**Objective:** the initiative initially started with three concrete objectives, to be achieved by 2030: to ensure universal access to modern energy services; to double the rate of improvement of energy efficiency; and to double the share of renewable energy in the global energy mix. These goals have since found their way into the Sustainable Development Goals, adopted in 2015, of which SDG 7 calls for access to affordable, reliable, sustainable and modern energy for all, to be achieved by 2030. Since the adoption of the SDGs, SEforALL has committed itself to the achievement of SDG 7, as well as to the goals of the Paris Agreement adopted in the same year.

**Role / function / model of change:** SEforALL has developed into an international organisation and network, branching out into thematic networks ('accelerators') that focus on (i) appliances and equipment, (ii) Building Efficiency, (iii) Industrial Energy Efficiency; (iv) Lighting Efficiency and on (v) Gender. Previously, District Energy and Transport and Motor Vehicle Fuel Efficiency were also listed as action items, but are no longer listed on the website as active accelerators.

Although now legally independent, SEforALL remains linked to the UN, and in particular to the implementation of the SDGs. Initially as a UN-led intergovernmental initiative, it has since evolved into an international organisation, with involvement of multilateral organisations, civil society, national governments, and private sector in partnership. It operates through several regional hubs (Asia-Pacific, Africa, Middle East and Latin America & Caribbean) that are co-hosted by other UN organisations and other multilateral actors.

According to its 2016 "Strategic Framework for Results", SEforALL will seek to engage with government leaders and to provide a neutral space for conversations, with the aim of fostering greater ambition to achieve SDG 7. SEforALL intends to support governments in bringing all sectors of the economy on board and addressing the social, gender and equity implications of transitioning the workforce. Two specific roles that SEforALL foresees for itself are to broker partnerships between the public and the private sectors and civil society, and to unlock finance for action from traditional and non-traditional sources (Sustainable Energy for All 2016). Among its main activities and outputs, the initiative lists developing knowledge products (reports), convening events, advocacy and communications. In other words SEforALL "marshals evidence, benchmarks progress, and connects stakeholders toward achieving SDG 7 and the Paris Agreement" (Sanderink 2020, 111).

**Participation:** Currently over 100 members. There are no formal memberships for countries – however several national governments are involved as donors. Among them are Ministries or government agencies from Austria, Denmark, Germany, Iceland, Sweden, Switzerland, and the UK, as well as several private foundations.

## 2.6.2 Chances of success and effectiveness

One distinguishing feature of SEforALL is the coordination (and negotiation) of three related, but distinct goals: renewables, energy efficiency, and access to energy. This distinguishes SEforALL from many other initiatives, which would focus on only one dimension, or at most two of them. The broader focus allows to effectively address trade-offs – e.g. where expanded access to energy drives up overall energy demand, which in turn increases the need for energy efficiency and renewable energy.

At the same time, SEforALL's main vector to effect change – addressing government leaders, fostering dialogue between private and public sector and civil society – is inherently uncertain, and less likely to deliver tangible impacts than a project-based approach. The same is true for the



link between the main outputs of the initiative (knowledge products, conferences, networks) and the desired impacts – which would be more tangible for formats that involve tangible projects.

Particularly the structure of the regional hubs and the thematic accelerators are seen as contributing to the effectiveness of SEforALL, in that they help to bring together the right actors and thereby create a positive dynamic around a shared goal (Sanderink and Nasiritousi 2020, 8)

### **2.6.3 Efficiency**

With its main activities - connecting stakeholders, facilitating the exchange of knowledge and best practices, providing a centre of excellence – SEforALL operates in a very contested space, with plenty of other initiatives pursuing similar goals in similar ways. For instance, IRENA and REN-21 would claim to pursue the same objectives, and deliver the same or similar outputs (Sanderink 2020, 112). As one distinguishing feature, SEforALL has a somewhat different focus, in that SEforALL targets government leaders, whereas other initiatives target policy makers more broadly, as well as other stakeholders.

Also, SEforALL's choice of specific focus areas ('Accelerator') suggests a stronger role for energy efficiency issues – which would be welcomed, since the space for renewable energy initiatives is already well covered by other initiatives, whereas the space for energy efficiency is much less crowded, particularly after IPEEC has ceased its activities.

In terms of the efficiency of SEforALL's operations, some insights can be obtained from the annual monitoring review, a structured self-assessment in which the organisation reports on the progress achieved, and the problems encountered. As one of the dimensions of the monitoring review, the efficiency of the SEforALL programmes and elements is assessed. In the 2018 report, on a five-step scale from excellent to poor, none of the 13 activities and programmes assessed in the 2018 report are reported as excellent. Three are rated as very good, the majority (8) as good. In addition, for one programme the efficiency is considered adequate, and for one as poor (Sustainable Energy for All 2019). This assessment was somewhat more optimistic in the more recent report for 2019, but since the pattern of activities has changed, the results are not directly comparable.

### **2.6.4 Costs**

According to its 2019 annual report, SEforALL had annual expenses in 2019 of about 10.6 million US\$ (9.4 million Euro), which is relatively modest for an international organisation of this size. Of this, more than 80% were spent on staff cost, travel cost and on legal and professional fees. Funding from the organisation is predominantly (close to 90%) from public donors, and only to a small share from private donors. Unfortunately, it was not possible to obtain information on how efficiently the resources are being used, and how high the transaction costs were.

### **2.6.5 Transparency and international structures**

SEforALL is credited for working particularly well in the current institutional structures. By virtue of its close ties particularly to different UN bodies and agencies, one (implicit, but important) function of SEforALL is to contribute to improved coordination of the various UN agencies that are involved with sustainable energy and access to energy. Using this position, SEforALL is seen as one of the more influential organisations for agenda-setting and information dissemination (Sanderink and Nasiritousi 2020, 8)

In terms of its capacity to contribute to greater coherence, one could note that SEforALL as such is about coherence between different parts of SDG7. Addressing inherent trade-offs between access to energy/affordability and the need for a clean, sustainable energy supply, i.e. between the

social and socioeconomic aspects of energy transition and the environmental goals is therefore at the heart of the organisation.

### 2.6.6 Sustainability and environmental integrity

As noted, through its very nature SEforALL is tightly connected to the history of the SDGs, and in particular to the achievement of SDG7: SEforALL had a role in shaping SDG7, thus it is no coincidence that the subgoals of SDG7 are also the leading goals of the organisation. Thus, when SDG7 is achieved, SEforALL will also have achieved its objectives. This sets SEforALL apart from other organisations and initiatives – while SDG7 is relevant for many initiatives, none tie their activities as explicitly to it as SEforALL. This close linkage to SDG7 is a distinguishing feature, but also adds to confusion, why the main function of an organisation is to promote one of the 17 SDGs – which is uncommon for other SDGs.

### 2.6.7 Scope for improvements and need for additional multilateral cooperation

Beyond operational improvements in the execution of its various activities and programmes, one main room for improvement is the continued and improved coordination of activities with other initiatives, particularly since SEforALL operates in a policy space that is already covered by several other initiatives, programmes and institutions.

## 2.7 IRENA Coalition for Action

### 2.7.1 Short description

**History:** Launched in 2014 by IRENA and 35 industry and civil society organisations in renewable energy, including private sector companies, industry associations, civil society, research institutes and intergovernmental organisations. It has been expanding work in task groups and adopted a declaration in 2018.

**Objective:** to promote the wider and faster uptake of renewable energy technologies

**Role / function / model of change:**

- ▶ international network of international/intergovernmental organisations, industry, investment community, research, civil society
- ▶ to discuss industry trends, determine actions, share knowledge and exchange best practice
- ▶ Commitment through a joint declaration (July 2018) (“Structure Document”)<sup>10</sup> including a (revised) vision and mission statement to support widespread adoption of RE. This includes a joint vision “to work together to advance renewable energy in order to drive the global energy transition in line with the Sustainable Development Goal on energy” (SDG 7); its mission is “to convene a global dialogue amongst non-governmental and governmental stakeholders to develop actions to increasing the share of renewables in the global energy mix.”
- ▶ Convening yearly strategy meetings of members, a steering group (7 members represented, IRENA permanently) serves as executive body,

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<sup>10</sup> [https://coalition.irena.org/-/media/Files/IRENA/Coalition-for-Action/Coalition-for-Action-Structure-Document\\_FINAL.pdf?la=en&hash=1F829A93F5D6B84DD24D80195BC150BD9B107FF1](https://coalition.irena.org/-/media/Files/IRENA/Coalition-for-Action/Coalition-for-Action-Structure-Document_FINAL.pdf?la=en&hash=1F829A93F5D6B84DD24D80195BC150BD9B107FF1)

- ▶ Working groups for members to participate/contribute: Business and Investors Group, Community Energy Group, Decarbonising End use sectors group, towards 100% RE group (produced white papers, one for governments in 2019)<sup>11</sup>
- ▶ IRENA acting as Secretariat and permanent member of Steering group

**Participation:** over 100 members: civil society, research institutes, intergovernmental organisations (IRENA, REN21, REEP), industry, investment community. No government membership, but governments are indirectly involved through intergovernmental organisations in particular as members of IRENA. IRENA has 161 members (as of 18 June 2020) and is open to all UN member states or regional intergovernmental economic-integration organisations. All G20 members are members of IRENA (with Brazil being a “State in Accession”).

IRENA has provided analysis and recommendations for G20 energy discussions in cooperation with G20 presidencies of Turkey, China, Germany, Argentina and is to present also to the G20 under Saudi-Arabia presidency.

### 2.7.2 Chances of success and effectiveness

The goal of the initiative is clearly consistent with one of the most robust mitigation options (Fuentes Hutfilter et al. 2021).

A large number of studies, including from IRENA demonstrates the cost-effectiveness of accelerated uptake of renewable energy as a crucial mitigation option to increase ambition and action in short and midterm. While renewable energy is now increasingly recognised as the cheapest energy source in many circumstances, there is a need for flanking policy to provide investment certainty for the fast increase in capacity needed to achieve decarbonisation in line with the Paris Agreement, including funding for transmission grids and other infrastructure to allow for integration of high shares of variable renewable energy.

An important potential success factor of this initiative is the steering and moving role of IRENA with its broad membership (including all G20 countries) and broad mandate to support expansion of renewable energy as well as a broad range of analysis provided to address the information needs along the stages of increasing integration of renewable energy in electricity generation as well as across end-use sectors. With a specific focus and target, as well as membership from civil society, the private sector, and research, the initiative has the potential to go beyond what IRENA as an intergovernmental organisation is limited to by its mandate, in particular if it provides more support and momentum for adopting 100% RE targets, which is the focus of a recently created working group.

However, the initiative is not yet very visible, compared to the PPCA, for example, even though it does exist already since 2014.

### 2.7.3 Efficiency

Given the focus on bringing together existing organisations and their resources, this initiative is efficient in that it does not need large additional resources, instead relying on pooling resources from IRENA and membership organisations including from the private sector. There is a risk of

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<sup>11</sup> [https://coalition.irena.org/-/media/Files/IRENA/Coalition-for-Action/IRENA\\_Coalition\\_100percentRE\\_2019\\_v1.pdf?la=en&hash=28B29862FDCB23FDE3F1461F83B778479ABD60FD](https://coalition.irena.org/-/media/Files/IRENA/Coalition-for-Action/IRENA_Coalition_100percentRE_2019_v1.pdf?la=en&hash=28B29862FDCB23FDE3F1461F83B778479ABD60FD)

dilution of the impact with a broad approach addressing many aspects of enhancement of renewable energy adoption across sectors.

#### **2.7.4 Costs**

While there is no information on costs, specific costs relate to the Secretariat of the IRENA Coalition for Action, which is hosted by IRENA. The group appears to be sustained by the resources of IRENA and the members of the Initiative in particular from the private sector.

#### **2.7.5 Transparency and international structures**

The initiative has clearly documented governance structure and membership including a clear statement of goals and working structures.

With IRENA steering the initiative, it is well connected to the current international structure. IRENA reports regularly to G20. It has taken up the issue of 100% Renewable energy through a working process which can be flanked with more political support similar to the PPCA as well as through targeted G20 initiatives. This could also be achieved with targeted outreach activities addressing energy ministerial meetings for example.

While renewable energy is the most cost-effective solution, a multilateral frame is needed to ensure fast uptake and broadening of effective policies to achieve the large-scale increase needed to be in line with the Paris Agreement. Broadening regional cooperation with stronger interconnection of transmission grids can also be supported with international or multilateral initiatives.

#### **2.7.6 Sustainability and environmental integrity**

The initiative clearly links to the benefits of Renewable Energy uptake for sustainability and environmental integrity, which are well documented.<sup>12</sup> This linkage plays an important role in the communication and campaigns supported by the initiative. A recent example is the Call to Action in Response to COVID 19, highlighting the opportunities provided by renewable energy investment in ensuring energy security, creating jobs and strengthening resilience to safeguard people's health and welfare<sup>13</sup>, as well as country specific papers focusing on opportunities for developing countries.

#### **2.7.7 Scope for improvements and need for additional multilateral cooperation**

Despite its strong support by visible and active organisations, in particular IRENA and most of the Renewable Energy Actors in private sector and research, the initiative itself has not yet achieved high visibility, compared to the PPCA which also focuses on communication and information. Comparing these initiatives, two opportunities can be identified to increase the impact of this initiative:

- ▶ Develop political initiatives with clear targets linked to achieving the Paris Agreement objectives, for example focusing on supporting adoption and implementation of 100% Renewable energy targets

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<sup>12</sup> <https://climateanalytics.org/media/decarbonisingasia2019-fullreport-climateanalytics.pdf> see chapter 2, figure 2.13.

<sup>13</sup> [https://coalition.irena.org/-/media/Files/IRENA/Coalition-for-Action/Publication/IRENA\\_Coalition\\_COVID-19\\_response.pdf](https://coalition.irena.org/-/media/Files/IRENA/Coalition-for-Action/Publication/IRENA_Coalition_COVID-19_response.pdf)

- ▶ Enhance efforts and resources for outreach, focused on specific initiatives, for example creating or linking to high level political events such as ministerial meetings, to build on and enhance or accelerate existing momentum.

### 3 Options for increased multilateral cooperation

Both the survey and the in-depth assessment have shown that there is already a plenitude of initiatives, alliances, partnerships and networks that is devoted to promoting different aspects of the energy transition. At the same time, the analysis has also shown that several gaps remain, which are not (or not adequately) addressed by the existing tools. In particular, the following gaps leave room for enhanced cooperation:

- ▶ **Global initiative for a Green Recovery:** the stimulus and recovery packages that countries have adopted in response to the COVID-19 pandemic need to be aligned with the goals of the energy transition. Up until now, there is little exchange and hardly any coordination on the recovery efforts of different countries, which could be addressed through a new initiative.
- ▶ **Supply-side initiatives:** virtually all existing initiatives aim to reduce the consumption of fossil fuels, or increase the supply of non-fossil fuels. There is no initiative with the explicit aim of reducing the supply of fossil fuels, and re-aligning fossil value chains.
- ▶ **Government-level initiative for 100% renewables:** while there is a club of private companies that have committed to a fully renewable electricity supply, there is no corresponding organisation of states and sub-national entities that have adopted such targets.
- ▶ **Dedicated institution for Energy Efficiency:** compared to the promotion of renewables, energy efficiency and energy conservation continue to receive less political attention. At the international level, this situation is exacerbated with the demise of IPEEC and the delayed introduction and uncertain fate of the energy efficiency hub. This could be resolved through a dedicated institution – i.e. an international energy efficiency agency.
- ▶ **Alliance targeting the non-usual suspects:** the existing initiatives that are active in the field tend to convene the same set of “usual suspects”, i.e. those countries that are already more advanced and ambitious in their climate policies. This raises the question whether there would be value in an alternative approach targeting those countries that are underrepresented in the current set of initiatives, and what the substantive focus of such an initiative could be, without undermining ambition elsewhere.

Based on the assessment of the identified initiatives in the previous chapters, this section presents options how existing instruments and initiatives could be developed further, as well as identifies options for new initiatives, which could complement the existing ones. The proposed potential initiatives differ in their ambition, and therefore also would have vastly different chances of being implemented. Therefore, where applicable, the potential initiatives also indicate the key countries that could be involved in the respective initiatives.

#### 3.1 Option 1: Global Initiative for a Green Recovery (GIGR)

Societies and economies around the world have been hit hard, and continue to suffer, from the impacts of the COVID-19 pandemic, including the economic fallout. In response, governments worldwide have adopted recovery packages to stimulate their economies. These recovery efforts are relevant for climate action in several ways. First, especially in the current economic crisis, it is all the more important to be able to demonstrate how investments into energy transition contribute to job creation and macroeconomic growth, and can thus provide an important force

for socio-economic recovery. Second, the recovery efforts coincide with a massive need to invest into climate-neutral solutions. In the 2020s, massive investments are needed to advance the transition to renewable energies and greater energy efficiency, but also to transform mobility systems and the urban layout, and to revolutionize industrial production. To different degrees, countries have therefore connected the dots, and aligned their recovery efforts with the goals of climate action and energy transition. But as yet, there is little international exchange, let alone coordination, on the green recovery efforts of different countries.

A joint initiative dedicated to this cause could envisage different stages of cooperation, listed below – or of course, combine different elements:

- ▶ The variety that involves least commitment on the side of participating governments would focus on **sharing information, experiences and best-practices**, e.g. could see countries reporting – possibly in a joint format and according to agreed criteria – on the efforts they are taking to promote a green recovery, and how these efforts are aligned with their medium- and long-term climate goals and strategies.
- ▶ A slightly more intense version would involve a **pledge**, e.g. to devote a certain share of their stimulus and recovery efforts to climate-friendly causes. However, as analysis of the existing recovery efforts has shown, the devil is in the detail here, as the “green” elements in green recovery differ substantially in terms of their ambition. A different version of this could be based on what the EU refers to as the “do no harm” principle, whereby countries commit to exclude from their recovery efforts any technologies or infrastructure investment that is not compatible with their long-term objectives. This would apply, in particular, to fossil energy infrastructure.
- ▶ One step further still, countries could seek to **coordinate their recovery efforts**. Particularly in cases where countries are economically well integrated, the effects of stimulus and recovery measures will also be felt abroad, e.g. as it increases demand for imported goods. Rather than erecting fences to make sure that the recovery efforts only benefit domestic producers, international coordination would offer a more efficient way forward. Coordination could also be warranted where stimulus and recovery packages include R&D spending on climate friendly technologies, as such research is internationally integrated.
- ▶ Finally, not all G20 countries are equally well-positioned to launch effective stimulus and recovery programmes. Thus, a further element could see **financial assistance to support stimulus and recovery plans** in those countries that need it – but contingent on those efforts being aligned with the respective climate targets and strategies.

### 3.2 Option 2: Initiative to Address the Supply of Fossil Fuels (SUPPLY)

Essentially all the initiatives surveyed in this paper focus on measures to reduce the demand for fossil fuels – be it through expanding alternatives (in particular renewables), by improving efficiency, or by committing to phase out fossil fuels. However, there is essentially no organisation that explicitly targets the production of fossil fuels – even the Powering-Past-Coal-Alliance is predominantly a club of countries that commit to using less coal to generate electricity, the issue of countries also committing to produce less coal only came up with Germany’s accession to the PPCA. This leaves an obvious gap in the international climate policy landscape: to not only work

to reduce the demand for fossil fuels, but to also tackle the supply. Addressing this gap promises to be especially effective because it would overcome a problem that any partial policy faces: one side-effect of reducing demand for fossil fuels could be lower prices, which in turn encourage consumption in other countries or by other users, unless supply is also reduced.

And yet the failure to address the supply-side is also well explicable – there is an obvious conflict of interest for fossil fuel-producing countries, for whom it is not in their short-run interest to forego the revenue and put the employment in fossil industries at risk. Even worse, there is a moral hazard risk involved: if others phase out fossil fuel production, this means less supply on the world market, and hence the remaining producers stand to reap not only higher market shares but potentially higher prices too (depending on how the demand evolves).

At the same time, including through pressure from the finance sector, the realisation has dawned upon the more enlightened fossil-fuel-producing countries (e.g. Chile, Colombia) that the era of unfettered fossil-based growth may be over already, and that diversification away from fossil fuels is an economic inevitability. This realisation, and the need to address it, open a space for engagement and exchange.

There are several angles how the supply side of fossil fuels could come into play:

- ▶ **Financing (and insurance):** One possible lever to influence the exploitation of fossil fuels, and particularly the pipeline of new fossil fuel projects, is via financing and insurance of fossil fuel investments. The PPCA has already started to address this lever through its Finance Principles,<sup>14</sup> similar initiatives could also be applied to other fossil fuels. The finance and insurance angle could also offer a different way of engaging with fossil fuel companies and the governments of fossil-rich countries: even if they are not inclined to discuss climate protection as a matter of moral responsibility, they might be more accessible to the arguments if fossil fuel projects become increasingly difficult (and expensive) to finance, and to insure because of the risk of stranded assets.
- ▶ **Just transition:** a common concern among fossil fuel-dominated regions are the effects on existing value chains, on employment and on the local communities where the fossil industry is vested. At the same time, this is also a field where much experience exists from previous transformation processes – both as success stories and as examples to be avoided. Thus, the issue lends itself to international sharing of best practices for transition management in post-fossil regions, including socially balanced and participatory approaches, re-orientation of businesses etc. – as a challenge for industrial policy writ large, as well as for management of company or city-level transformations.
- ▶ **Fuel-specific phase-out processes:** while coal phase-out processes have received much political attention, and are addressed above all in the PPCA, the same is not true for gas and oil. A particular challenge here is that the phase-out would not only affect the exploration, but (possibly more so) the entire value chains, including refineries, petrochemicals, car manufacturing, LNG infrastructure etc., raising a whole new set of challenges how the processes can be managed successfully. This can be linked to initiatives focusing on

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<sup>14</sup> <https://poweringpastcoal.org/about/finance-principles>



developing alternative opportunities (see also policy paper on synthetic e-fuels (Cames et al. 2021)).

To roll out an initiative in this field, it would make sense to:

- ▶ start with more enlightened fossil-fuel producers, which show climate ambition in other respects, and where there is already a domestic debate about a future beyond fossil (i.e. Canada, Colombia, Chile, Germany, Mexico, Netherlands, Norway, UK, New Zealand, possibly subnational governments e.g. in Australia); then
- ▶ proceed to the middle section of countries that are struggling to confront the reality that the fossil business is coming to an end, or which have constructed other justifications why this does not apply to them (yet) (Australia, Czech Republic, China, Indonesia, Poland, US); before then
- ▶ addressing the hard nuts, which are not convinced about the need to decarbonise, and for which a move away from fossil fuels would question their economic development model in its entirety (Russia, Saudi Arabia) – see also section 3.5.

### **3.3 Option 3: Government-level Alliance for 100% Renewables (Full-RE)**

Around the world, an increasing number of countries have committed themselves to a fully renewable energy supply – from Costa Rica (2030 for electricity) to Spain (2050), and from New Zealand (2035) to Iceland (already achieved 100% renewable energy in the electricity sector). However, while there is a club for companies that have committed to a fully renewable energy supply (the “RE100” initiative<sup>15</sup>), there is no equivalent for national governments and sub-national entities that have committed themselves to become 100% renewable.

Thus, a relatively straightforward option would be to initiate a club of countries and sub-national governments including municipalities that have committed to a fully renewable energy supply. Beyond the declaration of a shared objective, and the effect of publicly committing to this objective, the initiative could also establish itself as a knowledge forum for the challenges of transitioning to a fully renewable energy supply. While there is a large number of international initiatives devoted to expanding the share of renewables (such as REEEP, REN21, SEforALL, and obviously IRENA and its “Coalition for Action”), these initiatives are mostly about how to promote renewable deployment in the first place. Yet, when this issue is solved and when an ever-higher penetration of renewables comes into reach, a different set of challenges emerges. These are the issues that currently garner attention in the German and European discourse: matters of integrating renewables into the energy system (and market), solutions for sector coupling and storage, electrification of industry, heating and transport, the role of power-to-X technologies, and many others. Beyond merely exchanging experiences and identifying best practices, the function of an international initiative could also be to foster cooperation on those aspects that extend beyond national borders – such as broadening integration of transmission grids with renewed focus on integration of variable renewable energy (ASEAN, Asian Super Grid) where demand load is distributed differently to renewable energy supply, establishing international standards for

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<sup>15</sup> <https://www.there100.org/>

electric mobility, heating and cooling, for green hydrogen and other synthetic fuels based on renewable electricity (see also Cames et al. 2021).

A constraint, however, would be the growing but still short list of countries that have adopted a target for a 100% renewable energy supply. To overcome this, an alternative would be to begin by focusing on the power sector first (100% renewable electricity), or to include countries that have merely put forward the 100% goal as a political goal. Targeting sub-national governments similar to the PPCA is also a solution, as many sub-national entities are very proactive in this regard, including in G20 countries reluctant at national level (US, Australia). Municipalities have also been leading the movement to 100% RE and could also be included.

An important element of such an initiative is supporting the change of narrative away from perceptions such as “cheap, reliable coal”, “clean coal” vs. renewable energy that is portrayed as expensive and yet unreliable and hard to integrate, that are prevalent in particular in Asia. It could also address the practical barriers and learning lessons from best practice at national, sub-national and regional level and a strong linkage to the benefits for sustainable development. India would be an important actor to activate given its leadership role and the importance of a transition in South and Southeast Asia.

### **3.4 Option 4: Dedicated institution for Energy Efficiency (IEENA)**

Following the discontinuation of IPEEC, there is a lack of initiatives that are dedicated specifically to fostering exchange and cooperation on energy efficiency. Energy efficiency is included in some of the cross-cutting initiatives such as SEforALL and REEEP, there is a certain bias of the existing initiatives and networks towards renewable energy promotion, particularly as an instrument of climate mitigation (Sanderink 2020). It is therefore unfortunate that, with IPEEC, one of the few institutions that was dedicated to promoting energy efficiency has been discontinued, and that the fate of the envisaged successor within the G20 – the energy efficiency hub – remains unclear to date. This is all the more so since energy efficiency, in the context of the G20, had proven less contentious than other aspects of climate mitigation, and could thus also help to engage beyond the set of “usual suspects” (see also Option 5: ABUS, section 3.5).

As a result, multilateral action on energy efficiency therefore lacks visibility and political profile, continuity, and adequate resources. One option to solve these problems could therefore be to renew efforts for a dedicated international institution to promote exchange of knowledge and ideas for energy efficiency policies. At a minimum, the G20 could reinforce and commit to strengthen the envisaged energy efficiency hub, which was supposed to take over functions of IPEEC, but which has yet to constitute itself. A more ambitious undertaking would be the establishment of a separate, dedicated institution, i.e. in the form of an International Energy Efficiency Agency as a sibling to IRENA. In crafting such an institution, the lessons that can be drawn from IPEEC’s demise need to be reflected.

In developing such an institution, more careful analysis would be needed how such an institution would relate to the IEA’s work as the leading international organisation working on energy efficiency, including through support of the G20, as designated host of the announced Energy Efficiency Hub, and support of the recently established Global Commission for Urgent Action on

Energy Efficiency.<sup>16</sup> Such ongoing activities and initiatives would at least need to be aligned with, or could be taken up in the work of a newly established dedicated institution.

### 3.5 Option 5: Alliance Beyond the Usual Suspects (ABUS)

The existing initiatives in the field of energy and climate tend to be driven by the same set of countries. These “usual suspects” typically include several EU countries as well as Switzerland and Norway, Canada, Mexico, Japan and others. However, there is also a group of countries that are much less represented in international initiatives – this includes Turkey, Saudi-Arabia and Russia; also, Indonesia tends to be less involved than other G20 countries. Brazil and the US were traditionally well represented in the relevant multilateral initiatives, but have been less engaged in recent years. Following the November 2020 presidential elections in the US, there is hope that the Biden administration will revoke the course of the previous administration and re-engage in multilateral initiatives. Australia has vast renewable energy resources and opportunities, which are increasingly embraced at subnational level, but no initiative at national level given the dominant influence of the fossil fuel lobby at national level. To address the imbalance, there could be a niche to develop initiatives that are specifically aimed at mobilising countries such as Turkey, Saudi-Arabia and Russia, and to address concerns that they would have.

In doing so, the challenge is to develop an initiative that is not entirely devoid of content and ambition, and which is not abused as mere window dressing, to defend and justify inaction. Also, whatever the content of such an initiative would be, it would need to be ensured that the ambition of countries’ commitments is at least as high as that of their NDCs, and that measures agreed in this initiative do not run counter to efforts pursued in other fora and initiatives.

In terms of substance, there was an initial hope – expressed inter alia during the German G20 presidency – that climate and energy policies could be re-framed and re-packaged in terms of innovation, investment, growth and development, putting less emphasis on the environmental responsibilities, and more on the business opportunities of the transition to a low-carbon economy (OECD 2017). The implicit hope was that this reframing would make climate and energy policies more palatable for the countries that have more reservations about ambitious climate policies, above all for the US under the Trump administration. Specifically, with regard to the US administration, however, this approach did not prove to be very successful either.

Possible areas of substantive focus could include:

- ▶ **Just transition**, particularly with a focus on post-fossil regions, would be an obvious candidate seeing that many such regions are in the target group of countries (see also Option 2: SUPPLY, section 3.2).
- ▶ **Circular economy approaches** and their overlaps and synergies with climate goals, including for instance effects on energy conservation, would offer another way of re-framing part of the climate policy debate in a way that meets greater acceptance by some players in the G20;
- ▶ **Effects of climate policies on jobs, competitiveness, macroeconomic growth, and economic welfare** and how climate policies measures can be specifically designed to promote these objectives;

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<sup>16</sup> <https://www.iea.org/programmes/global-commission-for-urgent-action-on-energy-efficiency>

- ▶ **Sustainable finance**, in view of the fact that the global landscape of finance has started to shift, and that financing and insurance for fossil fuel projects is set to become more difficult, and more expensive, over time (see also Option 2: SUPPLY, section 3.2). On the one hand, this message is possibly delivered more effectively to the set of non-usual suspects if it is framed as a discussion about international finance for energy projects. On the other hand, at least in some of the countries that this activity would target, energy investments are funded either by the state, or by financial institutions with close links to the state; hence the threat of a credit crunch for fossil projects is less daunting.
- ▶ **Energy efficiency**, which has consistently proven to be less contentious among the G20 than other aspects of climate mitigation. Since it is not necessarily presented as a transformative element of mitigation policies (unlike renewables or fossil fuel phase-out), it is also more palatable for those countries for whom transformation looms more like a threat, and less like an opportunity.
- ▶ Opportunities for new export products and **markets** and **regional grid integration**, or other market-driven integration (e.g. green hydrogen export/import or even energy intensive products such as low-carbon steel) – building on initiatives such as EU-Northern Africa, ASEAN Power grid, Asia Super Grid to focus on expansion of and integration of variable renewable energies. The idea is to support a move to 100% RE by interconnecting regions with more RE supply than demand with other regions with less RE potential and high energy demand. Important demand countries that could play an active role are Japan and South Korea.
- ▶ **Technology development** in particular with a focus on integration of high shares of variable RE including storage technology, smart grids, opportunities of sector coupling and direct and indirect electrification – linked to green hydrogen, green steel making, aviation etc. including the role of CCS / CCU in some industry sectors such as cement. For further detail on the options, see also the policy paper on synthetic e-fuels, presenting some existing initiatives and ideas to build on them (Cames et al. 2021). Korea, Japan and also Australia and India are examples of G20 countries that can play an active role in a technology-focused initiative.

## 4 Conclusions and recommendations

Across the world, the transition of energy systems is progressing rapidly, driven by politics but increasingly also by the economics of renewable vs. fossil-based energy generation. As renewable energy technologies have left the niche, the need for transformative approaches that take the entirety of the energy system into view increases. This implies, in particular, measures that address managing the energy system as a whole, including the decline and phase-out of fossil resources and technologies.

Correspondingly, there is also a need – and an opportunity – for international initiatives, alliances and partnerships that are geared at supporting such transformative change, either in the form of newly established initiatives or existing ones that up their ante. An increasing number of countries and jurisdictions have declared their ambition to achieve climate neutrality around the middle of the century. This also raises the stakes for international cooperation in the area of energy transition. New multilateral initiatives (or existing ones) need to set sight on climate neutrality – and make sure that their efforts across a range of policy areas are compatible with their long-run climate and energy targets.

Over the years, a broad range of multilateral initiatives, partnerships, networks and alliances have been launched in the area of energy transition, of which this publication has only summarised a few examples. This includes initiatives originating from the orbit of the G7/G20 as well as those linked to UN-led policy initiatives, but also initiatives that have developed around international climate negotiations. It includes multi-stakeholder platforms and intergovernmental fora, and broad-based networks and those focusing on addressing specific challenges or advancing specific solutions. By and large, however, and to different degrees, these initiatives fall short of enabling or supporting transformative change.

At the same time, G20 comprises a broad range of actors with different starting points and national circumstances, different political priorities, different positions on multilateral cooperation and also different levels of climate ambition. As a result, one feature of the existing initiatives is a certain bias in terms of their membership – a few G20 Members (and other countries) are members of virtually all initiatives, whereas several G20 Members are involved in very few of them. There is thus a need to broaden the field of countries engaging in multilateral cooperation – addressing both those that are ready to move ahead and take ambitious steps, but also finding ways to engage with those on board that are still reluctant.

The following table summarises the five potential initiatives presented in the previous chapter, and identifies priorities based on the criteria developed for this project (i.e. chances for success and effectiveness; efficiency and costs; transparency and international structures and sustainability and environmental integrity).

**Table 3: Overview and summary evaluation of potential initiatives in the field of energy transition**

Criteria/ initiatives	1 GIGR Global Initiative for a Green Recovery	2 SUPPLY Initiative to Address the Supply of Fossil Fuels	3 Full-RE Government- level Alliance for 100% Renewables	4 IEEENA Dedicated institution for Energy Efficiency	5 ABUS Alliance Beyond the Usual Suspects
<b>Activity</b>	Joint initiative to cooperate on stimulus and recovery effort, align with climate objectives	Partnership among fossil fuel producers committing to reduce / phase out fossil fuels	Club of governments committing to a fully renewable energy / electricity supply	Establishment of a separate, dedicated institution to promote energy efficiency	Establish new alliances of states not well represented in existing fora
<b>Chances for success and effectiveness</b>	High	Medium	Medium	Medium	Low
	High urgency and political momentum	Would fill a gap in the international landscape, would-be participants with conflict of interest	Builds on existing commitments by a small but growing number of states	Established policy area, broad support, but history of failed attempts	Would-be participants are reluctant to greater ambition for different reasons
<b>Efficiency and Costs</b>	High efficiency, high costs	High efficiency, high costs	High efficiency, moderate costs	High efficiency, moderate costs	Low efficiency, high costs
	Sizeable stimulus / recovery funds spent in a more consistent and efficient way	Supply-focus generally efficient, but also focus on relatively costly flanking measures	With falling cost, renewables become ever more attractive	Energy efficiency economically attractive, non-market barriers to be addressed	Unlikely to endorse least-cost approaches, more likely flanking measures
<b>Transparency, international structures</b>	High	Medium	High	High	Low
	Coordination with other economic governance needed	Not yet a focus of international cooperation, new structures needed	Could build on similar / existing initiatives	Can build on existing institutions and experiences	Entirely new initiative, focus to be clarified
<b>Sustainability, environmental integrity</b>	High	High	High	High	Medium
	Decisive contribution to transformative investments	Transformative impulse and complement to conventional approaches	Transformative impulse, considerable co-benefits	Considerable economic and social co-benefits	Possibly focus on low-ambition steps
<b>Priority</b>	High	Medium	High	High	Low

Source: own compilation.

In terms of prioritizing the different potential initiatives, three initiatives in particular appear worth pursuing in the short term, albeit for different reasons:

- ▶ For a **Global Initiative for a Green Recovery**, there is an imminent and pressing need as countries around the world will implement (and possibly extend) their planned recovery programmes in 2021. Given the high prominence of the issue, which is already front centre on the agenda of G7/G20 and other fora, and given the benefits of international cooperation, there is a relatively high probability that such an initiative could be implemented. The main challenge will be timing, as an initiative would need to be rolled out within months to still have any impact on this rapidly evolving field.
- ▶ For **IEENA** – or some other dedicated initiative to promote **energy efficiency** at the level of the G20 – the need is imminent as the demise of IPEEC and the fact that the Energy Efficiency Hub has not yet been established leaves a gap to be addressed. All the more so since the need to drastically improve energy efficiency is undisputed, and since energy efficiency remains one of the less contentious fields of action across the entire group of twenty.
- ▶ The **Full-RE club** could be a timely signal of high-ambition countries that are ready to embrace the challenge of transforming their energy systems. Rapidly falling costs of renewables, advancing solutions for grid integration and storage, and the increasing momentum from the financial sector provide the tailwind for such an initiative.

Compared to these, the other potential initiatives discussed would rather appear as longer shots, with larger risks and less certain success.

- ▶ An **initiative to tackle the supply-side** of fossil fuels and address their phase-out would certainly be a long shot. The powering past coal alliance provides first elements of such an initiative, but – focusing mostly still on the consumption of coal – would need to expand in scope and ambition. However, it is also clear that, to reach transformative change of the energy system, policies will eventually need to address both the supply and the demand sides of energy systems. This underlines the need for a supply-side initiative, even though it may only become feasible in the long-term and will require significant effort. Here, too, financial markets could provide momentum, as the realization is sinking in that the age of fossil fuels is finite; the growing number of climate neutrality pledges mean that the market will be shrinking. And yet, particularly among fossil-rich countries, only few appear ready to accept this situation as a new, inevitable reality – a new initiative would therefore need to start with a limited subset of countries.
- ▶ Finally, efforts to **engage beyond the usual suspects** are more difficult to assess, as this approach is defined more by membership, and less by a common cause or goal that the initiative would seek to advance. As discussed, there are a range of possible angles that such an initiative could adopt, for instance by emphasizing primarily the economic opportunities of energy transition, technology development as well as the need for a just transition. However, forging such an alliance from a diverse set of actors with very different priorities is likely to be a protracted and cumbersome process, and striking a balance between broad support and sufficient ambition will be delicate.

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