

Yearbook of Global Climate Action 2017

Marrakech Partnership



United Nations
Climate Change Secretariat

Marrakech
Partnership





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Foreword from **Patricia Espinosa**, Executive Secretary of the UNFCCC

Climate change is one of the greatest challenges humanity has ever faced. Left unchecked, it threatens to destabilize the natural world, our foundation for security, prosperity and peace.

The risks are numerous. Climate change is a threat multiplier for governments and the private sector. No country or economic sector is immune to climate impacts.

In 2015, governments adopted the Paris Agreement and 2030 Agenda for Sustainable Development. These agreements and many more point us towards a future where risks are minimized and resilience to climate impacts is integrated into development.

The Paris Agreement established high-level climate champions to connect governments with voluntary and collaborative actions taken by cities, regions, businesses and investors.

The following year, governments decided that the Marrakech Partnership would formally bring these groups – non-Party stakeholders – closer to the UN Climate Change process.

Close collaboration between national governments in the multilateral process and those that are driving the real economy is essential. Governments setting the policies and conditions for the real economy, but cannot meet the challenge alone. Action by all is needed.

Governments must know the action in the real world to accelerate ambition over time, which is required to secure success for agreed global goals. It is a virtuous circle.

This Yearbook will complete that circle by recognizing Marrakech Partnership action in support of the Paris Agreement. It will show governments the value of outreach by the climate champions. And it will demonstrate the powerful potential of the Paris Agreement as an engine of transformative change.

Nations can see how local and regional governments are seeking to improve citizens' lives with actions that reduce emissions and build resilience. They will see how businesses and investors are responding to their own climate challenges.

These compelling examples should bring confidence to the international climate change negotiations.

At the 2017 COP23 UN Climate Change conference in Bonn, Germany, under the leadership of a COP President from Fiji, governments are taking the next step towards an operating system that can fulfill the full potential of the Paris Agreement.

The COP23 spotlight will also shine on bold announcements from non-Party stakeholders.

This Yearbook shows how these actions accelerate global momentum towards our common challenge. And it can inspire and support governments to act on their Paris contributions.

Further, faster, together – we can and will rise to meet our climate and sustainability challenges.

This is how we will deliver on the promise of Paris.

Foreword from the High-Level Champions

It is very symbolic for us to present this first Yearbook of global climate action under the COP23 Fiji presidency, given that it was the Alliance of Small Island States (AOSIS) that had put out strong calls for the recognition of contributions from non-Party stakeholders to meet the objectives of the Paris Agreement.

Prompted by the urgency to scale up action before 2020, thousands of actors, including non-governmental organizations, subnational governments, civil society organizations, businesses and government agencies stepped forward with innovative initiatives and ambitious commitments. This is reflected in the NAZCA portal, which has recorded more than 12,500 commitments for action since 2015.

The seven thematic areas of the Marrakech Partnership represent 80 per cent of global CO₂ emissions and therefore present huge potential for large-scale emissions reduction by 2020. The Marrakech Partnership aims to scale up long-term sectoral roadmaps, investments and knowledge sharing, introduce new business models, and facilitate technology transformation, in the thematic areas.

Progress towards this aim is being made possible through the determination and commitment of partners who have come out of their silos and together are addressing the interlinkages between the thematic areas and cross-cutting issues such as health, resilience and education.

We believe that sound political decisions cannot be made without robust data. We consider it a priority to produce reliable and accurate information that is reported back from the ground. This Yearbook of global climate action represents achievements and progress made by initiatives, with information derived directly from implementation partners.



The information presented to us reveals the following major trends: The groundswell of climate actions is growing and diversifying, with increasing commitment, not only to ambitious mitigation targets, but also to adaptation and climate resilience. Climate action is becoming a global affair, with a rapid acceleration of implementation in developing and low-income countries. Initiatives are increasingly delivering on their objectives and becoming more effective over time.

These trends are highly encouraging and auger well for closing the emissions gap. With scaled-up support from Parties and financial institutions, especially on adaptation- and resilience-related initiatives, the Marrakech Partnership would accelerate actions to meet the more ambitious goal of 1.5 degrees and contribute towards the goals of the Paris Agreement, the Sendai Framework for Disaster Risk Reduction and the 2030 Agenda for Sustainable Development.

We are proud to work with an impressive and dedicated group of individuals, coalitions and initiatives that have shaped the Marrakech Partnership into an energetic and dynamic space within a short time span.

We look forward to seeing this momentum grow and strengthen, through increased collective action. This increased action by each and every one of us will result in a carbon-neutral world, and ensure human dignity and well-being.

Hakima El Haité, High-Level Champion for Global Climate Action, Special Envoy for Climate Change from the Kingdom of Morocco

Inia Seruiratu, High-Level Champion for Global Climate Action, Fiji Minister for Agriculture, Rural & Maritime Development, and National Disaster Management and Meteorological Services



Foreword from **Ashok Sridharan**, Mayor of Bonn, First Vice President of ICLEI and founding member of the Climate Action Leadership Network

Ever since the gavel fell in Paris to usher-in the landmark Agreement on climate change, it has been clear that cities, regions, businesses, investors and civil society at large will play a pivotal role in ensuring its success.

The implementation of the Paris Agreement requires the continued and enhanced participation of these actors to deliver mitigation and adaptation solutions in a collaborative, integrated, and holistic way.

But, until now, what has been missing is the umbrella framework under which actors of the Marrakech Partnership for Global Climate Action can positively contribute their efforts to those of national governments.

Writing as Mayor of Bonn, First Vice President of ICLEI (Local Governments for Sustainability) – and now also as a founding member of the newly-announced Climate Action Leadership Network – I fully understand that it is only by collectively shouldering responsibility for keeping global temperature rises to between 1.5 and 2 degrees Celsius that we can hope to meet the scale of the challenge. This is because non-Party stakeholders,

such as cities and regions, have the unprecedented advantage of being able to fast track and facilitate solutions within their own jurisdictions which, if successful, can be applied nationally or even globally. On the other hand, this strength can be multiplied where there is true multilevel, multidisciplinary collaboration throughout the whole process of setting up and implementing strategies that support implementation of the Paris Agreement.

As trusted partners of national governments in this process, we can help make sense of the spectrum of Global Climate Action by enhancing the role of coalitions which, in turn, will thread together action across different constituencies, operating in vastly different geographies.

I would like to congratulate the High-Level Champions – Special Envoy Hakima El Haité and Minister Inia Seruiratu – for inspiring climate leadership and making the Yearbook a reality.

As we prepare to accelerate the pace of change in 2018, the Yearbook will be the recognized instrument for contextualizing progress and spotlighting where and how governments and stakeholders can go 'gemeinsam, schneller – weiter'.



Acknowledgements

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A special thanks to the analysts who conducted the survey analysis which forms the basis of the Yearbook. The analysis was led by Sander Chan from the German Development Institute/Deutsches Institut für Entwicklungspolitik (DIE). The team of researchers include Ann Gardiner from A G Climate & Energy Ltd, Thomas Hale from the Blavatnik School of Government, University of Oxford, Wanja Amling, Nicole Anschell, Jason Dail, Friederike Eichhorn and Alexander Rothe at DIE, Nicholas Ross from FAO, Todd Edwards at Mission 2020, Franz Hochstrasser, Angel Hsu, Tina Huang, Amy Weinfurter and Yihao Xie at Yale University, and Idil Boran at York University, Canada.

The High-Level Champions would also like to thank their teams and the UNFCCC secretariat for their steady support throughout the process of developing the Yearbook.





Executive Summary

There is universal recognition that more ambitious and effective climate action from all levels of government, the private sector and civil society is needed now to limit the global temperature rise to 1.5 degrees Celsius, and avoid the worst effects of climate change.

The Marrakech Partnership for Global Climate Action was launched in COP22 in Marrakech to provide a strong roadmap for the UNFCCC process to catalyze and support climate action¹ by Parties and non-Party stakeholders in the period from 2017 to 2020. The partnerships and initiatives of non-Party stakeholders, through the Marrakech Partnership, and in cooperation with national governments, aim to take immediate action on climate, consistent with the full implementation of the Nationally Determined Contributions (NDCs).

They also aim to foster greater ambition over time on mitigation, adaptation, and the delivery of finance, technology and capacity building to developing countries. This Yearbook of global climate action, the first produced under the Marrakech Partnership, has been developed in consultation and cooperation with coalitions and initiatives, and informs Parties on what has been achieved under its umbrella, and what needs to be done to accelerate transformation to a low-carbon world and to increase resilience.

The Marrakech Partnership is aligning with the Paris Agreement

This Yearbook demonstrates that non-Party stakeholders are steadily progressing with climate action. Most initiatives have already moved beyond simply being commitments on paper. However, they face challenges to achieving the scale of the

transformation needed, including integrating approaches, addressing financial gaps and filling capacity, technology and information gaps. The convening of Party and non-Party stakeholders through the Marrakech Partnership on an ongoing basis is an important part of enhancing collaboration and catalyzing efforts to collectively identify and address barriers to enhanced implementation. A firm link between the work of the Marrakech Partnership and the Facilitative Dialogue will be key to a collaborative and multi-stakeholder approach to the Dialogue, and one that supports the long-term global transformation required by the Paris Agreement and provides new operational tools to accelerate action on the ground and a model for inclusive design of the next round of NDCs.

Climate action by sub-national governments is spreading

Across all sectors, local and regional governments are making bold commitments and taking action to improve the lives of their citizens. Coalitions, representing more than a billion people (close to the population of India), have committed to decrease emissions by 80 per cent by 2050. Megacities with more than 300 million inhabitants are working together to build capacity on adaptation in the water sector. Around the world, cities and regions are taking the lead on issues as diverse as public transport, food waste and district energy.

Businesses are transforming

Businesses are responding to the challenges of climate action in tangible ways. Companies are committing to 100 per cent renewable energy and energy productivity. Companies are also setting concrete targets in line with the climate science

underlying the Paris Agreement. Cross-sectoral business initiatives are recognizing and addressing the impacts of supply chains and resource use on agriculture, land use, transport and water. Collectively, climate action in the business sector is providing building blocks for 21st century business models and delivering the scale needed to transform economies.

Action on increasing resilience is strengthening

The focus on oceans and water in COP22 has brought a wider range of stakeholders into the Marrakech Partnership and further strengthened the growing emphasis on resilience. For example, funding for adaptation research and innovative solutions for the Pacific Islands has been committed by the New Zealand Pacific Partnership on Ocean Acidification. Better water resources management in arid and semi-arid regions of the world is a focus of several key initiatives. Support for resilient agriculture and energy infrastructure in developing countries and Small Island Developing States is also scaling up.

Reporting on global climate action is improving

Many non-Party stakeholders are already reporting their progress on a variety of platforms. To gain insight into the specific activities of the Marrakech Partnership, the High-Level Champions surveyed a large number of initiatives. Around 80 responses were received, almost equally distributed across the thematic areas of the Marrakech Partnership. From an analysis of the responses and independent research, three key trends are observed:

- » Initiatives under the Marrakech Partnership are growing and diversifying. Since the launch of the Marrakech Partnership, 70 per cent of the initiatives have made new commitments. The type of participants in initiatives is very varied, bringing together national and local governments, international organizations, civil society and businesses. These multi-stakeholder and multi-sectoral partnerships are particularly suited to address multiple goals under the 2030 Agenda for Sustainable Development.

- » Climate action is a global affair and is spreading to the South. Initiatives are being implemented in nearly all countries of the world. In the last two years there has been a rapid scaling up in the implementation of climate action in lower-middle- and low-income countries.
- » Initiatives are starting to deliver. Initiatives are delivering concrete outputs that are helping to build social, environmental and institutional effectiveness.

Global climate action is moving to the South

As is evidenced by analysis in the Yearbook, global climate action is scaling up, especially in the global South. The High-Level Champions have made it one of their priorities to encourage implementation of climate action in the most vulnerable countries, including Africa and the Small Island Developing States. This movement was facilitated by the expansion of climate action to align with the Sustainable Development Goals (SDGs) and the Sendai Framework for Disaster Risk Reduction. Examples of actions include the creation of a network of long-term investors for the financing of climate change mitigation and adaptation in Africa, initiatives on water security, resilient agriculture and resilient coastal communities, and a network of 12 African Climate Innovation Centres.

Climate finance needs boosting

It is essential to scale up climate finance to bring about the transformation needed in every sector to meet the goals of the Paris Agreement. Public, international climate finance offers an important source of financing for non-Party stakeholders to mobilize funds for innovative and transformational investments in climate action. It can also help leverage and unlock the much larger sums of public and private investment needed to effectively respond to climate change. In many sectors, investment decisions made by non-Party stakeholders will determine whether countries are able to pursue low-emissions and climate-resilient development pathways.

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Global Climate Action – an introduction

The Marrakech Partnership for Global Climate Action

In setting their goals in Paris in 2015, Parties to the United Nations Framework Convention on Climate Change (UNFCCC) recognized explicitly that action by national governments alone would not be enough. Success would require concerted action climate action – at all levels of government, the private sector and civil society.²

A way had to be found to scale up efforts by these diverse actors. So, a year later the High-Level Champions launched the Marrakech Partnership for Global Climate Action – building on the work done by the Lima-Paris Action Agenda – to help quickly mobilize action on a sufficient scale and to reap the benefits in efficiency and effectiveness that can come through partnerships and coordination. During 2017, the Marrakech Partnership has become a coherent and recognizable institution, attracting contributions from a wide array of partners and expressions of eagerness (from both Parties and non-Party stakeholders) to contribute to and strengthen the Partnership.

The Marrakech Partnership is led by two High-Level Champions named by the Presidencies of the current and incoming UNFCCC Conference of the Parties (COP) – and supported by the UNFCCC secretariat. In 2017, the Champions are Minister Inia Seruiratu and Special Envoy Hakima El Haité. This Yearbook, the first produced under the Partnership, takes stock of climate actions based on information gleaned in various meetings held in 2017,

on existing research, on self-reporting by various non-Party stakeholders, and on the results of a survey that the secretariat conducted on behalf of the High-Level Champions.

The Yearbook reveals that climate action is indeed increasing, building on the momentum seen in the lead-up to the Paris Climate Change Conference in 2015 under the Lima-Paris Action Agenda. But are the pace and scale of action sufficient to close the gap between what Parties have pledged in their Nationally Determined Contributions (NDCs), and what is required to meet the goals for adaptation and mitigation that are laid down in the Paris Agreement?

It is the job of the Marrakech Partnership to ensure that the answer to these questions is an unequivocal yes. It will do this by implementing a work programme aligned under seven themes – Land Use, Oceans and Coastal Zones, Water, Human Settlements, Transport, Energy and Industry. The annual work programme will:

- » Make coalitions the heart of a dialogue of actions. The Marrakech Partnership is convening people, organizations, institutions and governance structures in a systematic way to demonstrate the power of multi-stakeholder partnerships. Collaboration and coordination – indeed, integration – are critical for success of the Paris Agreement, the 2030 Agenda for Sustainable Development and the Sendai Framework for

Disaster Risk Reduction. A series of high-level roundtables was held at COP23, focusing on the interaction between ambitious mitigation actions and the Sustainable Development Goals on Zero Hunger and Sustainable Cities and Communities.

- » Define the principles of organizing the Marrakech Partnership. Since the first Champions Roadmap in May 2016, the Marrakech Partnership has been structured with the support of Parties, non-Party stakeholders and the UNFCCC secretariat. As announced at the High-Level Event at COP22, the coalition representatives have gathered regularly in a continuous integrated work programme of dialogues and exchanges. At the beginning of 2017, 75 coalitions set up their own navigation and priority-setting tool: the draft impact and priority tracker. Political advocacy of the Marrakech Partnership was reinforced by the High-Level Champions at the UN Climate Summit 2017 in New York, by launching the Climate Action Leadership Network, a high-level network of leaders advocating for specific high-impact action up to 2020 and for enhanced high-level engagement with the various Marrakech Partnership activities, including at the annual UN Climate Change Conference. Combined with another key venue for dialogue, the planned Climate Action Collaboration Forum, the High-Level Champions will strive to create Communities of Climate Action Practice.
- » Build an information architecture to track and report climate action. Sharing results-based information is key to speeding up the dissemination of good practice – a message reinforced by non-Party stakeholders at the first Global Alliances and Coalitions Summit in Rabat in June 2016. This architecture will build on work already done, for example an enhanced NAZCA portal³ – to build confidence among Parties to increase ambition and identify gaps in support to non-Party stakeholders. Each year the Yearbook will reflect the most important strategic information reported by the coalitions throughout the year and be presented at the High-Level Event at COP.
- » Encourage scaled-up support and investment in climate solutions, translating NDCs under the Paris Agreement into investment-ready, investment-worthy projects and

programmes. The NDC Partnership launched at COP22 is already supporting governments in countries such as Colombia, Pakistan and Uganda to make this transformation to investment-ready implementation.

- » Advise on the focus of the UNFCCC's annual technical examination process and feed the results of that process, and information from other sources, back to Parties in a Yearbook and a complementary Summary for Policymakers, and through the formal Facilitative Dialogue process under the Paris Agreement.
- » In their Facilitative Dialogue planned for 2018, Parties will take stock of current climate action. The Marrakech Partnership can help ensure that the broad range of climate action is taken into account in this dialogue, and build a bridge between Party and non-Party stakeholders. The Facilitative Dialogue and subsequent stock-taking exercises every five years will be crucial to measuring the success of the Paris Agreement, a fundamental feature of which is the continual ratcheting up of ambition to close the gap between what has been achieved and what is still required.

The time for **climate action** is now

More ambitious and effective climate action is needed now for countries to limit temperature increase to 1.5 degrees Celsius and reach a net-zero carbon-world in the coming decades. The Marrakech Partnership is helping deliver that action now and to scale-up ambition for the long term.

Aligning climate action with the Paris Agreement

By 2016, cities and regions representing over a billion people had already committed to reducing greenhouse gases and strengthening resilience, as had businesses with revenues of USD 36.6 trillion, roughly equivalent to the combined Gross Domestic Product (GDP) of China, Germany, Japan, the United Kingdom and the United States.⁴ To make the transformation that is necessary across society, action is needed in every sector.



Commitments by non-Party stakeholders are starting to align specifically with the Paris Agreement. Many non-Party stakeholder initiatives, such as We Are Still In, have become strong supporters of, and vocal advocates for, the Agreement and are making important contributions to the intergovernmental process. By committing to act, they are creating a drive for others to do the same.

To support countries seeking to develop net-zero greenhouse gas emission, climate-resilient and sustainable development pathways for the long term, the 2050 pathway platform was launched at COP22 by High-Level Champions Laurence Tubiana and Hakima El Haité. Designed as a space for collective problem solving, the platform builds a broader constellation of non-Party

stakeholders engaged in long-term low-emission planning. 23 countries, 15 cities, 17 regions and states and 192 companies have already joined the platform.

Closing the gap in emission reductions

Taking the commitments made by all non-Party stakeholders with quantitative mitigation goals, analysis suggests that if the commitments were achieved fully, then global climate action could deliver additional emission reductions compared to the NDCs in the range 1.6 to 4 Gigatonnes of carbon dioxide equivalent (GtCO₂) annually in 2020, increasing to 5 to 10 GtCO₂ by 2030.⁵ The gap between the emissions trajectory set for 2030 by the NDCs and what is needed to limit warming to 2 degrees



Celsius is 11 to 13.5 GtCO₂, which increases to 16 to 19 GtCO₂ for 1.5 degrees Celsius.⁶ Taken together, global climate action has the potential to at least halve the emissions gap for 2 degrees Celsius and reduce the emissions gap to 1.5 degrees Celsius by a third.

Making action transparent

Monitoring and reporting on progress made towards commitments enhances transparency of global climate action and builds a body of evidence that ambitious action is possible. Well established reporting platforms include the Non-State Actor Zone for Climate Action (NAZCA), the Climate Initiatives Platform, ICLEI Local Governments for Sustainability carbonn® Climate Registry, the Carbon Disclosure Project and C40 Cities.

In addition, a wide range of initiatives are also reporting, or have committed to report, on progress against their objectives on a

regular basis. They include the Declaration of Climate Leadership of the International Association of Public Transport, and the Oil and Gas Methane Partnership of the Clean Air Coalition.

Spreading action to the South

Between 2016 and 2017, the High-Level Champions pursued efforts to broaden the scope of climate action to reach the most vulnerable countries, especially in Africa and among the Small Island Developing States (SIDS). New networks of public and private partnership were launched at COP22 in addition to the triple A (Adapting Agriculture in Africa) and triple S (Sustainability, Security and Stability in Africa) initiatives of the Moroccan Presidency. The Blue Belt initiative, for example, is aimed at promoting the resilience of coastal communities, fishing activities and sustainable aquaculture in Africa. Energy efficiency is being accelerated through initiatives such as the Energy Efficiency Fund for Africa and the African Network of

Energy Efficiency Agencies. New SIDS-focused initiatives include the Alliance of Small Island States-led Initiative for Renewable Islands Energy launched in Marrakech, and the Fiji-led Pacific NDC Partnership.

Financing of projects in Africa is being mobilized through initiatives such as the Alliance of Regulators and Capital Markets in Africa and funds dedicated to green infrastructure, supported by Morocco and the World Bank.

In 2017, to drive transformative outcomes and initiatives to boost climate action in the Pacific, the High-Level Champions inaugurated the Climate Action Pacific Partnership. Organized under the umbrella of the Marrakech Partnership, it is a partnership of Pacific stakeholders, Parties and non-Parties, from all of the thematic and cross-cutting areas, and inspires urgently needed increases in ambition and action.

Investing in transformation

Climate finance flows from developed to developing countries have risen in recent years, as has the total global volume of climate finance. In its 2016 Biennial Assessment, the Standing Committee on Finance highlighted that in 2013-14, average annual public climate finance flows from developed to developing countries reached approximately USD 41 billion. Over 70 per cent of this financing was focused primarily on mitigation objectives.

The volume of climate finance delivered by non-Party stakeholders has also been rising. In 2013-14, average annual flows of private climate finance to developing countries were estimated to include roughly USD 2 billion for renewable energy projects, USD 24 billion in Foreign Direct Investment (FDI), and USD 14.8 billion in mobilized private finance – all of which are considered to be conservative estimates. The Standing Committee on Finance also reports that in 2014, total global climate finance – which includes considerable (domestic and international) investment by the private sector, as well as national and subnational governments worldwide – reached approximately USD 741 billion. This constitutes an increase of about 15 per cent from 2011 levels. These are promising trends.

However, there is broad consensus that the current volume of public and private investment in climate action falls well short of what is needed to achieve the goals of the Paris Agreement. This gap can only be addressed by unlocking the full potential of non-Party stakeholders from all sectors to invest in climate action. This will require a concerted effort to lift barriers (e.g. insufficient information and technical capacity), strengthen policy and regulatory frameworks, and de-risk potential investments, including through public-private partnerships.

Public, international climate finance – which is often provided at concessional rates and has a greater capacity to bear risk than other sources of financing – can play an important and catalytic role, mobilizing funds for innovative and transformational investments in climate action.

Such investment can also unlock and leverage much larger sums of public and private investment.⁷ This is far beyond the current and planned commitments of public international climate finance.

In some sectors, investment decisions made by non-Party stakeholders are in fact the main determinants of whether countries are able to pursue low-emissions and climate-resilient development pathways. It is therefore crucial to mobilize public climate finance to support climate action among non-Party stakeholders, while also working with these stakeholders to unlock their own potential to deliver large-scale investments in climate action.

Increasing focus on climate risk insurance schemes tailored to meet the needs of the vulnerable and highly vulnerable, as a means to address both sudden and slow-onset impacts of climate change and disasters, is also pertinent. This area has heightened in urgency with recent extreme events experienced in both developed and developing countries.





Scale and scope of climate action under the Marrakech Partnership

The progression from the UN Climate Summit in 2014, through the Lima-Paris Action Agenda and to the Marrakech Partnership makes it clear that global climate action is a growing and dynamic area. The Marrakech Partnership – which is now the umbrella for climate action – has sparked further collaboration and features a growing and diverse set of commitments and actions. Although many of these actions are novel and most of their impacts have yet to be made, there are clear indications that they are starting to deliver.

To gain a better overview of the current status of climate action under the Partnership, the High-Level Champions with support from the UNFCCC secretariat, conducted for the first time, the Marrakech Partnership survey.

The online survey was sent to 240 organizations. A total of 150 responses were received, of which 78 initiatives were analyzed (after excluding the surveys that did not contain sufficient data). These initiatives are relatively equally distributed across the seven thematic areas, with each area making up between 10 and 15 per cent of the analyzed responses.

Based on the survey analysis and independent research, three strong trends can be observed, which are described in the sections that follow.

The groundswell of climate action in the Marrakech Partnership is growing and diversifying

Climate action under the Marrakech Partnership continues to expand in scope and scale. Almost 70 per cent of the surveyed initiatives have launched new commitments since 2016.

Not only is the number of commitments increasing, initiatives are diversifying in terms of their objectives, both in the sectors targeted and the type of climate action. Under the Marrakech Partnership, a growing emphasis is being placed on adaptation with almost half of the surveyed initiatives addressing either mainly adaptation or both mitigation and adaptation (Figure 1). Although the number of actions that mainly address mitigation is still larger, compared to the 2014 UN Climate Summit and the Lima-Paris Action Agenda there is a more balanced consideration of both adaptation and mitigation.⁶

Consistent with the broad focus on both adaptation and mitigation, the initiatives set very different targets. The large majority of initiatives set qualitative targets (68 per cent), while 27 per cent also set quantitative targets. The Marrakech Partnership encourages participants to set quantifiable goals and defined targets so that progress made can be assessed. Although the majority of quantitative targets relate to reducing greenhouse gas emissions (either relative to a

Figure 1

Share of mitigation and adaptation actions since the 2014 UN Climate Summit

- Other/no data
- Adaption
- Mitigation & Adaption
- Mitigation

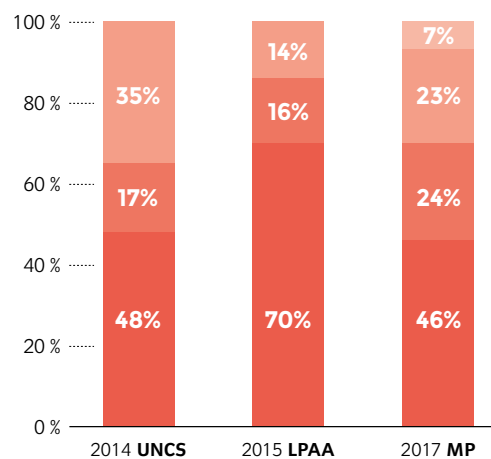


Figure 2

Types of quantitative targets set

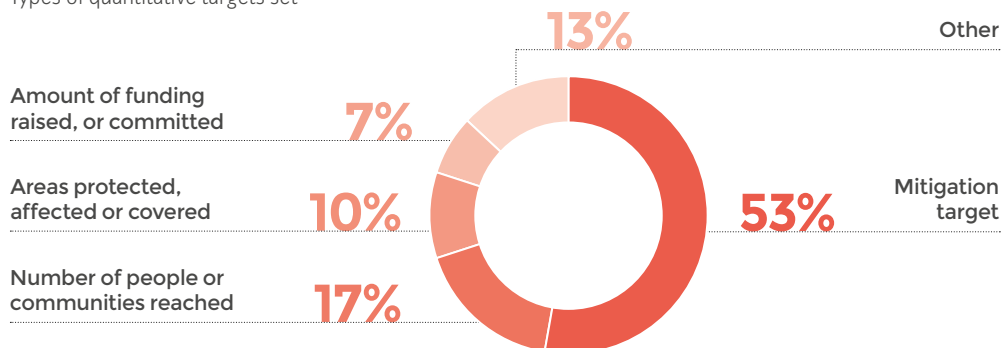
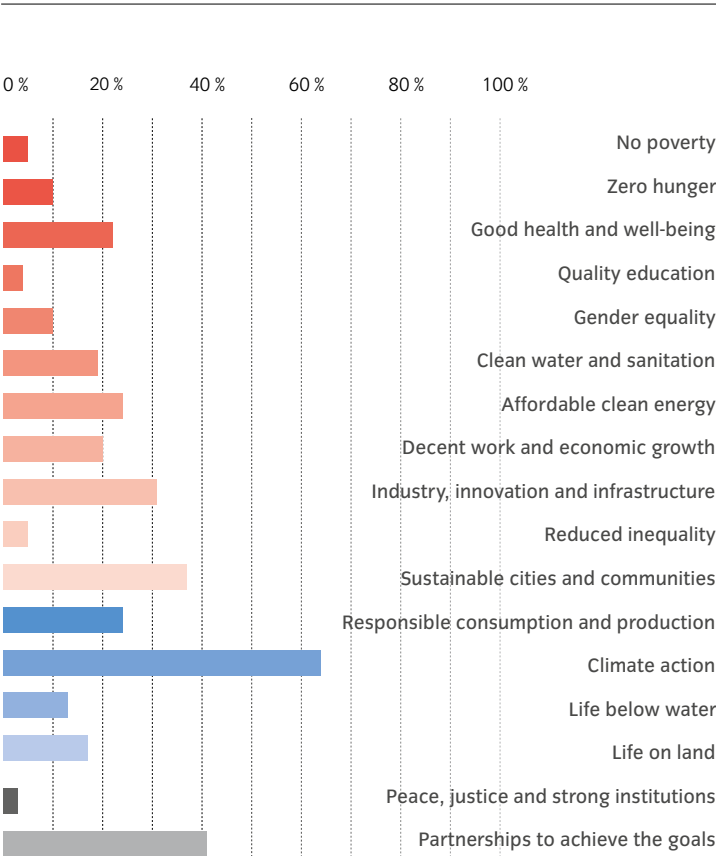


Figure 3

The percentage of the analyzed initiatives that contribute to achievement of each SDGs⁷



baseline or in absolute terms), this is by no means the only type of quantified targets set (Figure 2). For instance, more than 30 per cent of climate actions target a certain number of people, a certain area (e.g. protected land areas, or protected maritime areas), or an amount of funding to be raised or committed.

Initiatives typically take the form of multi-stakeholder and multi-sectoral partnerships that are particularly suitable to address multiple goals under the 2030 Agenda for Sustainable Development (Figure 3). Effective climate action is crucial to realizing SDGs, for instance, climate actions will help to realize sustainable cities and communities (SDG 11), sustainable innovation and industry (SDG 9), affordable and clean energy (SDG 7), and better health and well-being (SDG 3). Although, already contributing to SDGs, the High-Level Champions believe that climate action could still play a bigger role in the realization of the SDGs on poverty, hunger and education.

The types of actors engaged in climate action initiatives are no less diverse. Although the initiatives are primarily led by partners based in Europe and North America (respectively 54 per cent and 22 per cent), which is partly due to the high number of international organizations headquartered in these regions, the leadership of initiatives is widely distributed across different types of actors. For example, a majority of initiatives are led by

Figure 4

Types of lead partners in climate actions

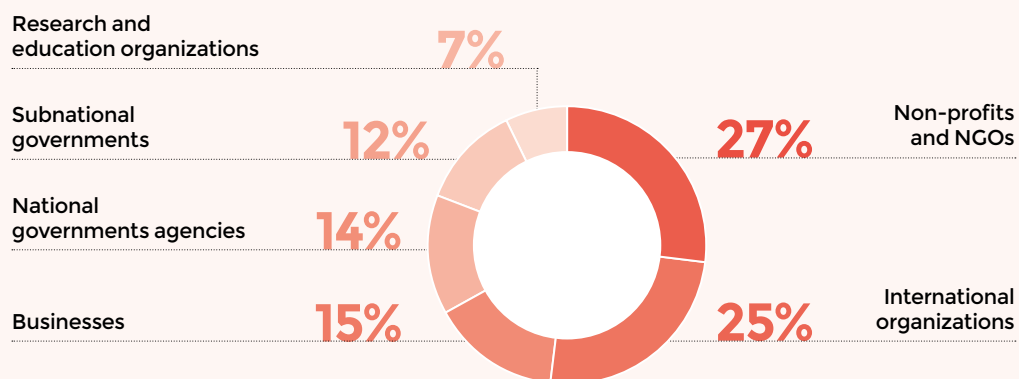


Figure 5

Types of partners engaged in climate action

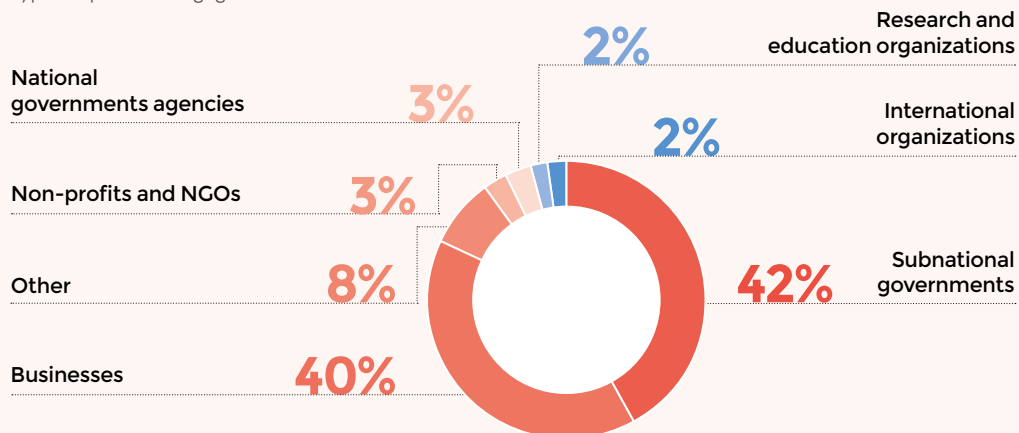
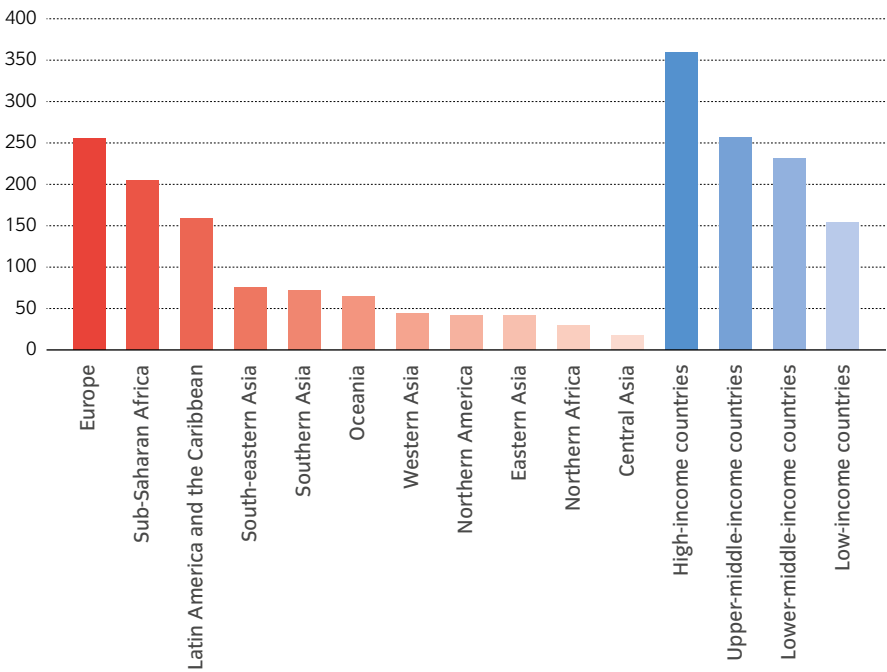


Figure 6

Climate action implementation in different world regions



non-profit organizations and non-governmental organizations (NGOs), and international organizations (Figure 4). Businesses and subnational governments (e.g. cities and regions) are less frequently lead partners. However, together they are most frequently engaged as partners in climate actions (Figure 5). Of note is that national government agencies are leading around 14 per cent of the initiatives which demonstrates the ongoing importance of governments to deliver on actions and to partner with non-Party stakeholders. It is clear that public-private partnerships are at the heart of many of the initiatives in the Marrakech Partnership.

The Marrakech Partnership climate action is a global affair

The initiatives are being implemented in nearly all countries of the world indicating that climate action is fast becoming a global affair (Figure 6). Initiatives that responded to the survey also indicate that Europe, Sub-Saharan Africa and Latin America and the Caribbean are the regions where most implementation activities are being carried out.

More implementation is currently taking place in high-income countries than in low-income countries.⁸ However this situation is changing. In 2015 a sample of initiatives launched in 2014 and included in the Lima-Paris Action Agenda were mainly being implemented in high- and middle-income countries.^{9,10} By 2017, there had been a rapid increase in the number of developing countries (low- and lower- middle income countries) where these initiatives are being implemented (Figure 7).¹¹ The scaling of implementation in low-income countries is especially high - between 2015 and 2017, the number grew by 56 per cent.

This trend of broader geographical implementation needs to continue, especially among countries that are hardest hit by, and most vulnerable to, already occurring impacts of climate change and disasters.

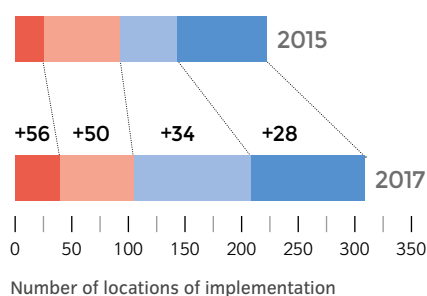
Climate action in the Marrakech Partnership is starting to deliver

The growth in implementation also implies that initial commitments on paper have steadily become concrete actions. As the initiatives are relatively new and the types of actions vary widely, it is difficult to measure precisely their environmental and social impacts. However, analysis of initiatives launched in 2014 suggests they are performing well in terms of the production of relevant outputs¹² (Figure 8). In 2015, around 30 per cent of the initiatives produced either no outputs at all (very low) or outputs not in line with their declared goals (low). By 2017, this percentage had decreased to 13 per cent and most initiatives produced outputs that were either fully (high) or mainly (medium) in line with their goals. Although a high output performance does not guarantee social and environmental impacts¹³, it makes such impacts likelier over time. For example, strengthening the social, legal and financial institutions for landscape restoration is a vital first step towards realizing the enormous potential to sequester and store carbon in restored land and strengthening resilience.

The initiatives in the survey are also not just commitments on paper (Figure 9). They engage in various activities, including knowledge dissemination (68 per cent), knowledge production (55 per cent), the building and strengthening of existing institutions (27 per cent), and the facilitation of policy planning (for instance, through devising new policy instruments, 27 per cent). To some extent, initiatives are also delivering on the ground implementation – for instance through the application of low-carbon technologies (23 per cent).

Figure 7

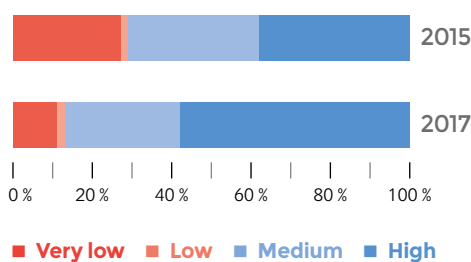
Growth of the number of implementations locations across developed and developing countries of Marrakech Partnership initiatives launched in 2014¹¹



- Low-income countries
- Lower-middle income countries
- Upper-middle income countries
- High-income countries

Figure 8

Output performance of initiatives launched in 2014, measured by the 'goodness of fit' between what actions produce and their declared functions¹¹



- Very low
- Low
- Medium
- High

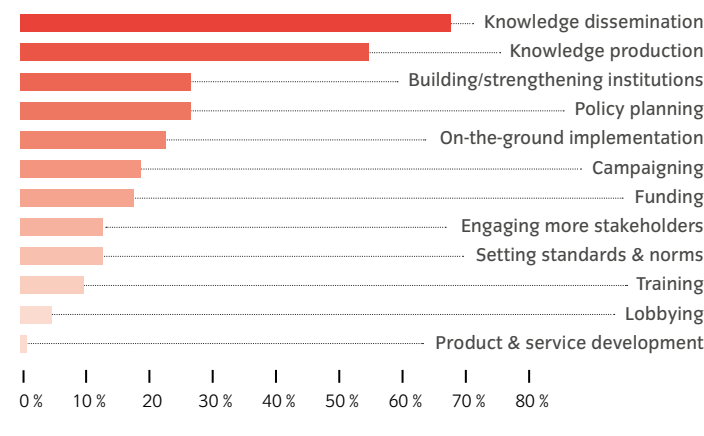


Figure 9

Main activities by climate actions

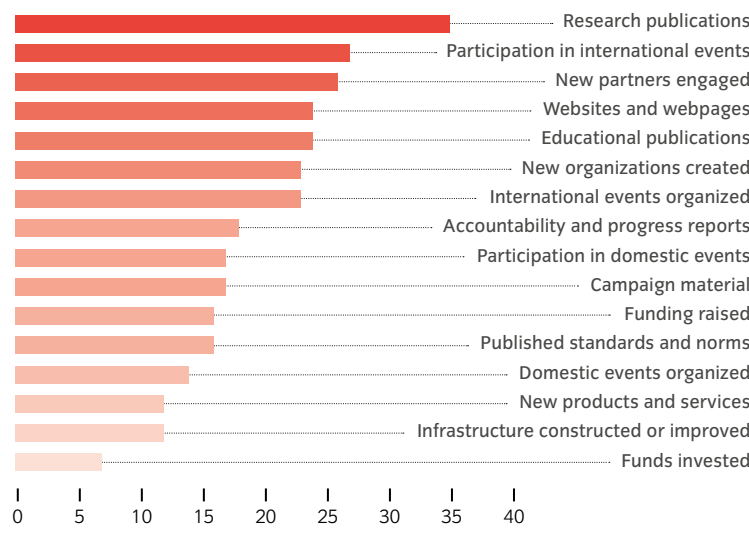


Figure 10

Type of outputs produced by climate actions

Consistent with the diverse set of activities, initiatives are delivering concrete outputs (Figure 10). For instance, a number of initiatives develop new products and services (12 per cent) and construct or improve infrastructure and installations (12 per cent) which can be directly linked to bringing environmental and social change. Many outputs suggest longer and indirect pathways to transformation, for instance participation in international and domestic events (27 per cent and 14 per cent respectively), may not result into behavioural change or the desired environmental impact, but they could be part of efforts to influence policy change. Similarly, outputs such as studies and research publications (35 per cent), the engagement of new partners (26 per cent), new websites and platforms (24 per cent) and campaigns (17 per cent) may not directly result in behavioural or environmental changes, but could be important stepping stones to achieve desired environmental and social impacts in the longer term.

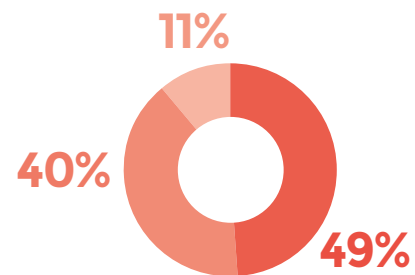


Figure 11

Types of effectiveness related to listed achievements

- Institutional effectiveness
- Environmental effectiveness
- Social effectiveness

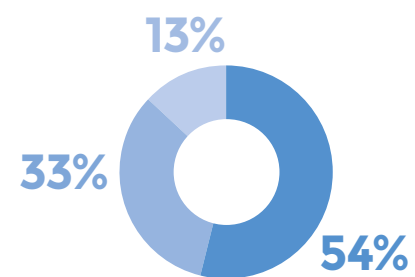


Figure 12

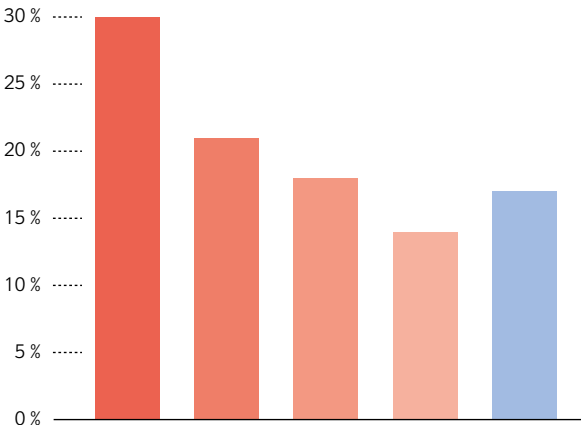
Type of new commitments by existing climate actions since the launch of the Marrakech Partnership

- Scaling up (existing) actions
- Enhancing (existing) actions
- New types of action

Figure 13

Types of challenges to the operations of climate actions

- Lack of (access to) funding
- Lack of recognition
- Lack of organizational capacity
- Lack of knowledge
- Other



Surveyed initiatives have also indicated current achievements which can be classified by three types of effectiveness: social, environmental, and institutional effectiveness. Almost half of the achievements (49 per cent, Figure 11) listed by climate actions pertain to institutional effectiveness, such as developing the organizational capacity to prepare and implement adaptation plans or the tools needed to monitor greenhouse gases and therefore bring additional focus to mitigation actions. Many achievements (40 per cent) can also be classified as improvements in terms of environmental indicators¹⁴ and some achievements (11 per cent) predominantly relate to improvements in social indicators.¹⁵

Since the launch of the Marrakech Partnership in 2016, a majority (68 per cent) of surveyed initiatives have indicated that they have launched new commitments. Of the large number of new commitments (Figure 12), 54 per cent relate to scaling up existing activities, 33 percent aim to enhance existing actions and 13 per cent constitute new types of actions (for instance with new partners or using new methodologies).

The initial performance of initiatives seems encouraging: they have moved from being mere commitments to actions that are starting to deliver worldwide; many are scaling up and announcing new commitments, suggesting a reinforced groundswell of climate actions since the Paris Climate Conference. However, problem-solving to address gaps (for example, in greenhouse gas mitigation, adaptation, and climate finance) is by no means guaranteed. Many initiatives are simply too new to be able to contribute to problem-solving on a scale that is necessary to help achieve the goals of the Paris Agreement. Moreover, in addition to the external challenges that initiatives face in implementing climate action, initiatives reported their own challenges that hamper operations (Figure 13), including a lack of (access to) funding for the secretariat of initiatives, recognition (e.g. in political processes) and organizational capacity.

The continued success of the climate action agenda depends on a supportive environment for climate actions that addresses these internal operational challenges and the more general challenges to scaling up.



Opposite page: Aerial Photo, Tuvalu by Savenaca Viriviri



The seven thematic areas of the Marrakech Partnership

The seven thematic areas of the Marrakech Partnership represent areas of maximum impact that enable urgent pre-2020 action, which is the mandate of the High-Level Champions under the Paris Agreement. Although set up as distinct areas, to be genuinely transformative, impactful action is needed for solutions that are in the nexus between thematic areas, for example, the interlinkages between urban energy, transport and infrastructure. Action across thematic areas must also develop solutions for cross-cutting issues including health, gender, education, decent work, resilience, innovation, finance, disclosure and long-term strategies. The cross-cutting issues underpin the progress made under the thematic areas.

This section describes the achievements in each of the thematic areas of the Marrakech Partnership since COP22. It is not intended to represent an exhaustive list of all action, but highlights examples provided by the Marrakech Partnership coalitions and High-Level Champions.





Land Use

The Challenges

- » The agriculture, forestry and other land use area has an important part to play in both mitigation of and adaptation to climate change.
 - » Agriculture, forestry and other land uses accounts for 20 to 25 per cent of global greenhouse gas emissions. Deforestation and forest degradation alone account for 10 to 11 per cent of global greenhouse gas emissions. Agriculture (crops and livestock) accounts for another 10 to 12 per cent of emissions, of which approximately two-thirds can be attributed to livestock.¹⁶
 - » Over the medium to long term, climate-induced changes in temperature and rainfall patterns could significantly undermine yields of staple crops such as wheat and maize. The impacts on global food security could be pronounced, particularly among some of the world's poorest and most vulnerable people who depend on agriculture and forests for their livelihoods.
- » Evidence indicates that agriculture absorbs approximately 22 per cent of the economic impacts of medium and large-scale natural disasters in developing countries.¹⁷ Without concerted and immediate action, climate change could trap many of the world's poor and vulnerable people in a vicious cycle of hunger, malnutrition and poverty.
 - » A net-zero carbon world can only be attained through the sustainable utilization of land resources and this calls for a holistic landscape approach with coordinated policy and institutional structures.

Progress in the thematic area

Agriculture, forestry and other land uses are an important part of the international response to climate change and are prominent in the NDCs submitted thus far. In response to the signals from the development of the NDCs, during (and after) COP21 many non-Party stakeholders began to launch initiatives geared toward scaling up climate action and ambition in relation to land use. Many of the land-use initiatives under the Marrakech Partnership are thus now in the process of strengthening their governance structures and expanding their membership. For example, Friends of Ecosystem-based Adaptation (FEBA) has grown to include more than 40 members since it was launched in 2015.



Meanwhile, almost 160 cities have signed the Milan Urban Food Policy Pact since it was first signed in October 2015. Similarly, the Global Framework for Water Scarcity in Agriculture in a Changing Climate (launched at COP22) now boasts more than 40 national and international partners. Commitments to The Bonn Challenge, a global initiative to bring 150 million hectares of deforested and degraded land into restoration by 2020, exceeded that 150 million figure in May 2017. The increasing number, size and scope of land-use initiatives are indicative of the growing momentum for climate action in this area.

Multi-stakeholder collaboration is essential to push climate action on land use to scale. Because agriculture is among the main drivers of deforestation and land-use change, these challenges cannot be addressed by forestry stakeholders alone; it will require coordination and collaboration among stakeholders responsible for crops, livestock, forests, and land-use planning/management. Enhanced coordination between the public and private sectors is equally important, as the vast majority of investment decisions related to land use are taken by farmers, herders, forest communities, and private firms. Partnerships are therefore a key focus of many land-use initiatives under the Marrakech Partnership. One prominent example is the Balikpapan Statement. This initiative was launched by the Governors' Climate and Forests Task Force – a partnership of 35 states and provinces from 9 countries committed to reducing tropical deforestation – to convene governments, companies and other relevant stakeholders to discuss, define and take action on national appropriate strategies for combatting tropical deforestation.

Another example of the partnership approach is the Africa Palm Oil Initiative of the Tropical Forest Alliance 2020. This is a public private partnership that supports the transition of the palm oil sector from being a driver of deforestation towards becoming a driver of long-term, low-carbon development in West/Central Africa region. As part of this initiative, a series of workshops on deforestation in West and Central Africa has been delivered. To protect its 23 million hectares of tropical rainforests and to meet its 50 per cent emissions reduction target, in June 2017, the Government of Gabon signed a letter of intent for USD 18 million with Central African Forest Initiative.

Any effort to scale up action on land use needs to be guided and underpinned by a strong evidence base. Many Marrakech Partnership initiatives are making important contributions in this respect. In the past year, FEBA has produced a range of information and guidance materials to guide policy planning and decisions on ecosystem-based adaptation at the country level. Coalitions such as the Action Network on Alternative Agriculture in Peru continue to provide evidence on the importance of traditional and indigenous knowledge and agricultural practices to effectively adapt agriculture, forests and food systems to the effects of a changing climate. Meanwhile, the New York Declaration on Forests (NYDF) Assessment Coalition evaluates progress toward meeting the NYDF goals to ensure transparency and inform future planning, decision making and actions.

Others initiatives are working with Parties and non-Party stakeholders to strengthen policy and regulatory frameworks and incentive structures – which shape investment decisions by the private sector and are key to driving transformational change. These initiatives are also building capacity to plan and deliver actions at country level. For example, through the SAVE FOOD initiative, UN Food and Agricultural Organization (FAO) and other partners are expanding their support to countries to better assess current levels (and drivers) of food loss and waste, and to respond through appropriate post-harvest strategies and agricultural sub-sector policies. In addition, the Milan Urban Food Policy Pact has provided an avenue for FAO, the RUAF Foundation, the German government and other partners to scale up support for sustainable, climate-resilient and low-emissions urban food systems in cities such as Dakar, Douala, Durban, Nairobi and Praia. Many other Marrakech Partnership initiatives on land use have ambitious plans to scale up country-level support in the years to come.

Progress towards building resilience to climate change

Adaptation in relation to agriculture, forestry, and food security and nutrition, are among the foremost priorities in the NDCs submitted by developing countries. Many Marrakech Partnership initiatives have responded to this signal by strengthening their commitments to build resilience in these areas. For example, the UN Climate Resilience Initiative A2R – which was launched by the UN Secretary-General in 2015, and has since grown to include 13 UN partners – is a clear sign of the importance assigned to this issue within the UN system, both in relation to (and beyond) agriculture.

Marrakech Partnership initiatives are also achieving important adaptation results on the ground.

For example:

- » The Global Resilience Partnership has scaled up its support to additional countries and projects, with a considerable emphasis on agriculture and food security in developing countries.
- » The Global Alliances for Water and Climate Initiative has established a project incubation platform, with 10 projects incubated each year to build resilience in water systems and thus in agricultural systems.
- » The Action Network on Alternative Agriculture brings together NGOs, municipalities, producers associations, government institutions, and other members of civil society to scale up support for the adoption of agro-ecological practices – to achieve more resilient and sustainable agricultural development in Peru.



Aerial Photo, Tuvalu by Savenaca Viriviri

Oceans and Coastal Zones

The Challenges

- » The ocean plays a central role in regulating the climate. It has absorbed around 28 per cent of CO₂ emissions from human activities and over 90 per cent of the heat produced by human-induced climate change.¹⁸
- » The health of the ocean is inextricably linked to the climate and vice versa; ocean warming, acidification, and deoxygenation all have significant effects on ocean ecosystems. A total of 183 coastal and island nations depend on healthy oceans for their livelihoods, and more than 4 billion people depend on fish to contribute 15 per cent or more of their animal protein. (In Gambia, Ghana, the Maldives and Sierra Leone, fish contribute over 60 per cent).¹⁹
- » While the ocean mitigates climate change by absorbing CO₂ and heat, the increases in the ocean temperature since the beginning of the 20th century have led to impacts such as changes in the geographic distribution of fish and coral bleaching (which eventually leads to the death of the coral).

Progress in the thematic area

The importance of the health of ocean ecosystems was reiterated in the Paris Agreement and the 2016 Marrakech Partnership recognizes the emergence of initiatives focused on climate and the ocean as a major thematic area. The central importance of oceans as an essential component of human wellbeing was highlighted at COP21 Oceans Day, as was the message “1.5 to stay alive,” advocated by Small Island Developing States threatened by rising sea levels and other climate change effects. COP21 also saw the creation of several fora to heighten awareness of the centrality of a healthy ocean in climate change mitigation and adaptation efforts. They include the “Because the Ocean” declaration, the birth of the “International Partnership for Blue Carbon” and the mobilization of the “Ocean and Climate Platform”. At COP22, the Oceans Action Day reinforced the importance of oceans, and since then, the oceans and climate community has continued to mobilize resources and high-level political support, and enhance public awareness around climate and ocean issues.

The vision for the future of policy, science and on-the ground actions has been created by the Roadmap to Oceans and Climate Action (ROCA) Initiative and the Ocean and Climate Initiative Alliance (OCIA) working together. The road to implementation was developed through a series of recommendations emanating

from a gathering of experts in ROCA, which organized the policy goals for oceans and climate into six interconnecting themes: climate, mitigation, adaptation, displacement of communities, financing, and capacity development.

In line with the policy goals set by the Roadmap, Non-Party stakeholders such as the Global Ocean Forum, the Oceano Azul Foundation, the Future Ocean Alliance, International Union for Conservation of Nature (IUCN), Conservation International, and the Ocean Policy Research Institute of the Sasakawa Peace Foundation are systematically helping to mainstream policies on ocean and coastal zones into national and regional policy.

Progress on implementation was reported at COP23, through two complementary reports from ROCA and OCIA summarizing progress on oceans and climate in the last year. The ROCA report on Measuring Progress focuses on changes within the broader international, regional, and national policy spheres and on major developments in climate and ocean science and monitoring. The OCIA Report relies on a survey on the progress of various initiatives on oceans and climate, addressing in particular, initiatives related to ocean acidification, marine ecosystem resilience, marine protected areas, migration, resilience of coasts and coastal populations, and sustainable islands.

Picking up from the UN Ocean Conference in May 2017, the Pacific Islands Leaders Forum agreed that an Ocean and Climate Change Coalition should be formed and this has evolved into the Ocean Pathway Partnership. The Partnership launched at COP23 is aligned to the Marrakech Partnership and will pursue efforts for stronger recognition of the Ocean and Climate nexus within the UNFCCC process.

Progress towards building resilience to climate change

Many Parties have included in their NDCs, the aim to make coastal and ocean ecosystems resilient to the impacts of climate change. Twenty-eight countries include references to coastal and ocean ecosystems as a mitigation solution (referred to as blue carbon) and 59 countries reflect on using coastal ecosystems for ecosystem-based adaptation efforts²⁰. In particular, 38 of the 39 SIDS countries emphasised ocean issues. Despite the references in the NDCs, much work is needed to ensure each NDC includes an appropriate ocean and coastal zone management plan and access to the support needed for it to be implemented.

Resilience is being built in Africa by the African Package for Climate-Resilient Ocean Economies, through investment plans for climate-resilient fisheries, economic development of coastal livelihoods and implementation of improvements in fisheries governance. In the Least Developed Countries and Small Island Developing States, the Climate Risk and Early Warning Systems initiative aims to significantly increase their capacity to generate and communicate effective, impact-based, multi-hazard, gender-informed, early warnings and risk information

Both scientific advances and capacity building are also being delivered.

For example:

- » The Japan International Cooperation Agency signed a grant agreement with the Government of Samoa of up to USD 8.5 million, to build the Pacific Climate Change Center in Apia, Samoa.
- » The Global Ocean Acidification Observing Network, which brings together observations and research from across the world, is building scientific capabilities to monitor ocean acidity.
- » The New Zealand Pacific Partnership on Ocean Acidification had committed USD 1.5 million to fund practical adaptation, research and the pioneering of innovative solutions for Pacific Islands.
- » Washington State, USA committed USD 3.3 million to advance scientific and to take action to respond to ocean acidification locally.



Water

The Challenges

- » Freshwater makes up a very small fraction of all water on the planet and is essential for life, health, economic development and functioning of ecosystems. Rising greenhouse gas emissions are causing changes in ocean and air circulation leading to changes in the way that water resources are distributed and increasing the frequency of disasters.
- » Freshwater demand is influenced deeply by population growth, changing consumption patterns, energy demand and industrial activities. Climate change will very likely worsen the stresses already caused by these factors.
- » Water security underpins global food, energy, health and social security.
- » Rising sea-level is contaminating freshwater lenses and soil in atoll islands.

Progress in the thematic area

Like oceans, the importance of the impacts of climate change on the water cycle has only recently been recognized within the UNFCCC process. At COP21 in Paris, water issues entered into the Lima-Paris Action Agenda, and at COP22 in Marrakech, the first Global Climate Action Day for Water was held making water much more prominent within the climate debate.

Building on the momentum created by COP21 and COP22 and driven by the scale of action needed, the initiatives in the water area are growing and strengthening, with membership of the #ClimateIsWater initiative reaching 62 organizations and that of the Alliance for Global Water and Adaptation now at 1000. Businesses have a large role in determining how water is used, particularly through supply chains for agri-commodities such as food, wood and cotton; their commitments to address water issues are also growing. The Business Alliance For Water And Climate grew to 64 companies members, with annual cumulative revenues of USD 649 billion. Cities and regions similarly need to address water issues – not just by managing water use and supply, but also preparing for impacts of climate change such as flooding. In 2017, flooding in Bangladesh, India and Nepal killed hundreds of people and disrupted the lives of millions.

In response to these challenges, the Megacities Alliance for Water under Climate change was joined by 16 megacities representing more than 300 million inhabitants. The Alliance aims to enhance capacity building between megacities so they can adapt better to climate change.

Financing opportunities are also being created to implement action on the ground. The Alliance of Basins for Climate Action has seven flagship projects which have been financed and implemented: three projects on integrating climate change adaptation in the basin management planning of Chinese Hai River, Mexico Valley Basin and of the Senegal River; two projects to strengthen regional and national water information systems in the Mediterranean basin and in the Congo River basin; one project to develop financial mechanisms to support water basin resilience measures in four Latin American countries; and one Climate Resilience Investment Plan for the Niger River basin. The Global Alliances for Water and Climate (GAfWaC), has provided technical assistance to pilot projects in Burkina Faso, in the transboundary basins of the Senegal and Sava rivers, and for the Zarqa River (Jordan) and the drying rivers of the Jawhar (Fez, Morocco). Implementation of these incubated projects could benefit up to 33 million people living in the five pilot basins.

Progress towards building resilience to climate change

All the initiatives in the water sector have a strong component of resilience building. To bridge the gap between those providing finance and those seeking finance, GAfWaC members are providing technical assistance to developers of projects to build climate resilient water systems.

Capacity and knowledge are being built through initiatives such as the International Flood Initiative, which promotes an integrated approach to flood management, and the Global Water and Development Information Network for Arid Lands, which aims to achieve better water resources management in arid and semi-arid regions of the world. There is also a growing awareness within the water community of the importance of developing approaches that make use of natural systems (Nature Based Solutions) that can be combined with institutional or technical solutions for improved water management. A collective project was presented a High-Level Declaration on the better use of Nature Based Solutions at COP23.



Human Settlements

The Challenges

- » According to the fifth Annual Report on the International Panel on Climate Change, urban infrastructure accounts for over 70 per cent of global energy use and cities account for between 37 and 49 per cent of global greenhouse gas emissions.
- » Buildings and construction alone accounted for 39 per cent of energy-related CO₂ emissions in 2016. While a growing number of countries have put in place policies and programmes to improve buildings energy performance, a rapidly growing buildings sector, especially in developing countries, offsets these improvements.
- » The percentage of the population living in urban areas is expected to increase to 60 per cent in 2030.²¹ This brings with it issues such as increased squatter settlements in vulnerable zones and stresses on utilities and infrastructure.

- » The majority of the world's cities are in low lying flood-prone or coastal areas, which are vulnerable to climate hazards. Therefore, it is imperative to strengthen resilience and capacity to tackle climate change impacts and to address unavoidable loss and damage.

- » The well-being and health of citizens in urban cities will be affected either directly or indirectly by climate change impacts, which in turn affects productivity and diminishes human capital.

Progress in the thematic area

The importance of local and subnational governments as partners in action is recognized explicitly in many international agreements including the Paris Agreement, the 2030 Sustainable Development Agenda and the Sendai Framework for Disaster Risk Reduction. More than two thirds of the NDCs submitted also explicitly mention the building sector, targeting improvements in energy efficiency and use of renewable energy. If NDC pledges were achieved, 60 per cent of buildings-related CO₂ emissions would be covered, however, nearly one third of the NDCs mentioning buildings do not indicate any specific actions to achieve their ambitions. These clearly signal that an acceleration

of climate action in human settlements is needed within the broadest coalition possible and with cross-sectoral links to land use, water, transport and food.

Local and regional governments are strongly committed to the objectives of the Paris Agreement, including the 375 US Mayors who have committed to adopt, honour and uphold the Paris Agreement goals and the We Are Still In and America's Pledge initiatives. Similarly, commitments to reduce at least 80 per cent of their greenhouse emissions by 2050 have been made by the 175 signatories of the Under2 Coalition. Together these signatories represent over 1.2 billion people (close to the population of India²²) and over one third of the global gross domestic product.

Recognizing that action needs to grow and strengthen, the Compact of Mayors and European Covenant of Mayors merged to form the Global Covenant of Mayors for Climate and Energy (GCoM). The GCoM has mobilized 7477 cities representing over 9 per cent of the world's population. At COP22, the GCoM issued an aggregated report demonstrating the power of cities to reach the NDCs.

To implement climate action in cities and regions, actors need to work in wide partnership including with central and other local government levels, with planning authorities, with financial institutions and with infrastructure design and construction. The action needs to bring together other sectors as well - buildings, transport, water, land use and waste. This cross-sectoral approach to climate, urban environment and sustainable development, has since been integrated across a variety of initiatives, such as ICLEI's GreenClimateCities Programme, the joint UN-Habitat-ICLEI Urban-Low Emissions Development

Strategy project and the UN Sustainable Energy for All District Energy in Cities Initiative. As part of this cross-sectoral approach, the Planners For Climate Action Initiative was launched at COP23 to bring together urban planning professionals and associations to help advocate for better urban and regional planning in line with long term emission reductions targets and forward-looking resilience thinking.

Global roadmaps are helping set the direction for implementation and decarbonization such as that of the Global Alliance for Buildings and Construction (GABC). The GABC issues a yearly Global Status Report tracking progress, highlighting evolution of public policies, good practices and finance, and new commitments. The Alliance now includes 24 countries and more than 75 non-Party stakeholders representing more than 1.4 billion people.

Specific implementation plans for low carbon buildings have been developed by 30 globally active building efficiency organizations through the Sustainable Energy for All Building Efficiency Accelerator. C40's Deadline 2020 research and programme provided a roadmap for megacities to deliver on the Paris Agreement's most ambitious objective of limiting temperature rise to 1.5 degrees Celsius.

Private sector engagement for sustainable buildings and construction has also increased between 2016 and 2017, with the World Green Building Council call to have all new buildings operate at net-zero carbon from 2030, and buildings meeting net-zero carbon by 2050.

Initiatives regarding human settlements are helping to set the conditions and provide assistance to realize the investments

Progress towards building resilience to climate change

Growing numbers of local and regional governments are carrying out climate risk and vulnerability assessments and then developing climate adaptation plans to respond. In Europe, around 900 cities and municipalities have already committed to adaptation planning and action through the Covenant of Mayors in the European Union. Starting in 2018, the GCoM will also report on climate risks and vulnerability and adaptation actions. And cities aren't alone in acting. The Regions Adapt initiative which supports and reports on regional adaptation actions has more than doubled its membership since 2016 and now represents nearly 300 million people.

Despite the actions already being taken there is a need for greater mobilization of finance for resilient infrastructure. This was highlighted at the 2017 Forum of the UNFCCC Standing Committee on Finance, which focused on "Mobilizing Finance for Climate Change and Resilient Infrastructure". The West African Economic and Monetary Union runs a multi-year and multi-donor project to build a Regional Agenda for Localizing Finance with a special focus on climate resilience. As part of the response to the need to address the finance gap, ICLEI and UNEP Principles for Sustainable Insurance hosted a summit that resulted in the "Bonn Ambition" agreement to increase the flow of global climate finance and other investments to urban resilience initiatives; and setting a Global Action Framework for Localizing Climate Finance.

Cities and regional governments are also engaged in long-term, structured and regular dialogue in key processes such as the Resilience Workstream of Global Climate Action on Cities and Human Settlements. This Workstream was convened around three critical themes: multi-level, multi-scale partnerships and initiatives; synergy among key global policy frameworks; and finance.

needed to make the transformation to low carbon and resilient cities, as shown by the UNFCCC summary report under the Nairobi Work Programme on adaptation.²³ Thirty public and private financial institutions around the globe have committed to the key principles of the initiative Mainstreaming Climate Action in Financial Institutions, to make climate change a core lens through which institutions deploy investments.²⁴ This is only one of the wide range of financial and non-financial solutions being mapped, enhanced and developed by the Cities Climate Finance Leadership Alliance (CCFLA) members (e.g. support to readiness and technical assistance – for resilient infrastructure planning; resilience and sustainability guidelines and certifications for market integration, innovative financial engineering and financial hubs) to support the preparation of local and subnational climate action projects. Several pilot initiatives have been launched focused on providing technical assistance to prepare bankable projects, including the C40 Cities Finance Facility and ICLEI Transformative Actions Program. Investment is also needed in individual energy efficient buildings and is being facilitated by initiatives such as the Investor Confidence Project. This initiative has developed Investor Ready Energy Efficiency certification which provides evidence of industry best practices and standards to enable investments to be made more easily. A dedicated energy-efficient buildings facility, the Programme for Energy Efficiency in Buildings, was launched under a French-German cooperation and addresses energy efficiency in buildings in six countries. In Europe, the Energy-efficient Mortgages Action Plan aims to develop mortgages to buy energy efficient property or to make existing property more energy efficient. Green bonds for sustainable building and construction have grown substantially in recent years. The Climate Bonds Initiative is expecting issuance of bonds to reach USD130 billion in 2017.



Transport

The Challenges

- » Transport currently represents around 20 percent of global greenhouse gas emissions and is still almost totally dependent on fossil fuels.
- » According to most projections, transport emissions will continue to increase in the coming decades, because of the growing demand for mobility, especially in the developing world.
- » Transport is also vulnerable to the effects of climate change such as flooding and extreme temperatures.

Progress in the thematic area

Collectively the Marrakech Partnership transport initiatives represent a broad range of multi stakeholder coalitions, that cover all modes of transport, and are delivering action to reduce transport greenhouse gas emissions and strengthen the resilience of transport infrastructure. By demonstrating action on the ground and the co-benefits of climate action on transport (e.g. better urban air quality, fewer road deaths and increased access to transport) the transport initiatives aim to help increase ambition of NDCs, 75 per cent of which prioritize transport action, and the efficiency of their implementation. At COP22, the Paris Partnership for Mobility and the Climate (PPMC) presented twenty quick wins that could be realized before 2020

to kick start the transformation of the transport sector. Many of these quick wins are being picked up by the initiatives in the Marrakech Partnership.

The new Sustainable Mobility for All initiative to support the implementation of the SDGs and transform the transport sector is also expected to spark increased interest in action by non-Party stakeholders. The work of the transport initiatives actively contributes to the 2030 Agenda for Sustainable Development and the implementation of UN-Habitat's New Urban Agenda.

While the use of electric vehicles for passenger transport is increasing and so are the commitments that countries (such as France and the United Kingdom) and companies (such as HP and IKEA) are making to reach 100 per cent electric vehicles, the options for rapid electrification of freight transport are more restricted. Green freight programmes therefore have an important role in making transport sustainable. The Global Green Freight Action Plan has expanded its' programmes to Latin America, Asia and Africa's Northern Corridor, which is the busiest corridor in East and Central Africa, handling over 30 million tons of cargo through the Port of Mombasa alone.

According to the International Air Transport Association, passenger demand for air travel will double in 2035, compared to 2016. Recognizing the need to undertake long-term climate action to mitigate aviation related emissions, the Aviation's Climate Action Takes Off initiative has helped bring about the world's first global market mechanism for any single sector to tackle this issue. The new International Civil Aviation Organization carbon offsetting and reduction scheme will offset emissions growth from 2020. Airports worldwide are also taking action collectively to neutralize their carbon footprint. Since 2009,

Progress towards building resilience to climate change

The transport sector benefits from the momentum created by the “COP22 Declaration on Accelerated Action on Adaptation in Transport” in November 2016, which heightened the attention to adaptation across the transport initiatives.

Transport is one of four sectors of the Global Centre of Excellence on Climate Adaptation that was launched formally at COP23. The Partnership on Sustainable Low Carbon Transport (SLoCaT) has been selected as the transport sector knowledge partner and is actively liaising with adaptation and resilience relevant initiatives to advance action and attention on building resilience in transport. The Navigating a Changing Climate Initiative and the UIC-Low Carbon Sustainable Rail Transport Challenge, have provided a variety of sector specific guidelines and workshops on transport adaptation to climate change.

35 airports under the Airport Carbon Accreditation initiative have become carbon neutral and more than 165 others are taking the steps towards becoming carbon neutral.

Transport initiatives are also setting the strategic directions and enabling conditions to realize on-the-ground implementation. The Global Macro Roadmap outlining an Actionable Vision towards Decarbonised and Resilient Transport was developed by the PPMC, while the International Transport Forum's Decarbonising Transport project supports the transition to carbon-free transport in its 59 member countries with more than 50 project partners. On a smaller scale, a draft EU Cycling Strategy developed with the support of the initiative Cycling delivers on the Global Goals was presented at Velo-city 2017. The strategy aims to increase cycle use by 50 per cent to realize environmental benefits and deliver EUR 760 billion in economic benefits from cycling in Europe.²⁵ To deliver strategies such as this, capacity building has been provided across different transport modes. The Global Fuel Economy Initiative continues to extend capacity building and policy support, to over 50 countries. It is also expanding to improve the efficiency of heavy duty vehicles and electric vehicles. Mobilize Your City has provided advice on national urban mobility policies and plans, and Navigating A Changing Climate has provided technical mitigation and adaptation guidance for navigation infrastructure.

To transform transport in line with the Paris Agreement, stakeholders such as cities, manufacturers, financiers and

transport providers need to work together to implement an unprecedented scale and speed of action on the ground. Initiatives have already delivered this implementation or are committed to doing so. Energy efficiency improvements and reductions in greenhouse gas emissions have been realized by the International Union of Railways (UIC) Low-Carbon Sustainable Rail Transport Challenge. Since 1990, there has been a 36 per cent improvement in energy efficiency and a 32 per cent reduction in CO₂ emissions from UIC members, which represent over 90 per cent of all rail activity²⁶, while 1446 projects that would shift goods transport to railways have also been identified. In addition, seventy-five percent of 350 climate actions pledged by members of the Union Internationale des Transports Publics (UITP) Declaration on Climate Leadership are being implemented, up by 54 per cent since last year. Members of UITP Declaration on Climate Leadership are well placed to act as they include public transport authorities and operators and the public transport supply and service industry. In addition, 26 C40 cities have committed to purchase over 40,000 clean buses by 2020, about 7 per cent of all new buses²⁷, as part of the C40 Cities Clean Bus Declaration of Intent. If implemented to the full this would save 1MtCO₂ per year.

As part of the growing activities on transport, five new initiatives were launched at COP23, including below50 on low carbon fuels, EcoMobility Alliance, Global Strategy to Introduce Low-Sulphur Fuels and Cleaner Diesel Vehicles, Sidewalk Challenge and the Transformative Urban Mobility Initiative.



Energy

The Challenges

- » Energy is a critical ingredient in all economic endeavours, and fundamental for the fulfillment of all human needs.
- » To achieve sustainable development and a climate-safe future, transforming the energy system is essential. To achieve this transformation, urgent solutions need to be implemented to reduce demand and shift sources of supply. To meet the Paris goals, electricity needs to be decarbonized by 2050 and energy by the third quarter of the century. Energy efficiency needs to improve at much faster rates than has generally taken place historically.²⁸
- » SDG7 reflects a common understanding on the imperative of universal access to affordable, reliable modern energy services. Therefore, the transformation needs a simultaneous and significant increase in energy efficiency and deployment of renewables.

Progress in the thematic area

The emerging energy system offers a new economic, social and environmental frame of reference and a prospect for a better future. It is creating new jobs – the International Renewable Energy Agency (IRENA) estimates that 9.8 million people worked in renewable energy in 2016.²⁹ Increased efforts to

ensure universal access have the potential to lift millions out of poverty. However, after more than a century of reliance on fossil fuels, transforming the energy sector is a formidable undertaking with wide-ranging social and economic implications. A holistic approach is needed to increase ambition that properly accounts for the costs and benefits of the transformation, and engages all stakeholders.

Today, more companies than ever are demonstrating leadership on climate issues (see also Industry thematic area). In We Mean Business, a coalition of organizations is working to foster and showcase bold business action on climate change. As part of this initiative, companies are joining RE100 (renewable power), EP100 (energy productivity), and EV100 (electric vehicles), a set of campaigns developed by The Climate Group. Collectively, these initiatives provide building blocks for 21st century business models that will help to meet science-based climate targets and deliver net-zero emissions economies. Bringing together a large group of diverse companies sends a powerful market signal, showing the growing demand for renewable energy and a determination to reduce energy demand globally. The 100 percent commitment is important: it shows not only that members are serious, but also that there is no room for compromise. This ambition drives both internal decision making and external interactions with the market.

Companies are far from being alone in this effort. States, regions and provinces around the world are setting some of the most ambitious energy targets, developing a new generation of climate and energy policies while committing to measurement, reporting and transparency (see Human Settlements thematic area). Subnational governments are accelerating the pace of

Progress towards building resilience to climate change

As by Hurricanes Irma and Maria demonstrated this year in the Caribbean, SIDS are acutely vulnerable to the impacts of climate change because of their size, remoteness, narrow resource base, and exposure to external economic shocks, especially those resulting from fluctuating fuel prices. They were early leaders in promoting renewables-based systems. With the support of a range of partners, the SIDS Lighthouses Initiative was launched in 2014, promoting a holistic approach to the transition to renewable energy. The Initiative today comprises 36 SIDS and 19 development partners. It has provided financial advisory services to implement projects in the Grenadines, the Maldives, Saint Vincent and the Solomon Islands, among others. Following recommendations from the initiative, Samoa is implementing necessary upgrades to make the grid more reliable with planned solar projects. The Initiative is joining forces with other new SIDS-focused initiatives including the Alliance of Small Island States-led Initiative for Renewable Islands Energy launched in Marrakesh, and the Fiji-led Pacific NDC Partnership.

implementing innovative energy transition policies through the Energy Transition Platform, which connects highly industrialized, carbon intensive global states and regions to also demonstrate the need for scaled-up action at the national and international levels.

On the other side of the spectrum, stakeholders are uniting in an effort to create regional markets for economies of scale and to facilitate the integration of high share of renewable energy into electricity systems. An example is the Africa Clean Energy Corridor initiative, which was launched in 2014 and has since almost doubled to include more than 30 governments, regional organizations, development partners and financial institutions in Eastern and Southern Africa. Along with other activities, the initiative has provided targeted advisory services for renewable energy development, such as through Renewables Readiness Assessments in Egypt, Tanzania and Zimbabwe. Facilitated by IRENA, the model has been replicated in West Africa and Central America, with other regions underway. The International Solar Alliance brings together solar resource rich countries with non-Party stakeholders to provide a platform for collaboration to increase the rate of implementation of solar power.

If the world is to achieve the objectives of the Paris Agreement, solutions for non-electricity sectors are of the essence. In July 2017, just as record high temperatures were being recorded in the Middle East and the United States, the Cooling for All global initiative was launched by Sustainable Energy For All to protect

the world's most vulnerable populations from intensifying global heat. As temperatures increase, the demand for cooling increases as well. This poses the risk of creating a significant increase in global energy demand that, if not managed through super-efficient technologies and clean energy, will cause even more pollution and more extreme climate impacts. Another major contributor to decarbonizing heating and cooling is geothermal energy. The Global Geothermal Alliance initiative is a global platform for improved dialogue, cooperation and coordinated action among policymakers, industry, and other stakeholders. As of August 2017, its constituency has expanded to include 42 countries and 29 partner institutions across the globe. Its High-Level Conference, jointly organized by the Government of Italy and IRENA adopted the "Florence Declaration", agreeing on a set of actions to significantly increase the pace of geothermal energy development around the world.

It is important to remember that energy is not an end in itself but a means to different ends. There is strong evidence showing that people-centred approaches, with gender equality and social inclusion at the core, will help accelerate progress on sustainable energy access goals. With these reasons in mind a People-Centered Accelerator was formally launched by Sustainable Energy For All at COP23. This is a voluntary partnership of stakeholders interested in advancing gender equality, social inclusion, and women's empowerment in the sustainable energy sector.



Industry

The Challenges

- » Industry and business have an essential role to play in responding to climate change.
- » Industry alone was responsible for over 20 per cent of global greenhouse gas emissions in 2010. When indirect emissions – those from electricity and heat production attributable to specific sectors – are accounted for, overall emissions from industry account for an even greater proportion of the global total.³⁰
- » The financial and physical assets, operations and supply chains of many businesses and industrial actors are highly vulnerable to the effects of a changing climate, including variable temperatures and rainfall patterns, and also intensifying natural disasters.

Progress in the thematic area

There is growing momentum worldwide to scale up climate action in industry and business. In industry, cost-effective emissions reductions are being achieved through improved efficiency in the use of raw material, broader adoption of best available technologies, and product innovations such as lower-carbon cements. In addition, through forward-thinking decisions in areas such as procurement and supply chain management, leaders from throughout the business community are having a direct and measurable impact on broader efforts to mitigate and adapt to climate change.

The increasing momentum for climate action in industry and business is mirrored by the increasingly numerous, large and ambitious initiatives under the Marrakech Partnership. For example, the Low Carbon Technology Partnerships initiative – which aims to enhance dialogue and collaboration among companies and other partners to accelerate the development of low-carbon technology solutions – has grown to include more than 165 global businesses and 70 other partners since it was launched at COP21. Under the Science-Based Targets initiative, more than 90 new companies have set their own concrete climate change mitigation targets in the past year alone.

Progress towards building resilience to climate change

Many businesses and industrial actors recognize the fundamental threat that climate change poses to business, the economy and society at large. It affects supply chains, access to finance, insurance premiums, operations, and many other facets of business. As a result, many large and small firms are already assessing the range of risks that climate change poses to their business, both in terms of vulnerabilities of existing assets and risks to their broader business models. Many of these private sector actors are also becoming vocal proponents of the importance of climate change adaptation, and are increasingly committing to do their part to build resilience and adapt to the long-term effects of a changing climate. For example, the World Business Council on Sustainable Development has now explicitly articulated its commitment to Article 7 of the Paris Agreement.

Under the Marrakech Partnership, industry and business are making increasingly strong commitments to water security in a changing climate, including through The Business Alliance for Water and Climate (see Water section). However, considerably more needs to be done on resilience. The Task Force on Climate-related Financial Disclosures is an important first step to making fundamental and systematic changes to the ways in which business identify, assess and disclose information climate risk to investors, lenders, insurers and other stakeholders.

The steady increase in commitments from industry and business is well captured by the We Mean Business 'Take Action' campaign. Under this campaign, more than 600 companies with revenues of approximately USD 8.1 trillion (around the combined GDP of Germany and China³¹) have now made over 1000 individual commitments to take bold action on climate change. This constitutes a significant and rapid increase in the number of companies that are involved, rising from 62 at the end of 2014.

The growing number of initiatives and commitments are already producing tangible and important results in the fight against climate change. For example, the RE100 initiative – which supports companies to set a goal to source 100 per cent of their electricity from renewable sources, and subsequently track and disclose their progress toward achieving that goal – now has 111 companies as partners, which are collectively creating over 152 TWh/yr in demand for renewable energy. This is roughly equivalent to the energy consumption of a country such as Poland.

Despite this strong progress, considerably more needs to be done in the years to come. Pushing climate action in industry and business to scale will require more than individual and ad hoc commitments; it will require a more fundamental transformation of how companies operate, procure goods and services, and manage supply chains. A range of important initiatives under the Marrakech Partnership aim to facilitate this transformation, led by both the private and public sectors.

- » The Assessing low Carbon Transition Initiative supports the development and application of robust methodologies to assess the credibility of corporate climate strategies, as well as the consistency of their commitments. It has produced three sectoral methodologies (for electric utilities, car manufacturing and retail) and tested them in partnership with 20 leading companies, while also making its methodologies and pilots publicly available for broader use.
- » The Carbon Pricing Leadership Coalition with 150 private sector partners, and 30 other strategic partners – is advocating for effective carbon pricing policies that will lead to new and climate-friendly ways of doing business. The Coalition aims to double the percentage of global emissions covered by explicit carbon process to 25 per cent by 2020, and to double it again to 50 per cent within a decade.





Looking ahead – what is needed to accelerate climate action

The challenges to scaling up climate action have been outlined in the Summary for Policy Makers 2017 and reiterated in the responses to the Marrakech Partnership survey. The main challenges are integrating approaches, addressing finance gaps and filling capacity, technology and information gaps. The partnerships and initiatives of the Marrakech Partnership offer new and innovative ways to respond to these challenges – but only if the right enabling conditions are put in place at the national and international levels. This section summarizes the necessary conditions and other priorities as communicated by Marrakech Partnership coalitions. More information about the priorities for the thematic areas can be found in the impact and priority tracker of the Marrakech Partnership.³²

Integrating approaches

Integrating climate actions with the goals of economic growth, disaster risk reduction and sustainable development represents an opportunity to magnify the benefits of investments in climate action, while also accelerating further climate action. Challenges to this integration process come from the need to connect across sectors, as well as geographic and knowledge borders. In some cases, there are institutional issues that exacerbate this complexity – for example, lack of mandate for some actors and levels of government and the need to coordinate across different responsible bodies (e.g. government departments and agencies). There are even differences in mandates and timeframes for different targets (SDGs, Sendai Framework).

Priorities to address this challenge under each Marrakech Partnership thematic area follow.

Land Use

- » National governments and non-Party stakeholders to work together to strengthen dialogue and collaboration – including through formal public-private partnerships – between public and private sector actors working in forests and agriculture. This can enhance alignment between policy and private investment decisions, and can contribute to pooling public and private resources to scale up climate action on the ground.

- » National governments to strengthen and improve coherence among sector and sub-sector policy and regulatory frameworks to support climate-resilient and low-emission patterns of agricultural development, and more sustainable management of natural resources (e.g. land, water).
- » National governments to promote integrated approaches to landscape management by enhancing coordination across relevant public (and in some cases private) entities.
- » Degradation of natural resources is one of the factors leading to climate change while at the same time contributing to vulnerability to its effects. To address this cascade, the public sector needs to improve the governance of natural resources including secure tenure and recognition of the marginalized such as women and indigenous peoples.

Oceans and Coastal Zones

- » A key priority ahead of 2020 is the achievement of the Aichi Biodiversity Target of conserving at least 10 per cent of marine and coastal areas; thus far, only 5.3 per cent are protected.
- » National governments to integrate Blue Carbon³³ policies into NDCs to deliver ambitious mitigation.
- » National governments to continue to develop and implement policies aimed at integrated planning, and providing incentives to support growth of the offshore wind sector and other methods of ocean-based renewable energy.
- » Ocean stakeholders to work with governments (both local and national) to promote the use of

ecosystem-based adaptation strategies as part of larger integrated coastal management efforts, such as policies that rebuild and grow coastal vegetative ecosystems as protection from storm surge, and to provide carbon sinks and nursery habitats to support healthy fisheries.

- » Local and regional governments to integrate disaster risk reduction into climate change adaptation plans, through the model of the Sendai Framework for Disaster Risk Reduction.
- » The international community to take proactive measures to address the legal status of climate-induced refugees and migrants. Hundreds of millions of people may be displaced by slow- or fast-onset climate-related disasters.

Water

- » A key priority is related to governance; there is a need to develop climate adaptation strategies in water management plans, to reinforce vertical and horizontal integration and to involve stakeholders in these processes, ensuring social acceptability of projects and facilitating bottom-up actions.
- » Non-Party stakeholders to bring closer coordination between the initiatives focusing on water, health, food and energy, as these four sectors are highly interdependent by nature.

Human Settlements

- » National governments to facilitate the inclusion of key resilience partners such as the private sector, the insurance industry, realtors and the tourism industry in designing urban resilience plans. The “business as usual” approach is not enough anymore, as evidenced by the annual increase of economic losses from natural disasters (USD 175 billion in 2016 according to Swiss RE’s sigma records). It is therefore paramount to bring a range of urban resilience partners to advance a cross-cutting approach, as resilience affects transportation, health, land and other sectors.
- » The international community to create a platform or taskforce to facilitate vertical integration or alignment of deep carbonization climate policies at all levels and ensure that subnational climate actions are incorporated into NDCs and National Adaptation Plans in a transparent matter.
- » The international community to establish long-term, structured and regular dialogue and engagement of the local and subnational governments and urban resilience community with national and international partners.
- » National governments to embed integrated, sustainable urban and territorial development and disaster risk reduction into NDC implementation, with support from non-Party stakeholders.
- » The international community to establish global expectation of Nearly Zero Energy Buildings as the standard and symbol of buildings in the low-carbon transition.
- » To implement the required transition to sustainable buildings and construction, on-the-ground engagement and coordinated measures are needed, which

include development of local sustainable strategies for buildings, partnership with professionals, improved institutional frameworks, and other supportive policies and market tools, such as building energy codes, regulations, training and capacity building, and financial incentives.

Transport

- » Local and regional governments (with support from national governments) to establish stronger links between land-use and transport planning to increase accessibility to transport and reduce travel distance.
- » Sustainable development principles to be better integrated into transport planning, policy and investment decisions made by all levels of government.
- » Recognize that transport-related climate action is not limited to technological actions. The current focus on improving fuels, vehicles, and modal optimization alone will not deliver climate objectives efficiently without actions to avoid demand through urban planning, and shifting modes by promoting public transport, walking and cycling.

Energy

- » The magnitude of the challenge requires increased innovation and investment, along with new business models and market designs. Innovations must be materialized, shared and widely replicated by others. International collaboration can accelerate innovation through increased research and development and investments in clean energy. To reap these benefits, significant acceleration of the current pace of deployment and increased investment is required.

» Policy makers, bolstered by the increasing affordability of clean technology solutions and actions of many stakeholders, must accelerate energy transformation with sound planning, enabling policies and holistic strategies. While transformation of the energy system is technically possible it requires policy and market reforms, including aggressive carbon pricing.

- » The energy sector transition must span both the power and end-use sectors. Much has been done on finding low-carbon solutions for the power sector, and transport, heat and cooling need to be prioritized.
- » National governments to work with financial stakeholders to ensure that lending decisions take into account the land-water-energy nexus.
- » National governments to develop action plans and clear timelines for the removal of fossil fuel subsidies.
- » National, local and regional governments and businesses to work with civil society and local leaders to transition cooking fuel to clean liquid or gaseous fuels or electricity by 2030.

Industry

- » National governments to work with the private sector to identify effective adaptation needs, priorities, practices and collaborative actions to implement across global supply chains, including enhancing early warning systems and emergency preparedness, managing slow-onset events and developing comprehensive risk assessments.
- » National governments to ensure robust and coherent regulations between national and regional carbon markets, and alignment between the various systems with clear global rules aiming for global coverage to prevent economic distortions and carbon leakage.

Addressing finance gaps

Financing climate action is a significant challenge. The cooperation that is a fundamental part of the Marrakech Partnerships represents an opportunity to develop new ways of addressing finance gaps. In some cases, upfront resources are needed to develop bankable projects that qualify for funding from international providers of climate finance. High transaction and monitoring costs in sectors such as land use, as well as fragmentation of markets and priorities in sectors such as transport and the urban environment, have made it difficult to mobilize funds at the scale that is needed. In many sectors, the ability to unlock the full potential of the private sector is inhibited by the lack of a conducive policy and regulatory environment, as well as inadequate incentives.

Priorities to address this challenge under each Marrakech Partnership thematic area follow.

Land Use

- » Bilateral donors and multilateral funds to scale up public climate finance flows to agriculture and forests. Public climate finance flows continue to favour mitigation over adaptation, and focus overwhelmingly on energy systems and infrastructure. These imbalances should be addressed.
- » The international community and governments to utilize public climate finance in a more catalytic

manner. Public climate finance for agriculture, forests and other land uses should be utilized to address barriers and leverage and unlock additional public and private investment, rather than for business-as-usual support.

- » The international community and governments to create clear market signals, especially a price on carbon for forests and soil organic carbon, as well as compliance mechanisms to ensure that lenders and funders do not support unsustainable practices.

Oceans and Coastal Zones

- » The international community to work together for increased accountability in the tracking of public finance to ensure that a larger portion of climate adaptation funding is earmarked for coastal and SIDS communities.
- » Financial institutions to provide financing for projects that increase the resilience of oceans and coastal communities, including early warning systems in the most vulnerable coastal regions and SIDS, and support to communities that earn their livelihood from oceans and coasts such as fishers.

Water

- » All levels of governments to design gender-responsive instruments and incentives.
- » Businesses and international organizations to work together to demonstrate the business case for smart water management, and help governments to design water-pricing instruments and regulations.
- » A communication effort to be made by ministries of finance, donors and international organizations, with the objective of informing stakeholders about existing procedures, identifying bottlenecks, supporting capacity building and taking corrective measures, and introducing innovative financial mechanisms.

Human Settlements

- » National governments to implement enabling reforms, integrate international financial standards at domestic level, and increase local and regional governments' borrowing autonomy and ability to access finance. A Green Climate Fund window for local and regional governments would help significantly in mobilizing resources in this sector, and the strengthening of domestic financial intermediaries such as Municipal Development Funds would better support the channeling of funding and financing to local infrastructure projects.
- » National governments to establish a national price on carbon that reflects its true social cost and redirects funding towards investment in low-carbon, resilient infrastructure.

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- » Development banks and climate funds to earmark a proportion of funding for climate action planning and investments in urban areas and for sustainable buildings as well as support and encourage multi-stakeholder initiatives that are delivering on this front.
 - » Bilateral donors, multilateral funds and investors to develop large-scale co-financing de-risking instruments and innovative facilities for building energy-efficiency programmes to leverage the capital needed to meet the NDCs goals in emerging and developing countries.
 - » A 2020 Global Action Framework for Localizing Climate Finance is crucial to launch a process leading to the establishment of a Global Partnership for Localizing Climate Finance, encompassing all stakeholders of the climate finance value chain, and their programmes and initiatives and closely linked to initiatives such as the NDC Partnership and the NDC Platforms of multi-lateral development banks such as NDC Invest, Climate Finance Accelerator or the Long-Term Infrastructure Investors Association Climate Task Force.

Transport

- » Financial organizations, with support from relevant stakeholders, to review business case and investment financing criteria to facilitate delivery of climate-resilient infrastructure.
- » Financial organizations and local and national governments to work together to deliver scaled-up and diversified funding for supportive and coherent fiscal frameworks to advance the shift to lower-carbon transport forms and alternative work practices to reduce transport demand.

Energy

- » Annual finance flows for electrification in 20 key countries across Africa and Asia with significant energy access gaps averaged USD 19.4 billion, less than half the estimated investment of USD 45 billion needed annually to achieve universal electricity access in these countries.³⁴ Spending is especially low in 14 Sub-Saharan Africa countries, where roughly half a billion people are living without power, most of them in hard-to-reach rural areas. National governments should support decentralized renewable energy, such as household solar, which offers a promising and more affordable solution for these populations. Precious little – only 1 per cent of the finance that was tracked – is going toward decentralized renewable energy in rural areas now.
- » International financial institutions and national banks to provide guarantees and de-risk investments to leverage private finance for climate-friendly energy systems at scale.
- » Investors and philanthropic organizations to commit technical assistance and finance to urgently scale-up funding for energy access.

Industry

- » Parties to establish robust accounting rules for the carbon market to ensure transparency and good governance. These rules should prevent double counting, offer new confidence in offset use and ensure that environmental integrity around the national contributions is maintained.
- » National governments to implement more robust and complementary carbon-pricing mechanisms (such as carbon tax, market-based mechanisms, standards or a combination thereof) to redirect investments towards low-carbon solutions.
- » National governments to set carbon prices that are Paris-compliant and consistent with the Carbon Pricing Leadership Coalition's High Level Commission on Carbon Prices.
- » National governments to consider the social impacts of carbon pricing and ensure that the policy design of carbon-pricing mechanisms includes compensating measures to prevent economic disparity and support the most vulnerable.

Filling capacity, technology and information gaps

Developing-country Parties and local-level actors in particular are faced with knowledge, capacity and technology gaps that hinder efforts to advance climate action. The Marrakech Partnership represents an opportunity to build partnerships and cooperation to address these gaps. With regards to resilience, the availability of reliable, tailored and timely data is a precondition for identifying climate risks and vulnerabilities, designing adaptation initiatives, establishing priority actions, and implementing adaptation measures. Other examples of gaps are in the area of technology demonstration and in the availability of reliable data to support strategic planning tools in areas such as detailed emissions inventories.

Priorities to address this challenge under each Marrakech Partnership thematic area follow.

Land Use

- » National governments and the international community to invest in generating and disseminating data needed to inform policy decisions related to forests and agriculture, as well as investment decisions at the farm level.
- » National governments and the international community to build the capacities of agricultural producers and forest communities to understand the climate risks and vulnerabilities they face, and to respond accordingly. To ensure such support is provided on a continuous basis, extension services should also be strengthened.
- » National governments and the international community to facilitate the use of tools to advance transparency of land-use monitoring, such as Collect Earth (built by FAO and Google).
- » Research can help to identify the barriers around institutions that impede transformational pathways and understand some of the trade-offs between short-term costs and longer-term benefits of climate action.

Oceans and Coastal Zones

- » Successful on-the-ground actions for ocean and climate initiatives require prioritizing ecosystem-based adaptation measures, integrated coastal management, capacity building and empowerment of local communities to sustainably manage and adapt their coastal and ocean resources.

- » Ocean stakeholders to cooperate with financial and international organizations, and governments to build marine policy and research centres in developing countries, particularly SIDS, to build their independent and collaborative marine research capacities to monitor ocean health, as well as to develop and establish adaptation plans and mitigation policies that are based on sound science.
- » Ocean stakeholders to ramp up ocean research and develop new solutions to problems such as ocean warming, acidification and deoxygenation.

Water

- » We cannot manage what we don't measure. There is a necessity to create and strengthen monitoring networks, water information systems and modeling tools in order to limit the uncertainty.
- » On the ground, success also requires strengthened capacities of the water staff and stakeholders at all levels, especially in the most vulnerable countries, and the setting up of local and national financial mechanisms based on "users/polluters pay" principle and payment for ecosystem services.
- » Parties and UN Agencies to provide support to disseminate knowledge materials such as methodological guides.
- » Parties to contribute to the Megacities Alliance, to advance and implement climate adaptation solutions in these large urban centres.

Human Settlements

- » National governments and financial institutions to provide funding for technical assistance for the development of Paris-compatible climate action (mitigation and adaptation) plans by subnational governments.
- » National governments to support the creation of a competitive marketplace at national level for advisory firms providing financial advice and project preparation services, to support the creation of pipelines of fundable projects, and their implementation at local level.
- » National governments and non-Party stakeholders to work together to promote low-carbon building materials (e.g. wood, earth construction, low-carbon cement) as well as locally sourced materials through an improved assessment of emissions in every part of the lifecycle (production, use and disposal).
- » Governments to allocate increased resources with national policies, budgetary allocations and international funds to strengthen capacity of local and regional governments to plan for climate action, including with forward-looking resilience-thinking, and be better positioned to engage in multi-level co-design of national NDC plans and economic development strategies.

Transport

- » National governments and international finance organizations to build technical capacity of transport planners and implementers, especially in developing countries, in planning for low-carbon and resilient transport.
- » Local and national governments and private sector stakeholders to cooperate to accelerate the deployment of ICT systems to manage transport demand and operate more efficiently. To make “global” climate action truly global, Parties to facilitate expansion of transport initiatives to key low- and middle-income countries.

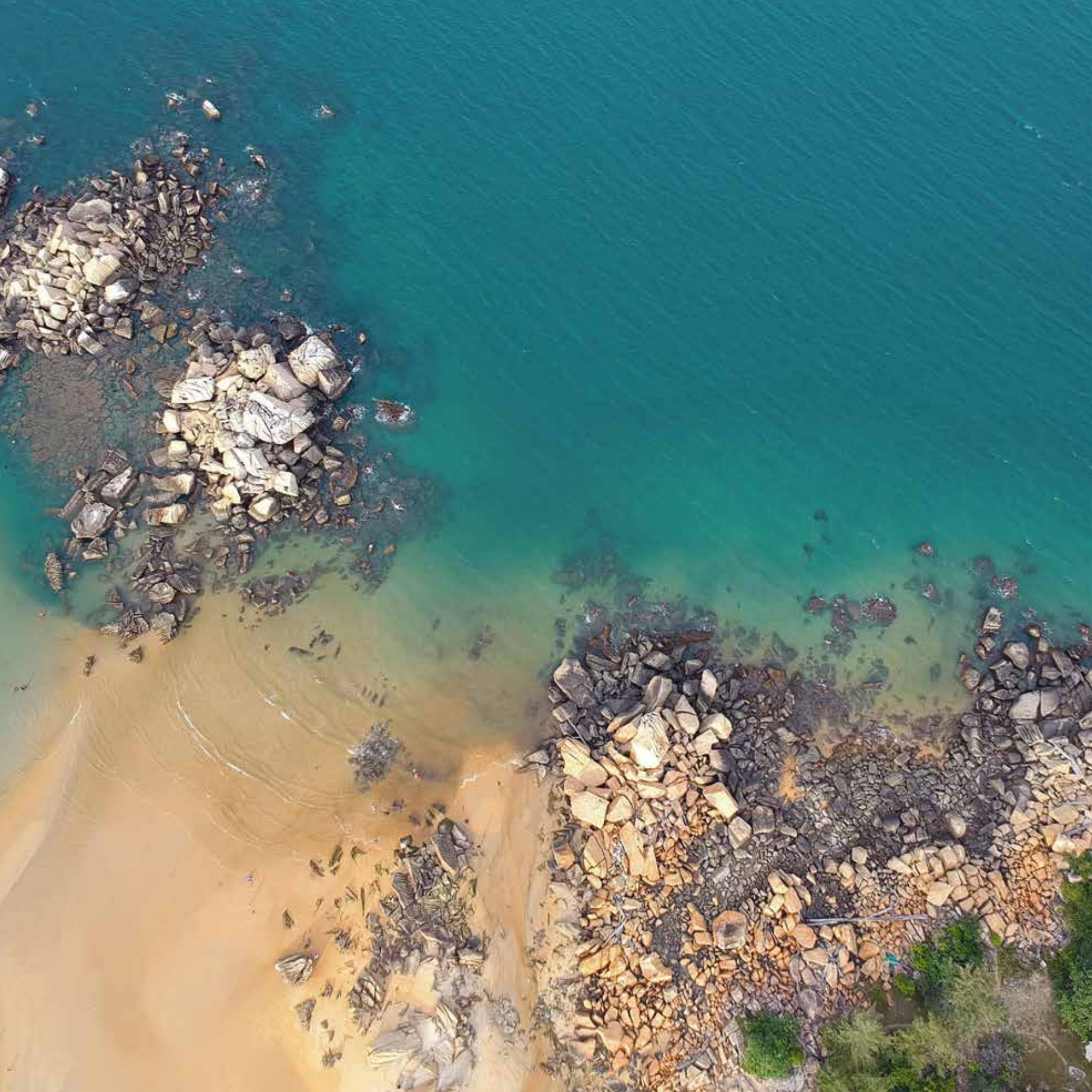
Energy

- » The international community to set up an Innovation Lab on models for community renewables and on energy efficiency in buildings.

To make the priority actions in this Yearbook a reality, the High-Level Champions must fulfil an awareness function and act as dynamic agents of cooperation to engage more sectors on climate action.

Support is needed in the creation of nationwide Climate Action Coalitions, accompanied by national awareness- raising and mobilization campaigns, to contribute to the revision of the NDCs and showcase domestic pledges from a wide range of non-Party stakeholders.

Establishment of a Climate Action National Leadership Platform with senior representatives from all non-Party stakeholder constituencies connected to the Marrakech Partnership thematic areas is also pertinent to echo the role and actions of the High-Level Champions.



Key Messages for 2018

Key messages for Parties and national Governments from the Marrakech Partnership

The Technical Examination Process

- » The strategic intent of the Marrakech Partnership is to place greater emphasis on pre-2020 action and the generation of specific policy recommendations to spur ambition. This requires renewed investment of Parties in the Technical Examination Process and the Technical Expert Meetings (TEMs).

NDC development and implementation

- » Promote a holistic approach to NDC development and implementation that would address not only mitigation, but also adaptation and resilience aspects in all sectors.
- » NDCs can provide a transparent and inclusive organizing framework for low and net zero carbon development that stimulates cooperation and facilitates coherence of action across sectors and among stakeholders.
- » Identify the relationship and synergies between investments made and policies and actions taken towards the Sendai Framework, the Paris Agreement and the 2030 Agenda, and ensure that national commitments to deliver on these global agreements are captured in the NDCs.
- » Consider disaster preparedness for the unique challenges of rising sea level and intensifying tropical storms as a key component of climate change adaptation in the NDCs.
- » Consider the near-term impact of fast reductions of greenhouse gases with a shorter lifetime in the atmosphere

than CO₂ (such as methane) as a complement to the reduction of CO₂, while reporting on progress of NDCs, and as an element to increase ambition in the next round of NDCs.

- » Engage in a more meaningful way with the transport sector by greater involvement of relevant Ministries (e.g. Transport, Energy and Urban Planning) through formal dedicated thematic technical workshops (outside of the COP period), to support delivery of long term decarbonization and resilience strategies.

Resilience to climate change

- » Expand marine protected areas and that ensure fisheries are sustainably managed to promote the resilience of their marine resources to the impacts of climate change.
- » Scale up efforts on landscape restoration and management with a holistic focus on ecosystem protection, socio-economic development, and enhancement of local livelihoods including food security.
- » Create synergies between adaptation and mitigation initiatives to ensure optimal impacts that result in both emission reductions and increased resiliency.
- » Act urgently on building resilience in areas such as urban infrastructure, water management, food security, agriculture and coastal regions.
- » Support decentralized energy solutions as an affordable and quicker way to provide energy access in hard-to-reach rural areas rather than focusing efforts on large-scale grid energy infrastructure alone. Pursue integrated electrification strategies comprising both grid- and off-grid solutions.

Climate financing

- » Climate financing needs to be risk-driven and risk-informed, taking into account extreme climate events and stresses in all policy and practices within and across sectors.
- » Increase the availability of context designed insurance to manage climate change risks.
- » Design new financial solutions and refine existing tools to use public money more effectively to unlock private finance at a large scale. Draw on the expertise of the existing international finance institutions to establish a multilateral risk mitigation facility to facilitate investment in resilient infrastructure and renewable energy.
- » Recognize the challenges that local and regional governments face in accessing innovative and public-private financial resources, and create an official multi-governance platform to advance a structured discussion on how climate action can be scaled up with the necessary speed, to deliver on the Paris Agreement. The UNFCCC Standing Committee on Finance could consult and cooperate with non-Party stakeholders to provide recommendations for implementing a global framework for localizing climate finance.

Role of the High-Level Champions and the Marrakech Partnership in the 2018 Facilitative Dialogue

In 2018 the Facilitative Dialogue will provide a platform for Parties to look at the broader picture of climate action and assess the need to increase ambition to achieve the aims of the Paris Agreement. The Dialogue is seen by many as a key step toward a successful implementation of the Paris Agreement. It will help frame the way forward as we work toward a net-zero carbon world in the next couple of decades.

Non-Party stakeholders are making a huge contribution to this effort and can also bring significant contributions to the Facilitative Dialogue. A firm link between the work of the Marrakech Partnership and the Facilitative Dialogue will be key to having a collaborative and multi-stakeholder approach to the

Dialogue, one that supports the long-term global transformation required by the Paris Agreement, and provides a model for inclusive design of the next round of NDCs.

Coherence of NDCs with real action on the ground is a priority for non-Party stakeholders. There is a need to transform NDCs into concrete national action plans and link them to existing tools such as national adaptation plans. The Marrakech Partnership can support Parties by providing valuable information on policies and best practices based on their experiences, successes and lessons learned.

The discussion under the Marrakech Partnership on each thematic area stems around three key aspects in relation to global emissions and adaptation/resilience – what is being done currently, what needs to be done vis-à-vis the gaps, challenges, barriers, potential solutions, and best practices to overcome such obstacles, and how it should be done. These aspects integrate well with the objective and purpose of the Facilitative Dialogue. Through the Marrakech Partnership, policymakers can be provided a menu of holistic policy options that address not only mitigation, but also adaptation and resilience aspects in all sectors that will assist in achieving the NDCs, the National Adaptation Plans and beyond. Engagement with non-Party stakeholders to discuss best practices and transformative actions in different sectors will help identify the potential to address the ambition gap.

Non-Party stakeholders can also contribute to the technical discussions under the Facilitative Dialogue including the outcomes of the Global Climate Action activities and events throughout the year.

Non-Party stakeholders should have the opportunity to engage as partners whereby Parties request and accept from them, written input in the preparatory phase and, by convening in-person dialogues between governments and non-Party stakeholders, formally within UNFCCC sessions in 2018 and informally on the margins of other meetings, including at the regional level. Such dialogues would be convened to harvest insights on enabling instruments needed to catalyze business ambition and investment in climate mitigation and resilience solutions.



The Artificial Islands of Lau Lagoon, Solomon Islands by Lynton Aaron Filia

The thematic areas of the Marrakech Partnership covering the concrete progress made by non-Party stakeholders, together with the targeted discussions under the TEMs, the actions and commitments captured by NAZCA, the outcomes of the Global Climate Action Summit in San Francisco to be held in September 2018, the inputs from the Marrakech Partnership activities throughout the year (e.g. regional meetings, global summit), and the 2018 Yearbook, will provide Parties with a full scope of substantive information for advancing the dialogue.

Throughout 2018, the Marrakech Partnership stands ready to organize events in accordance with requests by the Presidencies, and the High-Level Champions will report back on them, as required. Furthermore, the High-Level Champions will ensure support to this effort by further assimilating and integrating inputs per theme and relevance.

It is proposed that inputs from non-Party stakeholders to the Facilitative Dialogue be channeled through the Marrakech Partnership. In this regard, the High-Level Champions will be pleased to coordinate the flow of information and inputs from non-Party stakeholders for the consideration of Parties in the Facilitative Dialogue.

Call for non-Party stakeholders to align with the Marrakech Partnership

The impact of the Marrakech Partnership will grow with the number of coalitions and initiatives that take up climate action.

The Global Climate Action summit in September 2018 in California is expected to be a movement for non-Party stakeholders to demonstrate delivery of existing commitments and express their determination to go further by raising ambition.

Success of the Marrakech Partnership will depend on North-South cooperation and collaboration. It will also depend on how effectively we collaborate with Parties as partners in implementing the Paris Agreement.

The High-Level Champions are calling on all actors who share their passion in the fight against climate change, in all corners of the world, to align with and work through the Marrakech Partnership, so that together global climate action can be accelerated, now.

Annex

Methodology for the analysis of the survey

The results presented in this Yearbook are based on the analysis of responses to a survey carried out by the UNFCCC on behalf of the High-Level Champions of the Marrakech Partnership. This annex provides more details of the methodology. An online survey was sent to 240 organizations. A total of 150 responses, of which 78 contained sufficient data to be included in the analysis. The rate of valid responses was 25%. These survey responses are relatively equally distributed across initiatives in each of the seven thematic areas.

Most of questions were qualitative and to some extent open, allowing rich initiative-specific data, but complicating comparison between initiatives. To allow comparison and an aggregate overview, a team of around 15 people at seven different organizations around the world systematically interpreted survey responses, and coded according to guidelines designed at the German Development Institute, Deutsches Institut für Entwicklungspolitik (DIE) based on its 'Global Aggregator for Climate Actions' database. The recoding allowed comparison between climate actions. The comparative assessment provides an overview of (1) geographic patterns of leadership and implementation; (2) organizational features and target setting; (3) achievements (in terms of outputs and types of effectiveness); and (4) types new commitments (scaling, enhancements, and new initiatives).

The survey assessment was standardized to allow the tracking of output performance over time. While most surveyed actions were too novel to allow definitive evaluations of effectiveness with the current data some predictions can be made, and baselines are set. In a next iteration, the data could be combined with data on mitigation potential.

Methodology for Figure 7 and Figure 8

The results shown in Figure 7 and Figure 8 of Section 2 are based on analysis of a set of initiatives which were launched in 2014 and can be used to gain insight into trends over time. The results were developed using the Global Aggregator for Climate Actions (GAFCA) created by DIE and the London School of Economics. GAFCA aggregates data on initiatives by non-Party and subnational actors ('climate actions') that address aspects of climate change, including mitigation and adaptation.

To develop Figure 8, a three step Function-Output-Fit (FOF) methodology was applied: (1) the main functions of individual climate actions were identified; (2) data on outputs/production by individual initiatives was gathered; and (3) the accuracy and consistency between functions and outputs was assessed. For instance, an initiative which claims to build capacity by training people, would at the very least need to produce training manuals, organize training seminars, etc. to have any environmental or social impact. For an extended description of the methodology used, see: Chan, Sander, Robert Falkner, Matthew Goldberg, and Harro van Asselt. "Effective and geographically balanced? An output-based assessment of non-state climate actions." Climate Policy (2016): 1-12.

The categories of function-output-fit used are

Very low

output performance

The climate commitment given by the actors remains largely a promise on paper, as it has not produced any output except for expressing a willingness to take climate action.

Low

output performance

The first steps have been taken towards implementing the climate commitment. Outputs are produced, even when they are not yet enough to fulfill every declared function.

Medium

output performance

The climate commitment has become an action with the potential to improve environmental and/or social indicators. Outputs are relevant outputs to some of the functions that the initiative wants to address.

High

output performance

The climate action produces relevant outputs. The initiative, meeting minimal criteria of output performance, is also in a good position to generate the environmental or social impact it aims at.

References

1. In this Yearbook we use the term global climate action to refer to the body of voluntary actions and commitments by non-Party stakeholders, either on their own or in partnership with Parties. Initiatives, coalitions and alliances refer to groups of stakeholders working towards a common goal.
2. 1/CP.21
3. Non-State Actor Zone for Climate Action online reporting site moderated by the UNFCCC secretariat.
4. Taking Stock of Global Climate Action http://datadriven.yale.edu/wp-content/uploads/2016/12/Data_Driven_Yale_Taking-Stock-of-Global-Climate-Action_Nov_2016_final.pdf
5. United Nations Environment Programme (UNEP) The Emissions Gap Report 2016
6. UNEP The Emissions Gap Report 2017
7. Note: initiatives may contribute to achieving more than one SDG
8. The classification of high-, upper-middle, lower-middle, and low-income countries is based on categories used by the World Bank until July 2016; see: <https://blogs.worldbank.org/opendata/new-country-classifications-2016>, accessed 16 October 2017.
9. Chan, S., Falkner, R., Van Asselt, H. & Goldberg, M. (2015). Strengthening Non-State Climate Action. A progress assessment of commitments launched at the 2014 UN Climate Summit. London School of Economics and Political Science (LSE), German Development Institute (DIE)
10. Chan, S., Falkner, R., Goldberg, M., & van Asselt, H. (2016). Effective and geographically balanced? An output-based assessment of non-state climate actions. *Climate Policy*, 1-12. doi:10.1080/14693062.2016.1248343
11. Chan, Sander & R. Falkner (2017). Global Aggregator for Climate Actions. German Development Institute/Deutsches Institut für Entwicklungspolitik (DIE) and London School of Economics and Political Science
12. For the methodology, see Annex
13. For the purposes of interpreting the survey response, we took a broad definition of environmental impacts to include actions such as reducing greenhouse gas emissions which will impact climate change and also have other benefits such as reducing air pollution
14. Environmental indicators were interpreted in a broad sense, either direct indicators such as improvements in biodiversity or indirect ones such as decreasing greenhouse gas emissions which will impact on the environment.
15. Such as changes in income, increase in employment
16. IPCC 5th Assessment Report: https://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_chapter11.pdf
17. FAO: <http://www.fao.org/3/a-i5188e.pdf>, The impact of disasters on agriculture and food security. FAO
18. National Oceanic and Atmospheric Administration, <https://www.climate.gov>
19. Sustainable fisheries and aquaculture for food security and nutrition <http://www.fao.org/3/a-i3844e.pdf>
20. Coastal blue carbon ecosystems in NDCs <https://www.iucn.org/news/marine-and-polar/201611/coastal-blue-carbon-ecosystems-ndcs>
21. UN Habitat website <https://unhabitat.org/un-habitat-launches-the-world-cities-report-2016/>
22. World Bank Population Statistics https://data.worldbank.org/indicator/SP_POP.TPTL accessed 20 October 2017.
23. http://unfccc.int/documentation/documents/advanced_search/items/69111.php?preref=600009447
24. <https://www.mainstreamingclimate.org/initiative/>
25. <https://ecf.com/news-and-events/news/day-04-velo-city-2017-16th-june#governance>
26. <http://uic.org/energy-and-co2-emissions>
27. <https://www.freedoniagroup.com/industry-study/global-bus-market-by-product-and-fuel-type-6th-edition-3509.htm>
28. Rogelj et al, Energy system transformations for limiting end-of-century warming to below 1.5°C, *Nature Climate Change* June 2015 p519-526
29. IRENA, Renewable Energy and Jobs – Annual Review 2017
30. Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. IPCC: https://www.ipcc.ch/pdf/assessment-report/ar5/wg3/ipcc_wg3_ar5_chapter10.pdf
31. World Bank https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?year_high_desc=false
32. https://unfccc.int/files/paris_agreement/application/pdf/draft_impact_and_priority_tracker.pdf
33. Policies to reduce emissions and promote carbon sequestration in oceans and coastal areas.
34. Sustainable Energy for All. 2017



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