

STUDY

Requested by the ENVI committee



# International Climate Negotiations

Issues at stake in view of the COP 24  
UN Climate Change Conference in  
Katowice and beyond



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Policy Department for Economic, Scientific and Quality of Life Policies  
Directorate-General for Internal Policies

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### **Abstract**

This study provides an overview of the contents of the Paris Agreement as well as background information. It summarises the further negotiation process under the UNFCCC, related international developments as well as the key issues ahead of COP 24 in Katowice in December 2018, during which the rules for the implementation of the Paris Agreement are expected to be finalised.

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## LIST OF ABBREVIATIONS

<b>A4A</b>	Airlines for America
<b>AC</b>	Adaptation Committee
<b>ADP</b>	Ad Hoc Working Group on the Durban Platform for Enhanced Action
<b>AF</b>	Adaptation Fund
<b>AGN</b>	African Group of negotiators
<b>AILAC</b>	Independent Alliance of Latin America and the Caribbean (Asociación Independiente de Latinoamérica y el Caribe)
<b>ALBA</b>	Bolivarian Alliance for the Peoples of Our America (Alianza Bolivariana para los Pueblos de Nuestra América)
<b>AOSIS</b>	Alliance of Small Island States
<b>APA</b>	Ad Hoc Working Group on the Paris Agreement
<b>AR5</b>	Fifth Assessment Report of the IPCC
<b>AR6</b>	Sixth Assessment Report of the IPCC
<b>BECCS</b>	Bioenergy with Carbon Capture and Storage
<b>BR</b>	Biennial Reports
<b>BUR</b>	Biennial Update Reports
<b>C</b>	Celsius
<b>CAEP</b>	Committee on Aviation Environmental Protection
<b>CBDR</b>	Common But Differentiated Responsibilities
<b>CCS</b>	Carbon Capture and Storage
<b>CDR</b>	Carbon Dioxide Removal
<b>CGE</b>	Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention
<b>CH<sub>4</sub></b>	Methane
<b>CMA</b>	Conference of the Parties serving as the meeting of the Parties to the Paris Agreement
<b>CMP</b>	Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol



<b>CO<sub>2</sub></b>	Carbon dioxide
<b>COP</b>	Conference of the Parties
<b>CORSIA</b>	Carbon Offsetting and Reduction Scheme for International Aviation
<b>CP</b>	Reference for 'COP' in Decisions as in <a href="#">Decision 1/CP.21</a>
<b>CRP</b>	Conference room paper
<b>CTCN</b>	Climate Technology Centre and Network
<b>EEA</b>	European Economic Area
<b>EEDI</b>	Energy Efficiency Design Index
<b>EIG</b>	Environmental Integrity Group
<b>ETF</b>	Enhanced Transparency Framework
<b>EU</b>	European Union
<b>EU ETS</b>	European Union Emissions Trading Scheme (until 2012); European Union Emissions Trading System (from 2013 onwards)
<b>FSV</b>	Facilitative Sharing of Views
<b>G7</b>	Group of Seven
<b>G20</b>	Group of Twenty
<b>G-77</b>	Group of 77 at the United Nations
<b>GAP</b>	Gender Action Plan
<b>GCF</b>	Green Climate Fund
<b>GDP</b>	Gross Domestic Product
<b>GEF</b>	Global Environment Facility
<b>GHG</b>	Greenhouse Gas
<b>GMBM</b>	Global Market-Based Measure
<b>GRiF</b>	Global Risk Financing Facility
<b>GST</b>	Global stocktake
<b>Gt</b>	Gigatonnes
<b>HFCs</b>	Hydrofluorocarbons
<b>HLS</b>	High-Level Segment

<b>IATA</b>	International Air Transport Association
<b>ICA</b>	International Consultation and Analysis
<b>ICAO</b>	International Civil Aviation Organization
<b>ICSA</b>	International Coalition for Sustainable Aviation
<b>IEA</b>	International Energy Agency
<b>IGO</b>	Inter-Governmental Organisation
<b>IMF</b>	International Monetary Fund
<b>IMO</b>	International Maritime Organization
<b>INDC</b>	Intended Nationally Determined Contribution
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>ISWG</b>	Intersessional Working Group (on reduction of greenhouse gas emissions from ships)
<b>LDC</b>	Least Developed Countries
<b>LDCF</b>	Least Developed Countries Fund
<b>LEDS</b>	Low Emission Development Strategy
<b>LEG</b>	Least Developed Countries Expert Group
<b>LMDC</b>	Like-Minded Developing Countries
<b>LPAA</b>	Lima-Paris Action Agenda
<b>MEF</b>	Major Economies Forum on Energy and Climate
<b>MEPC</b>	Marine Environment Protection Committee
<b>Mol</b>	Means of Implementation (finance, technology development and transfer, capacity-building)
<b>MPGs</b>	Modalities, procedures and guidelines
<b>MRV</b>	Monitoring, Reporting and Verification
<b>N<sub>2</sub>O</b>	Nitrous oxide
<b>NAP</b>	National Adaptation Plan
<b>NAZCA</b>	Non-State Actor Zone for Climate Action
<b>NC</b>	National Communications

<b>NDC</b>	Nationally Determined Contribution
<b>NF<sub>3</sub></b>	Nitrogen trifluoride
<b>NGO</b>	Non-Governmental Organisation
<b>NIR</b>	National Inventory Report
<b>NWP</b>	Nairobi Work Programme
<b>ODS</b>	Ozone Depleting Substances
<b>PAWP</b>	Paris Agreement Work Programme
<b>PCCB</b>	Paris Committee on Capacity-building
<b>PFCs</b>	Perfluorocarbons
<b>RACHP</b>	Refrigeration, Air Conditioning equipment and Heat Pumps
<b>SB</b>	Subsidiary Bodies
<b>SBI</b>	Subsidiary Body for Implementation
<b>SBSTA</b>	Subsidiary Body for Scientific and Technological Advice
<b>SCCF</b>	Special Climate Change Fund
<b>SCF</b>	Standing Committee on Finance
<b>SEEMP</b>	Ship Energy Efficiency Management Plan
<b>SF<sub>6</sub></b>	Sulphur hexafluoride
<b>SIDS</b>	Small Island Developing States
<b>SR</b>	Special Report (of the IPCC)
<b>SR1.5</b>	Special Report on the impacts of global warming of 1.5 degrees C above pre-industrial levels and related global greenhouse gas emission pathways
<b>SRCLL</b>	Special Report on desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems
<b>SRM</b>	Solar Radiation Management
<b>SROCC</b>	Special Report on the Ocean and Cryosphere in a Changing Climate
<b>TEC</b>	Technology Executive Committee
<b>TEM</b>	Technical Expert Meeting
<b>TEP</b>	Technical Examination Process

<b>TNA</b>	Technology Needs Assessment
<b>UG</b>	Umbrella Group
<b>UN</b>	United Nations
<b>UNEP</b>	United Nations Environment Programme
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>U.S.</b>	United States of America
<b>USD</b>	United States Dollar
<b>WBG</b>	World Bank Group
<b>WIM</b>	Warsaw International Mechanism on Loss and Damage
<b>WMO</b>	World Meteorological Organization

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## EXECUTIVE SUMMARY

### **International climate negotiations and the Paris Agreement**

At the climate change conference in Paris in December 2015, a global agreement was reached which contains goals and mechanisms for responding to climate change and binding obligations for all Parties. The Paris Agreement is the result of negotiations under the United Nations Framework Convention on Climate Change (UNFCCC) and goes beyond the Kyoto Protocol, which only committed a limited number of Parties to reduce their greenhouse gas emissions.

The Paris Agreement sets a long-term goal of limiting the increase in the global average temperature to well below 2 degrees Celsius above pre-industrial levels, and of pursuing efforts to limit this temperature increase to 1.5 degrees C. It also includes the goal to increase the ability to adapt to the adverse impacts of climate change and to make finance flows consistent with a pathway towards low greenhouse gas emissions.

In order to achieve these goals, the Paris Agreement requires all Parties to undertake efforts towards reaching global peaking of greenhouse gas emissions as soon as possible and towards achieving a balance between anthropogenic emissions by sources and removals by sinks in the second half of the 21<sup>st</sup> century. Parties choose the efforts and measures themselves (the so-called Nationally Determined Contributions); however, the Paris Agreement provides a mechanism to assess collective progress and increase global ambition over time through a regular 'global stocktake'.

In addition to climate change mitigation, the Paris Agreement aims at enhancing adaptive capacity, strengthening resilience and reducing the vulnerability to climate change. The Agreement also acknowledges the importance of addressing loss and damage associated with the adverse effects of climate change. The Agreement contains comprehensive provisions on support to be provided to developing countries, which includes finance, technology development and transfer, and capacity-building. In order to ensure that such support and actions are transparent, the Agreement contains a number of reporting provisions.

The Paris Agreement addresses the period from 2020 onwards. In addition, the Conference of the Parties agreed on specific activities for the period before 2020, including the promotion of and an exchange on mitigation and adaptation actions.

### **Entry into force of the Paris Agreement**

The urgent need for action in response to rising global temperatures was emphasised by many governments in the years following the adoption of the Paris Agreement. A large number of Parties ratified the Agreement during the year 2016, including China, the United States, the European Union and many of its Member States. The Agreement entered into force on 4 November 2016. As of 5 November 2018, 183 out of 197 Parties to the Convention accounting for approx. 88.8% of the global greenhouse gas emissions have deposited their instrument of ratification, acceptance, approval, or accession. Countries which have not yet ratified the Paris Agreement, include, *inter alia*, the Russian Federation, the Islamic Republic of Iran and Turkey.

### **The Paris Agreement Work Programme**

The Paris Agreement specifies the goals and lays down the general procedure for addressing climate change, but the details of its implementation still need to be discussed and agreed by the Parties. The set of implementation guidelines and modalities, the so-called Paris Agreement Work Programme (PAWP) also known as the 'Paris Rulebook', has been the main focus of the climate change conferences since May 2016 throughout all parts of the resumed first session of the Ad Hoc Working Group on the Paris Agreement (APA), and will be the main focus of the Conference of the Parties

(COP) in Katowice in December 2018. These various modalities, rules and guidelines include, *inter alia*, the type of information to be contained in the NDCs, matters related to climate finance, rules for cooperative approaches or modalities for the global stocktake as well as procedures and guidelines for the enhanced transparency framework.

Delegates at COP 23 in 2017 convened to negotiate these details of the Agreement's implementation. Another important outcome of the COP 23 in Bonn was the launching of the 'Talanoa Dialogue' a new term in climate diplomacy coined by the Fijian presidency and inspired by the Pacific format of constructive discussion, debate and story-telling. Previously known as 'Facilitative Dialogue', the Talanoa Dialogue is designed to take-stock of collective efforts to reduce emissions and, ultimately, to help countries increase the ambition of the Nationally Determined Contributions (NDCs) by 2020.

Negotiations, focused on the modalities and rules for implementing the Paris Agreement Work Programme, continued in May 2018 and, due to increasing time pressure, also took place in September 2018 at an additional negotiation session in Bangkok.

### **Developments beyond the UNFCCC negotiations**

Furthermore, there are international organisations with close links to climate negotiations, such as the Intergovernmental Panel on Climate Change (IPCC), the International Civil Aviation Organization (ICAO) or the International Maritime Organization (IMO) and the Montreal Protocol.

As part of the decision to adopt the Paris Agreement the IPCC had been invited to prepare a Special Report on Global Warming of 1.5 degrees C (SR1.5). The report was published on 6 October 2018 and validates concerns that limiting global warming at 2 degrees C rather than 1.5 degrees C above pre-industrial levels will entail substantial additional impacts on ecosystems and humanity's safety and well-being. While the report concludes that staying within 1.5 degrees C is still possible, authors stress that it would require rapid and far-reaching transitions in all sectors of the global economy. It is important to note that existing national climate pledges under the Paris Agreement would lead to a 3 to 4 degree C temperature rise by the end of the century. Hence, more extensive mitigation efforts are required to bring the world in line with the Paris Agreement.

Since the adoption of the Paris Agreement, momentum had been building up to achieving a sector-wide strategy to deal with greenhouse gas emissions from international shipping, a sector excluded from the Paris Agreement. In April 2018 the IMO adopted its 'Initial strategy' representing the first global framework for regulating emissions from international shipping.

In October 2016, the ICAO assembly adopted a resolution on the 'Carbon Offsetting and Reduction Scheme for International Aviation' (CORSIA), a sector also not regulated under the Paris Agreement. This Global Market-Based Measure aims at offsetting the increase in greenhouse gas emissions from international aviation by mitigation projects. In the same month, an amendment to the Montreal Protocol – the Kigali Amendment – was adopted, committing Parties to a stepwise phase-down of the potent greenhouse gas hydrofluorocarbons.

### **The key issues at the conference in Katowice**

The time between the Bangkok session in September, the pre-COP in October and the conference in Katowice has been used by many groups of Parties for informal discussions, often tagged-onto other official meetings, but also during dedicated talks between negotiators and/or decision-makers in order to make as much further progress as possible before the official start of the negotiations in December.

At this conference, Parties to the UNFCCC, the Kyoto Protocol and the Paris Agreement will meet, as will subsidiary bodies, to discuss a wide range of technical issues. The focus of the negotiations in



Katowice will be on the technical implementation of the Paris Agreement, i.e. on guidance, rules and the modalities for the various topics covered by the Agreement. Delegates will have to coordinate a number of negotiation strands and face the challenge of having to find common ground between diverging interests. They will have to do so under considerable time pressure, as the year 2018 has been set as the deadline for finalising the various guidelines, modalities and rules for the implementation of the Paris Agreement. Apart from time constraints, finance issues – financial support to developing countries remains below expectations – will be of crucial importance as will the topic of differentiation between the requirements for developing versus developed country Parties. The political phase of the Talanoa Dialogue, where Parties, informed by the IPCC Special Report on Global Warming of 1.5 degrees C, take stock of their efforts will be an important part of COP 24. Many observers feel that for the COP to be considered a success, not only should the technical goal of adopting the PAWP be achieved, but additionally the Parties need to demonstrate their commitment to pre-2020 action and send out signals that ambition will be stepped up with enhanced or new NDCs by 2020. A substantial amount of work lies ahead for the delegates before they will be able to agree on a comprehensive and balanced outcome. Nonetheless, the work of the delegates leading up to and during COP 24 is of paramount importance, considering that Katowice is seen as vital in strengthening the global, common will to combat climate change.

## 1. INTRODUCTION

At the Conference of the Parties (COP) in December 2015 in Paris, an international agreement was reached which is widely seen as a milestone in the global endeavour to respond to climate change. The Paris Agreement constitutes a universal agreement with specific goals for combating climate change (mitigation), adapting to a changing climate (adaptation) and support to developing countries in both these areas.

The Agreement entered into force in November 2016, earlier than many had expected, but its implementation is faced with a number of challenges. The United States, the second largest emitter of greenhouse gases, intends to withdraw from the Paris Agreement. The combined efforts communicated by other Parties are still falling far short of reaching the ambitious temperature goal of the Paris Agreement, and gaps are emerging in areas such as support provided to developing countries or the aim to increase ambition before the year 2020.

### 1.1. The Climate Change Conference in Katowice

Since the adoption of the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) Parties have been faced with the difficult task of having to agree on a large number of details, in order to ensure its effective implementation. With so much still to be agreed upon and the end of 2018 set as the deadline for these negotiations to conclude, a considerable amount of work awaits the Parties' delegates at the upcoming COP 24 in Katowice in December 2018.

### 1.2. Aim of this study

This document aims to provide a comprehensive overview of the Paris Agreement, its current state of implementation and its implications for the worldwide response to climate change. It focusses on recent developments starting with a summary of COP 23 in Bonn, the negotiations and events which have taken place since then, as well as the challenges for the upcoming COP in Katowice. This includes an overview of the negotiation strands and other global developments, which are interlinked with climate change action and support.

The present study was commissioned by the European Parliament and is intended for members of the European Parliament delegation to the COP in Katowice. The study also aims to inform a wider audience by presenting an overview of the Paris Agreement and the current issues at stake in the climate negotiations. It provides concise explanations of the key terms, the negotiation bodies and documents. Furthermore, it gives an overview of groups of Parties, as well as summarises relevant developments beyond the UNFCCC negotiations.

### 1.3. Structure of the document

Chapter 2 of this study provides an overview of key terms, bodies and agreements of international climate negotiations such as the United Nations Framework Convention on Climate Change (UNFCCC), the Kyoto Protocol or the Doha Amendment as well as key negotiation groups of Parties.

Chapter 3 introduces the contents of the Paris Agreement and presents its main pillars, including mitigation, adaptation and financial, technological and capacity-building support. This chapter also offers brief descriptions of the negotiation bodies under the Paris Agreement and the main milestones since its adoption.

Chapter 4 summarises the developments and decisions taken at the climate change conference, which took place in Bonn in November 2017 (COP 23).

Chapter 5 discusses the preparatory meetings for COP 24 in December 2018. These include the meeting of the Ad Hoc Working Group on the Paris Agreement (APA) and the meeting of the subsidiary bodies in May in Bonn (SB 48-1), in September in Bangkok (SB 48-2) as well as depiction of the Talanoa Dialogue process.

In chapter 6 developments in other fora beyond the UNFCCC negotiations are covered. Besides the Parties to the UNFCCC, other stakeholders voice their positions on climate change in general and on the implementation of the Paris Agreement in particular. These include, *inter alia*, groups of countries such as the Group of Twenty (G20) or the Petersberg Climate Dialogue. Their positions and latest meetings are summarised in this chapter. Furthermore, the activities of the Intergovernmental Panel on Climate Change (IPCC) and its recently published Special Report on Global Warming of 1.5 degrees C are analysed. Activities and agreements, which are not covered by the Paris Agreement, but aim at limiting greenhouse gas (GHG) emissions in the sectors international aviation, international shipping and fluorinated gases are also discussed in this chapter.

Finally, in chapter 7 an outlook is given on the key issues, main challenges and expectations of the upcoming COP in Katowice. Moreover, other international developments relevant for the process under the UNFCCC are outlined and it is laid out what work lies ahead for the international community in 2019 and beyond.

## 2. UN FRAMEWORK CONVENTION ON CLIMATE CHANGE: BODIES, KEY NEGOTIATION TERMS AND GROUPS OF PARTIES

This chapter briefly introduces the United Nations Framework Convention on Climate Change (UNFCCC), its bodies and key terms in international climate negotiations. The Kyoto Protocol, the Doha Amendment and Intended Nationally Determined Contributions (INDCs) are also explained succinctly (see Table 1 below). The most important negotiation groups of Parties are summarised in Table 2 and negotiation priorities and the respective advocates in Table 3. For further details on aforementioned issues please refer to last year’s study ahead of COP 23 ‘[Implementing the Paris Agreement](#)’. The contents of the Paris Agreement are presented in chapter 3.

Table 1: UNFCCC bodies and key negotiation terms

	Key information
<b>The United Nations Framework Convention on Climate Change (UNFCCC)</b>	<p>The objective of the United Nations Framework Convention on Climate Change is to achieve “stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” (<a href="#">UNFCCC 1992</a>). To this end, the Convention emphasises the common but differentiated responsibilities (CBDR) of the Parties, the principle of taking precautionary measures, and the importance of enabling economic development to proceed in a sustainable manner.</p> <p>The Convention commits developed country Parties to adopt national policies and take measures on climate change mitigation. These developed country Parties are listed in Annex I to the Convention and include Parties which were undergoing the process of transition to a market economy. In Annex II to the Convention, Parties are listed that are required to assist and provide financial support to developing countries.</p> <p>The Convention also includes matters such as research and systematic observation, education, as well as the establishment of the UNFCCC secretariat, the Conference of the Parties and subsidiary bodies to assist the Conference of the Parties (see below). The Convention was adopted at the United Nations Headquarters in New York in 1992. It was open for signature at the conference in Rio in June 1992 and additional signatures and ratification by Parties followed. It entered into force on 21 March 1994. Currently, there are 197 Parties (196 countries plus the European Union) to the UNFCCC.</p>
<b>The Conference of the Parties (COP)</b>	<p>The Conference of the Parties was established under the UNFCCC as the supreme body of the Convention with the mandate to adopt the decisions necessary to promote its implementation. The first Conference of the Parties (COP 1) met in Berlin in 1995. Since then, such Conferences have taken place annually. The Paris Agreement has been adopted at the 21<sup>st</sup> Conference of the Parties (COP 21) in Paris, France. The 24<sup>th</sup> Conference of the Parties (COP 24) will be hosted in Katowice, Poland from 2 to 14 December 2018 (cf. chapter 7.3).</p>

<b>Subsidiary Bodies under the Convention (SBSTA, SBI)</b>	<p>The Subsidiary Body for Scientific and Technological Advice (SBSTA) was established to provide the Conference of the Parties with information and advice on scientific and technological matters. These included in recent years for example methodological guidance for reducing emissions from deforestation and forest degradation or information on market and non-market mechanisms.</p> <p>The Subsidiary Body for Implementation (SBI) was established under the UNFCCC to assist the Conference of the Parties in the assessment and review of the effective implementation of the Convention. Its agenda items include, for example, the review of various reports from the Parties or matters related to the mechanisms under the Kyoto Protocol (see below).</p> <p>The SBSTA and SBI first met in Geneva in 1995. They meet biannually; in recent years during a two-week session in Bonn in May or June and during a one to two-week session in parallel to the COP towards the end of each year. The SBSTA and SBI consider agenda items under the Convention, under the Kyoto Protocol (see below) and under the Paris Agreement (see chapter 3).</p>
<b>The Kyoto Protocol</b>	<p>The Kyoto Protocol (<a href="#">UNFCCC 1997</a>) committed 39 developed country Parties to limiting or reducing their greenhouse gas emissions (expressed as an average of the years 2008 to 2012) relative to the base year (1990 for most Parties). The Protocol requires these Parties to implement climate change mitigation policies and measures, in accordance with their national circumstances. It also requires them to introduce a national system for estimating anthropogenic greenhouse gas emissions and removals. Further, the Protocol regulates the monitoring, reporting and verification (MRV) of these emissions.</p> <p>Annex A to the Protocol defines the greenhouse gases covered, i.e. carbon dioxide, methane (CH<sub>4</sub>), nitrous oxide (N<sub>2</sub>O), sulphur hexafluoride (SF<sub>6</sub>) and two groups of gases, hydrofluorocarbons (HFCs) and perfluorocarbons (PFCs). This Annex also defines the sectors and greenhouse gas source/sink categories for which emissions have to be estimated.</p> <p>The developed country Parties to which a commitment applies are listed in Annex B to the Protocol. Besides individual country Parties, it also includes the European Union as a separate Party with a reduction commitment of minus 8%. Of the 39 Parties listed in Annex B, the United States did not ratify the Protocol and Canada withdrew from it in 2011.</p> <p>The Kyoto Protocol was signed on 11 December 1997. For it to enter into force, it had to be ratified by at least 55 Parties, including Annex I Parties accounting for at least 55% of Annex I Party emissions in 1990. This requirement was fulfilled in 2004 and the Protocol entered into force on 16 February 2005.</p>
<b>The Conference of the Parties serving as the meeting of the</b>	<p>According to the Kyoto Protocol, the Conference of the Parties (see above) also serves as the meeting of the Parties to the Kyoto Protocol. Its mandate is to keep under regular review the implementation of the Protocol and to make related decisions. The 'Conference of the Parties serving as the meeting of the</p>

<b>Parties to the Kyoto Protocol (CMP)</b>	<p>Parties to the Kyoto Protocol' (CMP) is limited to those Convention Parties that also ratified the Kyoto Protocol. The climate conference in Montreal in 2005 was the first CMP. Since then, both COPs and CMPs have taken place annually and in parallel, and the conference in Katowice in December 2018 will be convened as CMP 14.</p>
<b>The Doha Amendment</b>	<p>The Doha Amendment to the Kyoto Protocol (<a href="#">Decision 1/CMP.8</a>) was adopted in December 2012. It defines additional emission reduction commitments for 38 developed country Parties for the period 2013 to 2020. The Parties' emission reduction commitments range between -0.5% and -24% compared to the base year (1990 in most cases).</p> <p>The amendment consists of a new Annex, to replace the former 'Annex B' to the Kyoto Protocol and various technical provisions that regulate changes to emission accounting and other areas which became necessary after the introduction of a new commitment period. An additional greenhouse gas (nitrogen trifluoride, NF<sub>3</sub>) has also been added to the list of gases covered.</p> <p>Of the Parties participating in the first commitment period, Japan, New Zealand and the Russian Federation are no longer included as countries with emission reduction commitments. On the other hand, Belarus, Cyprus, Kazakhstan and Malta are now included in the new version of Annex B.</p> <p>As laid out in Article 20 of the Kyoto Protocol, the Doha Amendment will enter into force once 75% of the Parties to the Protocol have ratified it. The Doha Amendment has been ratified by 120 Parties as of 30 October 2018 (<a href="#">UNFCCC 2018a</a>) and ratification by 24 additional Parties is needed for entry into force.</p>
<b>The Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP)</b>	<p>The 'Ad Hoc Working Group on the Durban Platform for Enhanced Action' (ADP) was a temporarily constituted body under the Convention which was established at the COP in Durban (<a href="#">Decision 1/CP.17</a>). It started its work in 2012.</p> <p>The ADP was organised in two work streams: Workstream 1 was mandated with developing a protocol, another legal instrument or an agreed outcome with legal force under the Convention, applicable to all Parties, to be completed and adopted by the COP in 2015 and to be implemented from 2020 onwards.</p> <p>Workstream 2 focused on enhancing mitigation ambition before 2020, as the COP in Durban also noted a significant gap between the aggregate effect of the Parties' mitigation pledges by 2020 and emission pathways that would allow keeping the global temperature increase below 2 degrees C or 1.5 degrees C compared to the pre-industrial level.</p> <p>The ADP met during each COP and subsidiary bodies session from 2012 to 2015, with additional dedicated ADP sessions in 2014 and 2015. With the adoption of the Paris Agreement in 2015, the mandate of the ADP ended. In 2016, work on the implementation of the Paris Agreement was taken over by the Ad Hoc Working Group on the Paris Agreement (APA, cf. chapter 3.10)</p>

<p><b>Intended Nationally Determined Contributions (INDCs)</b></p>	<p>According to the ‘Lima Call for Climate Action’ (<a href="#">Decision 1/CP.20</a>), an outcome of COP 20, an INDC is a “contribution towards achieving the objective of the Convention as set out in its Article 2”, which is a “stabilisation of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” (<a href="#">UNFCCC 1992</a>). It is, in short, the contribution a Party is willing to make to mitigate climate change.</p> <p>The Lima Call for Climate Action lists the type of information, which an INDC may include, “in order to facilitate clarity, transparency and understanding”. This information covers quantifiable information on the reference point (including, as appropriate, a base year), time frames for implementation, scope and coverage, planning processes, assumptions and methodological approaches, information on how the Party considers that its INDC is fair and ambitious and how it contributes towards achieving the objective of the Convention. Parties were asked to communicate their INDCs well in advance of COP 21 in Paris. These contributions – as long as they have not been updated or replaced – serve as ‘Nationally Determined Contributions’ (NDCs, cf. Box 1) under the Paris Agreement.</p>
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In the negotiations under the UNFCCC, Parties that share similar national circumstances or similar views often bring forward their positions in a coordinated way. Over the years, a number of groups have been established. These groups meet regularly during COPs and subsidiary body sessions to coordinate their positions, appoint negotiators for specific negotiation topics and adopt a common position in the statements prepared in the plenary, which are presented by one member on behalf of the group.

Table 2: Overview of the Groups of Parties in international climate negotiations

Group	Key information
<p><b>African Group</b> also known as <b>African Group of Negotiators (AGN)</b></p>	<p>The African Group was established in 1995 at COP 1 in Berlin, Germany as an alliance of African states. Its goal is to represent the interests of the continent in international climate change negotiations, with a common and united voice. The group now comprises 54 Parties (<a href="#">UNFCCC 2018b</a>).</p> <p>The African Group has become increasingly visible in climate negotiations in recent years, laying out its positions regularly in the plenaries of the ADP and the COP. The African Group emphasises the principle of common but differentiated responsibilities and respective capabilities. It aims at parity between mitigation, adaptation and enhancing support, while referring to the increased burden that adaptation as well as loss and damage place upon developing countries.</p>
<p><b>Alliance of Small Island States (AOSIS)</b></p>	<p>The Alliance of Small Island States brings together small islands and low-lying coastal countries and sees itself as their voice in the negotiations within the United Nations system (<a href="#">AOSIS 2018</a>). The alliance has 44 members and observers.</p> <p>The key concern of AOSIS members is their particular vulnerability to the</p>

Group	Key information
	adverse effects of global climate change, such as sea level rise and changes in weather patterns.
<b>Arab Group</b>	<p>The League of Arab States was founded in 1945 by Egypt, Iraq, Lebanon, Saudi Arabia, Syria, Transjordan (Jordan from 1946/49) and Yemen as a regional organisation of Arab countries. The negotiation group now comprises 22 member states.</p> <p>The Arab Group considers its economies as particularly vulnerable, as many Arab countries lie in arid or semi-arid regions, which will be prone to further drought or desertification in the future. Some of the Arab economies are also highly dependent on the production, processing and export of fossil fuels and therefore emphasise the importance of addressing the adverse effects of response measures (cf. Box 10; <a href="#">Arab Group 2017</a>).</p>
<b>Bolivarian Alliance for the Peoples of Our America (ALBA)</b>	<p>The Bolivarian Alliance for the Peoples of Our America consists of four South/Central American countries (Bolivia, Ecuador, Venezuela and Nicaragua) and seven Caribbean countries, including Cuba. It is an intergovernmental organisation which, <i>inter alia</i>, acts as a negotiating group on climate change issues.</p> <p>Like other developing country groups, ALBA calls for ambitious mitigation action by developed country Parties and for finance and technology transfer.</p>
<b>Environmental Integrity Group (EIG)</b>	<p>The Environmental Integrity Group comprises two large developing (emerging) countries (Mexico and the Republic of Korea) and three small developed countries (Liechtenstein, Monaco and Switzerland) that are neither part of the European Union nor of the Umbrella Group. Switzerland, however, is an observer Party to the Umbrella group.</p> <p>Their approach to climate policies can be characterised as more ambitious in several ways than the approach of other comparable Parties.</p>
<b>European Union (EU)</b>	<p>The EU and its Member States coordinate their position in a way that is somewhat similar to other groups of Parties. Representatives of the EU and its Member States meet regularly before and during conferences and subsidiary body sessions. They appoint negotiators, and statements are made on behalf of the EU and its Member States.</p> <p>The EU views, <i>inter alia</i>, the adoption of an operational set of rules at COP 24 and ambitious mitigation action as priority steps and sees the Talanoa dialogue as an important forum to highlight progress since Paris and to identify opportunities for further action. The EU furthermore considers designing a global stocktake fit for purpose as the key element of a wider ambition cycle.</p> <p>The EU regards the transition to a low carbon and climate resilient economy as key to long-term sustainable economic growth and wellbeing. Furthermore,</p>



Group	Key information
	<p>the EU recognises the need for urgent assistance particularly for vulnerable groups to prepare for and become resilient to adverse impacts of climate change (<a href="#">Council of the European Union 2018a</a>).</p>
<p><b>Group of G-77 and China</b></p>	<p>The ‘Group of 77 at the United Nations’ (G-77) was founded in 1964 by 77 developing country signatories, in the course of the first United Nations Conference on Trade and Development. Since then, the group has grown to 134 ordinary member countries. In 2018, Egypt acts as presiding country.</p> <p>The Peoples’ Republic of China is not a full member of the G-77, but a ‘special invitee’ and associate member (<a href="#">Masters 2014</a>). Hence, the group taking a position in UNFCCC climate negotiations is known as ‘G-77 and China’.</p> <p>G-77 and China represent a large number of countries with diverse levels of development and diverging views. The aim of G-77 is to “provide the means for the countries of the South to articulate and promote their collective economic interests and enhance their joint negotiating capacity on all major international economic issues within the United Nations system, and promote South-South cooperation for development” (<a href="#">G-77 2018</a>).</p>
<p><b>Independent Alliance of Latin America and the Caribbean (AILAC)</b></p>	<p>The Independent Alliance of Latin America and the Caribbean brings together four South American (Chile, Colombia, Paraguay and Peru) and four Central American countries (Costa Rica, Guatemala, Honduras and Panama). The group was established as a formal negotiating group in the course of the COP in Doha in 2012.</p> <p>Unlike ALBA and other developing country groups, AILAC has been in favour of global climate goals from the start, rather than a strict distinction between developed and developing countries.</p>
<p><b>Least Developed Countries (LDC)</b></p>	<p>Under the United Nations, countries are classified as ‘least developed’ according to defined criteria for per capita income, human assets and economic vulnerability. Currently 47 countries are classified as LDC (<a href="#">UNCTAD 2018</a>). These countries form a distinct group in the climate negotiations under the UNFCCC.</p> <p>The key issues for LDCs that have emerged over the past few years are adaptation and, in particular, loss and damage.</p>
<p><b>Like-Minded Developing Countries (LMDC)</b></p>	<p>The group of Like-Minded Developing Countries comprises Asian countries including China, India and Indonesia as well as countries from Northern Africa, the Middle East and Latin America.</p> <p>On many topics, its views are similar to those of the G-77 and China, but more pronounced. Like the G-77 and China, the LMDC emphasise the particular responsibility of developed countries due to their historically high emissions and, in this light, aim at retaining the distinction between developed and developing countries, similar to the distinction between Annex I and</p>

Group	Key information
	non-Annex I countries in the Convention. The group advocates financial support for developing countries, including support for loss and damage.
<b>Umbrella Group (UG)</b>	<p>The Umbrella Group comprises a loose coalition of most Annex I Parties outside the EU and its Member States. It is composed of Australia, Canada, Japan, New Zealand, Kazakhstan, Norway, the Russian Federation, Ukraine and the United States, although it is not a group with formal membership such as the G-77. There are also three observer Parties to the Umbrella group: Belarus, Israel and Switzerland (<a href="#">Climate Policy Observer 2018</a>).</p> <p>Members of the Umbrella Group are characterised by historically high per-capita greenhouse gas emissions. Many of them have a strong fossil fuel industry (U.S., Canada, Australia, Russia). On adaptation, loss &amp; damage as well as with respect to the transparency framework the EU and the UG usually have similar positions. The UG considers it important that all major emitters, including developing countries, have similar responsibilities.</p>

The last two negotiating groups mentioned and the ‘high ambition coalition’ – a loose coalition representing more than 100 developed and developing countries that pushed at COP 21 for the inclusion of an ambitious long-term goal in the Paris Agreement and for the introduction of a five-year cycle which came to be known as the ‘global stocktake’ – are examples of a development observed in recent years which has led to a less strict division between ‘developing’ or ‘developed’ countries. In the Paris Agreement, it was possible to bridge all relevant divides between the groups, and the Agreement does not refer to the Convention’s distinction between ‘Annex I Parties’ and ‘non-Annex I Parties’. Nevertheless, the concept of “common but differentiated responsibilities and respective capabilities, in the light of different national circumstances” remains valid, and the various groups will continue to put forward their diverging positions in the negotiations.

In the following table, a summary is given of some negotiation priorities and the groups that advocate those topics.

Table 3: Main negotiation topics and groups focusing on these topics

Topic	Group focusing on the topic
<b>Ambitious mitigation action</b> – limiting the global temperature increase to 1.5 degrees C	AOSIS, LDC, African Group, ALBA, EU
<b>Adaptation goal and communication</b>	G-77 and China, LMDC, African Group, AILAC, Arab Group
<b>Loss and damage</b>	G-77 and China, LMDC, African Group, AOSIS, ALBA
<b>Scaled-up climate finance</b>	G-77 and China, African group, LMDC, LDC, AOSIS, AILAC, Arab Group

Topic	Group focusing on the topic
<b>Technology development and transfer</b>	G-77 and China, African group, LDC, AILAC
<b>Capacity-building</b>	African group, LDC, AILAC
<b>Transparency of action and support</b>	AOSIS, Umbrella Group (for transparency of support), EIG, EU

**Source:** [IISD 2015a](#), [IISD 2017a](#), [IISD 2017b](#), [IISD 2018a](#), authors' views.

Besides the Parties to the Convention (196 countries plus the European Union), delegates from observer states and from observer organisations, like Inter-governmental organisations (IGOs), Non-governmental Organisations (NGOs) or actors on the sub-national level (regions or cities), attend meetings under the UNFCCC. For more information please refer to last year's study ahead of COP 23 '[Implementing the Paris Agreement](#)').

### 3. THE PARIS AGREEMENT AT A GLANCE

The international agreement reached in Paris on 12 December 2015 contains specific goals to limit climate change, mechanisms to pursue these goals, and binding obligations for all Parties based on voluntary Nationally Determined Contributions.

The document adopted by the Conference of the Parties is a COP Decision ([Decision 1/CP.21](#)), consisting of a Decision text and – in the Annex – the text of the Paris Agreement ([UNFCCC 2015](#)). The Paris Agreement lays down the goals and the general procedure of addressing climate change from 2020 onwards, whereas the COP Decision specifies additional details, as well as issues that could not be agreed in Paris but for which the Parties agreed to continue to elaborate. The so-called Paris Agreement Work programme also referred to as the ‘Paris Rulebook’ is to be completed by the end of 2018 (cf. chapter 4 and 5).

The COP Decision also addresses enhanced action prior to 2020 (see chapter 3.12).

The Paris Agreement aims to strengthen the global response to the threat of climate change and specifies **long-term goals** regarding global average temperatures, adaptation to climate change and finance flows (see Table 4).

Table 4: Long-term goals of the Paris Agreement

Goal	Wording in the Paris Agreement
<b>Temperature goal</b> Article 2.1(a)	Holding the increase in the global average temperature to well below 2 degrees C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5 degrees C above pre-industrial levels, recognising that this would significantly reduce the risks and impacts of climate change.
<b>Adaptation goal</b> Article 2.1(b)	Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development, in a manner that does not threaten food production.
<b>Goal of ‘low emissions’ finance flows</b> Article 2.1(c)	Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development.

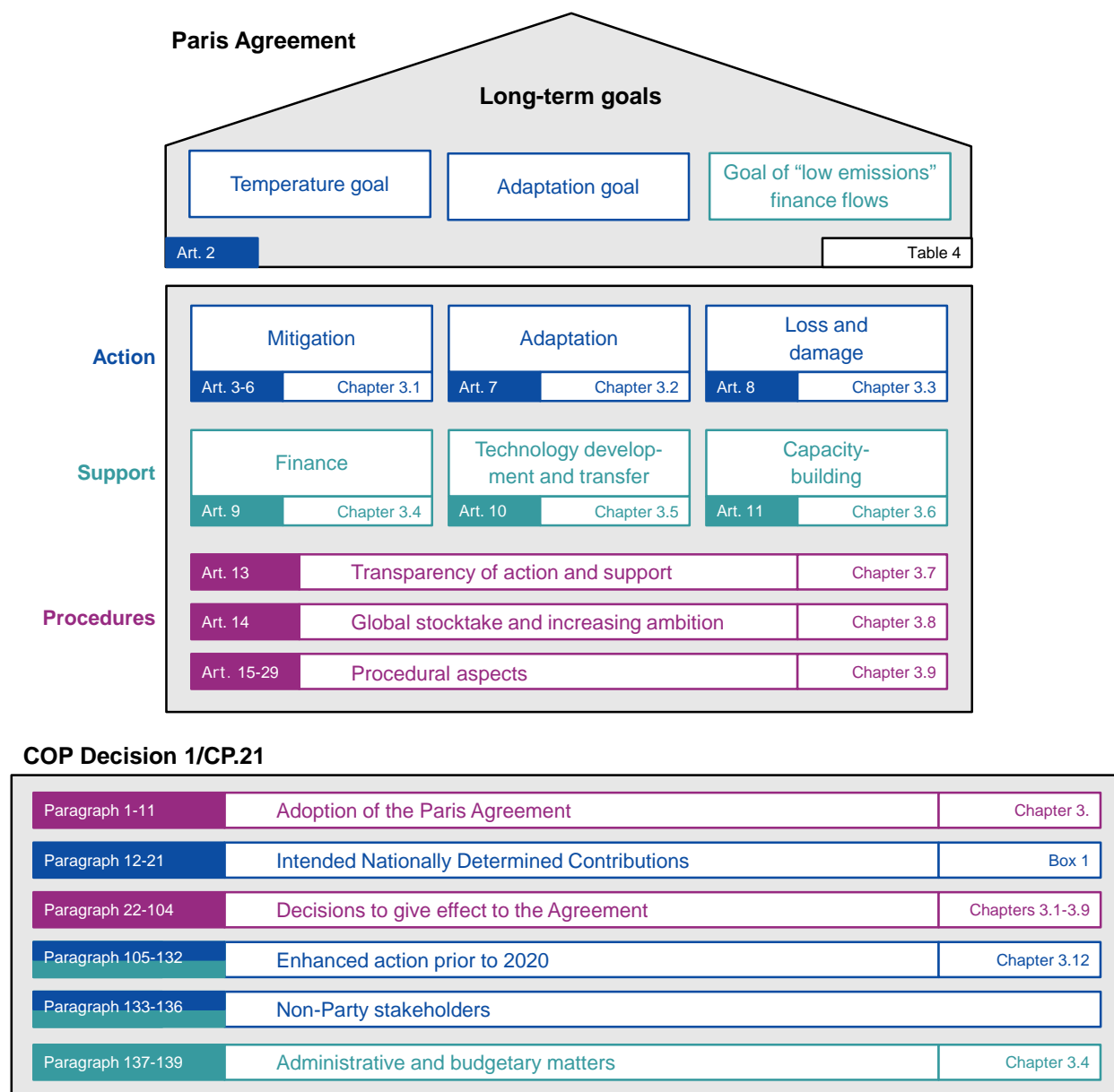
Source: [UNFCCC 2015](#).

In order to pursue these goals, the Paris Agreement addresses the main cornerstones of international climate action:

- **Mitigation**, i.e. the reduction of greenhouse gas emissions and the enhancement of sinks for greenhouse gases
- **Adaptation**, i.e. the adjustment of natural and human systems in response to climate change
- Averting, minimising and addressing **loss and damage** associated with the effects of climate change

The Agreement also specifies **financial, technological and capacity-building support** (also known as Means of Implementation – MoI). Finally, it lays down procedures for transparency, for a global stocktake and for compliance, as well as for meetings and the entry into force (see Figure 1).

Figure 1: Structure of the Paris Agreement and the accompanying COP Decision



Each main topic is presented in a box, including the corresponding Articles of the Agreement or Paragraphs of the Decision. The table/chapters of the present report where more information can be found are also listed.

**Source:** UNFCCC 2015, [Decision 1/CP.21](#), authors’ views.

In the following subchapters (chapters 3.1 to 3.9), the key elements of the Paris Agreement are described in more detail. Chapter 3.10 covers the signature ceremony, ratification and entry into force process, chapter 3.11 introduces the negotiation bodies under the Paris Agreement and chapter 3.12 covers provisions relating to enhanced action prior to 2020. Chapter 3.13 provides a summary and discussion of the overall Agreement. A tabular overview of the key contents of the Paris Agreement – listed by topic – can be found in Table 10 in Annex 1. Important elements of the accompanying COP Decision are listed in Table 11 in Annex 2.

### 3.1. Mitigation

The mitigation of climate change – by reducing greenhouse gas emissions and enhancing sinks for greenhouse gases – is inscribed in the United Nations Framework Convention on Climate Change and

has been operationalised in the Kyoto Protocol for developed country Parties. The Paris Agreement constitutes a leap forward as it prescribes:

- An ambitious temperature goal;
- a long-term emission goal;
- efforts to be undertaken and communicated by all Parties and to be updated periodically.

The **temperature goal** refers to holding the increase in the global average temperature to well below 2 degrees C above pre-industrial levels and to pursue efforts to limit this increase to 1.5 degrees C. The goals of 2 and 1.5 degrees C were introduced in the Cancún Agreements of 2010 ([Decision 1/CP.16](#)). As summarised in the Fifth Assessment Report of the Intergovernmental Panel on Climate Change (IPCC), a global temperature increase above 1.5 degrees C and, to a larger extent, above 2 degrees C is associated with negative impacts on ecosystems, human health, food security and infrastructure, as well as risks of widespread and irreversible impacts ([IPCC 2015](#)). The recently published IPCC Special Report on Global Warming of 1.5 degrees C has demonstrated the importance of limiting global warming to 1.5 degrees C rather than to 2 degrees C – and expresses an urgent warning on the consequences of failing to do so (cf. chapter 6.2.2). However, it is important to note that the IPCC did not recommend any temperature goal because such a recommendation would be policy prescriptive and therefore beyond the mandate of the IPCC.

In order to be able to achieve the temperature goal, the current trend of greenhouse gas emissions needs to be reverted. The **emission goal**, introduced in Article 4 of the Paris Agreement, is twofold. First, Parties aim at reaching global peaking of greenhouse gas emissions as soon as possible. This is especially important because global emissions of greenhouse gases are still increasing and the emissions of many developing countries show clear upward trends.

Secondly, the goal is to achieve a balance between anthropogenic emissions by sources and removals by sinks in the second half of this century. Such a balance, which is also known as ‘carbon neutrality’, will require drastic changes compared to today’s situation: All worldwide emissions of greenhouse gases will have to be counterbalanced by carbon sequestration. Carbon neutrality, or having a net zero carbon footprint, refers to achieving net zero carbon emissions by balancing a measured amount of carbon released with an equivalent amount sequestered.

Related to the long-term emission goal, Parties are invited by [Decision 1/CP.21](#) to communicate, by 2020, long-term low emission development strategies (LEDS) with a mid-century timeframe.

**Efforts** to reach the temperature and emission goals will be shared by all Parties. Article 3 states that all Parties undertake and communicate ambitious efforts, progressing over time. The Paris Agreement points out the common but differentiated responsibilities and capabilities between developing and developed country Parties and it states that developed countries should be taking the lead. However, unlike the Kyoto Protocol, contributions will be required from all Parties.

The Paris Agreement does not prescribe these contributions for each Party in a top-down approach. Instead they are prepared, communicated and maintained by the Party itself, hence the name ‘Nationally Determined Contributions’ – (NDCs, see Box 1 below). This bottom-up approach can be seen as a response to the failure to reach an agreement with prescribed contributions at the COP in Copenhagen in 2009.

Box 1: Nationally Determined Contributions: From INDC to NDC

187 out of 196 Parties communicated Intended Nationally Determined Contributions (INDCs, cf. Table 1; [UNFCCC 2018c](#)) in 2015. These contributions – as long as they are not updated or

replaced – serve as ‘Nationally Determined Contributions’ (NDC) under the Paris Agreement. The NDCs describe the efforts which Parties make to contribute to the global response to climate change. According to Article 3 of the Paris Agreement, such efforts cover the areas of mitigation, adaptation, finance, technology, capacity-building and transparency.

Nationally Determined Contributions have to be updated every five years and have to represent a progression over time. As specified in Paragraph 23 and 24 of [Decision 1/CP.21](#). Parties with a time horizon until 2025 (2021-2025) in their INDCs are requested to communicate a new NDC by 2020 and to do so every 5 years thereafter. Parties with a time horizon until 2030 (2021-2030) are requested to communicate a new or updated NDC by 2020 and to do so every 5 years thereafter. Finally, Parties that have not yet communicated an INDC have to communicate their first NDC at the latest together with their instrument of ratification or accession to the Paris Agreement.

The information to be provided in an NDC is listed in Paragraph 27 of [Decision 1/CP.21](#), but this information is expressed in rather general terms. The Ad Hoc Working Group on the Paris Agreement (APA, cf. chapter 3.10) will develop further guidance. The NDCs will be provided in a public registry; those that have already been communicated, including the INDCs of Parties that have already ratified the Paris Agreement, are available in an interim registry ([UNFCCC 2018d](#)).

Periodic updates of NDCs are central to the Agreement because the mitigation contributions communicated ahead of the Paris conference in 2015 are not sufficient to meet the agreed temperature goal (For more information please refer to last year’s study ahead of COP 23 ‘[Implementing the Paris Agreement](#)’). For the process of increasing mitigation ambition over time (‘facilitative dialogue’ and ‘global stocktake’), see chapter 3.8.

In order to achieve their mitigation contributions, Parties may make use of voluntary cooperation. A mechanism will be set up, similar to the Clean Development Mechanism under the Kyoto Protocol (cf. Table 1) which will allow for emission reductions in one country to be counted towards the Nationally Determined Contribution of another country. As laid out in the Agreement, it has to be ensured that this mechanism avoids double counting of contributions and that the mitigation actions covered are sustainable and environmentally sound. The details of such cooperation between Parties will be elaborated by the SBSTA, the responsible subsidiary body (cf. Table 1 and chapters 4.1, 5.1.1 and 5.2.1).

### **3.2. Adaptation**

All countries will need to adapt to a changing climate in some ways, but the topic of adaptation is especially important for developing countries because of their limited resources, lack of capabilities and means to adjust. In the Paris Agreement, an adaptation goal is prescribed, which is, according to Article 7 of the Agreement, the goal to

- enhance adaptive capacity;
- strengthen resilience; and
- reduce vulnerability to climate change.

Parties are required to engage in an adaptation planning process and encouraged to report on their adaptation efforts and/or needs. A review of the overall progress made in achieving the global goal on adaptation, and of the adequacy and effectiveness of adaptation support, is part of the global stocktake to be undertaken every five years (see chapter 3.8). Parties periodically should submit and

update an 'adaptation communication', which may include adaptation priorities, needs, plans and actions.

[Decision 1/CP.21](#) mandated the Adaptation Committee (AC), the Least Developed Countries Expert Group (LEG) and other bodies with important tasks related to implementation. Specifically, the AC was requested to review the work of adaptation-related institutional arrangements under the Convention and to consider methodologies for adaptation needs.

In addition, the AC and the LEG were requested to develop modalities to recognise the adaptation efforts of developing countries. These two bodies, together with the Standing Committee on Finance and other relevant institutions were asked to develop methodologies and make recommendations on facilitating the mobilisation of support for adaptation in developing countries and on the review – in the course of the global stocktake – of the adequacy and effectiveness of adaptation and of support provided for adaptation (cf. chapter 4.2, 5.1.2 and 5.2.2).

Originating in the discussion on adaptation, the topic of loss and damage has become a topic in its own right in recent years and is now covered by a separate article in the Paris Agreement. Therefore, loss and damage is discussed separately in the following section.

### 3.3. Loss and damage

Loss and damage associated with the adverse effects of climate change is a key concern of the Least Developed Countries (LDC) and of Small Island Developing States (SIDS). Their representatives stress the limited means they have to avert or minimise such loss and damage.

Article 8 of the Paris Agreement states that Parties recognise the importance of averting, minimising and addressing loss and damage associated with the adverse effects of climate change. The fact that this topic is covered by a separate Article is a sign of the acknowledgement of its importance. The Agreement also strengthens the existing Warsaw International Mechanism on Loss and Damage.

Box 2: The Warsaw International Mechanism on Loss and Damage (WIM) and its role under the Paris Agreement

At the COP in Warsaw in 2013, the Warsaw International Mechanism on Loss and Damage (WIM) was established. This mechanism addresses loss and damage associated with impacts of climate change, including extreme events and slow onset events (e.g. sea level rise or land and forest degradation), in developing countries that are particularly vulnerable to adverse effects of climate change. The mechanism aims at:

- Enhancing the knowledge and understanding of comprehensive risk management approaches;
- strengthening the dialogue and coordination among relevant stakeholders; and
- enhancing action and support, including finance, technology and capacity-building.

A further clarification on how the CMA and the COP will manage the Warsaw International Mechanism is likely to be decided as part of the review of the WIM in 2019.

The Paris Agreement also lists examples of areas of cooperation and facilitation, such as early warning systems, emergency preparedness, comprehensive risk assessment and management, risk insurance and resilience.

However, in the accompanying Decision ([Decision 1/CP.21](#)), it is specified that the provisions on loss and damage do not involve or provide a basis for any liability or compensation. This provision reflects



the position of the developed countries which oppose the idea of establishing a link, which might entail claims for compensation, between greenhouse gas emissions and climate change induced loss and damage. The COP Decision which contains this provision applies to all Parties, but it may not prevent requests for compensation/liability in the private domain.

### 3.4. Finance

Mitigation, adaptation and addressing loss and damage require financial resources, and both the Convention and the Paris Agreement foresee that such resources are provided to developing countries.

Under the Convention, the provision of financial resources is the task of a specified number of developed countries. Under the Paris Agreement (Article 9), developed country Parties should still take the lead in mobilising climate finance, but other Parties are encouraged to provide or continue to provide such support. This provision reflects today's situation that emerging countries such as China provide financial support and other emerging countries are seen to be in a position to do so as well.

The provision of finance is also addressed in Article 2 of the Agreement, which specifies the goal of making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development (goal of 'low emissions' finance flows, see Table 4).

At the COP in Copenhagen in 2009, it had been agreed that developed countries would mobilise, by the year 2020, climate finance amounting to USD 100 billion per year. The Decision on the Paris Agreement specifies that this amount will be provided annually from 2020 until 2025 and that a new, higher goal will be set for the period thereafter.

Related to financial support, [Decision 1/CP.21](#) contains a section 'Administrative and budgetary matters', which points out the urgency of making additional resources available for the implementation of the actions referred to in this Decision.

### 3.5. Technology development and transfer

Besides financial support, the development and transfer of technology constitutes an important pillar of the support provided to developing countries. Under the Paris Agreement, a technology framework is to be established to strengthen the existing Technology Mechanism under the Convention.

#### Box 3: The Technology Mechanism under the Convention

The Technology Mechanism was established at the COP in Cancún (For more information please refer to last year's study ahead of COP 23 '[Implementing the Paris Agreement](#)') to help countries develop and transfer the technologies needed to mitigate and adapt to climate change. It consists of two bodies:

- The Technology Executive Committee (TEC), as policy arm, analyses technology policy issues and provides recommendations.
- The Climate Technology Centre and Network (CTCN), as implementation arm, provides technical assistance to developing countries, facilitates access to knowledge on climate technologies and fosters collaboration among stakeholders.

Examples of CTCN activities include technical assistance missions, tutorials and technical workshops.

An outline of the technology framework under the Paris Agreement is given in [Decision 1/CP.21](#). The technology framework should facilitate, *inter alia*, Technology Needs Assessments (TNA), the assessment of technologies that are ready for transfer and the enhancement of enabling environments for the development of socially and environmentally sound technologies. The Subsidiary Body for Scientific and Technological Advice (SBSTA) was mandated with the development of this framework, whereas the Subsidiary Body for Implementation (SBI) will develop the modalities for a periodic assessment of the framework's effectiveness.

### 3.6. Capacity-building

In addition to financial and technological support, the Paris Agreement aims at further strengthening the capacity of developing countries to respond to climate change. This includes, for example, the implementation of adaptation and mitigation actions, the development, dissemination and deployment of technology and various aspects of education, training and public awareness.

Under the accompanying Decision to the Paris Agreement, a Paris Committee on Capacity-building has been established.

Box 4: The Paris Committee on Capacity-building (PCCB) and the 2016-2020 work plan

The aim of the Paris Committee on Capacity-building is to address gaps and needs in the implementation of capacity-building in developing countries. The Committee meets annually during the session of the Subsidiary Body for Implementation and manages and oversees the 2016-2020 work plan which includes, *inter alia*:

- Identification of capacity gaps and needs;
- fostering global, regional, national and sub-national cooperation;
- identifying and collecting good practices.

The PCCB convened for the second time during the subsidiary bodies meeting in Bonn in May 2018 (cf. chapter 5.1.6).

### 3.7. Transparency of action and support

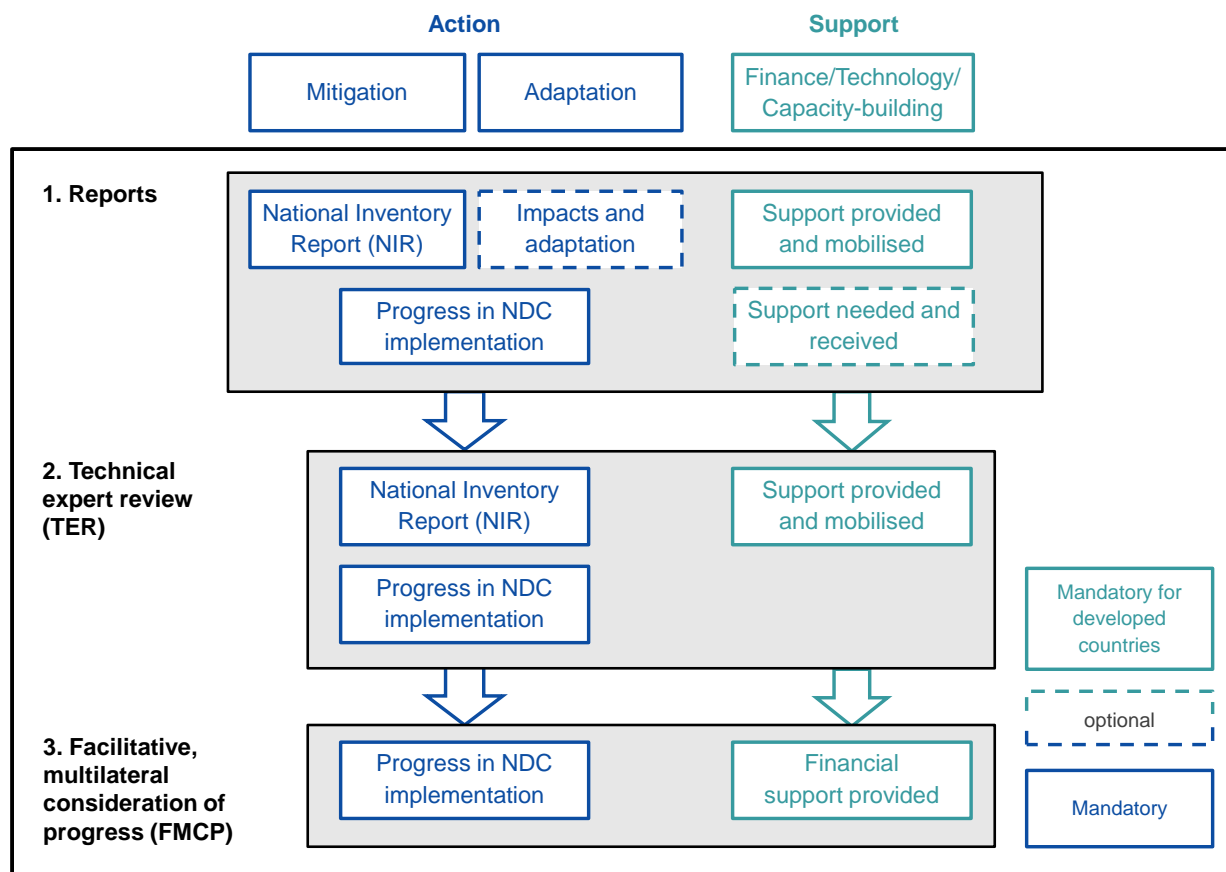
In order to be able to effectively address climate change, the measures taken and the support provided and received need to be made transparent. Transparency has become even more important under the Paris Agreement because actions have to be measured against specific goals (in the areas of mitigation, adaptation and finance) and the implementation of Nationally Determined Contributions has to be assessed in order to be able to improve them over time (see also chapter 3.8).

Under the Paris Agreement, a so called enhanced transparency framework (ETF; cf. chapter 4.7, 5.1.7 and 5.2.7) is being established, which includes binding provisions for all Parties, though there will be less stringent ones for developing countries. The elements of the transparency framework are depicted in Figure 2. They include a national inventory report on greenhouse gas emissions and removals and the necessary information for tracking progress made in implementing and achieving the Nationally Determined Contribution. Information on adaptation and support is also requested, although the only mandatory requirement is to submit a report on the support provided by developed countries.

As can be seen in Figure 2, the national inventory report, the information relating to the Nationally Determined Contribution and the information on the support provided will undergo a technical

expert review (TER). A sub-section of that information will also be subject to a ‘facilitative, multilateral consideration of progress’ (FMCP), which will most likely be organised as ‘question and answer’ sessions. This element of the enhanced transparency framework, is based on two processes already established under the Convention: First, the so-called ‘multilateral assessment’ focuses on the progress achieved towards the developed countries’ emission limitation/reduction targets for 2020. It is organised as question and answer sessions and forms part of the ‘International Assessment and Review’ (IAR) process, which is based on [Decision 1/CP.16](#). Second, the ‘facilitative sharing of views’ discusses information provided by developing countries. It is part of the ‘International Consultation and Analysis’ (ICA) process for countries not included in Annex I to the Convention.

Figure 2: Elements of the enhanced transparency framework for action and support (ETF)



Source: [UNFCCC 2015](#), [UNFCCC 2017a](#), authors’ views.

For an overview of the various reporting requirements under the Paris Agreement (as compared to the Convention) see also Figure 3 in chapter 4.7.

### 3.8. Global stocktake and increasing ambition

As the mitigation contributions which have been communicated by Parties so far are not sufficient to meet the temperature goal of the Agreement (For more information please refer to last year’s study ahead of COP 23 ‘[Implementing the Paris Agreement](#)’), it provides for a cycle of increasing ambition.

The year 2018 constitutes the first important step in this cycle. This year, the IPCC (cf. chapter 6.2.2) provided a Special Report (SR) on the impacts of global warming of 1.5 degrees C above pre-industrial levels and related global greenhouse gas emission pathways. Informed by this report, a so-called

'facilitative dialogue', now better known as Talanoa Dialogue (cf. chapter 5.3) will enter into its final stage at the COP 24 in Katowice. The facilitative dialogue is based on the Decision accompanying the Paris Agreement and will form the basis for new or updated NDCs (see Box 1), to be communicated by Parties by 2020. New NDCs by 2020 are especially important for Parties with a time horizon until 2025 in their INDCs.

The cycle of further increasing ambition under Article 14 of the Paris Agreement will start in 2023, when the first global stocktake will take place: Collective progress towards achieving the purpose of the Paris Agreement and its long-term goals will be assessed in the light of equity and best available science. The outcome of the global stocktake will serve as a basis for Parties to update and enhance their actions and support.

### 3.9. Procedural aspects

In Articles 15 to 29 of the Paris Agreement, various procedural aspects are laid out.

In order to facilitate implementation of the Paris Agreement and to promote **compliance** with its provisions, an expert-based committee is to be established (the 'compliance committee') in accordance with Article 15. The committee is to be facilitative in nature and to operate in a non-adversarial and non-punitive manner.

As laid out in Article 16 of the Agreement, Parties meet in the so-called '**Conference of the Parties serving as the meeting of the Parties to the Paris Agreement**' (CMA). The meeting is held in conjunction with the annual Conference of the Parties (COP), in the same way as the meetings of the Parties to the Kyoto Protocol (CMP) have been running in parallel to the COP since 2005. For more information on the negotiation bodies under the Paris Agreement see chapter 3.11.

The **signature process** is outlined in Article 20, with **conditions for entering into force** detailed in Article 21. These processes depend on domestic legislative and/or constitutional procedures; therefore signing represents a first step on the way to ratification only. The Paris Agreement was designed to enter into force 30 days after at least 55 Parties that account for at least 55% of the global greenhouse gas emissions have deposited their instruments of ratification, acceptance, approval or accession with the Depositary, the Secretary-General of the United Nations ([UNFCCC 2015](#)).

Ratification of a multinational agreement is a formal process that starts at the national level, where countries follow and comply with their own constitutional and legislative procedures in order to establish the legal grounds that represent the country's consent to be bound by the Agreement. It culminates in the country legally becoming a Party to the Agreement. In some countries it is not compulsory, at national level and within the scope of domestic constitutional law, for the head of state to ratify a treaty; in such a case the instruments of acceptance or approval are used instead. If a country wants to join the Paris Agreement as a Party after the one year signature period is over, it will be able to do that by depositing an instrument of accession. In the end acceptance, approval and accession have the same legal implications as ratification ([United Nations 2018a](#), [UNFCCC 2016a](#), [Jones and Mace 2016](#)).

Article 28 of the Paris Agreement covers the **rules for a Party's withdrawal** from the Agreement ([UNFCCC 2015](#)). At the earliest, a Party can submit a written notification to the Secretary-General of the United Nations three years after the entry into force of the Paris Agreement for that Party. Withdrawal can then take effect one year after this notification has been received, or at a later date if such a date is specified in the notification. Until the withdrawal becomes effective, the Party wishing to leave, remains a Party to the Agreement and may continue to participate in the negotiations under it and also revoke the withdrawal ([UNFCCC 2017b](#)). On 4 November 2016 the Paris Agreement

entered into force, which means that for all the Parties that had joined by this day, the earliest date for a withdrawal from the Paris Agreement to become effective would be 4 November 2020.

For details on the progress of the signature, ratification and entry into force process see chapter 3.10 below.

### 3.10. Status of the signature, ratification and entry into force process

Following the adoption of the Paris Agreement on 12 December 2015, a high level **signature ceremony** took place at the headquarters of the United Nations in New York on 22 April 2016, where 175 Parties (174 countries and the European Union) signed the Agreement. It thereby became the multilateral agreement with the highest number of countries to sign on the first day. From this day on, the Agreement was open for signature for one year ([IISD 2016a](#)). As of 5 November 2018 there are 195 Parties that have signed the Agreement out of 197 Parties to the Convention. Only Nicaragua and the Syrian Arab Republic have not signed the Paris Agreement ([UNFCCC 2018e](#)). Nicaragua had been critical of the Paris Agreement, because it considered the approach of relying on Nationally Determined Contributions as not ambitious enough. However, President Daniel Ortega announced in September 2017 that Nicaragua would join the Paris Agreement ([Climate Home 2017a](#)), in solidarity with other developing countries. Both countries since have ratified the Agreement by depositing their instrument of accession.

In order to determine the exact moment when the required emission threshold of 55% of the global greenhouse gas emissions is achieved, a specific compilation report was added as an Annex to the report on the COP in Paris ([UNFCCC 2016b](#)). This Annex lists the total greenhouse gas emissions of each Party, based on the most recent information submitted to the UNFCCC. According to this calculation, the ten largest emitting countries are responsible for approx. 73% of the GHG emissions. For more information on those countries that make up the largest share of global greenhouse gas emissions please refer to last year's study ahead of COP 23 '[Implementing the Paris Agreement](#)'.

During and after the signature ceremony in April 2016, mostly small countries deposited their instrument of **ratification**. This changed on 3 September 2016, when the world's two largest emitters, China and the United States, deposited their instrument of ratification ahead of the G20 summit (For more information on the G20 see chapter 6.1.3). On 21 September 2016, a special event was held in New York at the headquarters of the United Nations ([United Nations 2016](#)), where representatives of 31 countries deposited their instruments of ratification. At this event, the first threshold for the entry into force of the Agreement, namely that at least 55 Parties had to ratify the Agreement, was met, and the share of these countries in the global greenhouse gas emissions rose to almost 48%.

At the beginning of October 2016, additional Parties deposited their instrument of ratification, starting with India on 2 October and including, on 5 October, Canada, the European Union and additionally seven of its Member States. On that day, the second threshold – the emissions threshold – was met, which triggered the **entry into force of the Agreement** 30 days thereafter, on 4 November 2016.

On 1 June 2017 U.S. President Trump announced his intent to withdraw his country from the Paris Agreement. Two months later, in August 2017, the U.S. Department of State sent a communication to the United Nations Secretary-General expressing the U.S.'s intention to withdraw as soon as it is eligible to do so.

## Box 5: Timeline for the U.S. withdrawal from the Paris Agreement

As laid out in chapter 3.9 above, there is a three-year period between the entry into force of the Paris Agreement and the start of a Party's withdrawal procedure. Despite the U.S. President's announcement, the withdrawal procedure will start on 4 November 2019 at the earliest, with a notification to the United Nations Secretary-General. If such a notification is given on that date, withdrawal will be effective one year later, on 4 November 2020, which happens to be one day after the next U.S. presidential election.

As of 5 November 2018, 183 out of 197 Parties to the Convention accounting for approx. 88.8% of the global greenhouse gas emissions have deposited their instrument of ratification, acceptance, approval, or accession ([UNFCCC 2018e](#)). Countries which have not yet ratified the Paris Agreement, include, *inter alia*, the Russian Federation, the Islamic Republic of Iran and Turkey. These three countries together account for approx. 10% of global greenhouse gas emissions.

### 3.11. Negotiation bodies under the Paris Agreement

As laid out in chapter 3.9, the Paris Agreement established the so-called 'Conference of the Parties serving as the meeting of the Parties to the Paris Agreement' (CMA). Its mandate is to promote and review the implementation of the Paris Agreement. The specific topics which the CMA has to negotiate and decide on are laid out in [Decision 1/CP.21](#). They include, *inter alia*, the type of information to be provided by Parties on their Nationally Determined Contributions, the rules for accounting for greenhouse gas emissions, the modalities for recognising the developing countries' adaptation efforts and the modalities for the global stocktake.

In addition, in order to prepare for the implementation of the Paris Agreement, the 'Ad Hoc Working Group on the Paris Agreement' (APA) was established by the Decision accompanying the Paris Agreement ([Decision 1/CP.21](#)). Table 5 gives an overview of the mandates and work of the APA and the CMA.

As the Paris Agreement entered into force at the beginning of November 2016, the first session of the CMA was convened during COP 22 which took place in Marrakesh later in the same month (For more information regarding the climate change conference in Marrakesh please refer to last year's study ahead of COP 23 '[Implementing the Paris Agreement](#)'). During the negotiation of the Paris Agreement, it was expected that the first CMA would convene later and that, consequently, the APA would have more time for fulfilling its mandate. The procedural issue that work by the APA on the development of relevant guidance and modalities is still on going, but at the same time has to be completed in time for the first session of the CMA, was solved by suspending the first session of the CMA and re-opening it in November 2017 as the second part of the first session (CMA 1-2).

That CMA session was again suspended and as it was decided at the COP in Marrakesh the APA is expected to finish its work by CMA 1-3 in December 2018 ([Decision 1/CP.22](#)).

The first session of the APA in May 2016 was also suspended and re-opened as APA 1-2 in November 2016, as APA 1-3 in May 2017 and so on (cf. chapter 4, 5.1 and 5.2). Suspension of the APA meeting, rather than closing and re-opening a new session, allows for a more efficient process, without having to discuss and agree on a new agenda at the beginning of each meeting. At the COP in Katowice in December 2018, the seventh part of the first session (APA 1-7) will convene.

Table 5: Overview of the mandates and work of the APA and the CMA

	<b>Ad Hoc Working Group on the Paris Agreement (APA)</b>	<b>Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA)</b>
<b>Mandate</b>	Oversee the implementation of the work programme resulting from <a href="#">Decision 1/CP.21</a> (i.e. develop guidance and modalities).	Review the implementation of the Paris Agreement and promote its effective implementation.
<b>First session</b>	During the first meeting of the subsidiary bodies after the adoption of the Paris Agreement, i.e. during the subsidiary bodies meeting in Bonn, May 2016.	During the first COP session after the entry into force of the Paris Agreement, i.e. during the COP in Marrakesh, November 2016.
<b>Frequency of sessions</b>	Semi-annual, unless otherwise decided by the COP/CMA.	Annual.
<b>Last session</b>	The APA has to complete its work for the CMA's first session. The first session of the CMA has currently been suspended and the APA will complete its work and hold its last session in December 2018.	The CMA will convene as long as the Paris Agreement is in force.
<b>Chairs / President</b>	The APA is chaired by two co-chairs: Sarah Baashan (Saudi Arabia) and Jo Tyndall (New Zealand).	The CMA is presided over by the COP president, i.e. at the COP in 2017 and up to COP 24 by Fiji Prime Minister Frank Bainimarama. Michał Kurtyka has been nominated by Poland; he will be the new president, starting with the conference in Katowice in December 2018. Detailed information on the election and membership process as well as background information on the Bureau of the COP, CMP, and CMA are available on the UNFCCC website ( <a href="#">UNFCCC 2018f</a> , <a href="#">UNFCCC 2018g</a> ).
<b>Session at the COP in December 2018</b>	Seventh part of the first session (APA 1-7).	Third part of the first session (CMA 1-3).

**Source:** [UNFCCC 2015](#), [Decision 1/CP.21](#), [UNFCCC 2018h](#).

### 3.12. Enhanced action prior to 2020

The Paris Agreement applies to the post-2020 period. Mitigation until 2020 is governed by the second commitment period under the Kyoto Protocol (cf. Table 1), but due to the limited participation of Parties in mitigation actions under the Kyoto Protocol and in view of increasing emission trends, it is critical that additional efforts are pursued prior to 2020. Therefore, the Decision accompanying the Paris Agreement contains a number of provisions for enhancing mitigation ambition prior to 2020. Specifically, [Decision 1/CP.21](#) provides for:

- Strengthening of the existing **Technical Examination Process (TEP) on mitigation**. This process highlights policies, practices and technologies with high mitigation potential. The current format of technical expert meetings will continue and will be organised by the UNFCCC secretariat with support from the institutions under the Technology Mechanism (cf. Box 3).
- A new **Technical Examination Process on adaptation**. This process is organised jointly by the SBI and SBSTA (cf. Table 1) and conducted by the Adaptation Committee. Its aim is to identify opportunities for strengthening resilience, reducing vulnerabilities and increasing the understanding and implementation of adaptation actions.
- A **high-level event** at each COP from 2016 to 2020, which provides the opportunity for announcing new or strengthened efforts, initiatives and coalitions.
- **High-level champions** to facilitate and scale-up mitigation and adaptation efforts. These positions are currently held by Inia B. Seruiratu, Minister for Agriculture, Rural and Maritime Development and National Disaster Management of Fiji, and by Tomasz Chruszczow, Polish Special Envoy for Climate Change. In 2016, the champions set out the 'Global Climate Action Agenda', an agenda for cooperative action between governments, cities, businesses, investors and citizens ([UNFCCC 2016c](#)).
- The engagement of **non-Party stakeholders** (More information on the role of non-Party stakeholders can be found in last year's study ahead of COP 23 '[Implementing the Paris Agreement](#)') in the technical examination processes and through the Lima-Paris Action Agenda (LPAA).

#### Box 6: The Lima-Paris Action Agenda (LPAA)

In order to involve both state and non-state actors in accelerating climate action, the Lima-Paris Action Agenda (LPAA) was initiated in 2014 by the Peruvian and French COP presidencies, the Office of the Secretary-General of the United Nations and the UNFCCC secretariat.

Under this initiative, cities, regions and companies registered their commitments to address climate change in the so-called Non-State Actor Zone for Climate Action (NAZCA; [UNFCCC 2018i](#)). As of 5 November 2018, 83 cooperative initiatives have been registered. In total, over 19 823 commitments are listed, covering 9 367 cities, 125 regions, 2 430 companies, 17 civil society organisations and 354 investors.

Non-Party stakeholders are the subject of a dedicated section in [Decision 1/CP.21](#) (Paragraphs 133 to 135). This section welcomes their efforts in addressing and responding to climate change and invites them to scale up their efforts.



### 3.13. Summary and discussion

The Paris Agreement can be seen as a milestone in the international endeavour to respond to climate change, as for the first time an agreement was reached, which requires all Parties to contribute to achieving ambitious mitigation goals. In this regard, the Agreement delivered more than many had expected ahead of the Paris Conference.

More specifically, all Parties are required to prepare, communicate and maintain Nationally Determined Contributions. This provision constitutes an important difference to the Kyoto Protocol, which prescribed mitigation actions for a limited number of developed country Parties only. In this regard, the Paris Agreement has overcome the differentiation between developing and developed country Parties which originated from Annex I to the Convention of 1992 and does not fully reflect today's realities, as the contributions of developing and emerging countries to global greenhouse gas emissions have already surpassed the share of developed countries.

It is notable that, unlike earlier COP Decisions, the Decision on the Paris Agreement does not mention Annex I to the Convention. What is maintained and remains important is the notion that Parties have 'common but differentiated responsibilities' (CBDR). Under the Paris Agreement, differentiation is expressed through flexibilities and different obligations for developing versus developed country Parties to engage in mitigation, adaptation and support, but not in a static distinction between Annex I and non-Annex I Parties.

Although all Parties are required to maintain and enhance their NDCs, there is no legal obligation to meet the targets set in the NDCs. A strict legal obligation was opposed by some developing countries and by countries such as the United States as they would have had difficulties ratifying an agreement with such legal obligations.

It may remain uncertain whether the specific goals stated in the NDCs will be reached, but the Paris Agreement contains a mechanism for responding in case the goals are missed or new scientific findings show that efforts have to be further increased. This mechanism, consisting of the facilitative dialogue, meanwhile better known as Talanoa Dialogue (cf. chapter 5.3), in 2018 and the global stocktake from 2023 onwards, still has to prove itself as a suitable mechanism for responding to an accelerating global problem in a dynamic world.

In any case, the contributions communicated by Parties so far would not bring the world on the path towards limiting the global temperature increase to 2 degrees C or less. The temperature increase estimated in various studies, based on the INDCs communicated during the year 2015 (e.g. [UNFCCC 2016d](#), [Rogelj et al. 2016](#), [Carbon Brief 2017a](#)), will be closer to 3 degrees C by the end of the 21<sup>st</sup> century. For further discussion of the progress towards the 2 degrees and 1.5 degrees C goal information please refer to last year's study ahead of COP 23 '[Implementing the Paris Agreement](#)'.

It appears that the willingness to mitigate greenhouse gas emissions is mainly driven by the impacts of climate change, which are being increasingly felt, as well as the recognition of long-term consequences of climate change and the limits of adaptation, especially with respect to natural systems. The most efficient and effective approach to limiting long-term climate change risks is by reducing greenhouse gas emissions now.

## 4. OUTCOMES OF COP 23 IN BONN

The climate change conference in Bonn, Germany convened from 6 to 17 November 2017. It was agreed at the previous COP session in Marrakesh (2016) that the 2017 COP conference would be presided over by the low-lying island state Fiji but hosted by Germany. Under the presidency of Prime Minister Mr. Frank Bainimarama, the 23<sup>rd</sup> session of the Conference of the Parties (COP 23) to the United Nations Framework Convention on Climate Change (UNFCCC), the 13<sup>th</sup> session of the Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP 13; for more information on negotiation bodies cf. Table 1), the second part of the first session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (CMA 1-2, cf. chapter 3.11) were held. In addition, the subsidiary bodies SBI and SBSTA (cf. Table 1) held their 47<sup>th</sup> sessions and the Ad Hoc Working Group on the Paris Agreement (cf. Table 5) convened the fourth part of its first session (APA 1-4; [IISD 2017b](#), [Carbon Brief 2017b](#)).

Participation was very high exceeding all previous climate conferences with the exception of COP 21 in Paris. In addition to approx. 16 000 official Party delegates, representatives of organisations, agencies, NGOs and the media, almost 10 000 participants registered for the 'Bonn Zone' to exchange information with the business, politics and science community.

Statements during the opening ceremony ([UNFCCC 2017c](#)) stressed the urgency of climate action, arguing that the need for a swift reduction of greenhouse gases had never been greater considering recent alarming data. Delegates were reminded that the concentration of carbon dioxide in the atmosphere has surpassed 400 ppm (parts per million), a threshold considered critical by climate scientists, while global mean temperature has risen by 1.1 degrees C compared to pre-industrial times. The IPCC (cf. chapter 6.2.1) reported that work on the 'Special Report on Global Warming of 1.5 degrees C' (cf. chapter 6.2.2) is under way and will be completed in time to inform the 2018 facilitative dialogue (cf. chapter 5.3).

### Box 7: The Paris Agreement Work Programme

The Paris Agreement, adopted in Paris, France in 2015 specifies that all countries shall submit Nationally Determined Contributions (NDCs, cf. Box 1) and that joint progress on reaching the goals of the Agreement will be monitored on a recurring basis ('global stocktake', cf. chapter 3.8). However, a considerable amount of the technical details for operationalisation of the Agreement was left open in 2015. These include, *inter alia*, the type of information to be contained in the NDCs, or modalities for the global stocktake as well as procedures and guidelines for the transparency framework. These various modalities, rules and guidelines are formally referred to as the Paris Agreement Work Programme (PAWP) and sometimes also as the 'Paris Rulebook'. It had been decided at the previous conference in Marrakesh that work on the Paris Rulebook is to be completed by the end of 2018.

The complex task of reaching an agreement on the implementation of the Paris Agreement is organised in three negotiation tracks and multiple agenda items, with most of the negotiation tasks having been assigned to the Ad-hoc Working Group on the Paris Agreement (APA; cf. ). Important negotiation items, including work on accounting for climate finance fall to the subsidiary bodies of the Convention, the SBI and SBSTA. An overview of the Work Programme under the Paris Agreement, meetings and involved entities is available on the UNFCCC website ([UNFCCC 2018j](#)).

The result of the work programme will be a number of CMA decisions specifying the modalities for the implementation of the Paris Agreement, e.g. the rules for cooperative approaches (cf. chapter 3.1), or for the global stocktake (cf. chapter 3.8). In addition, there will be guidelines, e.g.

for the reporting of information under the transparency framework (cf. chapter 3.7). For more information on the process of developing and finalising a negotiation text for the PAWP refer to Box 19.

Preparing these technical rules in a work programme under the Paris Agreement, was one of the main tasks of the COP 23 in Bonn. As laid out in the Box above, the work on the Paris Rulebook is due at the 2018 COP session in Katowice ([Decision 1/CP.22](#)). Hence, delegates at COP 23 in 2017 in Bonn were under considerable time pressure to elaborate and agree on various guidance documents to be ready for adoption before that deadline. In the early morning of 18 November, delegates succeeded in delivering the elements of the work programme and adopted the concurring decisions together with the rest of the COP 23 package in the COP Decision '[Fiji Momentum for Implementation](#)' (respectively Decision 1/CP.23).

Another important outcome of the COP 23 was the launching of the Talanoa Dialogue (cf. chapter 5.3) a new term in climate diplomacy coined by the Fijian presidency and inspired by the Pacific format of constructive discussion, debate and story-telling. Delegates reached agreement ([Decision 1/CP.23, Annex II](#)) on the structure and schedule for this year-long-discussion process previously referred to as Facilitative Dialogue ([Decision 1/CP.21](#)) that started in January and will culminate at the COP 24 in Katowice.

Progress was also made on other important topics, including decisions regarding: future work on loss and damage (cf. chapter 3.3); the establishment of a gender action plan; the operationalisation of the local communities and indigenous peoples platform; the decision that the Adaptation Fund shall serve the Paris Agreement and how to take work forward on long-term climate finance. The results of these technical negotiations are summarised in the following sections.

## 4.1. Mitigation

As the information to be provided in the Nationally Determined Contributions (NDCs) is not clearly specified in [Decision 1/CP.21](#), the APA's task is to put this information into concrete terms (see Box 7). The APA continued its work on guidelines for the 'features of NDCs'; on how to facilitate clarity, transparency and understanding; and on 'accounting' (including, e.g., a comparison between pledged emission reductions and actual emission reductions). No considerable progress was made in Bonn on the main point of contention, namely the scope and possible differentiation of the guidelines. While most developing countries (LMDCs, cf. Table 2) were of the opinion that the guidance should differentiate between developed and developing countries and include issues of adaptation and means of implementation (finance, technology development and transfer, capacity-building), developed countries opposed the notion of such a differentiation and insisted the guidelines should focus on mitigation.

The topic of common time frames for NDCs was discussed for the first time in Bonn, following respective [Decision 1/CP.22](#). While some Parties already hold positions on a common timeframe (five or ten years) other Parties (including the EU) were of the opinion that further discussions were needed before deciding on a position. Parties agreed to continue consideration of the (dis)advantages of common timeframes of five- or ten-yearly cycles at SBI 48.

The issue of a 'public registry', i.e. a publicly accessible collection of the documents submitted by Parties, concerns both mitigation and adaptation, because according to the Paris Agreement both the NDCs and the adaptation communications will be recorded in such a registry. As in previous negotiations on its modalities, views diverged on the question of linkages to NDCs and to the

adaptation registry. The SBI under which the public registry negotiations took place adopted a conclusion ([UNFCCC 2017d](#)) to continue considerations of the matter at SBI 48 referencing an informal note of the Co-Facilitators ([UNFCCC 2017e](#)) to serve as input for the said meeting. An NDC interim registry is available on the UNFCCC secretariat's website ([UNFCCC 2018d](#)).

Despite diverging views, many felt that the progress in Bonn on common time-frames and the public registry will help to move work forward.

Negotiations continued at the SBSTA regarding future market and non-market mechanisms, introduced under Paris Agreement Article 6 (cooperative approaches, cf. chapter 3.1) on three sub-topics: 'Guidance on cooperative approaches referred to in Article 6.2'; 'Rules, modalities and procedures for the mechanism established by Article 6.4' and 'Work programme under the framework for non-market approaches referred to in Article 6.8'. Discussions focused on a coherent governance structure for the instruments and on ensuring environmental integrity in their use. The SBSTA adopted conclusions on all three sub-items and agreed to continue discussion of those matters at SBSTA 48 (cf. chapter 5.1.1 and 5.2.1).

## 4.2. Adaptation

The APA was mandated to provide guidance for the 'adaptation communication', which each Party should submit according to Article 7 of the Paris Agreement. The discussions between developing and developed countries in Bonn focused on whether or not to include the principle of common but differentiated responsibilities in the guidance and on support for developing countries as well as on linkages to NDCs.

Modalities and procedures regarding the public registry were also negotiated under the adaptation agenda of the SBI in Bonn, as the registry is supposed to include information on mitigation and adaptation (see chapter 4.1). Procedural conclusions referencing an informal note of the Co-Facilitators were adopted by the SBI.

The COP 21 requested the Adaptation Committee (AC) and the Least Developed Countries Expert Group (LEG) to assist the implementation of the Paris Agreement by developing methodologies to recognise the adaptation efforts of developing countries and, in collaboration with the Standing Committee on Finance (SCF), make recommendations for adoption by the CMA (cf. chapter 3.2). No progress has been achieved to agree on the recommendations as submitted by the constituted bodies.

### Box 8: Issues relating to agriculture

Adaptation to climate change will be a key challenge for farmers in the future, especially in developing countries. Issues related to agriculture have been discussed under the SBSTA agenda since 2012.

Albeit being a topic of acute attention and discussion Parties had been unable to adopt a single conclusion during those past six years. Too great were the differences of opinion between developed and developing countries on whether or not to include mitigation under the SBSTA agenda. The Bonn conference, after intense last minute negotiations, finally succeeded to cut the 'Gordian knot' and adopted a Decision ([Decision 4/CP.23](#)) establishing a three-year work programme on agriculture to be carried out under the SBI/SBSTA jointly.

### 4.3. Loss and Damage

Against the backdrop of the Fijian presidency, the Warsaw International Mechanism on Loss and Damage (WIM, cf. Box 2) was a focal area for many developing countries in Bonn. The issue of loss and damage was discussed under the COP, SBI and SBSTA, where it was agreed, *inter alia*, to initiate a ('Suva') Expert Dialogue on mobilising (financial) resources to address loss and damage as an acknowledgement of the topic's relevance for developing countries. The results of the Suva Expert Dialogue, named after the capital of Fiji, will feed into a technical paper and serve as an input into the review of the WIM, scheduled to take place at COP 25 in 2019 ([UNFCCC 2018k](#)). In addition, the COP Presidency presented the Fiji Clearing House for Risk Transfer developed by the WIM Executive Committee. The COP 21 had requested to establish a clearing house for risk transfer that serves as a repository for information on insurance and risk transfer, in order to facilitate the efforts of Parties to develop and implement comprehensive risk management strategies ([Decision 1/CP.21](#)).

### 4.4. Finance

The Decision accompanying the Paris Agreement ([Decision 1/CP.21](#)) recognises that the Adaptation Fund (see Box 9 below) may serve the Paris Agreement. At the previous COP session in Marrakesh, the CMA decided that the Adaptation Fund should indeed serve as a financial mechanism under the Paris Agreement ([Decision 1/CMA.1](#)). In Bonn discussions continued in the APA on the operationalisation of the Fund regarding its governance structure, institutional arrangements, safeguards and operating modalities to be concluded at the COP 24 in Katowice ([Decision 1/CP.22](#)).

Box 9: Entities involved in climate finance

The financial mechanisms under the Convention are operated by dedicated entities. The Global Environment Facility (GEF) was established in 1991 to provide financing in various areas of environmental protection. The GEF is located in Washington, D.C. and administers, *inter alia*, the Special Climate Change Fund (SCCF) and the Least Developed Countries Fund (LDCF).

The Adaptation Fund (AF) was established in 2001 to finance adaptation projects and programmes in developing country Parties to the Kyoto Protocol. At the COP 22 in Marrakesh, it was decided that the Fund shall serve as a financial mechanism under the Paris Agreement.

The Green Climate Fund (GCF) was established in 2010 at the COP in Cancún as operating entity of the financial mechanism under the Convention ([Decision 1/CP.16](#)). The fund was made fully operational in 2015, with the GCF secretariat based in Songdo (Republic of Korea). As of 05 November 2018 – the last update on pledges and contributions was published on 8 May 2018 – 43 Parties, including 9 developing countries, pledged a total of USD 10.3 billion to the Green Climate Fund ([GCF 2018a](#)).

The Standing Committee on Finance (SCF) was established in 2010. It assists the COP in coordinating and mobilising climate-related financing and in measuring, reporting and verifying the financial resources provided.

Negotiations in the COP on long-term finance focused on progress towards the joint mobilisation goal of USD 100 billion annually by 2020 as well as on the importance of financing for adaptation and the availability of public funds. The outcome of the negotiations in Bonn included a welcoming of the progress made towards the collective mobilisation goal, but also called for developed countries to continue their efforts to increase financing.

#### **4.5. Technology development and transfer**

The SBSTA was mandated by the COP in Paris to prepare the details of the new Technology Framework under the Paris Agreement (cf. chapter 3.5). At the Bonn conference, progress was made in further developing the details of the framework as part of the Paris Work Programme to be adopted at the COP 24 in Katowice. Discussions focused mostly on the scope of support.

#### **4.6. Capacity-building**

Informal consultations took place in the SBI on matters regarding capacity-building under the Convention and under the Kyoto Protocol. The negotiations were mostly concerned with differing views between the Parties regarding the scale of the resources provided for capacity-building by developed countries. Despite wide differences in opinion at the outset, progress was made that culminated in the adoption of several conclusions. The Paris Committee on Capacity-building presented its annual technical progress report for 2017, noting significant progress.

#### **4.7. Transparency of Action and Support**

In Bonn, delegates continued discussion on the modalities, procedures and guidelines (MPGs) of the framework on the basis of a structure developed at the previous session. While some progress was made there was concern if the complex, technical negotiations could be completed in time. Should the Parties fail to reach agreement on common MPGs, there is a risk that the current differentiation between Annex I and II countries (cf. to Table 1) be prolonged, which incidentally is the official position of the LMDCs (Like Minded Developing Countries, cf. Table 2).

Under the Paris Agreement, an enhanced transparency framework for action and support (ETF) is being established (cf. chapter 3.7). In order to increase transparency, some of the reporting requirements are to be extended under the Paris Agreement compared to the reporting obligations under the Convention (cf. Table 1). See Figure 3 below for a comparison of the various reporting requirements.

Under the UNFCCC, all Parties are required to submit National Communications (NC), which give an overview of the Parties' national circumstances, greenhouse gas emissions, policies/measures, adaptation efforts and other climate-related topics. Developed country Parties submit National Communications every four years and from 2014 onwards, they are also required to submit Biennial Reports (BR), which allow for a more regular update of information. Developing country Parties provide so-called Biennial Update Reports (BUR). Developing countries are supported in the process of preparing their National Communications by the so-called Consultative Group of Experts on National Communications from Parties not included in Annex I to the Convention (CGE); whose mandate expires at the end of 2018 and will therefore be on the agenda of the next negotiations.

Figure 3: Topics covered by national reports under the Convention and under the Paris Agreement

	United Nations Framework Convention on Climate Change			Paris Agreement		
	National Communication	Biennial (Update) Report	National Inventory Report	Information on support	Information on NDCs	Adaptation Communication
National circumstances	X					
Greenhouse gas inventory	X	X	Annex I only			
Mitigation actions	X	X				
Projections	Annex I only	Annex I only				
Adaptation	X					X
Support (provided/mobilized)	Mandatory for Annex I	Annex I only		Mandatory for developed countries		
Support (needed/received)		Non-A. I only		Optional (developing countries only)		
Research/education	Mandatory for Annex I					

tbd ... details to be decided (negotiated under the APA).

Under the Convention, ‘Biennial Reports’ are requested from Annex I country Parties; ‘Biennial Update Reports’ are requested from non-Annex I countries.

**Source:** Decisions [4/CP.5](#), [2/CP.17 \(Annex I\)](#) and [24/CP.19](#) for Annex I country Parties; Decisions [17/CP.8](#) and [2/CP.17 \(Annex III\)](#) for non-Annex I countries; Article 13 of the Paris Agreement ([UNFCCC 2015](#)), authors’ views.

#### 4.8. Global Stocktake and Increasing Ambition

The APA continued its work on developing the modalities for the global stocktake (cf. chapter 3.8). Key elements of the informal consultations Bonn included the scope of the global stocktake (with developing countries wishing to see loss and damage included) and the integration of equity. Parties eventually agreed on building blocks for a draft decision.

The COP presidency conducted informal consultations in Bonn on the suggested design of the Talanoa Dialogue, laid out in Annex II of [Decision 1/CP.23](#). The roadmap of the Talanoa Dialogue consists of a ‘preparatory phase’, to start in January 2018 and to culminate in a ‘political phase’ at the COP 24. The Talanoa Dialogue is covered in detail in chapter 5.3.

#### 4.9. Other Negotiation Strands and Events

Box 10: Impact of the implementation of response measures

Measures in response to climate change have various economic and social side-effects. For example, a shift away from fossil fuels affects the economy of oil-exporting countries.

The COP in Paris initiated a work programme dedicated to this issue ([Decision 11/CP.21](#)). It currently addresses economic diversification and transformation, as well as a just transition of the workforce.

Decision 11/CP.21 also strengthened the ‘forum on the impact of the implementation of response measures’ ([UNFCCC 2017f](#)), which has been meeting regularly since 2011.

The impacts of the implementation of response measures are also mentioned in Article 4, paragraph 15 of the Paris Agreement – Parties shall take into consideration the concerns of Parties whose economies are most affected by these impacts – and the Decision accompanying the Paris Agreement specifies that the above-mentioned forum shall serve the Agreement.

The fact that this topic has been considered both under the Convention and under the Paris Agreement can be seen as a comprehensive, though rather unspecific response to a concern most prominently voiced by Saudi Arabia (cf. Table 2).

Discussions on the topic of response measures continued at COP 23 in Bonn in a controversial manner. Shortly before the closure of negotiations, limited procedural conclusions were adopted at the SBI and SBSTA for the work to be continued at SB 48 (cf. chapter 5.15.1.9 and 5.2.9).

#### 4.9.1. Enhanced action prior to 2020

The topic of pre-2020 action and ambition was discussed in a more controversial manner than other agenda items. Contrary to the spirit of the deal struck in Durban in 2011, many developing countries argued, pre-2020 ambition remains woefully inadequate, pushing it as ‘a matter of trust’ to the forefront of the agenda at the Bonn conference. Eventually, a number of concessions were made by developed countries. The COP Presidency and the UNFCCC Executive Secretary were requested to urge countries that have yet to do so to ratify the Doha Amendment (second commitment period of the Kyoto Protocol 2012-2020). The European Union has, in the meantime, deposited its’ instruments of ratification on 21 December 2017, shortly after Poland had signed the Doha Amendment as the last Member State still having to do so. In addition, the issue of pre-2020 action was included as an element to be considered as part of the Talanoa Dialogue and the format of the 2018 facilitative dialogue extended to convene a stocktake on pre-2020 implementation and ambition ([Decision 1/CP.23](#)).

#### 4.9.2. Gender Action Plan (GAP)

Women in developing countries are more vulnerable to the effects of climate change, due to limited access to coping strategies and cultural factors restricting their mobility. At the same time women in these countries play key roles in agriculture, forest economies, biodiversity and other sectors. Therefore, successful adaption programmes ought to be designed with a focus on gender equity ([UNEP 2011](#)).

The nexus between ‘gender and climate’ has been on the agenda of climate conferences since 2013, with discussions taking place under the SBI (cf. Table 1) and in-session workshops. A Gender Action Plan (GAP) has now been adopted ([Decision 3/CP.23](#)) under the Lima work programme on gender, to bolster the role of women in climate action. Its aim is to ensure that gender equity is integrated into all work under the climate convention and women and men are represented equally as a means to increase the UNFCCCs effectiveness ([UN WOMEN 2017](#)).

The GAP includes detailed information on activities, responsibilities, a timeframe and invites Parties to prepare submissions for in-session workshops throughout 2018.



#### 4.9.3. Local Communities and Indigenous Peoples Platform

The local communities and indigenous peoples platform was installed at the 2015 COP session in Paris, but – as is the case with many other topics – the details and procedures were left undefined. In Bonn, the operationalisation of the platform was initiated under the SBSTA ([Decision 2/CP.23](#)). As a first activity a multi-stakeholder process will be initiated to determine how best to implement the platform’s objectives. It was agreed that the next steps in the operationalisation, including the establishment of a facilitative working group would be considered at SBSTA 48 (cf. chapter 5.1).

## 5. PREPARATORY MEETINGS FOR COP 24

### 5.1. The meeting of the APA and the subsidiary bodies in Bonn (SB 48-1)

From 30 April to 10 May 2018, the Ad Hoc Working Group on the Paris Agreement and the subsidiary bodies under the Convention met in Bonn, Germany. Approximately 2 000 Party delegates plus almost 1 450 participants from observer organisations, i.e. NGOs, and media representatives were present during the negotiations under the 48<sup>th</sup> session of the SBI and SBSTA (cf. Table 1), and the fifth part of the first session of the APA (cf. chapter 3.11; [IISD 2018a](#), [Carbon Brief 2018a](#)).

Negotiations in Bonn focused on the modalities and rules for implementing the Paris Agreement Work Programme, sometimes also referred to as the ‘Paris Rulebook’ to be considered and adopted by the CMA at COP 24 in Katowice (cf. Box 7).

The 48<sup>th</sup> session in Bonn also marked the opening meeting of the Talanoa Dialogue. The open exchange of experiences between Parties and NGOs took place in seven informal groups on Sunday of the first week of the meeting. The Talanoa Dialogue is covered in detail in chapter 5.3.

Besides the technical aspects of the Paris Agreement, issues under the Convention and the Kyoto Protocol were negotiated under the SBI and SBSTA. In the following sections, the diverse negotiation topics of the Bonn conference are listed, structured once again according to the main topics of the Paris Agreement.

The full agendas of each negotiating body are available on the UNFCCC website ([UNFCCC 2018l](#)). A table listing the responsible bodies for each task under [Decision 1/CP.21](#), along with the progress of the negotiations, is provided in the ‘progress tracker’, a document updated regularly by the UNFCCC secretariat ([UNFCCC 2018m](#)).

During the negotiating session from 30 April to 10 May 2018 in Bonn, all items of the rulebook made progress. Parties converged towards an understanding of the structure and elements of the various guidance documents, but a considerable amount of work still lies ahead as details need to be elaborated and agreed before the deadline in December 2018. In total, the working texts of all items still comprise hundreds of pages. Under the guidance and responsibility of the APA Co-Chairs the Co-Facilitators of the different Paris Agreement Work Programme (PAWP, cf. Box 7) items were requested to prepare additional ‘tools’ that guide the process forward and should help Parties develop “an agreed basis for negotiations”. These iterations of the Co-Facilitators tools were released in the beginning of August ([UNFCCC 2018n](#); see Box 19 below, for details on the process of developing and finalising a negotiation text of the PAWP).

At the joint closing plenary many Parties, while recognising the progress made, emphasised that efforts must be intensified in the coming months. Due to increasing time pressure and owed to moderate progress, the Parties agreed on an additional negotiation session in Bangkok in September 2018 (see chapter 5.2). The session in Bonn was suspended, so that the SB 48 in Bonn became the first (48-1) and Bangkok the second (48-2) part of the 48<sup>th</sup> session.

#### 5.1.1. Mitigation

The APA continued its discussion on guidance for features of the Nationally Determined Contributions (NDCs), on appropriate information in order to facilitate the clarity, transparency and understanding of the NDCs, and on accounting of Parties’ NDCs. In contrast to previous meetings, the negotiations were constructive and the guidelines for NDCs have been considerably streamlined; however, certain political issues remain unresolved (differentiation and scope of NDCs) and will certainly be part of the final negotiation phase at COP 24.

With regard to common timeframes it was not possible to agree on some of the points discussed in an informal note. Only procedural conclusions could be drawn, but in the footnotes they refer to two conference room papers (CRPs), which attempt to document content-related convergence.

As in previous negotiation sessions, views diverged on the question of linkages of the NDC and the adaptation registry. Joint meetings were requested by some Parties in which the overlaps are to be discussed.

Negotiations on market-, as well as non-market-based mechanisms proved to be difficult, as procedural issues were the main topic of discussion. However, the SBSTA adopted conclusions on all three sub-items (cf. chapter 4.1) and agreed to continue discussion of those matters in Bangkok (see chapter 5.2.1).

In addition, a technical expert meeting (TEM) was held on “implementation of circular economies and industrial waste reuse and prevention solutions”.

### 5.1.2. Adaptation

The APA continued its work on further guidance in relation to the adaptation communication. On the basis of a G-77 proposal for a new structure, the Co-Facilitators have incorporated the elements of the informal note from COP 23 into this new structure, which is now divided into a draft decision text and two Annexes. The first Annex contains proposals for elements to be communicated. The second Annex entails guidance for NDCs, a concern of the Arab Group, which has a particular interest in communicating mitigation co-benefits. Negotiations in Bonn focused on the structure of this draft decision text and Parties were able to comment on this document and make suggestions for an improved structure.

Under the Convention, delegates discussed the Nairobi Work Programme (NWP – a mechanism for the dissemination of information on adaptation policies and practices) and National Adaptation Plans (NAPs, see Box 11). The SBSTA decided to take stock of the operational and institutional modalities of the NWP at SBSTA 56 (June 2022) with a view to assessing the performance and effectiveness of the NWP in providing the knowledge needed to implement the Paris Agreement; the modalities of this stocktaking will be defined at SBSTA 54 (May/June 2021).

#### Box 11: National Adaptation Plans (NAPs)

The National Adaptation Plan (NAP) process was established in 2010 under the Cancún Adaptation Framework ([Decision 1/CP.16](#)). It supports Parties in preparing and implementing National Adaptation Plans and in integrating adaptation into policies, programmes and activities. Initial guidelines for the formulation of NAPs were adopted at COP 17 in Durban ([Decision 5/CP.17](#)), outlining the following elements:

- Laying the groundwork and addressing gaps.
- Preparatory elements (e.g. design and development of plans, communication).
- Implementation strategies (e.g. strengthening institutional and regulatory frameworks, training and coordination).
- Reporting, monitoring and review.

In 2016, the Green Climate Fund (GCF, cf. Box 9) announced plans to provide financial support to developing countries for the preparation of National Adaptation Plans and for running the NAP process. Developing countries might receive up to USD 3 million to support the preparation of a National Adaptation Plan ([NAP Global Network 2016](#)).

With regard to the Adaptation Committee (AC) and the Least Developed Countries Expert Group (LEG), Parties could not make substantial progress how to address the joint AC/LEG mandates in collaboration with the Standing Committee on Finance (SCF) specified in paragraphs 41, 42 and 45 of [Decision 1/CP.21](#).

In addition, a technical expert meeting was held on “adaptation planning for vulnerable groups, communities, and ecosystems”.

### 5.1.3. Loss and damage

The topic of loss and damage is addressed by a dedicated article of the Paris Agreement, but there is no specific reporting obligation and the topic is not formally part of the rulebook talks. Therefore, various negotiation groups regularly bring up whether or not information on loss and damage should be included in:

- The adaptation communication (see chapter 5.1.2).
- The transparency framework (see chapter 5.1.7).
- Information provided for the global stocktake (see chapter 5.1.8).

At COP 23, the Parties agreed to hold the one-time Suva expert dialogue in May at SB 48, covering a wide range of relevant issues to prevent, minimise and address losses and damage. Mainly representatives of developing countries seized the opportunity to voice their views on the topic.

How to address loss and damage under the Paris Agreement is still an open question, which has to be decided by 2018.

### 5.1.4. Finance

The negotiations on financial issues, which were conducted in the APA as well as the subsidiary bodies, proved to be controversial, in particular with regard to the predictability of financial support by developed countries for climate-related measures in developing countries. Article 9 of the Paris Agreement requires developed country Parties, *inter alia*, to submit information on support for developing countries provided and mobilised through public interventions. The G-77 continues to make efforts to compare the results under Article 9.5 with those under Article 9.7 in the context of the transparency framework and emphasises the importance of the predictability of financing flows.

As requested by the COP in Marrakesh ([Decision 1/CMA.1](#)), the APA discussed the implementation of the Adaptation Fund under the Paris Agreement, in particular its governance and institutional arrangements, operating modalities and safeguards. As in the last negotiation sessions, the positions of the Parties were divergent and overall progress has been moderate.

The SBSTA discussed the modalities for the accounting of these financial resources. The negotiations brought little convergence, but rather focused on the exchange of already known positions.

Finance issues will be key issues in Bangkok and of eminent importance in the negotiations in Katowice at COP 24.

### 5.1.5. Technology development and transfer

Work on the technology framework under the Paris Agreement continued. Parties considered already a draft text of the technology framework produced by the SBSTA Chair as requested at SBSTA 47 in 2017. All Parties accepted the draft as a starting point for further discussions. Subsequently, the topics innovation, implementation, enabling environment, capacity building and support were discussed. Furthermore, the context of the technology framework with other PAWP topics was debated; in

particular with the global stocktake and the transparency framework as well as with the financing mechanism.

#### 5.1.6. Capacity-building

Capacity-building is a cross-cutting topic that is expected by developing countries to be enhanced significantly in order to facilitate implementation of the Paris Agreement.

During the May 2018 session in Bonn, the Paris Committee on Capacity-building (PCCB, cf. Box 4) held its second meeting. The PCCB agreed to continue with its current focus on capacity-building for the implementation of NDCs until 2019. Moreover, the seventh meeting of the Durban Forum on Capacity-building was convened.

#### 5.1.7. Transparency of action and support

Under the APA, delegates continued discussions on the elements of modalities, procedures and guidelines (MPGs) of the transparency framework on the basis of the informal note from the previous session. As the transparency framework includes a wide range of topics (from information on NDCs, adaptation communication to financial support) and three different processes (reporting, review and multilateral consideration, cf. Figure 2 in chapter 3.7), there is still a considerable amount of work to be accomplished by delegates before the specifics can be agreed for each of these processes.

For the Bonn session the Co-Facilitators have identified some priority topics which have been discussed one after the other. Although the Paris Agreement provides for flexibilities depending on a country's capacities, some developing countries called repeatedly for a more distinct differentiation between the obligations of developing and developed countries. Besides that, the APA convened for the first time a joint informal consultation session to discuss how to handle overlaps between the adaptation communication and the transparency framework at the Bonn session. Overall, the time available in the informal consultations was not sufficient to work through all the elements of the informal note; no informal informals (cf. Box 19) have taken place in Bonn and while some overall progress was made there was concern if the complex, technical negotiations could be completed in time.

As in Bonn in November 2017, information provided by developing countries was discussed during a 'facilitative sharing of views' (FSV) session ([UNFCCC 2018o](#), [UNFCCC 2018p](#)).

#### 5.1.8. Global stocktake and increasing ambition

The APA continued its discussion on the global stocktake (GST, cf. chapter 3.8). The main sticking points in this area are the question of how equity should be considered in the GST and the question of the scope of the GST. Several developing countries pointed out the importance of taking equity as well as loss and damage into account. Article 14 of the Paris Agreement does not list loss and damage as part of the global stocktake, but the consideration is a core requirement of many developing countries.

#### 5.1.9. Other Negotiation Strands and Events

No scheduled negotiations on **enhanced action prior to 2020** took place at the 48<sup>th</sup> session of the subsidiary bodies in Bonn.

Negotiators reached agreement under the SBI on a draft decision on **Action for Climate Empowerment**. This marks the first item of the Paris Agreement Work Programme to be agreed upon.

A decision on the **Koronivia Joint Work on Agriculture**, which includes a common roadmap to guide joint work on agriculture, has been adopted under the SBI and SBSTA.

Both the SBI and SBSTA discussed a mitigation-related topic: the impact of the implementation of **response measures** (cf. Box 10). During the Bonn conference, negotiations progressed slowly. It was agreed to conduct a one-day review of the work of the improved forum on response measures at SB 49 in Katowice. With regard to the modalities, work programme and functions under the Paris Agreement, procedural conclusion could only be drawn; work on this matter will continue at SB 48-2.

## 5.2. The meeting of the APA and the subsidiary bodies in Bangkok (SB 48-2)

From 4 to 9 September 2018, the Ad Hoc Working Group on the Paris Agreement and the subsidiary bodies under the Convention met in Bangkok, Thailand. In May 2018 at the regular subsidiary bodies meeting in Bonn, Parties had agreed to this additional meeting in Bangkok (see chapter 5.1) due to the approaching deadline for completing the Paris Agreement Work Programme. Approximately 1 250 Party delegates took part in the negotiations of the resumed second part of the 48<sup>th</sup> session under the SBI and SBSTA (cf. Table 1), and the sixth part of the first session of the APA (cf. chapter 3.11). Additionally nearly 400 participants from observer organisations, i.e. NGOs, and media representatives attended the conference ([IISD 2018b](#), [Carbon Brief 2018b](#)).

Negotiations in Bangkok solely focused on the modalities and rules for implementing the Paris Agreement Work Programme (PAWP, also known as the 'Paris Rulebook'; cf. Box 7), to be considered and adopted by the CMA at COP 24 in Katowice. Other issues under the Convention and the Kyoto Protocol were not negotiated under the SBI and SBSTA in Bangkok. In the following sections, the diverse negotiation topics of the Bangkok conference are listed, structured again according to the main topics of the Paris Agreement.

The full agendas of each negotiating body are available on the UNFCCC website ([UNFCCC 2018g](#)). A table listing the responsible bodies for each task under [Decision 1/CP.21](#), along with the progress of the negotiations, is provided in the 'progress tracker', a document updated regularly by the UNFCCC secretariat ([UNFCCC 2018m](#)).

In recognition of the importance of the various linkages between the different PAWP negotiation items, it was agreed in Bonn, that a **one-day round table** in the pre-sessional period directly before APA 1-6 would be held. The roundtable on 3 September 2018 consisted of seven sessions, each discussing specific interlinkages within the PAWP and how to manage them. The sessions were guided by framing questions for discussion by the Co-Chairs of the APA, SBSTA and SBI. These roundtable discussions, which took place before the official negotiations in Bangkok commenced, had the objective to "help in achieving a coherent, consistent PAWP outcome in Katowice through the improved understanding of substantive linkages and their implications across the various parts of the Paris Agreement Work Programme". The Roundtable brought a renewed clarification of Parties positions, whose key political points (e.g. finance) have not changed since the last meeting in Bonn ([UNFCCC 2018r](#)).

The main task for this negotiation session was to streamline the series of informal tools by the Co-Facilitators, develop them into a set of clear options and ideally end up with a draft negotiating text. However, this goal could not be reached across the board. Not all items of the rulebook were further advanced at the Bangkok session (see detailed chapters below); progress was rated uneven. Although, in several items Parties converged in their understanding of the structure and elements of the various guidance documents, a considerable amount of work still lies ahead as further details

need to be elaborated and agreed before the deadline in December 2018. Moreover, many issues require political guidance and decisions. It was not to be expected that key political issues were resolved at a technical session such as Bangkok. At the joint closing plenary many Parties, while recognising that progress has been made, emphasised that efforts must be intensified in the coming months. Observers agreed, that a radical change of pace will be required.

In total, the working texts of all items still comprise just over 300 pages after the Bangkok session ([UNFCCC 2018s](#)). The APA Co-Chairs have now been tasked by Parties to “prepare a joint reflections note addressing progress made to date and identifying ways forward, including textual proposals that would be helpful for advancing Parties’ deliberations” ([UNFCCC 2018t](#)). These new iterations of the Co-Facilitators tools were released as addenda to the joint informal note of the Co-Chairs shortly before the Pre-COP (cf. chapter 7.2) in mid-October ([UNFCCC 2018u](#); cf. Box 19, for details on the process of developing and finalising a negotiation text of the PAWP).

Due to increasing time pressure, the Parties agreed on opening the conference in Katowice on Sunday 2 December 2018, one day earlier than initially planned ([UNFCCC 2018v](#)).

### 5.2.1. Mitigation

At the beginning of the negotiations on this politically sensitive topic, the Co-Facilitators presented the goal for the APA 1-6 session to further develop the tool into an ‘agreed basis for negotiations’. Early at the session it was agreed to not only work on the structure of a future decision (LMDC), but also to discuss the contents of the tool (EU, EIG and AILAC). However, this agreement did not last long. The LMDCs and China wanted to anchor bifurcation more firmly in the structure of a possible decision, which would have led to rules on NDCs to be split into differentiated versions for developed and developing countries, instead of being common to all. However, this notion was opposed by developed countries including the EU and could not be accepted by the UG in particular. As a result of this dispute, little could be discussed about the contents of the mitigation item. In the end this led to a situation in which – despite intensive consultations – no substantial revision of the text by the Co-Facilitators was possible by the end of the conference.

With regard to the common timeframes item, a number of new options and variants were put forward by Parties. These include as to when these guidelines should be applied, which options for time frames are possible (i.e. 5 years, 10 years, a combination, only nationally determined or only for developed countries) and some other procedural issues. This time the topics discussed could be clustered in a list recorded by the Co-Facilitators.

A joint meeting of the NDC and the adaptation registry items took place in Bangkok after this has been requested by some Parties in May in Bonn. Overlaps were discussed, but as in previous negotiation sessions, views diverged. In lengthy discussions, three options were worked out and further discussion points were recorded.

In contrast good progress was made in Article 6 negotiations. These include market-, as well as non-market-based mechanisms (cf. chapter 3.1 and 4.1). Parties had substantive and constructive discussions on the revised informal notes, which made it possible to move texts towards a draft negotiating text. However, in the present text the positions of some Parties are still diametrically opposed and no options have been deleted from the informal note from May 2018.

### 5.2.2. Adaptation

All Parties agreed in the beginning of the Bangkok session to use the tool released in August 2018 as a starting point for the negotiations. In the course of two iterations of the text, all countries were able

to present their positions in more detail, but on some issues only little agreement between negotiating groups has been achieved so far. The LMDCs continue to argue that it is important to develop an additional Annex on NDC guidelines for adaptation communications. Some developed country Parties interpret this as an attempt to only have to report on adaptation measures. There is also still disagreement on issues like the communication of adaptation needs and the resulting support for adaptation efforts and how progress will be measured.

Despite a lack of advancement on the recommendations, as submitted by the Adaptation Committee (AC) and the Least Developed Countries Expert Group (LEG) by COP 23, during the last two sessions, considerable progress was made during the Bangkok session. Nonetheless, a number of significant sticking points linked to finance (facilitation of the mobilisation of support) remain.

### 5.2.3. Loss and damage

There is no specific reporting obligation on loss and damage and the topic is not formally part of the PAWP talks, but some developing country Party's brought up the connection in the negotiations of other items, i.e. the transparency framework (see chapter 5.2.7) or the global stocktake (see chapter 5.2.8). Furthermore, developing countries were seeking confirmation that CMA 1-3 will take up the topic of loss and damage.

### 5.2.4. Finance

The negotiations in Bangkok took place against the backdrop of the pending replenishment of the Green Climate Fund (GCF), an important instrument for providing climate finance.

The negotiations continued to discuss politically controversial issues such as modalities for ex-ante communication of climate finance by developed countries as well as a potential process to define a post-2025 funding target. The tool was only marginally revised, as there was no rapprochement between the groups on these issues. Developing countries have repeatedly stressed that progress on these two issues is a prerequisite for agreement on the PAWP as a whole. Such topics are difficult to resolve at technical sessions as in Bangkok, since they require political guidance and decisions.

Good progress has been made under the SBSTA on accounting modalities for financial resources provided and mobilised (Article 9.7). This item started with 60 pages of text and could be reduced to six pages by the end of the Bangkok session.

Delegates continued to discuss the implementation of the Adaptation Fund under the Paris Agreement, in particular those options that specify that the Fund will be embedded at a specific point in time (EU position), after a transition phase (EIG position) or a parallel continuation of the Fund under the Kyoto Protocol (AGN position). Overall, it was possible to successively further develop the text presented by the Co-Facilitators closer into draft text, which can be used for the negotiations at COP 24.

As to be expected from climate negotiations, finance issues will be key negotiation issues and of eminent importance at COP 24 in Katowice.

### 5.2.5. Technology development and transfer

Good progress has been made in Bangkok on the two technology development and transfer items. As mandated at SBSTA 48-1 the Co-Facilitators had produced an updated draft technology framework, which was considered by Parties at this session; on several elements of the framework, a common understanding could be found. Some of the key sticking points in the technology framework (*inter alia*, financial support, the database on available technologies, concrete



operationalisation) remained open. On the scope of and the modalities for the periodic assessment of the technology mechanism further progress has been made. Negotiations in Katowice will continue on the basis of draft decision texts for a CMA decision, which is already available for both items.

#### 5.2.6. Capacity-building

No informal consultations took place on matters regarding capacity-building at the Bangkok session in September 2018.

#### 5.2.7. Transparency of action and support

At the beginning of the Bangkok session delegates accepted the Co-Chairs' tool as a basis for further discussions, with the goal to develop the APA 5 tool into an 'agreed basis for negotiations'. A large number of informal consultations were set up for this purpose, in which the eight parts of the future modalities, procedures and guidelines (MPGs) were worked through. One difficulty posed the amount of text that had to be worked through, while at the same time ensuring that negotiations stayed focussed. That transparency is strongly linked to many other items in other negotiations rooms adds to the complexity. In that respect, the Co-Facilitators used the opportunity to convene many informal informals (cf. Box 19) to maximise the negotiation time for this item. They provided room for delegates to learn more about other Parties' positions, exchange views and concepts as well as expectations for the MPGs. The operationalisation of paragraph 98 of [Decision 1/CP.21](#), and how the current monitoring, reporting and verification (MRV) system is eventually superseded by the enhanced transparency framework (ETF) could not be discussed in the Bangkok session. The African Group, supported by other developing country Parties, has added references to Article 9.5, which deals with the future finance flow from developed countries to developing countries, among others also to the options being developed under the transparency framework. By many developed countries this connection is seen as beyond the discussions' mandate and the scope of the ETF, since it should guide national reporting from an ex-post perspective. One of the other predominant topics remains flexibility between developed and developing countries. After intensive discussion of all eight parts of the tool, the revised options were introduced into a new iteration of the tool running to 75 pages, which was accepted at the last informal consultation.

#### 5.2.8. Global stocktake and increasing ambition

The negotiations in Bangkok were conducted in a good atmosphere, as was the case in Bonn in May. The negotiating text on this subject was revised three times during the Bangkok session and good progress has been made in the design of the global stocktake. The main demand of the developing countries was and still is the consideration of loss and damage (mainly by the small island states) and response measures (by Saudi Arabia) as part of the global stocktake. However, these issues are not listed in Article 14 of the Paris Agreement. Another main demand of developing countries, most prominently voiced by India, concerns the issue of equity. These points will need to be resolved at political level in Katowice.

#### 5.2.9. Other Negotiation Strands and Events

Also good progress has been made on a mitigation-related topic: the impact of the implementation of **response measures** (cf. Box 10) which is discussed at both the SBI and SBSTA. Response measures were also topic of one roundtable session on 3 September 2018 (see chapter 5.2). During the negotiations in Bangkok, the informal document of the SBI and SBSTA Co-Chairs was further discussed. The G77 introduced several links between the forum and i.e. the transparency framework

and the global stocktake into the negotiating text. During the session the text was revised twice; its form and content is already close to an official negotiating text.

### 5.3. The Talanoa Dialogue

#### 5.3.1. Mandate, goal and design of the Talanoa Dialogue

The Talanoa Dialogue is the first step in an effort to bring global climate action in line with the goals of the Paris Agreement. Previously known as ‘Facilitative Dialogue’, the Talanoa Dialogue is designed to take-stock of collective efforts to reduce emissions and, ultimately, to help countries increase the ambition of the Nationally Determined Contributions (NDCs) by 2020. It is not to be confused with the ‘global stocktake’ (cf. chapter 3.8) starting in 2023. While the former will provide the basis for new and/or updated NDCs to be communicated by Parties by 2020, the latter is aimed at further increasing ambition under Article 14 of the Paris Agreement.

Box 12: What is Talanoa?

"Talanoa is a traditional word used in Fiji and across the Pacific to reflect a process of inclusive, participatory and transparent dialogue. The purpose of Talanoa is to share stories, build empathy and to make wise decisions for the collective good. The process of Talanoa involves the sharing of ideas, skills and experience through storytelling.

During the process, participants build trust and advance knowledge through empathy and understanding. Blaming others and making critical observations are inconsistent with building mutual trust and respect, and therefore inconsistent with the Talanoa concept. Talanoa fosters stability and inclusiveness in dialogue, by creating a safe space that embraces mutual respect for a platform for decision making for a greater good" ([UNFCCC 2018w](#)).

At the COP 21 in Paris, 2015, it was decided to convene a facilitative dialogue among Parties in 2018. The purpose of the dialogue was to “take stock of the collective efforts of Parties in relation to progress towards the long-term goal referred to in Article 4, paragraph 1, of the Agreement” and “to inform the preparation of nationally determined contributions” ([Decision 1/CP.21](#), paragraph 20).

The specific design of the process, henceforth called ‘Talanoa Dialogue’ was agreed two years later at COP 23 in Bonn 2017 under the Fijian Presidency ([Decision 1/CP.23](#), paragraphs 10-11 and Annex II).

The dialogue consists of a **preparatory phase**, which started in January 2018 to last throughout the year and a **political phase** to take place at COP 24 in Katowice with the participation of Ministers. It is structured around three guiding questions:

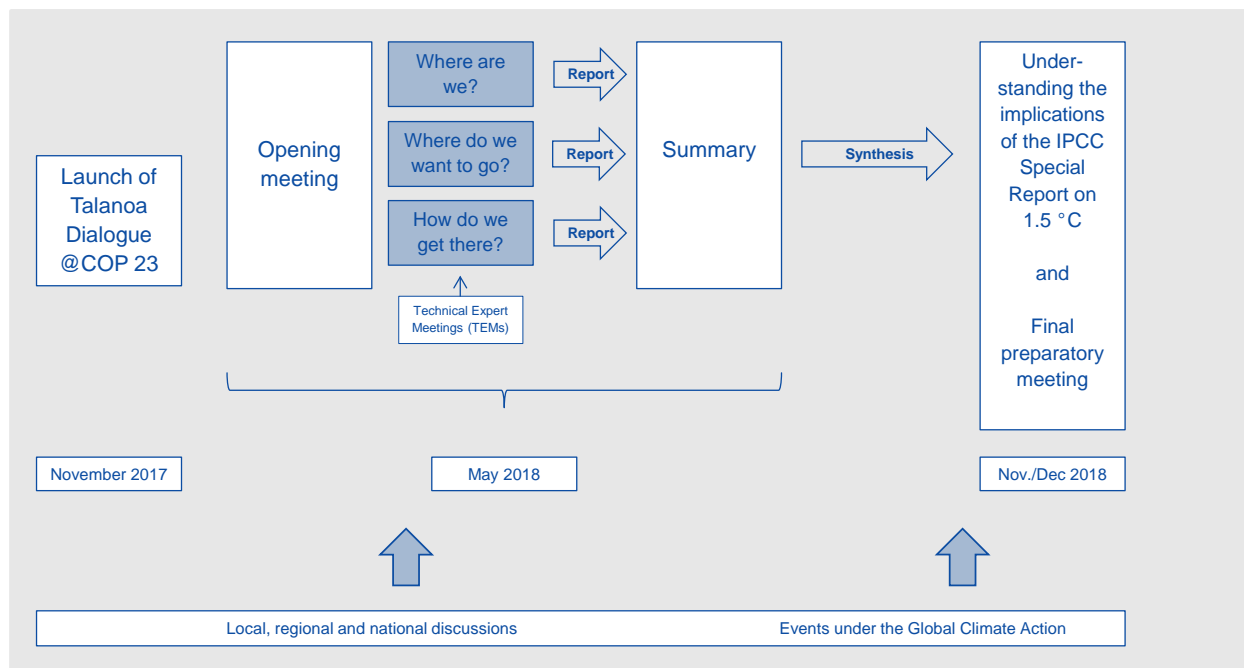
- Where are we?
- Where do we want to go?
- How do we get there?

The Special Report by the IPCC on global warming of 1.5 degrees C (cf. chapter 6.2.2) will inform the dialogue with a focus on an understanding of its implications ([Decision 1/CP.23](#), Annex II).

Submissions from Parties as well as non-Party stakeholders, including from expert organisations or even individuals are accepted as inputs into the dialogue. In order to inform the discussions during the May session (see chapter 5.1.8) inputs had to be submitted by 2 April 2018, inputs for the discussions in conjunction with COP 24 by 29 October 2018 ([UNFCCC 2018x](#)).

The incoming and outgoing Presidencies have prepared a summary note synthesising a total of 220 inputs received by the April deadline. Most of the contributions emphasise a need for more ambition and robust NDCs, for scaling up climate action before 2020 and the development of a strong Paris Rulebook. Financing is a recurring issue as are sound governance and investment frameworks to remove barriers and mobilise climate action at the national and sub-national level. Many inputs highlight the moral dimension of climate change, calling for “transitions and development paths that are just and inclusive, and consistent with human rights and equity” (ISD 2018f, UNFCCC 2018y).

Figure 4: Preparatory phase of the Talanoa Dialogue



Source: (Decision 1/CP.23, Annex II).

### 5.3.2. Outcomes of the first Talanoa Dialogue in Bonn (May 2018)

The first Talanoa Dialogue was held at the May session of the subsidiary bodies meeting in Bonn. During an opening session in the plenary on 2 May 2018, expectations of the dialogue were discussed and a panel discussion was held on the three guiding questions (see above).

On Sunday, 6 May 2018, Parties, joined by non-Party stakeholders, met in seven Talanoa groups ('Talanoas') in an informal setting. A total of 305 participants were invited to contribute to the in depth-conversation in the form of 'story sharing', followed by a report back session held by the incoming and outgoing Presidencies in the plenary two days later.

The first Talanoa Dialogue ended in a closing plenary session co-chaired by the incoming and outgoing Presidencies (UNFCCC 2018z). The discussions focused, *inter alia*, on Parties' expectations for the political phase of the dialogue to take place at COP 24. Arguably the most controversial intervention was made by the LMDCs demanding the deliberation of an additional fourth question – "How did we get here?" – to draw attention to the political responsibilities in relation to historical greenhouse gas emissions. The Fijian presidency dismissed this as not in line with the productive spirit of the Talanoa concept. AOSIS pointed out, that they saw the issue of climate finance as an integral part of the conversation about increasing ambition. For more details on groups of Parties cf. Table 2.

Overall delegates appreciated the “refreshing format” of the Talanoa Dialogue for allowing people to interact like “human beings”. However, many wondered how conclusions from over 700 stories told would translate into concrete climate ambition ([IISD 2018c](#)).

The outcomes of the May preparatory phase of the dialogue have been summarised by the Presidencies of COP 23 and 24 jointly in a synthesis report ([UNFCCC 2018z](#)).

Separate from the UNFCCC process, Parties and non-Party stakeholders were encouraged to join the Talanoa Dialogue by convening local and regional events. The number of Talanoa Dialogue events has been rising steadily throughout the year, with hundreds of, local, regional, national and multilateral events taking place world-wide ([UNFCCC 2018aa](#)).

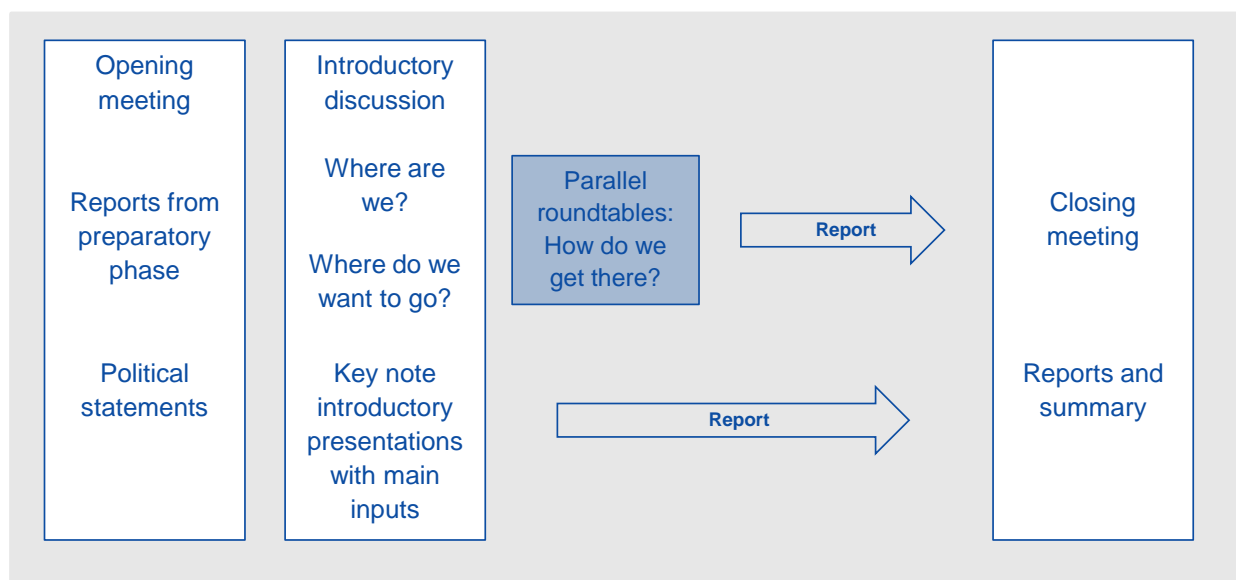
The European Commission hosted a Conference as part of the EU’s contribution to the Talanoa Dialogue on 13 June 2018 in Brussels. The ‘EU for Talanoa’ event brought together over 600 representatives from EU institutions, cities and regions, civil society, the private sector, trade unions and other relevant stakeholders from EU Member States as well as countries outside the EU. A detailed summary report of the conference has been published by the European Commission ([European Commission 2018a](#)).

### 5.3.3. The Talanoa at COP 24 – organisation and outlook

During the first week of COP 24, a plenary meeting will take place on 6 December to **wrap-up the preparatory phase** of the 2018 Talanoa Dialogue. The Presidency foresees “to include a space for considering the implications of the Special Report by the IPCC on global warming of 1.5°C” (SR1.5) as well as “for sharing any reflections on the preparatory phase” ([UNFCCC 2018ab](#)).

The **political phase** will begin with an opening meeting in a plenary setting on Tuesday, 11 December and include, *inter alia*, a presentation from the IPCC on SR1.5. It will be followed by a half-day set of high-level roundtables. In an effort to keep numbers small and discussions productive, participation will be restricted to ministers, who may be accompanied by one advisor and a limited number of invitees from non-Party stakeholders. The closing meeting of the political phase is scheduled for Wednesday, 12 December. Here, a summary report of the high-level roundtables will be presented, followed by interventions from Parties and observer constituencies ([UNFCCC 2018ab](#)).

Figure 5: Political phase of the Talanoa Dialogue



Source: (Decision 1/CP.23, Annex II).

In a guidance note, the Presidencies recall the objective of the Talanoa Dialogue, namely, “to take stock of the collective efforts” of Parties in relation to reaching the long-term goal of the Paris Agreement and inform the preparation of NDCs. All outputs of the dialogue will be captured in reports and summaries of the discussions (UNFCCC 2018ab).

The UNFCCC has held a detailed online pre-briefing on the organisation of the Talanoa at COP 24 on 28 September 2018. A recording of the webinar and presentations can be viewed on the Talanoa Dialogue Platform: <https://talanoadialogue.com/>

## 6. DEVELOPMENTS BEYOND THE UNFCCC NEGOTIATIONS: OTHER FORA, ORGANISATIONS AND SECTORAL AGREEMENTS

### 6.1. Groups of countries

Besides national governments and groups of Parties at UNFCCC negotiations, other groups of countries and regular meetings of countries exist, which may not necessarily be formally related to climate negotiations. Nevertheless, the positions of their members and the statements made at such meetings have a high political importance and may affect the general direction of climate negotiations. In this section, such groups of countries and high-level dialogues are described.

#### 6.1.1. The Group of Seven (G7)

The Group of Seven (G7) consists of the major developed countries France, Germany, Italy, Japan, the United Kingdom, the United States and Canada. The European Union also participates in G7 meetings, which are held as annual summits to discuss international political and economic issues. At the end of summits a communiqué, which is politically binding for all G7 members, about the issues and decisions taken at the summit is adopted and released ([Council of the European Union 2018b](#)).

Climate change was a main topic at the G7 summit in 2015 in Germany. The G7 heads of state affirmed their strong determination to adopt an ambitious agreement at the climate change conference in Paris later that year, while also naming the 2 degrees C goal as well as making mitigation commitments. Furthermore, the G7 underlined their commitment to climate finance and declared that a decarbonisation of the global economy was required over the course of the 21<sup>st</sup> century ([G7 2015](#)).

At the 42<sup>nd</sup> G7 summit in 2016 in Japan the G7 leaders announced their intent to take over the leadership in efforts towards an early entry into force of the Paris Agreement. Moreover, they committed themselves to the development and communication of long-term low greenhouse gas emission development strategies well before 2020. The G7 also stated that the need to focus on emissions from international aviation was crucial ([G7 2016](#)). The issues put forward for debate also included energy and its central role in the decarbonisation of the global economy. In this context the G7 renewed their commitment to eliminate inefficient fossil fuel subsidies and encouraged all countries to follow suit by the year 2025. This commitment was criticised for its lack of ambition and NGOs have urged the large countries to phase out subsidies for fossil fuels by 2020 ([The Washington Post 2016](#)).

In May 2017 at the 43<sup>rd</sup> summit in Italy the G7 leaders, except the USA, reaffirmed in their communiqué ([G7 2017](#)) their commitment to implementing the Paris Agreement swiftly, as stated at the G7 summit in 2016. Instead of the usual consensus statement, the communiqué noted that the United States of America was still in the process of considering its position on the Agreement and was not in a position to join the consensus. This marked the first time that the USA stood apart from the consensus on climate change related issues released in the final communiqué on G7 level. Apart from that, the summit focused on issues such as the global economy, foreign policy, the migration crisis as well as on reducing inequalities ([Council of the European Union 2017](#), [Climate Home 2017b](#)).

The 44<sup>th</sup> G7 summit from 8 to 9 June 2018 in Charlevoix, Canada was set against the backdrop of heightened tension between the USA and the other G7 members, following the decision of U.S. President Trump to impose import tariffs on steel and aluminium. One of the five themes set out as priority was “working together on climate change, oceans and clean energy”. All G7 members, except the USA, reaffirmed their strong commitment to implement the Paris Agreement as well as

highlighting, *inter alia*, the importance of a just transition and carbon pricing. The U.S. on the other hand captured its view in a separate paragraph of the communiqué and emphasise that “sustainable economic growth and development depends on universal access to affordable and reliable energy resources”, which also includes to help other countries with accessing and using “fossil fuels more cleanly and efficiently”. However, U.S. President Trump indicated his withdrawal of support for the communiqué after the closure of the summit on Twitter. No reference to the aforementioned G7 pledge of phasing out inefficient fossil fuel subsidies by 2025 has been made in this year’s communiqué. Other than that, the summit focused on other issues including the global economy and trade, security and foreign policy as well as gender equality ([G7 2018](#)).

### 6.1.2. Petersberg Climate Dialogue

The Petersberg Climate Dialogue is an informal meeting of ministers, chaired by Germany and the president of the upcoming COP, which has been taking place annually since 2010, when it was initiated at Petersberg near Bonn, Germany. It has since then provided an opportunity for Parties to exchange experiences about international climate policies in support of the UNFCCC negotiating process ([BMU 2018a](#)).

In 2016 Germany announced an initiative to support developing countries with the implementation of their NDCs, by offering guidance in their institutional and political landscape, on their sectoral approaches as well as on financing and transparency. This ‘NDC Partnership’ aims at accomplishing better harmonisation between various donor programmes and at combining existing climate and development goals ([BMU 2016](#)).

The eighth Petersberg Climate Dialogue in 2017 focused on how to push forward climate action in the context of domestic as well as international challenges, and on the importance of the development of long-term low-emission strategies. Participants reaffirmed their commitment to implementing the Paris Agreement. The U.S. reserved its position on the Co-Chairs’ document and its contents, because it was in the process of reviewing its climate change related policies ([BMU 2017](#), [IISD 2017c](#)).

At the ninth Petersberg Climate Dialogue in Berlin, Ministers and representatives from 35 countries met from 18 to 19 June 2018. The main outcomes of the meeting are summarised in the co-chairs’ conclusions ([BMU 2018b](#)). The central theme of this year’s meeting was “changing together for a just transition”. Other main issues discussed included the impacts of delaying ambitious climate action, climate finance and the Talanoa Dialogue. Furthermore, the tasks ahead of COP 24 and the completion of the Paris Agreement Work Programme were discussed. While progress in the negotiations was recognised, the need to step up the pace of negotiations in Bangkok (cf. chapter 5.2) was also emphasised.

### 6.1.3. The Group of Twenty (G20)

In the decades since the founding of the G7, the share of this group in the Gross Domestic Product (GDP) and in greenhouse gas emissions has decreased worldwide while the share of the large emerging countries has increased. Hence, the Group of Twenty (G20), which comprises 19 major developed and emerging countries plus the European Union, has been playing an increasingly important role. In addition to the members of the G7, Argentina, Australia, Brazil, China, India, Indonesia, the Republic of Korea, Mexico, the Russian Federation, Saudi Arabia, South Africa and Turkey are members of the G20. The group was founded in 1999 and has been meeting regularly since 2008. Its aim is to enable high-level discussions of policy issues, to strengthen policy

coordination as well as to promote international financial stability. Traditionally, issues at the centre of the discussions are global economic growth, international trade and financial markets.

In September 2016, one day before the G20 summit, China's President Xi Jinping and U.S. President Barack Obama deposited their instruments of ratification for the Paris Agreement with United Nations Secretary-General Ban Ki-moon ([The White House 2016](#)). This initiative was of exceptional significance for the process towards the entry into force of the Paris Agreement: The two largest emitters of greenhouse gases took the lead among the large economies in the ratification of the Agreement, calling for others to follow suit and causing a substantial leap upwards in the share of emissions covered by the ratifying Parties – which was then just 16% short of the threshold of the 55% required for the Agreement to enter into force. As of 5 November 2018 all G20 countries except the Russian Federation and Turkey have ratified the Paris Agreement.

After the announcement of U.S. President Trump to withdraw from the Paris Agreement, the U.S. did not support climate change related topics in the joint G20 leaders' declaration at the 12<sup>th</sup> G20 summit in Hamburg in July 2017. The other 19 countries declared that they considered the Paris Agreement to be irreversible and reasserted their commitment to it. In this context, the remaining 19 countries adopted the 'G20 Hamburg Climate and Energy Action Plan for Growth', in which they outlined their intentions to collaborate closely on, *inter alia*, the transformation of energy systems, climate resilience and adaptation, and on the alignment of finance flows ([G20 2017a](#), [G20 2017b](#), [G20 2017c](#)).

The 13<sup>th</sup> G20 summit will take place directly before COP 24, on 30 November and 1 December 2018 in Buenos Aires, Argentina (after the completion date of the present study). It will be the first-ever G20 summit to be hosted in South America. The future of work in times of technological change, infrastructure, sustainable food production and empowering women are set to be among the priority agenda items ([G20 2018](#)).

#### 6.1.4. The Major Economies Forum on Energy and Climate (MEF)

Besides the G20, an overlapping group of countries was founded in 2009 with a special focus on climate change – the Major Economies Forum on Energy and Climate (MEF). The MEF has 17 permanent participating economies and its aims are to

- “facilitate a candid dialogue among major developed and developing economies,
- help generate the political leadership necessary to achieve a successful outcome at the annual UN climate negotiations, and
- advance the exploration of concrete initiatives and joint ventures that increase the supply of clean energy while cutting greenhouse gas emissions” ([MEF 2016](#)).

The MEF was founded as an initiative of the Obama administration. As the Trump administration is significantly revising its climate change policies, no MEF activities have taken place or are currently planned.

## 6.2. Activities of the Intergovernmental Panel on Climate Change (IPCC)

### 6.2.1. Intergovernmental Panel on Climate Change (IPCC)

The Intergovernmental Panel on Climate Change (IPCC) is a scientific body established by the United Nations Environment Programme (UNEP) and the World Meteorological Organization (WMO) in 1988 to provide a scientific view on the current state of knowledge of climate change and its potential environmental and socio-economic impacts ([IPCC 2018a](#)). As an intergovernmental body, it is open to



195 member countries of the United Nations and the WMO. The Panel itself consists of representatives appointed by governments and holds plenary sessions usually once or twice a year.

The IPCC follows the aim to review and assess the most recent scientific information relevant to the understanding of climate change, but does not conduct its own research. Thousands of scientists from all over the world contribute to the work of the IPCC on a voluntary basis. Ensuring an objective and complete assessment of current information is an essential part of the IPCC process.

One of the main IPCC activities is the preparation of comprehensive ‘Assessment Reports’ which compile state-of-the-art scientific knowledge to provide a basis for discussions on adaptation and mitigation solutions under the UNFCCC. The assessment is aligned along three topics respectively shared among three Working Groups (see below).

Table 6: The IPCC’s Working Groups

Group	Topics assessed
<b>Working Group I</b>	Physical science aspects of the climate system and climate change
<b>Working Group II</b>	Vulnerability of socio-economic and natural systems to climate change, consequences of climate change, and options for adaptation
<b>Working Group III</b>	Options for mitigating climate change

Source: [IPCC 2018a](#), [IPCC 2018b](#).

Since its inception in 1988 the IPCC has prepared five multivolume Assessment Reports. The **Fifth Assessment Report** (AR5) was released first in September 2013, with the complete version of the Synthesis Report published in March 2015 ([IPCC 2015](#)). Key findings of the Synthesis Report are that the human influence on the climate system is clear, that continued emissions of greenhouse gases will cause further warming and long-lasting changes to all components of the climate system, and that adaptation and mitigation are complementary strategies for reducing and managing the risks of climate change. Over 830 scientists from more than 80 countries were selected to form the author teams producing the AR5. They, in turn, drew on the work of over 1 000 contributing authors and over 1 000 expert reviewers. The AR5 was based on the assessment of over 30 000 scientific papers.

The IPCC is currently in its **sixth assessment cycle** (which started in the year 2016), during which three Working Group contributions to the Sixth Assessment Report (AR6) are scheduled to be released throughout the year 2021, and a Synthesis Report to be completed in 2022 ([IPCC 2017a](#), [IPCC 2018c](#)). These reports will constitute a key input to the first global stocktake under the Paris Agreement (cf. chapter 3.8) which will take place in the year 2023. The IPCC also produces Special Reports on specific topics and Methodology Reports which mainly provide practical guidelines for the preparation of greenhouse gas inventories. Four of these reports are scheduled for publication during the sixth cycle; three special and one methodological report. From 1 to 5 May 2017 the scoping meeting for the AR6 took place in Addis Ababa. In September 2017 at its 46<sup>th</sup> session ([IISD 2017d](#)), the panel approved the draft chapter outlines for the three Working Group reports that, together with the synthesis report, will make up the Sixth Assessment Report.

In the Decision on the Paris Agreement ([Decision 1/CP.21](#)) the IPCC was invited to provide a **Special Report (SR1.5)** on the “impacts of global warming of 1.5 degrees C above pre-industrial levels and related global greenhouse gas emission pathways”. This report, which was approved at the 48<sup>th</sup> IPCC

meeting in October 2018, will feed into the final stages of the Talanoa Dialogue (cf. chapter 5.3) in late 2018 including at COP 24. It is discussed in detail (in chapter 6.2.2) below.

Two other Special Reports are currently under preparation, one about the Ocean and Cryosphere in a Changing Climate (**SROCC**) and the second one on Climate Change and Land (**SRCLL**), which will focus on “desertification, land degradation, sustainable land management, food security, and greenhouse gas fluxes in terrestrial ecosystems”. It is planned that these two reports will be finalised in September 2019 ([IPCC 2017a](#)). The outlines of both SROCC and SRCLL were discussed and approved at the 45<sup>th</sup> IPCC meeting ([IPCC 2017b](#), [IPCC 2017c](#)). The SROCC will, *inter alia*, contain chapters on High Mountain Areas, Polar Regions, Sea Level Rise and Implications for Low Lying Islands, Coasts and Communities and Changing Ocean, Marine Ecosystems and Dependent Communities. The SRCLL on the other hand will, *inter alia*, contain chapters on Land–Climate interactions, Desertification, Land Degradation, Food Security and interlinkages between these phenomena. Once the author teams have been selected, they will meet several times over the course of three years to work on their respective special reports ([IPCC 2017c](#)).

In May 2019 a **methodology report** entitled ‘2019 Refinement to the 2006 IPCC Guidelines for National Greenhouse Gas Inventories’ is expected to be published. Such guidelines are to be used by Parties to prepare their greenhouse gas emission inventories. The scoping meeting for this methodological report was held in August 2016 and the outline was approved in October 2016 at the 44<sup>th</sup> IPCC meeting. The report will consist of a revision of specific sections of the 2006 National Greenhouse Gas Inventory Guidelines, in the form of an update, an elaboration, or new guidance. This report will be important for tracking progress under the Paris Agreement, as its methods are intended to be used by Parties for preparing their national emission inventories. Changes in these methods, and changes to emission factors used by countries to calculate their emissions can have impacts on their reported GHG emissions ([IPCC 2016](#), [IISD 2016b](#)).

The IPCC usually holds two **meetings** per year, where the numerous tasks and activities of the Panel are discussed and decided. These sessions typically bring together around 300 participants from over 100 countries.

An important topic of the **43<sup>rd</sup> IPCC meeting** in 2016 (and of other IPCC meetings in the past) was how to place a stronger focus on regional aspects in the AR6, without preparing a Special Report solely on this topic. It is a long-standing goal of the IPCC to increase the participation of scientists from developing countries while also including areas which are currently underrepresented with regard to the availability of scientific literature ([IISD 2016c](#)). Furthermore, the IPCC decided to prepare a Special Report on cities within the seventh Assessment Report cycle.

Box 12: Alignment of the cycles of the IPCC and the global stocktake

Strategic planning and possibilities for better **alignment of the work of the IPCC with that of the UNFCCC**, especially of the Paris Agreement’s global stocktake cycle (cf. chapter 3.8) with the Assessment Report cycles, was also discussed at the 43<sup>rd</sup> IPCC meeting. The IPCC secretariat was asked to draw up possible suggestions on how this could be achieved and to submit its proposals on this issue in 2017 when the rules of procedure were to be reviewed. During its 45<sup>th</sup> session the secretariat announced it was preparing its proposals for consideration at the 46<sup>th</sup> meeting where a task force was set up for the purpose. Terms of reference for the group were agreed at the following IPCC-47 ([IISD 2016b](#), [IISD 2016c](#), [IISD 2017e](#), [IISD 2018d](#)).

The **44<sup>th</sup> session** was held in October 2016 in Bangkok. Besides the decisions on the outlines of the SR1.5 as well as of the methodology report, strategic planning and procedural matters were important topics. Arrangements were made, *inter alia*, on the IPCC Trust Fund programme and budget, the Expert Meeting on Mitigation, Sustainability and Climate Stabilisation Scenarios, and the future of the Task Group on Data and Scenario Support for Impact and Climate Analysis ([IISD 2016b](#)).

In March 2017 the **45<sup>th</sup> IPCC plenary meeting** took place in Guadalajara. While the panel discussed and decided on a multitude of topics and issues, the outlines of the SROCC and SRCCL were at the heart of this meeting. Apart from that, decisions were made on the budgets for the years 2017 through to 2020 and on resource mobilisation.

Additionally, it was decided to create an Ad Hoc Task Group on Financial Stability. The finance focus can be explained by a decline in contributions to the IPCC since 2008 both in terms of the amount of funds and the number of funders, and the uncertainty triggered by announcements of the Trump Administration to cut or suspend funding for international climate processes. The United States had been the biggest national contributor to the IPCC providing 45% of the organisation's funds in 2016 and six times more than the second highest contributor ([IISD 2017e](#)).

The Panel is continually working on improving the **communication and outreach strategy** of its Assessment Reports, a topic which has appeared regularly on the agenda of the last IPCC meetings.

The **46<sup>th</sup> IPCC plenary meeting** was held in Montreal from 6 to 10 September 2017 ([IISD 2017d](#), [IPCC 2017d](#)). Apart from the approved outlines for the three Working Group contributions to the 6<sup>th</sup> Assessment Report, the IPCC's budget was an important item on the agenda of the meeting, after the U.S. confirmed its intention to end their IPCC contribution. Various funding options were discussed and the mandate of the Ad Hoc Task Group on Financial Stability was extended. Furthermore, the IPCC agreed to establish a task group for better alignment of the IPCC cycles and the global stocktake under the UNFCCC.

The following IPCC plenary meeting was held in Paris from 13 to 16 March 2018 ([IISD 2018a](#)). This **47<sup>th</sup> session** marked the 30<sup>th</sup> anniversary of the IPCC. The panel extended the mandate of the Ad Hoc Task Group on Financial Stability for another year, to hear the Group's report at the upcoming 48<sup>th</sup> session. The IPCC, *inter alia*, established a task group on gender and agreed on terms of reference for the task group set up at the previous meeting to better align work of the IPCC with the cycle of the global stocktake (see Box 12). The gap in finance resulting from the changed policy of the U.S. has been successfully addressed by other countries, among them the EU and its member states.

The most recent and, according to the IPCC Chair Hoesung Lee, "most important meeting in the history of the IPCC" ([IISD 2018e](#)) convened from 1 to 6 October 2018 in Incheon, Republic of Korea. On Saturday afternoon, closing day of the **48<sup>th</sup> session** delegates adopted the Summary for Policymakers (SPM) and approved the underlying assessment of the Special Report on Global Warming of 1.5 degrees C (SR1.5) which the IPCC had been invited to produce as part of the decision to adopt the Paris Agreement ([Decision 1/CP.21](#)). For more details on SR1.5 see chapter 6.2.2 below.

The next meeting (IPCC-49) will convene in May 2019 in Kyoto, Japan to approve the Methodology Report to refine the 2006 IPCC Guidelines (see above).

### 6.2.2. IPCC Special Report on Global Warming of 1.5 degrees C

"Limiting warming to 1.5°C is possible within the laws of chemistry and physics but doing so would require unprecedented changes," summarised IPCC working group III Co-Chair Jim Skea the essence of the long-awaited IPCC Special Report on Global Warming of 1.5 degrees C ([IPCC 2018d](#)), approved

at IPCC-48 on 6 October 2018 in Incheon, Republic of Korea ([Climate Home 2018a](#)). As with the IPCC Assessment Reports, a Summary for Policymakers was drafted and approved line-by-line at the first session of Working Groups I, II and III of the IPCC. Published two days after its adoption on 8 October, the Special Report presents the most up-to date and comprehensive science behind climate change as well as the most extensive warning thus far of the risks of rising global temperatures.

The report, known as SR1.5, has been prepared in response to a request by the UNFCCC ([Decision 1/CP.21](#)) to account for the newly adopted more ambitious temperature goal as part of the Paris Agreement. It will provide the key scientific input into the Katowice Climate Change Conference in December. The report validates concerns that limiting global warming at 2 degrees C rather than 1.5 degrees C above pre-industrial levels will entail substantial additional impacts on ecosystems and humanity's safety and well-being. While the report concludes that staying within 1.5 degrees C is still possible, authors stress that it would require "rapid and far-reaching" transitions in all sectors of the global economy. Global net CO<sub>2</sub>-emissions would need to fall by about 45 percent from 2010 levels by 2030 and reach 'net zero' around 2050 ([IPCC 2018e](#)).

Ninety-one lead authors from forty countries, 133 contributing authors and more than 1 000 reviewers drew from over 6 000 scientific studies to draft the report. For the first time since the inception of the IPCC, all three Working Groups (see Table 6) have collaborated on a single report, transcending scientific disciplinary boundaries and completing the work on a very compressed timescale to arrive in time for this December's Talanoa Dialogue (cf. chapter 5.3) at COP 24 ([IPCC 2018f](#)).

The report's full name is: *Global Warming of 1.5 degrees C, an IPCC special report on the impacts of global warming of 1.5 degrees C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.*

The structure of the report follows the four subsequent sections:

- **Understanding Global Warming of 1.5 degrees C**
- Projected Climate Change, Potential **Impacts and Associated Risks**
- **Emission Pathways** and System Transitions Consistent with 1.5 degrees C Global Warming
- **Strengthening the Global Response** in the context of Sustainable Development and Efforts to Eradicate Poverty

Box 13: Key messages from the Special Report

The world has already warmed by approximately 1 degree C and, if global warming continues at the current rate, will likely reach 1.5 degrees C between 2030 and 2052.

Existing national climate pledges under the Paris Agreement would lead to a 3 degree C temperature rise by the end of the century.

Impacts of global warming of 1.5 degrees C will be dire, including reaching critical ocean ecosystem thresholds and losing 70 to 90% of coral reefs.

The difference in impact between 1.5 and 2 degrees C is critical to thousands of species' survival as well as to millions of peoples' homes, lives and health.

Impacts in a 2 degrees C warming scenario compared to 1.5 degrees C would mean:

- twice as many land species forced out of their climatic range;
- the loss of virtually all coral reefs and up to two million square kilometres more of

permafrost;

- an increase of an additional 0.1 m global mean sea level, ice-free Arctic approximately once per decade (as opposed once per century); and
- twice as many people exposed to water stress and several hundred million more exposed to climate-related risks like extreme heat and flooding and susceptible to poverty.

All 1.5 degrees-compatible reduction pathways require a radical reduction in CO<sub>2</sub> emissions, starting immediately. By 2030, global CO<sub>2</sub> emissions would need to drop by 45% from 2010 levels and reach net zero by 2050.

All emission pathways that limit global warming to 1.5 degrees contain some form of carbon dioxide removal (CDR, see Box 14) or ‘negative emissions’ in the order of 100 to 1 000 gigatonne (Gt) CO<sub>2</sub> equivalent.

All but one emission pathway allow for a temporary rise above 1.5 degrees C (‘overshoot’) before returning to it through increased use of negative emissions or some form of geo-engineering (see Box 14).

Carbon removal measures include uncertain and not yet mature technologies, as well as require land use changes at an unprecedented scale.

Steep near-term emission reductions, lowering energy and land demand through widespread behavioural changes reduce the reliance on carbon removal.

Limiting global warming to 1.5 degrees C would help to achieve the Sustainable Development Goals in areas like human health or energy access, and to alleviate poverty.

**Source:** [IPCC 2018e](#), [IPCC 2018d](#).

As in previous IPCC Assessment Reports, the level of scientific confidence is indicated in brackets behind each of the report’s statements. Importantly, authors have, on the whole, only included knowledge that they are certain of. ‘Very high confidence’ appears seven times in the Summary for Policymakers; ‘high confidence’ 107 times, ‘medium confidence’ 60 times and ‘low confidence’ only twice ([IPCC 2018e](#)). This somewhat cautious approach has a long tradition in (climate) science and is intended to guard off against claims of hysteria or fear-mongering. However, some scientists worry that this approach may lead to an underestimation of the actual threat posed by rising global temperatures. Some researchers have also criticised SR1.5 for understating threats by failing to include important risks such as self-reinforcing feedbacks and tipping points ([Molina et al. 2018](#)).

Some of the SR1.5’s perceived lack of poignancy can be attributed to the substantial political sensitivities surrounding the 1.5 degrees C target and the inevitably radically different conclusions for countries’ development pathways. As some IPCC members pointed out, coming to an agreement on the Summary for Policymakers required an “unusual” amount of diplomatic effort. For example, Saudi Arabia and others insisted on including a cost estimation of the difference in abatement costs between the 2 degrees C or 1.5 degrees C targets, making the latter look quite expensive. At the same time, the country objected to including a reference to the NDCs inadequacy of reaching the goals of the Paris Agreement or, indeed, any reference to the Paris Agreement at all ([IISD 2018e](#)).

The SR1.5 is critically important for this year’s UNFCCC process. The COP 24 is expected to focus on taking stock of climate pledges and preparing for the process of ratcheting up ambition over time, through this year’s Talanoa Dialogue. The SR1.5 provides the key scientific input for this important discussion. It finds that emissions resulting from the current NDCs in 2030 (of about 52-58 GtCO<sub>2</sub>)

would be twice as high as in 1.5 degrees C pathways. Almost all pathways require emissions to fall below 35 Gt CO<sub>2</sub>/year by then or to a reduction of 45% compared to 2010.

The EU's current aim of reducing emissions by 40% compared to 1990 levels amounts to a cut of around 30% to 2010 levels ([Climate Home 2018a](#)). Recognizing that this ambition level "does not yet make a sufficient contribution to attaining the goals of the Paris Agreement", the European Parliament decided in its COP 24 Resolution that the EU should increase its greenhouse gas reduction target to "at least 45%" by 2030. The Resolution which has been adopted in the Plenary of the European Parliament on 25 October 2018 further urges the EU to revisit its Nationally Determined Contribution by 2020, as part of the Talanoa Dialogue, as "the current NDC is not in line with the goals set out in the Paris Agreement". Lawmakers also agreed that the European Commission, which is currently working on a long-term emission strategy should include an option of a net zero emission pathway by 2050 "at the latest" in the said strategy ([European Parliament 2018](#)). A European Commission spokesperson confirmed that SR1.5 will inform the decision on targets in the long term strategy, a first draft of which will be proposed in November, after the completion date of the present study ([Climate Home 2018b](#)).

In Council Conclusions adopted on 9 October 2018 the Environment Ministers also reacted to SR1.5, acknowledging that "collectively, NDCs submitted by Parties and current emissions trajectories fall far short of what is required to achieve the long-term Paris goals" and agreeing that "the EU is ready [...] to communicate or update" its NDC by 2020 ([Council of the European Union 2018a](#)).

With SR1.5 the world's leading scientific authority on climate change has delivered a clear message on the vital importance of limiting global warming to below 1.5 degrees and warned that only "immediate and pervasive course change on an unprecedented scale" will allow us to achieve this goal ([IISD 2018d](#)).

The reception of the report at the climate change conference in Katowice will provide a first indication of whether or not the world has heard the warning signal or as Jim Skea, one of the Co-Chairs, has put it in a message to governments: "We've told you the scientific facts, the evidence, the cost, it is up to the governments now to decide what to do with it" ([Climate Home 2018c](#)).

Box 14: Negative emissions and geo-engineering to stay within the 1.5 limit?

The findings in the SR1.5 confirm scientists' expectations that, for the world to stay within the 1.5 degrees C limit, some of the CO<sub>2</sub> that has already been emitted will later need to be sucked from the atmosphere. Depending on how fast and how steep emission reductions will happen, the amount of CO<sub>2</sub> to be removed will be between 100 and 1 000 GtCO<sub>2</sub> according to the SR1.5.

Plant photosynthesis and dissolution of CO<sub>2</sub> in water remove CO<sub>2</sub> from the atmosphere and these natural processes have restricted increases in atmospheric CO<sub>2</sub> concentrations to some extent. According to recent estimates for 2005 - 2014 ([Le Quéré et al. 2015](#)), the ocean and terrestrial biosphere C sinks sequester ca. 9.5 and 11 Gt CO<sub>2</sub> per year, respectively.

In order to remove CO<sub>2</sub> from the atmosphere on a larger scale, **geo-engineering** methods are being discussed, i.e. "methods and technologies operating on a large scale that aim to deliberately alter the climate system in order to alleviate the impacts of climate change" ([IPCC 2015](#)).

Geo-engineering methods that capture CO<sub>2</sub> are known as **Carbon Dioxide Removal (CDR)** or 'negative emission technologies'. The basic approach is Carbon Capture and Storage (CCS), in which CO<sub>2</sub> is separated from industrial and energy-related sources, transported to a storage location and isolated from the atmosphere in the long-term ([IPCC 2005](#)).

'Bioenergy with carbon capture and storage' (BECCS) is an extension of this approach. Vegetation is used to remove CO<sub>2</sub> from the atmosphere, the resulting biomass is combusted for energy use and the generated CO<sub>2</sub> is captured and stored.

Other approaches to capturing CO<sub>2</sub> include enhanced weathering, mineralisation of CO<sub>2</sub> in basaltic rock, the burning of biomass to produce char, which is added to soils and retains carbon for long periods of time, or direct capture of CO<sub>2</sub> from the atmosphere, using adsorption. Injecting nutrients into the ocean to stimulate the uptake of CO<sub>2</sub> by algae has also been suggested ([Carbon Brief 2016a](#)).

However, such 'negative emission technologies' are associated with a number of problems. Besides the high costs of implementation, the storage of large amounts of CO<sub>2</sub> is associated with risks of leakages. A large-scale transition to land use for biomass production would involve competition over land use, including agriculture, and some techniques are associated with negative effects on land or ocean ecosystems ([IPCC 2015](#)).

Since it is still open whether it will be technically and economically feasible to achieve CO<sub>2</sub> removal on the required scale in the second half of the century, research has been conducted into other geo-engineering techniques, in particular into altering the temperature balance of the atmosphere. **Solar Radiation Management (SRM)** aims at reducing the radiation captured by the earth's surface and atmosphere, thus counterbalancing the increased greenhouse effect of anthropogenic greenhouse gases.

Solar radiation management techniques such as the injection of aerosols into the atmosphere do not only affect the radiation balance. They may also affect atmospheric chemistry and rain patterns. In addition, such techniques do not address the root causes of climate change and other negative effects of high atmospheric CO<sub>2</sub> concentrations would persist, including ocean acidification and changes to ecosystems ([IPCC 2015](#)).

The main difference between CO<sub>2</sub> removal and solar radiation management is that the latter has to be done continuously and over time periods of centuries to millennia. If solar radiation management ceases as a result of economic or political crises, the result would be a rapid increase in global temperatures, due to the greenhouse gases still being in the atmosphere. Hence, reliable CO<sub>2</sub> removal would be less risky – but the aforementioned risks would still be there. If geo-engineering technologies are not deployed at the levels assumed or if they are unsuccessful, the world would be locked into a high-temperature pathway ([Anderson and Peters 2016](#)).

While all model emission pathways in the IPCC SR1.5 include some form of carbon dioxide removal, the reliance on solar radiation management is discouraged. Albeit granting, this technology could be "theoretically effective" in limiting global warming to 1.5 degrees C, it is excluded from the model scenarios due to "large uncertainties", "knowledge gaps", "substantial risks" and "institutional and social constraints" ([IPCC 2018e](#)).

Consequently, the SR1.5 stresses that reducing emissions in the near-term minimises the need for carbon removal.

### 6.3. Other sectoral agreements

The Paris Agreement requires all Parties to contribute to reaching its ambitious temperature and emission goals. However, two important sectors are not directly covered by the Agreement – international aviation and international maritime transport. Both sectors contribute a considerable and rapidly rising share to global greenhouse gas emissions and, unabated, could contribute up to

40% of global CO<sub>2</sub> emissions by 2050 ([EEA 2018](#)). Hence, action in these areas is critical, in particular for reaching the long-term goal of achieving a balance between emissions by sources and removals by sinks (cf. chapter 3.1). The UN bodies governing these sectors are the International Civil Aviation Organization (ICAO, see Box 16) and the International Maritime Organization (IMO, see Box 18). The adoption of the Kigali Amendment (see Box 15 below) in 2016 marked a breakthrough in addressing another potent source of greenhouse gases that are not directly covered by the UNFCCC.

Box 15: The Kigali Amendment to the Montreal Protocol

In October 2016, an agreement was reached in another area that is highly relevant for limiting climate change: the global phasing down of certain fluorinated gases, which increasingly contribute to worldwide greenhouse gas emissions.

Fluorinated gases were originally introduced as a replacement for ozone depleting substances (ODS), used in refrigeration and air-condition, after the phase-out of those had been agreed in the UNEP Montreal Protocol ([UNEP 2018a](#)) in 1987. Hydrofluorocarbons (HFCs), a sub-group of fluorinated gases do not deplete the ozone layer but they are potent greenhouse gases.

On 15 October 2016, at the 28<sup>th</sup> Meeting of the Parties to the Montreal Protocol, which took place in Kigali, Rwanda, delegates adopted an amendment to the Protocol, which commits all Parties to a stepwise phase-down of the use of HFCs ([IISD 2016d](#)). The adoption of the Kigali Amendment was hailed as a milestone in climate change mitigation, estimating that the phase-down of HFCs can avoid up to 0.5 degrees C of global warming by the end of the 21<sup>st</sup> century ([Climate Home 2016a](#)).

Current estimates suggest that Refrigeration, Air Conditioning equipment and Heat Pumps (RACHP) represent between 25% and 30% of the global consumption of electricity. This number is projected to increase with rising temperatures and increasing wealth. Consequently, energy efficiency is one key aspect for this sector ([UNEP 2018b](#)). The consolidated text of the Montreal Protocol, including the Kigali Amendment, is available on the website of the UNEP Ozone Secretariat ([UNEP 2018a](#)). For more information on fluorinated gases and the Kigali Amendment refer to last year's study ahead of COP 23 '[Implementing the Paris Agreement](#)'.

It should be noted that comprehensive policies and measures already exist on the European Union level in these sectors. An overview of the key policies is given in Table 7 below.

Table 7: Main policies and measures on the EU level, relating to international transport and fluorinated gases

Sector	Main policies and measures
<p><b>International aviation</b> (see chapter 6.3.1)</p>	<p>Since 2012 aviation is covered by the EU Emissions Trading System (ETS, <a href="#">Directive 2009/29/EC</a>). This includes all flights within the European Economic Area (EEA). However, in 2013 the ETS was suspended for flights to and from other countries (<a href="#">Decision No 377/2013/EU</a>). In light of the outcome of the CORSIA scheme (see chapter 6.3.2), the European Parliament and the Council in December 2017 decided to prolong the derogation of non-EEA flights until 31 December 2023 (<a href="#">Regulation (EU) 2017/2392</a>). The Regulation also establishes provisions for the implementation of CORSIA in the EU and foresees to apply a linear reduction factor to the aviation sector from 2021 onwards.</p>



<b>International shipping</b> (see chapter 6.3.3)	As a step towards a global market-based mechanism, a Regulation was adopted on the monitoring, reporting and verification (MRV) of CO <sub>2</sub> emissions from maritime transport ( <a href="#">Regulation (EU) 2015/757</a> ). Large ships (over 5 000 gross tonnes) calling at EU ports are required to collect and later publish verified annual CO <sub>2</sub> emission data and other relevant information.
<b>Fluorinated gases</b> (see Box 15)	A Regulation ( <a href="#">Regulation (EU) No 517/2014</a> ) is in place which, <i>inter alia</i> , limits and gradually reduces the placing on the market of hydrofluorocarbons (HFCs) by 79% (to be achieved by 2030).

**Source:** Directive, Decision and Regulations as referenced above.

The following sections give an overview of agreements and new developments on international aviation and international maritime transport.

### 6.3.1. International aviation

Between 1990 and 2015, CO<sub>2</sub> emissions from international aviation increased by approx. 105% ([IEA 2017](#)) from 259 to 530 million tons and by more than 10% in the last year alone (2014 to 2015; [IEA 2016](#)). Emissions from civil aviation (domestic and international) accounted for approx. 859 million tons CO<sub>2</sub> in 2017, which is over 2% of global CO<sub>2</sub> emissions ([IATA 2018](#)). However, the impact of aviation's emissions might be significantly higher, as other factors related to high-altitude air travel (like non-CO<sub>2</sub> emissions, impacts on the composition of the atmosphere and on solar radiation) are believed to amplify the climate effect. What is even more important is that emissions from international aviation are projected to increase and could consume a significant amount of the carbon budget available by 2050 to hold temperature increase below 1.5 degrees C even when taking technological and operational improvements into account ([Carbon Brief 2016b](#)). Such a continued increase is in strong disagreement with the goals of the Paris Agreement – which aim for global peaking of greenhouse gas emissions as soon as possible and for achieving a balance between anthropogenic emissions by sources and removals by sinks in the second half of the century. Therefore, measures to mitigate greenhouse gas emissions from international aviation have been called for, and the European Parliament highlighted the need for international aviation to contribute to achieving the goals of the Paris Agreement ([Erbach 2018](#)).

Box 16: The International Civil Aviation Organization (ICAO)

The International Civil Aviation Organization (ICAO), founded in 1944, is a specialised agency of the United Nations based in Montreal. Currently the ICAO has 192 Member States. Its objective is to serve as the global forum of states for international civil aviation. It develops international standards and recommends practices in the area of aviation ([ICAO 2018a](#)).

The ICAO's permanent body, the Council, is composed of 36 Member State representatives elected by the Assembly every three years. It is split into three 'parts' (or clusters): firstly, states of chief importance in air transport; secondly, states which make the largest contribution to the provision of facilities for international civil air navigation; and thirdly, states that ensure geographic representation in the Council ([ICAO 2018b](#)).

After the adoption of the Paris Agreement in December 2015, the ICAO stated the fact that greenhouse gas emissions from international aviation were not included in the Agreement would "reinforce confidence" in ICAO's own achievements in combating climate change ([ICAO 2016](#)). ICAO's 2016 Environmental Report ([ICAO 2017](#)) gives an overview of available mitigation options,

including aircraft technology, operational improvement, market-based measures and alternative fuels, as well as discussing climate change adaptation and resilience in the context of the aviation industry. The Global Market-Based Measure (GMBM) adopted at the 39<sup>th</sup> ICAO assembly in October 2016, as well as the projected large emission increase in the aviation sector are discussed in detail below.

Besides the activities with regard to the CORSIA scheme (see chapter 6.3.2 below), the ICAO Council, in March 2017, adopted a proposal by its environment committee on CO<sub>2</sub> emission standards. The new standards will require by 2028 an average 4% reduction in cruise fuel consumption compared to aircraft delivered in 2015 ([ICCT 2016](#)).

### 6.3.2. ICAO's Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA)

The International Civil Aviation Organization (see Box 16) decided in 2001 that an emissions trading system (ETS) would be the most appropriate instrument to address greenhouse gas emissions from international aviation. In the following years, little progress had been made until 2010 when ICAO, at its 37<sup>th</sup> Assembly, agreed on a global aspirational goal of carbon neutral growth by 2020 ([ICAO 2010](#)).

Twelve years later, in 2013, ICAO established a working group for the development of a Global Market-Based Measure (GMBM) to reach this goal.

Three years later, on 6 October 2016, the ICAO 39<sup>th</sup> assembly adopted a resolution on a Global Market-Based Measure ([ICAO 2018c](#)), known as the Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA). This scheme aims to stabilise net CO<sub>2</sub> emissions from international aviation (i.e. flights that depart in one country and arrive in a different country) at the 2020 level. After a voluntary pilot phase from 2021 to 2026, the scheme will apply worldwide from 2027 onwards, with exceptions for least developed countries, small island developing states, landlocked developing countries and states with very low levels of international aviation activity. Seventy countries, including 18 out of the 20 largest aviation nations and accounting more than 80% of the anticipated increase of greenhouse gas emissions from international aviation activity, will participate from 2021 onwards ([European Commission 2016](#), [Green Air online 2017](#)). CORSIA is to be reviewed every three years, the next review cycle beginning in 2019.

Under CORSIA all aircraft operators in participating countries have to offset a share of their emissions in a given year, which equals the aviation sector's total emission growth rate between 2020 and the given year. Offsets are carried out by purchasing emissions units (corresponding to emission reductions in other sectors), which have to fulfil the criteria currently still under negotiation at the ICAO's Committee on Aviation Environmental Protection (CAEP), which has been tasked with the technical aspects of implementing the scheme.

In December 2017, the ICAO Secretary General distributed to all ICAO Member States draft Standards and Recommended Practices (SARPs) on implementation, also known as the CORSIA Package. ICAO Member States were able to send their comments on the CORSIA Package to the ICAO Secretary General until March 5, 2018. The Secretariat will prepare a next version of the CORSIA package to be adopted by the ICAO Council and come into effect on 1 January 2019. Hence, while the pilot phase only starts in 2021, countries are required to take preparatory measures throughout 2018, with emissions monitoring beginning on 1 January 2019 ([ICSA 2018a](#)).

## Box 17: The International Coalition for Sustainable Aviation (ICSA)

In 1998 a group of international environmental NGOs established the International Coalition for Sustainable Aviation (ICSA), functioning as official observers at the ICAO ([ICSA 2018b](#)).

In February 2018, ICSA released its recommendations on the draft implementation guidelines for implementing CORSIA ([ICSA 2018a](#)). The recommendations are aimed at strengthening the guidelines in order for CORSIA to achieve its purpose and include, *inter alia*, increasing transparency of reporting, not accepting credits from other market schemes under CORSIA, and refraining from crediting alternative aviation fuels before sound environmental standards have been agreed.

Beside the CORSIA-related activities, ICSA also produced a submission (jointly with the environmental group Climate Action Network) to the Talanoa Dialogue (cf. chapter 5.3) in April 2018, calling for aviation to contribute its fair share to reaching the Paris Agreement’s goals by immediately reducing emissions and by working to “fully decarbonise towards the second half of this century” ([ICSA/CAN 2018](#)).

The agreement on CORSIA reached at the 39<sup>th</sup> ICAO assembly constitutes an important step in addressing the rise in greenhouse gas emissions from international aviation, but it was criticised for the late start of the mandatory phase and for lacking a link to the long-term goals of the Paris Agreement ([Climate Home 2016b](#)). The measure adopted by ICAO does not include reduction targets, but only requires the offsetting of emissions above the level of 2020. This measure therefore does not address a central aspect of the Paris Agreement, namely the reduction of emissions and subsequent balancing of all global emissions by sources and removals by sinks in the long-term.

Stakeholders, including the European Commission ([Green Air online 2018](#)) have also raised concerns regarding the environmental integrity of CORSIA. Perceived attempts at watering down the eligibility criteria for tradeable units still to be agreed under the scheme have caused controversial discussions at the ICAO Council meeting in June 2018. While emerging economies Brazil and China are advocating for credits to be eligible that have been generated under schemes like the UN Clean Development Mechanism, the European Commission on behalf of all Member States is calling for a “vintage restriction” on credits generated before 2016 to avoid undermining the environmental integrity of the scheme. Should the ICAO allow for old offsets from long dormant projects to be eligible, analysts fear, thousands of cheap credits could flood the market without driving any new emission reductions ([Climate Home 2018d](#)). Six EU Member States and Norway have publicly threatened to pull out of CORSIA should the environmental integrity of the scheme be weakened any further ([Transport & Environment 2018a](#)).

In June 2016, the Trump administration announced that it would be reviewing its participation in the ICAO aviation emission agreement after the United States withdrew from the Paris Agreement ([Airportwatch 2017](#)). The decision as to whether it will remain committed to CORSIA is still pending. Meanwhile, the International Air Transportation Association (IATA) and the U.S. airlines trade body Airlines for America (A4A) have reinforced their support for CORSIA and the latter has also signalled the commitment of its members to participate in the scheme from the start ([Green Air online 2017](#)).

### 6.3.3. International shipping

Between 1990 and 2015, emissions from international maritime transport increased by almost 77% from 372 to 657 million tons CO<sub>2</sub>. International shipping was responsible for a share of roughly 2% in the global CO<sub>2</sub> emissions in 2015 ([IEA 2017](#)) excluding domestic shipping. In 2011, the International Maritime Organization (IMO, see Box 18) adopted two efficiency measures to deal with GHG

emissions: The Energy Efficiency Design Index (EEDI) sets mandatory energy efficiency standards for ships built after 2013, while the Ship Energy Efficiency Management Plan (SEEMP) is an approach for monitoring and optimising ship efficiency performance ([IMO 2017](#)).

However, emissions from the shipping sector have continued to rise, with increased demand for marine transportation more than offsetting efficiency gains of the above programmes in emissions terms ([Olmer et al. 2017](#)). Moreover, CO<sub>2</sub> emission from international shipping are projected to continue to rise by over between 50 and 250% in 2050 ([IMO 2014](#)) and may be at five times the current level by 2075, due to the expected continued economic growth ([Olmer et al. 2017](#)).

#### Box 18: The International Maritime Organization (IMO)

The International Maritime Organization (IMO), founded in 1948, is a United Nations' specialised agency based in London. It is responsible for setting standards for safety, security and environmental performance in international shipping. As of 2018 the IMO has 174 Member States and three Associate Members ([IMO 2018a](#)).

The Marine Environment Protection Committee (MEPC) is IMO's senior technical body on marine pollution related matters. It is supported by various sub-committees, such as the Sub-Committee on Pollution Prevention and Response ([IMO 2018b](#)).

Besides the requirements related to water and air pollutants, IMO has been grappling with how to regulate greenhouse gas emissions in the last years. Under the Kyoto Protocol the IMO had been assigned responsibility to reduce greenhouse gas emissions from ocean-going vessels, travelling outside national borders. This led to the adoption of energy efficiency standards for new ships and mandatory operational measures to reduce emissions from existing ships by IMO in 2011 ([IMO 2017](#)).

After the adoption of the Paris Agreement, in 2015, without reduction targets for the international shipping and aviation industries, the sector was no longer covered by any global climate regime. Consequently, IMO came under increasing pressure from climate vulnerable South Pacific, led by the Marshall Islands and some European countries calling for bold action to reduce CO<sub>2</sub> emissions in the shipping industry. This pressure only increased after the aviation sector adopted the CORSIA scheme (see chapter 6.3.2 above), leaving the shipping industry as the only major sector without any answers to the climate crisis ([ICCT 2018a](#)). In April 2018, at the 72<sup>nd</sup> meeting of its Marine Environment Protection Committee, the IMO eventually adopted an "initial strategy on the reduction of greenhouse gas emissions of ships" ([IMO 2018c](#)).

Apart from developments on the 'initial strategy', in 2016, the IMO approved mandatory requirements for ships above 5 000 gross tonnage, which account for approximately 85% of the CO<sub>2</sub> emissions from international shipping ([IMO 2017](#)). For these ships, no cap has been set on absolute emissions, but, starting 2019, fuel consumption data will have to be recorded and reported for each type of fuel they use together with additional data e.g. on proxies for transport undertaken ([IMO 2016](#)). Guidelines were adopted and other relevant decisions taken regarding the implementation of those fuel consumption reporting requirements were agreed at MEPC 71 in July 2017 ([IISD 2017f](#)) and MEPC 72 in April 2018 ([IMO 2018d](#)).

Further developments with regard to the IMO 'initial strategy' are presented below.

#### 6.3.4. Initial IMO strategy on reduction of greenhouse gas emission from ships

Since the adoption of the Paris Agreement, momentum had been building up to achieving a sector-wide strategy to deal with greenhouse gas emissions from international shipping. Initiated by the Marshall Islands through a call for the shipping sector to contribute to the fight against climate change at the Paris conference in 2015 ([Carbon Brief 2015](#)), this effort gained momentum by other countries joining and culminated in the IMO adopting a ‘Initial strategy on the reduction of GHG emissions from ships’ at the 72<sup>nd</sup> meeting of its Marine Environment Protection Committee (MEPC) on 13 April 2018 (Resolution MEPC.304(72); [IMO 2018c](#)).

The initial IMO strategy constitutes the first global framework for regulating emissions from international shipping. It includes quantified reduction targets through 2050, a vision of a fully decarbonised shipping sector and potential or ‘candidate’ measures for the short-, mid- and long-term. The strategy is to be revised in 2023 and reviewed in 2028 ([IMO 2018c](#)).

Table 8: Key elements of the IMO initial strategy

Type	Key content
<b>Vision</b>	“IMO remains committed to reducing GHG emissions from international shipping and, as a matter of urgency, aims to phase them out as soon as possible in this century”.
<b>Targets</b>	<ul style="list-style-type: none"> <li>• <b>Peak GHG emissions from international shipping as soon as possible and reduce them by at least 50% by 2050 compared to 2008 levels</b> while pursuing efforts towards phasing them out consistent with the Paris Agreement.</li> <li>• <b>reduce carbon intensity by at least 40% by 2030 pursuing efforts towards a 70% reduction by 2050</b> (both compared to 2008 levels).</li> </ul>
<b>Potential ('candidate') measures</b>	<p>The initial strategy suggests several potential measures to take in the short-, mid- and long-term. Which measures, if any, will be made mandatory is subject to further deliberations at the IMO, scheduled for May 2019. Potential measures include:</p> <ul style="list-style-type: none"> <li>• <b>Short-term</b> (2018-2023): New EEDI phases, operational efficiency measures, existing fleet improvement program, speed reduction, measures addressing non-CO<sub>2</sub> emissions.</li> <li>• <b>Mid-term</b> (2023-2030): Low-carbon and carbon-free fuels implementation program; further efficiency measures, market-based measures.</li> <li>• <b>Long-term</b> (2030+): Development of zero-carbon or fossil-free fuels.</li> </ul>
<b>Guiding principles and barriers</b>	<p>The strategy also incorporates guiding principles and a discussion of the barriers to effective and equitable implementation including:</p> <ul style="list-style-type: none"> <li>• Reconciliation of the IMO principle of non-discrimination (each vessel is treated the same) with the UNFCCC principle of Common but Differentiated Responsibilities.</li> <li>• Addressing impacts on Least Developed Countries and Small Island</li> </ul>

Type	Key content
	Developing States.
<b>Review</b>	The initial strategy will be kept under review, with the aim of adopting a revised strategy in 2023. The revised strategy will be subject to another review in 2028.

Source: [IMO 2018c](#), [ICCT 2018a](#).

As the next steps after the adoption of the initial strategy, IMO intended to focus on the development and implementation of the short term measures (see table above). However, at an additional intersessional working group, ISWG-GHG-4, scheduled for this purpose for the last week of October 2018 in London no progress was made. The stalling of talks at this meeting means that consideration of short-term measures will now be postponed to May 2019. This is a significant delay considering that the original agreement, which included the implementation of early actions to reduce emissions before 2023, was reached a year ago ([Transport and Environment 2018b](#)).

On a separate but related topic, the MEPC also overturned an earlier decision to tighten the existing EEDI standards for new ships at its 73<sup>rd</sup> session in October 2018. This item is now scheduled for the 74<sup>th</sup> meeting in May 2019 ([Transport and Environment 2018b](#)). The MEPC did tentatively agree to require energy efficiency improvements from new container ships as part of the implementation of the phase 3 target of 30% efficiency improvement by 2025, currently under review. However, the final decision has been postponed by the IMO to the May 2019 session in order to allow for the committee to consider industry and Member State concerns ([ICCT 2018b](#)). The MEPC will also consider a separate decision on new EEDI phases as part of the IMO's initial strategy targets at its 74<sup>th</sup> session ([ICCT 2018a](#)).

The adoption of the IMO's strategy undoubtedly constitutes a breakthrough as it acknowledges the need for international shipping to contribute to reaching the Paris Agreement's goals and that such contribution, ultimately, requires no less than full decarbonisation of the industry. Consequentially, the deal struck at the IMO last April has been welcomed by observers as a "potentially game-changing development" ([Clean Shipping Coalition 2018](#)). However, significant concerns were raised regarding, *inter alia*, a perceived lack of ambition and uncertainty in implementation. The IMO's target of halving emissions by 2050, while widely welcomed as a first step, falls short of reduction levels needed of the sector to stay within a Paris-compatible pathway, which, according to recent data by the International Energy Agency (IEA) would be closer to a 70 to 100% reduction ([ICCT 2018a](#)). Consequentially, many countries including the European Union ([European Commission 2018b](#)) have called for higher reduction targets. These vary between complete decarbonisation by 2030 by the Marshall Islands and an EU position of at least 70% (compared to 2008 levels) with an ultimate aim of 100% decarbonisation ([Carbon Brief 2018c](#)).

## 7. OUTLOOK: COP 24 AND BEYOND

### 7.1. Other relevant developments

A few selected events and recent developments, which are connected to or are indirectly influencing the UNFCCC negotiations, are briefly summarised in this subchapter:

The so-called '**Social pre-COP**' between 8 to 12 August 2018 in Katowice was organised by trade unions and backed by the government aim to put coal mining jobs on the agenda of climate change negotiations. Coal is still dominating the energy mix in Poland, the shift to cleaner alternatives impacts communities built around coal mining and to render a lot of jobs obsolete ([Social pre-COP24 2018](#), [Climate Home 2018e](#)).

From 12 to 14 September 2018 the '**Global Climate Action Summit**' was held in San Francisco. It was convened by the U.S. state of California and its Governor Jerry Brown and thousands of representatives of sub-national governments, corporations, policy makers, researchers and NGOs participated. The summit focused on five themes: healthy energy systems, inclusive economic growth, sustainable communities, land and ocean stewardship and transformative climate investment. A wide range of stakeholders used the opportunity to showcase the climate actions that they are already pursuing and to announce new commitments on their way forward. Detailed information on all the pledges and commitments of this meeting can be found on the organisers website ([GCAS 2018](#), [IISD 2018g](#)).

On the margins of the UN General Assembly the so-called '**Climate Week**' took place for the 10<sup>th</sup> time in New York between 24 and 30 September 2018. The meeting brought together representatives from businesses, academic institutions, governments and NGOs. The week-long event's aim was "to showcase climate action from around the world and to gather political support for a strong outcome at the upcoming UN Climate Change Conference COP 24 in December in Katowice, Poland" ([UNFCCC 2018ac](#)). The 2<sup>nd</sup> One Planet Summit was held as part of the Climate Week. The so-called 'Carbon Neutrality Coalition', whose members pledged to become carbon neutral by 2050, held its inaugural meeting, after the announcement at the One Planet Summit in 2017. Nineteen countries, 12 of which are European, and 32 cities are already members of the coalition ([IISD 2018h](#)).

After the 20<sup>th</sup> board meeting of the **Green Climate Fund** (GCF; cf. Box 9) held in Songdo, South Korea, had collapsed in July 2018, without decisions taken on 11 funding bids, together worth almost USD 1 billion, as well as the resignation of its director, Howard Bamsey, the October board meeting was eagerly awaited for ([Climate Home 2018f](#)). Between 17 and 20 October 2018 the four-day GCF meeting in Manama, Bahrain was held. The board approved 19 new projects, together worth more than USD 1 billion, to help developing countries deal with the consequences of climate change. The portfolio of the GCF now amounts to 93 projects with a total volume of over USD 4.6 billion. Moreover, it was decided to launch the process of the Fund's first replenishment ([GCF 2018b](#)).

From 12 to 14 October 2018, the **annual meeting** of the **World Bank Group** (WBG) and the **International Monetary Fund** (IMF) was held in Bali, Indonesia. In the course of this meeting, it was announced that a USD 145 million Global Risk Financing Facility (GRiF) will be launched. It aims "to help vulnerable countries manage the financial impact of climate change and natural hazard-induced shocks" and to support earlier action when confronted with climate and/or disaster events ([World Bank 2018](#); for more information on the World Bank Group please refer to last year's study ahead of COP 23 '[Implementing the Paris Agreement](#)').

Directly before COP 24, on 30 November and 1 December 2018 (after the completion date of the present study) the 13<sup>th</sup> **G20 summit** (cf. chapter 6.1.3) will take place in Buenos Aires, Argentina.

National elections that are likely to impact the UN climate talks include the recent general election in Brazil and the upcoming mid-term elections in the United States.

Jair Bolsonaro, now **President-elect of Brazil** vowed to take the country out of the Paris Agreement in pre-election statements. He has also stated his intention to open up large areas of the Amazon rainforest, an important carbon sink, to logging and mining activities. Later in the campaign he backtracked on his promise to withdraw from the Agreement. Whether or not Brazil will host the COP 25 in 2019 as anticipated is unclear at this time ([Climate Home 2018g](#)).

On 6 November 2018 (after the completion date of the present study) **mid-term elections in the United States** will determine the power balance between Democrats and Republicans in Congress. While the outcome is unlikely to effect a turnaround of U.S. climate policy, it may well slow down the Administration's current agenda of rolling back existing climate regulations ([Energy Reporters 2018](#)).

Recently published research by the Grantham Institute for Climate Change adds to the growing body of evidence that the **world is not on track to meet the Paris Agreement goals**. Current NDCs, if implemented would lead to global warming of 3 to 4 degrees (For more information please refer to last year's study ahead of COP 23 '[Implementing the Paris Agreement](#)'). A new policy brief now finds that only sixteen Parties to the Agreement have national climate policies and laws in place that are consistent with their stated NDCs. The sixteen countries are: Algeria, Canada, Costa Rica, Ethiopia, Guatemala, Indonesia, Japan, FYR Macedonia, Malaysia, Montenegro, Norway, Papua New Guinea, Peru, Samoa, Singapore and Tonga ([Grantham Institute 2018](#)).

## 7.2. Before the COP 24 in Katowice

The following subchapter summarises the developments and events happening, after the Bangkok negotiation session (cf. chapter 5.2) in September, in preparation of the COP 24 in December.

On 27 September 2018 **informal consultations** between lead negotiators in view of the outcome of COP 24 took place in New York. On the margins of the UN General Assembly, the incoming Polish COP Presidency organised this informal gathering to assist in the preparations for the upcoming UNFCCC climate change conference. The meeting, attended by 33 Parties, focussed on four thematic blocks of the potential outcome of COP 24: the NDC process, transparency, finance and adaptation. Details on the outcome of the discussion sessions can be found on the website of the Polish Presidency ([COP 24 Presidency 2018a](#)).

At the end of the Bangkok session in September the Co-Chairs have been tasked by Parties to "prepare a **joint reflections note** addressing progress made to date and identifying ways forward, including **textual proposals**". The following box is intended to provide a review of the process of developing a negotiation text of the Paris Agreement Work Programme in the last two and a half years up to the publication of the textual proposals as addenda to the joint informal note in mid-October ([UNFCCC 2018u](#)).

Box 19: Process of developing a negotiation text of the PAWP

The operationalisation of the Paris Agreement, through the development and finalisation of the negotiation text of the PAWP (cf. Box 7) is the ultimate objective of the APA (cf. chapter 3.11 respectively Table 5). Arriving at an acceptable text for all Parties ready to be adopted at the end of the negotiations is a lengthy, iterative process. Starting with disparate proposals by Parties, there are



several intermediate stages of text, each capturing different levels of negotiation progress, in between. One of the last steps is to develop *the* negotiation text (draft legal text) which captures Parties' different opinions as clearly formulated options in square brackets. This box provides an overview of this complex process through which the PAWP negotiation text is being developed.

The process of developing and finalising a negotiation text of the PAWP started already more than two years ago with the first session of the APA, at the first meeting of the subsidiary bodies after the adoption of the Paris Agreement, in May 2016 and will continue throughout all parts of its resumed first session until and during the COP in Katowice in December 2018. This box, however, is intended to shed some light on the process of coming to a draft decision text up to the publication of the joint reflections note in mid-October 2018 (cf. chapter 5.2).

There are two Co-Facilitators per PAWP item; one from a Party not included in Annex I to the Convention and the second one from an Annex I country (cf. Table 1). Their joint task is to help advance negotiations during and between the sessions. Under the guidance of the respective Co-Chairs, they assume the role of moderators in negotiations. Depending on the subject, the Co-Facilitators, but also the mode of work of the group of negotiators can differ slightly across the different PAWP items.

During negotiation sessions, Parties express their views and exchange their opinions; this mainly happens via oral statements during the so-called 'informal consultation'. The possibility for written inputs by Parties is given at any time in this process. Different variations of these negotiations can be employed: informal consultation (scheduled negotiations), informal informals (additional voluntary option of meetings between Parties, potentially in the presence of the Co-Facilitators) and informal informal informals (further possibility for Parties for completely informal meetings, without Co-Facilitators). If Parties converge on topics during the latter of the above types, they have to reintroduce their outcome during informal consultations or through written submission in order to ensure the inclusion of their results in the facilitated negotiations.

The PAWP process started with the APA Co-Chairs preparing guiding questions for informal consultations and included, *inter alia*, repeated written submission of views, the preparation of a scenario note on the organisation of work, developing and agreeing on a work plan, the holding of workshops and roundtables, oral statements and recording of progress made through conclusions, reflection notes as well as informal notes, over the course of many negotiation sessions.

The status of Parties' discussions has been captured by the Co-Facilitators in an informal note at the end of each negotiation session. Depending on the item, the working-method of the Co-Facilitators and the negotiations, one to several iterations of the informal note or parts of it may be produced during negotiation sessions. By consistently capturing the progress of discussions and incorporating views of Parties this work usually leads to an ever increasing number of views, options and, in the end, hundreds of pages of the respective informal notes.

At the negotiation session in Bonn in May 2018 (cf. chapter 5.1) the Co-Facilitators of the different PAWP items under their own responsibility and under the guidance of the Co-Chairs were requested to prepare so-called additional 'tools', to be understood as supplementary, preliminary and without prejudice to the subsequent negotiations.

These tools were released in the beginning of August in view of the negotiations in Bangkok. They were intended as help for Parties to develop an agreed basis for further negotiations as well as to facilitate the search for ways to converge views. These tools could include e.g. the addition of structuring headings, clustering of options and streamlining the textual proposals. However, the

streamlining did not entail the deletion or insertion of new substantive concepts.

In September 2018 at the end of the Bangkok session (cf. chapter 5.2) the working texts of all items comprised just above 300 pages in total ([UNFCCC 2018s](#)). The APA, SBSTA and SBI agreed that the Co-Chairs should prepare a 'joint reflections note', with the aim of capturing the progress up to now, determine ways forward and including 'textual proposals' that would be helpful in the subsequent negotiations ([UNFCCC 2018t](#)). This should allow the Co-Chairs and the Co-Facilitators to transform the tools and informal notes into legal language and help identify possible compromises ahead of COP 24.

These textual proposals have been published as addenda to the joint reflections note between the 15 and 19 October 2018 on the UNFCCC website ([UNFCCC 2018ad](#)), where an up-to-date overview of the work can be found. These have the "common objective of bringing all PAWP items to a comparable level of maturity for the final phase of Parties' negotiations. This should ensure their balanced and coordinated consideration by the APA, the SBSTA and the SBI, and facilitate successful completion of the PAWP at COP 24" ([UNFCCC 2018u](#)).

It is important to note that the process presented cannot be generalised to negotiations in general, it is a Party driven process and therefore versatile and can be changed at any time. Furthermore, it cannot be assumed that this process will continue like this at the conference in Katowice. Negotiations at COP 24 may take a different procedural course as they will be influenced by additional components, like the work mode proposed by the COP Presidency as well as the political manoeuvring. The procedural course for the negotiations is therefore hard to predict.

From 22 to 24 October 2018, 38 delegations met in Krakow for the so-called **pre-COP**, a key preparatory meeting, to discuss diverging options and explore possible compromises on negotiation topics. The Pre-COP was an informal meeting at the invitation of the Polish Presidency, where 'key players' openly discussed current sticking points in the negotiations and possible compromises. On the 22 October a business day was held as part of the pre-COP, where again the "need for a just transition towards a low carbon society that both protects the climate and jobs" was highlighted ([UNFCCC 2018ae](#)). The political segment of the pre-COP focussed in break-out discussion groups on climate change mitigation, adaptation, finance and transparency. Moreover, in a plenary session the Talanoa dialogue and the nature of its outcome were discussed. Many participants voiced their support on its continuation beyond COP 24. The meeting showed that political willingness to seek solutions is there, bilateral discussions are now based on concrete textual proposals, but also highlighted that still a lot needs to be done on the detailed substantive aspects of the PAWP. Detailed information on the outcome of this meeting can be found at the COP 24 host country website ([UNFCCC 2018af](#)).

The time between the pre-COP and the conference in Katowice is used by many groups of Parties (cf. Table 2) trying to identify 'landing zones' without crossing red lines in their own negotiation positions. Many informal discussions, e.g. besides other official meetings, but also during dedicated talks, e.g. pre-sessional consultations of the Co-Chairs with groups of Parties, bilateral meetings of lead negotiators, the workshop on the enhanced transparency framework in Warsaw or the Cartagena dialogue are taking place. It is important to note that meetings like these do not represent official negotiations where decisions are taken. Rather, they are informal conversations between negotiators and/or decision-makers in order to make as much further progress as possible before the official start of the negotiations.

### 7.3. The Conference in Katowice

From 2 to 14 December 2018, the 24<sup>th</sup> session of the Conference of the Parties (COP 24) will convene in Katowice, Poland. It is the third time after 2008 in Poznań and 2013 in Warsaw that Poland hosts a COP. In Bangkok in September 2018, due to increased time pressure, Parties agreed on opening the conference in Katowice already on Sunday 2 December, one day earlier than initially planned ([UNFCCC 2018v](#)). The conference will also serve as the 14<sup>th</sup> meeting of the Parties to the Kyoto Protocol (CMP 14) and as the third and probably the last part of the first meeting of the Parties to the Paris Agreement (CMA 1-3; cf. Table 1 and chapter 3.11).

The COP presidency rotates annually. In 2018, the COP will be presided over by Poland. Its Secretary of State in the Ministry of Environment Michał Kurtyka will act as COP president.

In addition, the following subsidiary bodies will meet in Katowice:

- The Ad Hoc Working Group on the Paris Agreement (APA, cf. chapter 3.11), which will convene for the seventh and probably the last part of its first session (APA 1-7).
- The Subsidiary Body for Implementation and the Subsidiary Body for Scientific and Technological Advice (cf. Table 1), which will hold their 49<sup>th</sup> meeting, known as SBI 49 and SBSTA 49.

The APA, SBI and SBSTA will convene from 2 to 8 December. The results of their negotiations, such as draft decisions, will be forwarded to the COP for further negotiations and for adoption. Topics related to the Kyoto Protocol will be forwarded to the CMP. Topics related to the implementation of the Paris Agreement will be forwarded to the CMA. The COP and CMP will have their closing sessions on non-PAWP agenda items on 12 December. The PAWP agenda items are planned to have their closing sessions of the COP and CMA on 14 December.

On 3 December, numerous heads of state or government are expected to attend the official opening ceremony and high-level segment (HLS). Another high-level segment on 11 and 12 December 2018 will be of special importance as ministers and heads of delegation meet and will aim at steering the negotiations towards a successful conclusion in the second week. More information on high-level events during COP 24 is available from the UNFCCC secretariat website ([UNFCCC 2018ag](#)).

On 4 December a SBSTA-IPCC special event on “Unpacking the new scientific knowledge and key findings in the IPCC Special Report on Global Warming of 1.5°C” is planned (cf. chapter 6.2.2).

Another important event at this session will be the pre-2020 stocktake, scheduled for the 5 December (technical part) and 10 December (high-level part).

Moreover, the wrap up of the preparatory phase (6 December) as well as the political phase (11 and 12 December) of the Talanoa Dialogue will take place in Katowice (For more details on the Talanoa Dialogue cf. chapter 5.3).

After COP 20 in Lima and COP 22 in Marrakech, the 3<sup>rd</sup> High Level Ministerial Dialogue on Climate Finance under the theme ‘Translating climate finance needs into action’ will convene on 10 December.

As in previous climate change conferences, the SBI will hold a ‘multilateral assessment’ (MA) for developed countries and a ‘facilitative sharing of views’ (FSV) for developing countries (both on 3 and 7 December; cf. chapter 3.7). These sessions, which are open to all COP participants, will provide insights into the various Parties’ national circumstances and their efforts in responding to climate change. The multilateral assessment and the facilitative sharing of views will be based on the information submitted in the Parties’ respective Biennial Reports (BR) or Biennial Update Reports

(BUR). An overview of the various reporting obligations can be found in Figure 3. It is expected that the pre-2020 emission reductions of developed country Parties will be of particular interest.

An overview schedule of the conference is available from the UNFCCC secretariat website ([UNFCCC 2018ah](#)), links to background documents and lists of events are available from the UNFCCC's main conference webpage ([UNFCCC 2018h](#)). Additional information about the conference and its events is available on the special COP 24 website of the Republic of Poland ([COP 24 Presidency 2018b](#)). A table listing the responsible bodies for each task under [Decision 1/CP.21](#), along with the progress of the negotiations, is provided in the 'progress tracker', a document updated regularly by the UNFCCC secretariat ([UNFCCC 2018m](#)).

Box 20: Events besides the negotiations at COP 24

During the COP, Parties and other participating stakeholders (i.e. NGOs or international organisations) are given the opportunity to hold side events. These include presentations and discussions on a wide range of topics related to climate change. The official side events will be organised under the common theme 'Accelerating implementation of the Paris Agreement' and can be categorised under the following categories: Enhancing ambition, Promoting implementation and Providing support to developing countries. Information on the various events will become available before the start of the conference on the UNFCCC secretariat's events webpage ([UNFCCC 2018ai](#)) and in the overview schedule ([UNFCCC 2018ah](#)). Parties and stakeholders will also display exhibits on the conference grounds. A list of exhibits is available on the same COP 24 events webpage. Interviews with Party delegates and representatives of observers as well as recordings of many events are available on the 'UNFCCC Climate Change Studio' YouTube channel ([UNFCCC 2018aj](#)).

#### 7.4. Negotiating topics at COP 24

The focus of the negotiations in Katowice will be on the technical implementation of the Paris Agreement (cf. Box 7), i.e. on guidance, rules and the modalities for the various topics covered by the Agreement. Most of the elements of the PAWP are negotiated under the APA (cf. chapter 3.11), some of them under the Subsidiary Bodies (cf. Table 1). The main topics on the APA agenda include:

- The information to be contained in Nationally Determined Contributions (cf. chapter 3.1)
- Climate finance (cf. chapter 3.4)
- Modalities, procedures and guidelines for the enhanced transparency framework (cf. chapter 3.7)
- Modalities for the global stocktake (cf. chapter 3.8)
- The type of information to be contained in the adaptation communication (cf. chapter 3.2)
- Modalities for the committee to promote compliance (cf. chapter 3.9)

In addition, the SBSTA will discuss the implementation of cooperative mechanisms under Article 6 of the Paris Agreement (cf. chapter 3.1) and the modalities for the accounting of financial resources under Article 9 (cf. chapter 3.4).

The SBI has the following items related to the implementation of the Paris Agreement on its agenda: common time frames for Nationally Determined Contributions (as the current NDCs differ in their time horizons/time frames) and the modalities and procedures for the NDC and adaptation registries (cf. Box 1, chapter 4.1 and 4.2). The forum on response measures serving the Paris Agreement will be negotiated jointly under the SBI/SBSTA.

Besides the PAWP, the COP, SBI and SBSTA will discuss a wide range of topics under the Convention and the CMP under the Kyoto Protocol. It is to be assumed that, due to time pressure, topics that do not require a decision this year may get less negotiation time at COP 24 or be postponed to the next meeting.

Detailed agendas are available from the UNFCCC’s main conference webpage ([UNFCCC 2018h](#)).

Besides the negotiations topics described above, the Polish Presidency aims to reach an agreement on three declarations ([COP 24 Presidency 2018c](#)):

- **Just transition:** “solidary and just transition of industrial regions”
- **Forests:** “supporting achieving climate neutrality by absorbing CO<sub>2</sub> by forests and land, or by water management”
- **E-Mobility:** “development of climate-friendly modern solutions”

These may be adopted at one of the high-level events for heads of state and government.

## 7.5. Key issues in Katowice

At the climate change conference in Katowice the stakes are high, as the implementation of the Paris Agreement is faced with many challenges. The COP 24 is seen the most pivotal moment since adoption of the Paris Agreement in 2015.

The conference is expected to finalise the rules for the implementation of the Paris Agreement on climate change under the Paris Agreement Work Programme (PAWP, cf. Box 7 and Box 19). This should enable: a robust, fair and transparent rulebook for the Paris Agreement to unlock the ambition cycle embodied within; a meaningful mechanism to facilitate implementation and promote compliance with the Agreement; and an inclusive and effective global stocktake.

Many observers feel that for the COP 24 to be considered a success, not only this technical goal has to be fulfilled, but also that Parties show their commitment to pre-2020 action, send signals that ambition will be stepped up with enhanced or new NDCs by 2020 and that climate finance is crucial and promises will be kept. The outcome of Katowice can strengthen the global, common will to combat climate change.

It is important to manage expectations as well as to note, that a voluntary agreement, like the Paris Agreement, will never become a top-down, Kyoto-like agreement; the basic character of the Paris Agreement will not be changed by the conclusion of the PAWP in Katowice.

A selection of the key topics that will be of critical importance for the achievement of the various goals and expectations for the climate change conference in Katowice are gathered in Table 9 below.

Table 9: Key issues of the COP 24 negotiations

Key issue	Status
<b>Time constraints</b>	<p><b>Limited time</b> The Paris Rulebook has to be completed by December 2018. Negotiations have been ongoing for more than 2 and a half years. The progress after the Bangkok session has been labelled as uneven among the different items which, consequently, require a different amount of negotiation time.</p> <p><b>Balance</b> Slow progress in one negotiation strand may jeopardise progress with others.</p>

Key issue	Status
	<p>Coordination between the negotiating strands and sequencing will be crucial.</p> <p><b>Cross-cutting issues</b> The different items do not only have to work on their own, but also have to fit together and work as a whole. Negotiations need to be guided in an efficient way and Parties need to actively find common ground in a number of areas.</p> <p><b>Political solutions</b> Some issues, which cannot be solved by technical experts at their level, will only be resolved during the political phase of the negotiations and many expect a 'package deal' at the very end of the negotiations.</p> <p><b>Details</b> However, it seems unlikely that all details with respect to complex issues will be sorted out in Katowice. Work programmes on the last very technical issues, i.e. on reporting tables, for the subsidiary bodies for the time after COP 24 are therefore to be expected.</p>
<b>Finance</b>	<p>Finance is always an important issue and financial support to developing countries remains below expectations. A lack of support may curtail mitigation efforts in developing countries and reduce their capabilities to adapt to climate change, their resilience and their ability to address loss and damage. Some Parties say they will not support a package deal at COP 24 without progress on finance issues, in turn other Parties do not like to see the notion of 'finance for rules'. In any case, all observers agree that there will have to be progress on financial issues. For information on current climate finance positions of the EU please refer to the Council Conclusions from 6 November 2018 (<a href="#">Council of the European Union 2018c</a>).</p>
<b>Bifurcation</b>	<p>Some developing countries aim at a clear differentiation of the requirements for developing versus developed country Parties. There is a risk that the obligations for developing countries may be watered down and may not be in line with their capabilities. To reduce this risk, developed countries need to interact with progressive emerging countries.</p> <p>It is important to avoid bifurcation in the long-term. The same reporting requirements should be relevant for all Parties. Staged approaches and capacity building need to be ensured. It is also important not to further enhance the reporting burden significantly as well as the costs of implementation</p>
<b>New scientific findings</b>	<p>The newly published IPCC Special Report on Global Warming of 1.5 degrees C (cf. chapter 6.2.2) validates concerns that limiting global warming at 2 degrees C rather than 1.5 degrees C above pre-industrial levels will entail substantial additional impacts on ecosystems and humanity's safety and well-being. Existing national climate pledges under the Paris Agreement would lead to a 3 degree C temperature rise by the end of the century. While the</p>

Key issue	Status
	report concludes that staying within 1.5 degrees C is still possible, authors stress that it would require far-reaching and rapid transitions in all sectors of the global economy. IPCC working group III Co-Chair Jim Skea concluded that: “We’ve told you the scientific facts, the evidence, the cost, it is up to the governments now to decide what to do with it” ( <a href="#">Climate Home 2018c</a> ).
<b>Emission gap / Ambition</b>	The knowledge level on climate change and the emission gap evolved significantly based on the SR1.5 (see above). As the combined efforts of the Parties’ NDCs fall short and further delays in emission reductions will reduce the options of meeting the temperature goal, the Talanoa Dialogue (cf. chapter 5.3) will be a critical opportunity to drive the urgency of action needed. It will be important, during the Talanoa Dialogue and later the global stocktake (cf. chapter 3.8), that these new findings will be translated into a clear political process and help Parties as well as other stakeholders in making the case for increased ambition.

## 7.6. Beyond Katowice – Work in 2019 and beyond

At this point in time there are so many open issues to clarify at the conference in Katowice, that it is too early to predict the future of the negotiations beyond COP 24. Nevertheless, there are already some developments to keep an eye on. It seems unlikely that all details with respect to the complex **technical issues** of the PAWP will be sorted out in Katowice. The work of negotiators will not end there, as some technical details, such as reporting tables, may be finalised in work programmes afterwards. In 2019 a big debate on **loss and damage** is to be expected when the review of the WIM (cf. Box 2) is on the agenda. There is still **reluctance by some Parties to ratify the Agreement**. As of 05 November 2018, 14 Parties have not yet ratified the Paris Agreement, including the Russian Federation, Iran and Turkey. If large emitters such as the Russian Federation or Iran do not share the efforts under the Paris Agreement, it will be harder for the remaining Parties to fulfil its goals. However, a large majority of the emissions (approx. 88.8%) is currently covered by countries that have ratified the Agreement. Another continuing talking point will be the **role of the United States** (cf. Box 5). It is currently a Party to the Convention and to the Paris Agreement. Although it intends to withdraw from the Paris Agreement, the U.S. delegation continues to participate in the negotiations. With the announced U.S. withdrawal, there is a risk that other Parties decrease their ambition as they are not willing to take on a higher burden. In addition, developing countries and international organisations such as the GCF or the IPCC are affected by a decrease in financial support. Additionally to that, it will be interesting how **Brazil’s new President** (cf. chapter 7.1) will shape climate change policy, not only in view of whether Brazil will host the COP 25 in 2019. A main challenge for Parties in 2019 will be to **update their NDCs**. This will be especially important because global efforts are currently not sufficient to meet the goals of the Paris Agreement. The Talanoa Dialogue will have taken place, where Parties, informed by the IPCC Special Report on Global Warming of 1.5 degrees C, took stock of their efforts. More ambitious climate action and support will be needed to meet the expectations placed on the international community and the goals stipulated in the Paris Agreement. Also on the agenda for 2019 and beyond, will be, depending on the developments in Katowice, a **new financial goal** for post-2025. Due to the last two issues many observers assume that a politically charged year can be expected in 2019.

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## ANNEX 1: CONTENTS OF THE PARIS AGREEMENT

Table 10: Key contents of the Paris Agreement by topic

Topic	Key contents
<b>Long-term goals</b> (for more information, see chapter 3)	Holding the increase in the global average temperature to well below 2 degrees C above pre-industrial levels and to pursue efforts to limit this increase to 1.5 degrees C. Increasing the ability to adapt to the adverse impacts of climate change and foster climate resilience and low greenhouse gas emissions development. Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development (Article 2).
<b>Mitigation</b> (see chapter 3.1)	All Parties undertake and communicate ambitious efforts, progressing over time ('Nationally Determined Contributions', Article 3). Parties aim at achieving the long-term temperature goal by reaching global peaking of greenhouse gas emissions as soon as possible and achieving a balance between anthropogenic emissions by sources and removals by sinks in the second half of the century (Article 4). The Agreement provides for voluntary cooperation between Parties to fulfil their Nationally Determined Contributions (Article 6).
<b>Adaptation</b> (See chapter 3.2)	A global goal for adaptation is established. It includes the enhancement of adaptive capacity, the strengthening of resilience and the reduction of vulnerability to climate change. Each Party shall, as appropriate, engage in adaptation planning and in the implementation of actions (Article 7).
<b>Loss and damage</b> (See chapter 3.3)	Parties recognise the importance of averting, minimising and addressing loss and damage associated with the adverse effects of climate change. The existing Warsaw International Mechanism for Loss and Damage is strengthened and will continue to operate under the Paris Agreement (Article 8).
<b>Finance</b> (see chapter 3.4)	Developed country Parties shall provide financial resources to assist developing country Parties in mitigation and adaptation. Other Parties are encouraged to provide such support voluntarily (Article 9).
<b>Technology development and transfer</b> (see chapter 3.5)	A technology framework is established to support the existing technology mechanism under the Convention. It aims at promoting and facilitating technology development and transfer (Article 10).
<b>Capacity-building</b> (see chapter 3.6)	The capacity and ability of developing country Parties to take effective action should be enhanced. Such capacity-building should be country driven and progress shall be regularly communicated. Developed country Parties should enhance their support and capacity-building activities shall be enhanced

Topic	Key contents
	through appropriate institutional arrangements (Article 11).
<b>Transparency of action and support</b> (see chapter 3.7)	In order to build mutual trust and confidence and to promote effective implementation, a transparency framework is established. It builds on the experiences of the transparency arrangements under the Convention, such as National Communications, but also introduces national inventory reports and reviews for all Parties (Article 13).
<b>Global stocktake and increasing ambition</b> (see chapter 3.8)	Collective progress towards achieving the purpose and the long-term goals of the Paris Agreement is assessed every five years, starting in 2023. The outcome of this stocktake shall inform Parties in enhancing national actions and international cooperation (Article 14).
<b>Procedural aspects and status of the signature, ratification and entry into force process</b> (see chapters 3.9 and 3.10)	An expert-based committee will be established to facilitate implementation of the Agreement and to promote compliance with its provisions (Article 15). The Conference of the Parties under the Convention serves as the meeting of the Parties to the Paris Agreement (CMA; Article 16). The Agreement is open for signature and subject to ratification, acceptance or approval by Parties to the UNFCCC. It is open for signature for one year starting on 22 April 2016. Thereafter, it is open for accession (Article 20). The Paris Agreement enters into force on the 30 <sup>th</sup> day after the date on which at least 55 Parties accounting in total for at least 55% of the global greenhouse gas emissions have deposited their instrument of ratification (Article 21).

Source: [UNFCCC 2015](#).

## ANNEX 2: ELEMENTS OF THE DECISION ACCOMPANYING THE PARIS AGREEMENT

Table 11: Important elements of Decision 1/CP.21

Topic	Key contents
<b>Adoption of the Paris Agreement</b>	The Conference of the Parties adopts the Paris Agreement, which is presented as an Annex to the Decision (Paragraph 1).
<b>Ad Hoc Working Group on the Paris Agreement</b> (see chapter 3.11)	The Ad Hoc Working Group on the Paris Agreement (APA) is established, which shall prepare for the entry into force of the Agreement (Paragraphs 7 to 11).
<b>Intended Nationally Determined Contributions</b> (see Table 1)	The contributions which were communicated by Parties ahead of the Paris conference are welcomed, but it is noted with concern that much greater efforts will be required to meet the temperature goals of the Paris Agreement (Paragraphs 12 and 17).
<b>Facilitative dialogue in 2018</b> (see chapter 3.8)	In 2018, a facilitative dialogue is convened to take stock of the collective efforts of Parties towards the long-term goals of the Agreement (Paragraph 20).
<b>Long-term low emission development strategies</b> (see chapter 3.1)	Parties are invited to communicate, by 2020, mid-century long-term low greenhouse gas emission development strategies (Paragraph 35).
<b>Loss and damage</b> (see chapter 3.3)	The provisions on loss and damage do not involve or provide a basis for any liability or compensation (Paragraph 51).
<b>Finance</b> (see chapter 3.4)	Developed country Parties intend to collectively mobilise USD 100 billion climate finance per year from 2020 to 2025. Afterwards, a new goal shall be set from a floor of USD 100 billion (Paragraph 53).
<b>Paris Committee on Capacity-building</b> (see chapter 3.6)	The Paris Committee on Capacity-building is established. Its aim is to address gaps and needs in implementing capacity-building in developing country Parties. Its aim is also to further enhance capacity-building efforts (Paragraph 71).
<b>Enhanced action prior to 2020</b> (see chapter 3.12)	The existing technical examination process on mitigation is strengthened. This process highlights policies, practices and technologies with a high mitigation potential, using the format of technical expert meetings (TEM, Paragraph 109). The engagement of non-Party stakeholders is pointed out and encouraged

Topic	Key contents
	<p>(Paragraphs 117 to 119).</p> <p>A high-level event at each COP from 2016 to 2020 provides an opportunity for announcing new or strengthened efforts, initiatives and coalitions (Paragraph 120).</p> <p>High-level champions are appointed to facilitate and scale up current mitigation and adaptation efforts (Paragraph 121).</p> <p>A technical examination process on adaptation is launched for the period 2016 to 2020 (Paragraphs 124 to 132).</p>
<b>Non-Party stakeholders</b>	<p>Non-Party stakeholders, including those of civil society, the private sector, financial institutions, cities and other sub-national authorities are invited to scale up their mitigation and adaptation efforts (Paragraph 134).</p>

Source: [Decision 1/CP.21](#).

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This study provides an overview of the contents of the Paris Agreement as well as background information. It summarises the further negotiation process under the UNFCCC, related international developments as well as the key issues ahead of COP 24 in Katowice in December 2018, during which the rules for the implementation of the Paris Agreement are expected to be finalised.

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