



DIRECTORATE-GENERAL FOR INTERNAL POLICIES

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ECONOMIC AND SCIENTIFIC POLICY **A**

Economic and Monetary Affairs

Employment and Social Affairs

**Environment, Public Health  
and Food Safety**

Industry, Research and Energy

Internal Market and Consumer Protection



# International Climate Negotiations – On the Road to Paris Issues at Stake in View of COP 21

Study for the ENVI Committee





DIRECTORATE GENERAL FOR INTERNAL POLICIES  
POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICY

# **International Climate Negotiations – On the Road to Paris Issues at Stake in View of COP 21**

STUDY

## **Abstract**

This study presents a brief history of the climate negotiations, with a focus on the preparations for a legally binding agreement, to be finalised at the climate change conference in Paris in December 2015. The positions of the main Parties, negotiating groups and other stakeholders are highlighted, as well as the Intended Nationally Determined Contributions (INDCs) submitted during 2015.

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## LIST OF ABBREVIATIONS

<b>AAU</b>	Assigned Amount Unit
<b>ADP</b>	Ad Hoc Working Group on the Durban Platform for Enhanced Action
<b>AF</b>	Adaptation Fund
<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>AR5</b>	Fifth Assessment Report of the IPCC
<b>ATAG</b>	Air Transport Action Group
<b>BASIC</b>	Brazil, South Africa, India and China
<b>BAU</b>	Business As Usual
<b>BINGO</b>	Business and Industry Non-Governmental Organisation
<b>BSER</b>	Best System of Emission Reduction
<b>C</b>	Celsius
<b>C40</b>	Network of 40 cities addressing climate change
<b>CAN</b>	Climate Action Network
<b>CCAFS</b>	Climate Change, Agriculture and Food Security
<b>CBDR</b>	Common But Differentiated Responsibilities
<b>CDM</b>	Clean Development Mechanism
<b>CfRN</b>	Coalition for Rainforest Nations
<b>CMP</b>	Conference of the Parties serving as the Meeting of the Parties
<b>CO<sub>2</sub></b>	Carbon dioxide
<b>COP</b>	Conference of the Parties
<b>CTCN</b>	Climate Technology Centre and Network
<b>CVF</b>	Climate Vulnerable Forum
<b>EIG</b>	Environmental Integrity Group
<b>EIT</b>	Economy In Transition
<b>ENGO</b>	Environmental Non-Governmental Organisation

<b>EPA</b>	(United States) Environmental Protection Agency
<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>FAO</b>	Food and Agriculture Organization
<b>FoEI</b>	Friends of the Earth International
<b>G7</b>	Group of Seven
<b>G20</b>	Group Twenty
<b>G-77</b>	Group of 77 at the United Nations
<b>GCF</b>	Green Climate Fund
<b>GDP</b>	Gross Domestic Product
<b>GNT</b>	Geneva Negotiation Text
<b>Gt</b>	Gigatonne
<b>GTP</b>	Global Temperature Potential
<b>GWP</b>	Global Warming Potential
<b>HFCs</b>	Hydrofluorocarbons
<b>HLS</b>	High-Level Segment
<b>IAR</b>	International Assessment and Review
<b>ICAO</b>	International Civil Aviation Organization
<b>ICC</b>	International Chamber of Commerce
<b>ICI</b>	International Cooperative Initiative
<b>ICLEI</b>	International Council for Local Environmental Initiatives
<b>IEA</b>	International Energy Agency
<b>IIPFCC</b>	International Indigenous Peoples Forum on Climate Change
<b>IMF</b>	International Monetary Fund
<b>IMO</b>	International Maritime Organization
<b>INDC</b>	Intended Nationally Determined Contribution
<b>IPO</b>	Indigenous Peoples Non-Governmental Organisation
<b>IPPC</b>	Intergovernmental Panel on Climate Change
<b>IPR</b>	Intellectual Property Rights
<b>ITUC</b>	International Trade Union Confederation

<b>JCM</b>	Joint Credit Mechanism
<b>JI</b>	Joint Implementation
<b>JMA</b>	Joint mitigation and adaptation approach for the integral and sustainable management of forest
<b>LDC</b>	Least Developed Countries
<b>LDCF</b>	Least Developed Countries Fund
<b>LGMA</b>	Local government and municipal authorities
<b>LMDC</b>	Like-Minded Developing Countries
<b>LPAA</b>	Lima-Paris Action Agenda
<b>LULUCF</b>	Land Use, Land Use Change and Forestry
<b>MBM</b>	Market-Based Measures
<b>MEF</b>	Major Economies Forum on Energy and Climate
<b>MoI</b>	Means of Implementation (finance, technology transfer and capacity building)
<b>MRV</b>	Monitoring, Reporting and Verification
<b>N<sub>2</sub>O</b>	Nitrous oxide
<b>NAMA</b>	Nationally Appropriate Mitigation Action
<b>NAP</b>	National Adaptation Plan
<b>NAZCA</b>	Non-State Actor Zone for Climate Action
<b>NC</b>	National Communication
<b>NIR</b>	National Inventory Reports
<b>NF<sub>3</sub></b>	Nitrogen trifluoride
<b>NGO</b>	Non-Governmental Organisation
<b>NWP</b>	Nairobi Work Programme
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PFCs</b>	Perfluorocarbons
<b>PPD</b>	Peak, Plateau and Decline
<b>REDD</b>	Reducing Emissions from Deforestation and Forest Degradation
<b>REDD+</b>	Reducing Emissions from Deforestation and Forest Degradation, including the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries

<b>RINGO</b>	Research and Independent Non-Governmental Organisation
<b>RMU</b>	Removal Unit
<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>SF<sub>6</sub></b>	Sulphur hexafluoride
<b>SIDS</b>	Small Island Developing States
<b>TEC</b>	Technology Executive Committee
<b>TEP</b>	Technical Examination Process
<b>TNA</b>	Technology Needs Assessment
<b>TUNGO</b>	Trade Union Non-Governmental Organisation
<b>UCLG</b>	United Cities and Local Governments
<b>UN</b>	United Nations
<b>UNDP</b>	United Nations Development Programme
<b>UNEP</b>	United Nations Environment Programme
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>V20</b>	Vulnerable Twenty group
<b>WFO</b>	World Farmers Organisation
<b>WIM</b>	Warsaw International Mechanism
<b>WMO</b>	World Meteorological Organization
<b>WWF</b>	World Wide Fund for Nature
<b>YOUNGO</b>	Youth Non-Governmental Organisation

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## EXECUTIVE SUMMARY

### Background

The United Nations Framework Convention on Climate Change (UNFCCC), signed in 1992, aims at stabilising greenhouse gas concentrations in the atmosphere at a level preventing dangerous anthropogenic interference with the climate system. Under the Convention, the Kyoto Protocol was adopted in 1997 which committed 39 Convention Parties to limit or reduce their greenhouse gas emissions in the period 2008-2012 below their 1990 levels. In 2012, a second commitment period under the Kyoto Protocol was adopted (2013-2020), but with fewer Parties participating.

As more countries emerge as important emitters of greenhouse gases, and in the light of the latest scientific findings compiled by the Intergovernmental Panel on Climate Change (IPCC), the international community has decided to prepare a new agreement on climate change, to be applicable to all Parties and to be adopted at the climate change conference in Paris in December 2015.

### The Paris Conference

The 21<sup>st</sup> Conference of the Parties (COP 21) will take place in Paris from 30 November to 11 December 2015. A draft agreement has been prepared by the “Ad Hoc Working Group on the Durban Platform for Enhanced Action” (ADP) and will be negotiated during the conference. The Paris conference will also serve as the meeting of the Parties to the Kyoto Protocol and as meeting of the subsidiary bodies under the UNFCCC.

### Main negotiating topics

The Paris agreement will cover the main topics mitigation, adaptation, finance, technology, capacity building and transparency.

As regards mitigation, the aim of the agreement is to commit all Parties to limiting or reducing their greenhouse gas emissions. In the run-up to the Paris conference, Parties have been invited to communicate their Intended Nationally Determined Contributions (INDCs), i.e. the contributions they are willing to make to mitigate climate change. During 2015, more than 150 Parties have communicated their INCDs which will form an important pillar of the Paris agreement.

In their INDCs, Parties commit themselves to greenhouse gas emission reductions compared to a base year or compared to a business as usual scenario, mostly for the period until 2025 or 2030. Analyses of the overall effect of these INDCs suggest that they will not be sufficient to deliver an emission pathway in line with the target of limiting the global temperature increase to 2 degrees C.

On climate change adaptation, many countries have provided relevant information in their INDCs as they consider adaptation an important element of their response to climate change. It is important for many developing countries that the topic of loss and damage is addressed in the new agreement.

Many countries will require support for responding to climate change. The negotiations in Paris will include discussions of financial, technological and capacity building support, to be provided not only by developed countries but also by countries with emerging economies. Finally, transparency will be a key issue, as the verification of mitigation actions, and of the provision of support and the results achieved, is crucial.

Besides the new agreement, which is scheduled to enter into force in 2020, it is important to enhance pre-2020 mitigation action. Under the ADP, there is a separate workstream addressing this topic.

## **Main Parties and groups of Parties**

The three Parties with the highest emissions of CO<sub>2</sub> and other greenhouse gases are China, the United States of America and the European Union.

China has been the world's largest CO<sub>2</sub> emitter since 2006. During 2015, it announced new actions in the area of climate change mitigation (various domestic measures, including a national emission trading system) and climate finance (a "South-South Climate Cooperation Fund"). China is also very active in the climate negotiations, speaking as one of the group members of the "G-77 and China" which also includes other major developing countries.

The United States, the world's second largest CO<sub>2</sub> emitter, announced that it would reduce its greenhouse gas emissions in 2025 by 26-28 % below its 2005 level. Its main instrument is the Clean Power Plan, which addresses emissions from fossil-fuel burning power plants. In the climate negotiations, the United States sides with other countries in the so-called Umbrella Group, a loose coalition of developed countries outside the European Union.

The European Union, as the third largest emitter of CO<sub>2</sub> and other greenhouse gases, builds its climate policy on the 2030 climate and energy policy framework, which sets targets of an at least 40 % domestic reduction of greenhouse gas emissions by 2030 compared to 1990, a renewable energy target of at least 27 % and a 27 % target for improving energy efficiency.

Besides the European Union, the G-77 and China and the Umbrella Group, other countries voice their positions as members of negotiating groups. In the current climate negotiations, these groups include, *inter alia*, associations of developing countries, regional associations of countries, and the Alliance of Small Island States.

## **Other stakeholders**

Besides the Parties to the Convention, other stakeholders play an important role in the run-up to and during climate change conferences, as they present their positions and support on specific negotiating topics.

Among non-governmental organisations (NGOs), environmental NGOs have been actively voicing their positions from the beginning of the climate change negotiations. Other large groups of NGOs include research/independent NGOs and business and industry NGOs.

Groups of countries other than the main negotiating groups are also of interest because they coordinate their approaches and convey their messages ahead of climate change conferences. In 2015, the heads of state of the Group of Seven (G7) affirmed their strong determination to adopt an ambitious, robust and inclusive agreement in Paris and made reference to a decarbonisation of the global economy over the course of the 21<sup>st</sup> century. Large developed and developing countries also participate in regular meetings of the Major Economies Forum on Energy and Climate (MEF). In 2015, several meetings took place, where the positions on the Paris agreement were discussed.

## **Key issues and outlook**

The key issues on which negotiators in Paris need to find common ground are the differentiation between developing and developed countries, a long-term goal and a



dynamic mechanism to strengthen ambition in the future, as well as the role of loss and damage in the new agreement and questions of finance.

It will largely depend on these issues whether the Parties will manage to draw up a comprehensive agreement text including overarching contents and durable provisions and adopt it at the end of the Paris conference. Even if an agreement is adopted, the supporting decisions, which provide the details of the agreement's implementation, may be postponed. In any case, the Conference of the Parties and its subsidiary bodies will be tasked with working out further details of the implementation, before the agreement can enter into force as planned by 2020.

## **1. INTRODUCTION**

### **1.1. The Paris climate change conference 2015**

The year 2015 marks a critical milestone in international climate negotiations, culminating in the 21<sup>st</sup> session of the Conference of the Parties (COP) in Paris from 30 November to 11 December. This event brings together the 196 Parties to the United Nations Framework Convention on Climate Change (UNFCCC), as well as observer States and intergovernmental and non-governmental organisations.

The Paris Conference also serves as the 11<sup>th</sup> session of the Parties to the Kyoto Protocol (CMP) and includes the 43<sup>rd</sup> sessions of Subsidiary Bodies under the UNFCCC. The importance of the Paris conference lies in its aim to adopt a new agreement with legal force, taking on board all Parties, to respond to climate change. Preparing this agreement is the task of the “Ad Hoc Working Group on the Durban Platform for Enhanced Action” (ADP), which will also convene in Paris.

Although all major actors have stated the importance of such an agreement and their commitment to contribute to it, there is still a wide divergence of opinions on issues such as the sharing of responsibilities, the focus of action under the agreement and its legal form. Therefore, large efforts are required from negotiators in Paris and more work will need to be done after the Conference, when further details of the agreement need to be agreed on and implemented.

### **1.2. Aim of this study**

This document aims to provide an up-to date overview of the status of climate change negotiations on the eve of the Paris conference, including an overview of the negotiation strands and positions of the main actors. The present study was commissioned by the European Parliament and is intended for members of the European Parliament delegation to the Paris Conference.

The study also addresses a wider audience by presenting a comprehensive picture of the current issues at stake in the climate negotiations. It provides concise explanations of the key terms, the negotiation bodies and documents and summarises the positions of the main Parties, groups of Parties, as well as governmental and non-governmental stakeholder groups.

### **1.3. Structure of the study**

Chapter 2 of this study provides an overview of the main milestones in the climate negotiations since the end of the 1980s. It gives information on key documents such as the Framework Convention, the Kyoto Protocol or the Doha Amendment. A focus is put on the most recent developments, including the outcome of the climate change conference in Lima in December 2014 and on the meetings held and statements made by key actors in the past few months, up to the beginning of November 2015.

In chapter 3, information on the main Parties is given. This chapter presents the ten largest emitters of CO<sub>2</sub>, which include both developed and developing countries. In the negotiations, Parties often present their positions as groups, bringing together, for example, small island states or like-minded developing countries. The positions of these groups are laid out in chapter 4.

Besides the Parties to the UNFCCC, other stakeholders have laid out their positions and will do so in Paris. These include environmental organisations, industry stakeholders, observer states and groups of countries such as the Group of Seven (G7). Their positions are summarised in chapter 5.

For the new agreement, Parties have submitted so-called Intended Nationally Determined Contributions (INDCs), which are presented in chapter 6. Finally, in chapter 7 the main challenges of the Paris conference are summarised and an outlook is given on the work that is expected to be addressed by the international community in 2016 and beyond.

## 2. A BRIEF HISTORY OF CLIMATE NEGOTIATIONS

This chapter gives an overview of the milestones of climate negotiations and aims at providing a comprehensive picture of recent developments up to November 2015, which will shape the course of negotiations in Paris and the results of the conference.

### 2.1. Milestones of climate negotiations up to the conference in Lima

The Toronto Conference in 1988 can be seen as the starting point of international climate negotiations, since it initiated the drafting of a convention on climate change. At the United Nations Conference on Environment and Development in Rio de Janeiro in 1992, the United Nations Framework Convention on Climate Change (UNFCCC) was signed, which sets the framework for negotiating specific agreements, such as the Kyoto Protocol or the agreement to be negotiated in Paris.

#### **Box 1: The United Nations Framework Convention on Climate Change (UNFCCC)**

The objective of the United Nations Framework Convention on Climate Change is to achieve “stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system” ([UNFCCC 1992](#)). 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.

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 undergoing the process of transition to a market economy. In Annex II to the Convention, Parties are listed that are committed to assist and provide financial support to developing countries.

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 Boxes 3 and 4).

The Convention was adopted at the United Nations Headquarters in New York in May 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.

As provided for in the Convention, a Protocol was elaborated and adopted at the climate change conference in Kyoto in December 1997. The Kyoto Protocol sets binding targets for limiting or reducing greenhouse gas emissions for the majority of the developed countries listed in Annex I to the Convention (see Box 2).

Although the Kyoto Protocol requires the relevant Parties to implement domestic policies and measures, it also provides for flexible mechanisms to achieve their commitments. The three mechanisms are international emission trading between Annex B Parties (cf. Box 2), the Clean Development Mechanism (CDM) which allows accounting for emission reduction projects in developing countries, and Joint Implementation (JI) which makes use of emission reduction or the enhancement of greenhouse gas removal by sinks in other Annex B countries.

**Box 2: The Kyoto Protocol**

The Kyoto Protocol ([UNFCCC 1997](#)) 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 (review) of these emissions.

Annex A to the Protocol defines the greenhouse gases covered, i.e. carbon dioxide, methane, nitrous oxide, 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 categories for which emissions have to be estimated.

The developed country Parties to which a commitment applies are listed in Annex B to the Protocol. Besides country Parties, they also include 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.

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.

The more specific rules for implementing the Kyoto Protocol were adopted at the climate change conference in Marrakesh in 2001 (the “Marrakesh Accords”). After the adoption of the Kyoto Protocol in 2005, the first Conference of the Parties serving as the meeting of the Parties took place in Montréal in November/December 2005.

**Box 3: Conference of the Parties (COP) and Conference of the Parties serving as the meeting of the Parties to the Kyoto Protocol (CMP)**

The Conference of the Parties (COP) was established under Article 7 of 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; the 21<sup>st</sup> Conference of the Parties (COP 21) will be hosted in Paris from 30 November to 11 December 2015.

According to Article 13 of the Kyoto Protocol, the Conference of the Parties 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 Parties to the Kyoto Protocol” (CMP), is limited to those Convention Parties that also ratified the Kyoto Protocol. The conference in Montréal in 2005 was the first CMP. Since then, both COPs and CMPs have taken place annually and in parallel, and the conference in Paris in November/December 2015 will be convened as CMP 11.

Besides the Conference of the Parties, the UNFCCC has established subsidiary bodies to provide the Conference with scientific and technological advice (SBSTA, see box below) and to assess and review the implementation of the Convention (SBI, also see below).

#### **Box 4:           Subsidiary Bodies under the Convention (SBSTA, SBI)**

The Subsidiary Body for Scientific and Technological Advice (SBSTA) was established under Article 9 of the Convention. Its task is to provide the Conference of the Parties with information and advice on scientific and technological matters relating to the Convention. These included in recent years for example methodological guidance for reducing emissions from deforestation and forest degradation, technical issues related to emissions accounting in the second commitment period of the Kyoto Protocol, or information on market and non-market mechanisms.

The Subsidiary Body for Implementation (SBI) was established according to Article 10 of the Convention 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, matters related to the mechanisms under the Kyoto Protocol, or national adaptation plans.

The SBSTA and SBI first met in Geneva in 1995. They meet biannually; in recent years during a two-week session in Bonn usually in June and during a one to two-week session in parallel to the COP towards the end of each year. SBSTA and SBI consider agenda items both under the Convention and under the Kyoto Protocol.

After the Kyoto Protocol had entered into force in 2005, the international negotiations aimed at preparing a new, broader agreement. In 2007, the Conference of the Parties in Bali (COP 13) decided “to launch a comprehensive process to enable the full, effective and sustained implementation of the Convention through long-term cooperative action”, with the aim of reaching an agreement two years later (“Bali Action Plan”, [Decision 1/CP.13](#)).

A document in line with the Bali Action Plan was prepared at the Conference of the Parties in Copenhagen in 2009 (“Copenhagen Accord”). This document included a commitment by developed countries to mobilise climate finance amounting to USD 100 billion per year by 2020, from public and private sources. However, by the end of the COP, Parties did not agree on the Copenhagen Accord but took note of the document only ([Decision 2/CP.15](#)).

Although no comprehensive agreement was reached under the Bali Action Plan, Parties at COP 16 in Cancún in 2010 agreed on several important decisions which became to be known as the “Cancún Agreements” ([Decision 1/CP.16](#)). The COP recognised that deep cuts in global greenhouse gas emissions were required to limit the increase in the global average temperature below 2 degrees C above pre-industrial levels. The Parties agreed on enhanced action on adaptation and called for nationally appropriate mitigation commitments and actions. The Cancún Agreements established a mechanism for technology transfer, consisting of the Technology Executive Committee (TEC) and the Climate Technology Centre and Network (CTCN, see Box 14), a mechanism for climate finance, the Green Climate Fund (GCF, see Box 12), and the Cancún Adaptation Framework including the Adaptation Committee.

At COP 17 in Durban in 2011, a dedicated body was established to develop a new, broad agreement under the convention – the “Ad Hoc Working Group on the Durban Platform for Enhanced Action”.

**Box 5: The Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP)**

The “Ad Hoc Working Group on the Durban Platform for Enhanced Action” (ADP) is a subsidiary body under the Convention which was established at the COP in Durban ([Decision 1/CP.17](#)). It started its work in 2012.

The ADP is organised in two workstreams: Workstream 1 is 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.

Workstream 2 works 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.

In Durban, it was also decided to establish a second commitment period under the Kyoto Protocol. One year later, this second commitment period was agreed on at COP 18 in Doha, as an amendment to the Kyoto Protocol known as the Doha Amendment.

**Box 6: The Doha Amendment**

The Doha Amendment to the Kyoto Protocol ([Decision 1/CMP.8](#)) was adopted in December 2012. It defines additional emission reduction commitments for 38 Annex I 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).

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. Besides, an additional greenhouse gas (nitrogen trifluoride, NF<sub>3</sub>) has been added to the list of gases covered.

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.

The Doha Amendment has been ratified by 50 Parties (as of 9 October 2015). As laid out in Article 20 of the Kyoto Protocol, the Amendment will enter into force once 75 % of the Parties to the Protocol have ratified it.

The climate change conference in Warsaw in November 2013 marked important progress in the preparation of a new agreement. The COP, in [Decision 1/CP.19](#), requested the ADP to elaborate specific elements for a draft negotiating text and to identify, by the next session of the COP, the information that Parties need to provide when putting forward their contributions. Parties were invited to initiate or intensify domestic preparations for their Intended Nationally Determined Contributions (INDCs) to a new agreement.

At the same conference, the Warsaw International Mechanism for Loss and Damage was established. This mechanism addresses loss and damage associated with impacts of climate change, including extreme events and slow onset events, 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, at strengthening the dialogue and coordination among relevant stakeholders and at enhancing action and support, including finance, technology and capacity building.

In the area of REDD+ (Reducing Emissions from Deforestation and Forest Degradation, including the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries), the Warsaw framework for REDD+ was established. It consists of a package of decisions addressing monitoring, reporting and verification of REDD+ activities, establishing an information hub to publish results and payments, and encouraging financial entities, including the Green Climate Fund (GCF, see Box 12), to channel adequate and predictable results-based finance.

In 2014, at an important international event prior to the conference in Lima, UN Secretary-General Ban Ki-moon invited leaders from government, business and civil society to a climate summit in New York in September 2014. During that event, several industrialised and developing countries announced mitigation targets and some Parties pledged contributions to the Green Climate Fund. These announcements were seen as a starting point for more statements to be made at the climate change conference in Lima and beyond.

## 2.2. The COP in Lima (2014)

The last Conference of the Parties before the Paris conference took place in Lima under the presidency of Mr. Manuel Pulgar-Vidal, the Minister of the Environment of Peru. The COP was attended by approx. 11 000 delegates from over 190 countries ([UNFCCC 2014a](#)). Negotiations, which had originally been scheduled for 1 to 12 December 2014, were extended until 14 December, when the “Lima Call for Climate Action” was adopted ([Decision 1/CP.20](#)).

The Lima conference built on the positive momentum created by the climate summit in New York in September 2014 (see chapter 2.1) and announcements of intended mitigation actions by several Parties, including the EU, China and the United States ([Council of the European Union 2014a](#); [The White House 2014](#)). Besides preparations for the new agreement, negotiations were held on increasing pre-2020 mitigation ambition and on further topics under the Convention and under the Kyoto Protocol.

The preparation of a new agreement is the task of the Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) under its workstream 1 (see Box 5). In Lima, the seventh part of the second session of the ADP was held.

During that session, both the further procedure up to the conference in Paris and the elements of a new agreement were discussed. Concerning the further procedure, no agreement was achieved within the ADP plenary, as various developing countries voiced their concerns, in particular on the way differentiation between developing and developed countries was addressed. Nevertheless, the draft text on the further procedure was discussed at the COP as the “President’s proposal” and was finally adopted as the main part of [Decision 1/CP.20](#), the “Lima Call for Climate Action”.

The elements of a new agreement, which had been discussed in the first week of the negotiations, were transmitted by the Co-Chairs to the President of the COP and were included as Annex to [Decision 1/CP.20](#). Besides a preamble and sections on definitions, objectives, implementation and procedures, these elements include six main topics (see Table 1), which had already been included in the ADP’s mandate ([Decision 1/CP.17](#)),



agreed in Durban in 2011. These elements were also retained in the further concretisation of the draft agreement, which took place during 2015 (see e.g. [ADP 2015b](#)).

**Table 1: Main topics of negotiations and key questions**

Topic	Key questions
<b>Mitigation</b>	<p>Which emission reductions/limitations will Parties commit themselves to with a view to keeping temperature increase below 2 degrees C?</p> <p>How can the level of ambition be enhanced after Paris so that the temperature increase will remain below 2 degrees C with a reasonable probability?</p> <p>Will the transparency of past and future emissions reporting be adequate for the necessary evaluations of the national plans and emissions of the Parties?</p>
<b>Adaptation and loss and damage</b> <p><b>Note:</b> In the ADP's mandate (<a href="#">Decision 1/CP.17</a>), only "adaptation" is listed. "Loss and damage" was included in the draft elements in the Annex to the Lima Call for Climate Action (<a href="#">Decision 1/CP.20</a>).</p>	<p>Adaptation from the perspective of developing countries: How can the provision of Means of Implementation (MoI, i.e. finance, technology transfer and capacity building) for adaptation measures be enhanced?</p> <p>Adaptation from the perspective of developed countries: How can adaptation measures in developed countries be organised in an efficient and effective manner?</p> <p>Loss and damage from the perspective of developing countries: How can we introduce a mechanism that makes emitters accountable for loss and damage due to greenhouse gas emissions?</p> <p>Loss and damage from the perspective of developed countries: How can we address loss and damage so that liability and compensation for loss and damage can be avoided?</p>
<b>Finance</b>	<p>From the perspective of developing countries: How can predictable and adequate financial flows from developed to developing countries be established in order to support mitigation and adaptation activities in developing countries?</p> <p>From the perspective of developed countries: How can we organise support in an efficient and effective manner, taking into account the significant role of the private sector in making investments?</p>
<b>Technology</b> <p><b>Note:</b> The complete term used in the COP decisions is "technology development and transfer".</p>	<p>From the perspective of developing countries: how can we achieve the deployment of technologies for mitigation and adaptation on an adequate scale?</p> <p>From the perspective of developed countries: How can we continue to provide an attractive enabling environment for the private sector to develop and deploy technologies?</p>

Topic	Key questions
<b>Capacity building</b>	<p>From the perspective of developing countries: How can we make the necessary skills available to implement the planned adaptation and mitigation actions?</p> <p>From the perspective of developed countries: How can we provide the necessary skills for developing countries in an effective and efficient manner?</p>
<b>Transparency</b>  <b>Note:</b> The complete term used in the COP decisions is “transparency of action and support”.	<p>In the context of mitigation: What is required to assess the overall global mitigation effort, given the diversity of the INDCs (see Box 7)?</p> <p>In the context of the means of implementation: What is required to carry out an evaluation of the effectiveness and efficiency of the support provided?</p>

**Source:** Topics: Decisions [1/CP.17](#) and [1/CP.20](#). Key questions: Authors’ views.

In the table above, the questions are posed separately for developing and developed countries. However, it has to be noted that these different points of view stem from the Convention and its Annexes. Developed countries feel strongly that the differentiation agreed in 1992 does not reflect the current state of the Parties (see also chapter 2.4).

For each of the six topics presented in Table 1, the discussions during the Lima conference and the final outcomes are summarised in the sub-chapters below.

Under an additional topic, the discussions and results relating to a possible legal form of the agreement are summarised. Finally, a chapter on international aviation and shipping is provided. Emissions from these sectors are projected to grow in the future and addressing them will require new forms of international collaboration in the coming years.

### 2.2.1. Mitigation

Concerning mitigation of climate change, the discussion of the ADP focused on the type, extent and assessment of information to be provided by Parties as a contribution to the new agreement, the so-called Intended Nationally Determined Contributions (INDCs).

The list of information to be included in the INDCs (see Box 7) is rather general; there has been no agreement on more specific requirements. Although an international assessment of submitted INDCs had been requested by various groups, no agreement was reached on this point and it was decided that the submissions would be aggregated, in a synthesis report, by the UNFCCC secretariat by 1 November 2015 (see chapter 6).

Besides contributions to climate change mitigation, contributions in the area of adaptation are mentioned in the Lima Call for Climate Action, however in a less specific way, as Parties are invited “to consider communicating their undertakings in adaptation planning or consider including an adaptation component in their intended nationally determined contributions” ([Decision 1/CP.20](#)). This is a result of the discussion during the ADP session in Lima, where several developed countries pointed out that the INDC should focus on mitigation, whereas many non-Annex I Parties requested other topics besides mitigation to be included in the INDC.

**Box 7: Intended Nationally Determined Contributions (INDCs)**

According to the Lima Call for Climate Action ([Decision 1/CP.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” ([UNFCCC 1992](#)). It is, in short, the contribution a Party is willing to make to mitigate climate change.

The Lima Call for Climate Action lists the type of information which an INDC may include, “in order to facilitate clarity, transparency and understanding”:

- Quantifiable information on the reference point (including, as appropriate, a base year)
- Time frames and/or periods for implementation
- Scope and coverage
- Planning processes
- Assumptions and methodological approaches
- How the Party considers that its INDC is fair and ambitious
- 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. Those ready to do so were asked to submit them in the first quarter of 2015.

The INDCs submitted during 2015 are discussed in chapter 3 (for main Parties) and in chapter 6. Most Parties provided the information listed in the bullet points above in tabular format. Their mitigation contributions were expressed, for example, as greenhouse gas emission reductions compared to a base year or compared to a business as usual scenario.

For more information on INDCs submitted by main Parties, see chapters 3.1 to 3.11. For an up-to-date status of the INDCs submitted by the Parties by October 2015, see chapter 6.

Besides long-term climate action, which will be the subject of the new agreement, a need for ambitious mitigation action before 2020 has been highlighted in various studies (e.g. [UNEP 2014](#)) and was noted, inter alia, by the COP in [Decision 1/CP.17](#). Therefore, the ADP addresses – under its workstream 2 – options to increase the pre-2020 mitigation ambition. The ADP work programme for 2014 focused on an exchange of successful climate change mitigation actions. Specific workshops covered the sectors energy, agriculture and forestry.

At the COP in Lima, the ADP co-chairs presented a draft decision text which suggested establishing a forum in 2015. Many developing countries asked for the establishment of an official mechanism for pre-2020 mitigation action, which was opposed by all developed country Parties. During the negotiations, it was agreed that thematic expert discussions to “facilitate Parties in the identification of policy options, practices and technologies” ([Decision 1/CP.20](#)) should be continued. In addition, it was decided that the technical paper on the mitigation benefits of the actions ([UNFCCC 2014b](#)), which summarises recent mitigation initiatives and actions and presents good practice examples, should be updated. An assessment of the expert meetings is scheduled for COP 21 in Paris.

Besides the ADP, mitigation elements were also discussed under the Convention and under the Kyoto Protocol. These were negotiated during the first week of the Conference in the subsidiary bodies (SBSTA and SBI, see Box 4) and then taken over by the COP (Convention-related topics) and the CMP (topics related to the Kyoto Protocol).

Such negotiations on mitigation included the implementation of the Doha Amendment to the Kyoto Protocol (see Box 6), flexible mechanisms, mitigation actions in developing countries and impacts of response measures.

This Doha Amendment commits Parties listed in Annex B to emission reductions in the period 2013 to 2020. SBSTA continued its work on detailed rules for the monitoring, reporting and verification (MRV) of these emissions ("accounting rules"). At the Lima session of the SBSTA, an agreement was reached on the rules for the calculation, assignment and deletion of assigned amount units (AAU, i.e. emission allowances), as well as on the registries for emission allowances and updated reporting tables for emission and registry information. However, no agreement was reached on rules for the transfer of assigned amount units from the first to the second commitment period. Ukraine, which had not used up all its emission allowances assigned for the first period of the Kyoto Protocol, called for a transfer of unused assigned amount units to the second commitment period, and this was opposed by the group of 77 and China (see chapter 4.1). This topic was postponed until the next session of the SBSTA.

On the Clean Development Mechanism (CDM, one of the flexible mechanisms under the Kyoto Protocol, see chapter 2.1), informal consultations were held. Draft decisions were proposed by the chairs which included the requests of all Parties. However, due to the diverging requests, the consultations had to be postponed until the next SBI meeting. Similarly, issues about technicalities of joint implementation in the second commitment period under the Kyoto Protocol remained open.

Under the Kyoto Protocol, Parties not only account for greenhouse gas emissions, but also for emissions and removals through land use, land use change and forestry (LULUCF).

**Box 8: Land Use, Land use Change and Forestry (LULUCF)**

Land use, changes in land use and forestry activities can alter the carbon stock of biomass and soils. As such, these activities may act as sources or sinks of greenhouse gases. In greenhouse gas inventories to be compiled under the UNFCCC, these sources and sinks are reported as a separate sector, "Land Use, Land Use Change and Forestry" (LULUCF), provided that they result from human-induced activities.

Under the Kyoto Protocol, Parties account for LULUCF emissions/removals resulting from certain land use activities (e.g. deforestation, forest management and cropland management). In case LULUCF is a net sink of emissions, total greenhouse gas emissions of a Party are reduced by the corresponding amount, which is issued to the Party as so-called "removal units" (RMU).

At the COP in Lima, the discussion focused on whether additional LULUCF activities besides reforestation may be accounted for under the Clean Development Mechanism (see also chapter 2.1). Although no agreement was reached on additional activities, a timetable was agreed for further discussions of this topic.

Another accounting issue which remained unresolved in Lima concerns Article 3.7ter of the Kyoto Protocol. Article 3.7 of the Kyoto Protocol sets out rules for determining the assigned amount (total greenhouse gas emissions in CO<sub>2</sub> equivalents) for the various Parties in the first commitment period (2008-2012). This Article was amended in Doha with additional paragraphs defining the rules for the second commitment period (paragraphs 7bis and 7ter). According to Art 3.7ter, the average annual assigned amount of the second commitment period must not exceed the average annual emissions of the years 2008 to 2010. This provision was introduced to ensure that commitments under the Doha

Amendment constitute not only an emission reduction compared to the base year, but also a reduction compared to more recent years.

Kazakhstan, which did not participate in the first commitment period under the Kyoto Protocol, requested clarification in 2013 on how to interpret this paragraph in its particular case. This request led to a number of different interpretations, which are also important for the European Union as it is also a special case – with one emission reduction target that applies to the European Union as a whole and many different targets applying to the countries it consists of. The European Union is of the opinion that Article 3.7ter only applies to the Union as a whole. This issue has remained unresolved and is still on the agenda for Paris.

Concerning developing countries, another topic of the negotiations in Lima was Nationally Appropriate Mitigation Actions (NAMAs). These were developed as a tool to attract investment in low carbon technologies.

**Box 9: Nationally Appropriate Mitigation Actions (NAMAs)**

Nationally Appropriate Mitigation Actions (NAMAs) were established in the Bali Action Plan ([Decision 1/CP.13](#)). These are actions to reduce greenhouse gas emissions in developing countries which were prepared under a national governmental initiative. There are two types of NAMAs:

- At the national level as a formal submission by Parties declaring their intent to mitigate greenhouse gas emissions in a manner commensurate with their capacity and in line with their national development goal.
- At the individual action level as detailed actions or groups of actions designed to help a country meet mitigation objectives within the context of national development goals ([UNFCCC 2015a](#)).

At the COP in Lima, a work programme on the understanding of the diversity of such NAMAs was concluded. The work programme had provided an exchange of information on methodological approaches, on support for the preparation and implementation of NAMAs and on matching NAMAs in the NAMA registry.

Measures to mitigate climate change imply various economic and social effects. Therefore, a forum and a work programme on the “impact of the implementation of response measures” was established at COP 17 in Durban. At the COP in Lima, the main issue was the proposed establishment of a mechanism for response measures, which was called for by the group of G-77 and China (see chapter 4.1) but opposed by developed country Parties. As no agreement was reached, the topic was referred to the next subsidiary body meeting.

With regard to the topic of Reducing Emissions from Deforestation and Forest Degradation (REDD / REDD+, see Box 10), the framework established in 2013 was further substantiated at the COP in Lima. The discussion focused on so-called safeguards, which were introduced in the Cancún Agreement ([Decision 1/CP.16](#)). These are criteria that should be promoted and supported through REDD+ activities (e.g. consistency with national forest programmes, respect for the knowledge and rights of indigenous peoples etc.). Whereas developed countries pointed out the need for a guidance document on safeguards, many developing countries and in particular Brazil opposed such a guidance document. Hence, no agreement was reached on this point.

**Box 10: The UN-REDD programme and REDD+**

The Programme on Reducing Emissions from Deforestation and Forest Degradation (UN-REDD Programme) was established in 2008 by the United Nations' Food and Agriculture Organization (FAO), Development Programme (UNDP) and Environment Programme (UNEP). This programme supports nationally led processes and promotes the informed and meaningful involvement of all stakeholders ([UN-REDD 2015](#)).

The REDD+ initiative extends this approach as it includes the role of conservation, sustainable management of forests and enhancement of forest carbon stocks in developing countries. Activities in the area of REDD+ are supported by the UN-REDD programme.

The Warsaw framework for REDD+ (established at COP 19 in 2013) institutionalises the support for REDD+ activities under the UNFCCC. It addresses monitoring, reporting and verification systems for such activities. It has also established an information hub to publish results and payments and encouraged financial entities, including the Green Climate Fund, to channel adequate and predictable results-based finance.

Related to REDD+, Bolivia submitted a paper on a "Joint mitigation and adaptation approach for the integral and sustainable management of forest – JMA" ([Plurinational State of Bolivia 2014](#)). It contains a proposal for a non-market approach which, in the view of many Parties, would not be compatible with REDD+ and would constitute a genuinely new approach. The discussions of this topic will continue.

Another topic, which is important as the Paris conference is approaching, is the 2013-2015 review. It was established in Doha, with the aim of assessing the appropriateness of the goal of holding the increase in global average temperature below 2 degrees C above pre-industrial levels. The review is scheduled to be discussed during the SBSTA session in Paris.

**2.2.2. Adaptation and loss and damage**

Over the past ten years, the topic of adapting to the adverse effects of climate change has emerged as a main cornerstone of international climate policy, besides mitigation. In 2005, a mechanism was established to disseminate information on adaptation policies and practices, which came to be known as the Nairobi Work Programme (NWP) in 2006. This work programme encompasses technical workshops, submissions and reports on a wide area of topics, such as methods, observations, modelling, socio-economic information, as well as adaptation planning and practices.

The draft negotiating text discussed in Lima and annexed to [Decision 1/CP.20](#) covers diverging options on adaptation, including a global adaptation goal, support by developed countries on adaptation and a differentiation between the Parties, which was emphasised by various developing countries. Options were brought forward for the Parties' adaptation commitments, contributions or actions and for the developed countries' contributions in the area of technology transfer and capacity building. The least developed countries, in particular, asked to include monitoring, reporting and verification of the support provided and to ensure that the support was commensurate with the effort required in developing countries.

Concerning loss and damage, the draft negotiating text refers to the Warsaw International Mechanism for Loss and Damage (see chapter 2.1), but the countries' opinions diverge on whether it should be supplemented by additional provisions.



In addition to negotiations under the ADP, an expert meeting under the Nairobi Work Programme on promoting livelihoods and economic diversification was agreed in Lima, despite voices raised by various Parties against the widening of the work programme.

As agreed at the COP in Cancún, work on adaptation is promoted by the Adaptation Committee, and approaches to addressing loss and damage are the subject of a work programme organised by the Executive Committee of the Warsaw International Mechanism (WIM) for Loss and Damage ([WIM Executive Committee 2015](#)).

In addition, the negotiations in Lima also addressed a process on National Adaptation Plans (see Box 11).

**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. It is a continuous, progressive and iterative process which follows a country-driven, gender-sensitive, participatory and fully transparent approach ([Decision 5/CP.17](#)). Initial guidelines for the formulation of NAPs were adopted at COP 17 in Durban, 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.

At the COP in Lima, experiences with the guidelines for the formulation of NAPs were discussed and it was decided that these guidelines did not need to be updated. The subject of further discussions would be the enhancement of reporting on the process of NAP formulation and implementation.

The work of the adaptation committee was also discussed in Lima and all its recommendations, including those for the Green Climate Fund (GCF) and the Global Environmental Facility (GEF) were adopted in the appropriate COP decisions (for GCF and GEF, see Box 12, below).

Concerning the Warsaw International Mechanism for Loss and Damage (see chapter 2.1), the focus of the negotiations was on the work programme of the Executive Committee, its composition and on additional bodies under the Committee. Despite concerns voiced by the AOSIS group (see chapter 4.4), the work programme prepared by the provisional Executive Committee was adopted. The composition of the Committee was finalised following the model of the Standing Committee on Finance (SCF), with a balance between developing and developed countries and a seat representing countries with "Economy In Transition" (EIT) status.

### 2.2.3. Finance

The provision of financial support is one of the key means of implementation. Over the years, several funds have been set up to finance mitigation and adaptation projects in developing countries. Under the Copenhagen Accord (cf. chapter 2.1), the developed country Parties pledged to annually mobilise USD 100 billion of climate finance by 2020.

At the conference in Lima, the discussion on the finance provisions in the new agreement showed wide differences of opinion between developing and developed country Parties. In particular, the group of Like-Minded Developing Countries (LMDC, see chapter 4.3), opposed the option of asking all Parties, instead of Annex I Parties only, to mobilise climate finance. Developing countries also opposed the option of results-based adaptation finance, calling for quantitative financing goals instead.

On the other hand, the developed country Parties, including the European Union, referred to the growing levels of prosperity and greenhouse gas emissions in the developing countries, suggesting that other Parties (in addition to the traditional developed countries) should also contribute to climate finance.

In the negotiations in Lima, finance topics outside the ADP comprised the second review of the Adaptation Fund and further guidance for the Least Developed Countries Fund. The Adaptation Fund (AF) was established in 2001 to finance adaptation projects and programmes in developing country Parties to the Kyoto Protocol. With regard to the review, it was discussed how better access to the fund could be provided for institutions in least developed countries and how cooperation with other funds under the Convention, in particular the Green Climate Fund could be improved.

#### **Box 12: The Global Environment Facility (GEF) and the Green Climate Fund (GCF)**

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 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 operational in 2014, with the GCF Secretariat based in Songdo (Republic of Korea). As of June 2015, 34 Parties pledged a total of USD 10.2 billion to the GCF ([Climate Funds Update 2015](#)).

Currently the World Bank serves as the interim trustee of the Adaptation Fund. Developing countries called for the establishment of a long-term trustee, but no agreement on such a process was reached and the current status was extended to 2017.

Concerning the Least Developed Countries Fund (LDCF), G-77 and China called for mandatory contributions to be provided by Annex I Parties, a request to which, in particular, the Umbrella Group (see chapter 4.2) objected and no agreement was reached.

During the negotiations in Lima, G-77 and China managed to create a link between the COP decisions on finance, including the Green Climate Fund, and the elements for a new agreement, as included in the Annex to the Lima Call for Climate Action. It can be expected that finance aspects will play a key role in the negotiations on the new agreement in Paris.



**Box 13: Public and private climate finance**

Climate finance, provided by the international mechanisms mentioned above, is complemented by additional public and private finance flows. It has to be noted that there is ambiguity about which financing activities should be included in “private climate finance” and how they can be accounted for in detail. The Organisation for Economic Co-operation and Development (OECD) estimated that in 2014, a total of USD 62 billion of public and private climate-related finance was mobilised, more than 70 % of which were public funds ([OECD 2015](#)). This amount has to be seen in the context of the commitment undertaken by developed country Parties under the Copenhagen Accord (cf. chapter 2.1) to annually mobilise USD 100 billion of climate finance by 2020.

**2.2.4. Technology**

The new agreement will build on the Technology Mechanism which was established in Cancún in 2010 (see Box 14, below). Many Parties, including some developing countries, are in favour of keeping and strengthening it. Consequently, the draft agreement text discussed in Lima contains various options for adapting the current mechanism, without widely diverging positions.

However, the question of technology transfer commitments is still open. Several developing countries called for commitments that would differentiate between developed and developing countries. China mentioned the importance of making intellectual property rights (IPR) available to facilitate the transfer of climate-related technology.

Outside the ADP, the annual reports of the two bodies under the Technology Mechanism were discussed.

**Box 14: The Technology Mechanism**

The Technology Mechanism was established at the COP in Cancún 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 the policy arm, analyses technology policy issues and provides recommendations.
- The Climate Technology Centre and Network (CTCN), as the implementation arm, provide technical assistance to developing countries, facilitates access to knowledge on climate technologies and fosters collaboration among stakeholders.

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

In Lima, an enhancement of the Technology Needs Assessment process (TNA, established at COP 7 in Marrakesh) was agreed on the basis of an initiative of the European Union. It is intended to make TNAs more efficient and results-based and to facilitate access to funding, including funds from private investors. Concerning intellectual property rights (IPR), elements from other decisions, such as collaboration with organisations outside the UNFCCC, were included in the decision on Technology Transfer.

**2.2.5. Capacity Building**

Similarly to the draft agreement text on technology, the options for capacity building are based on the existing capacity building framework under the Convention. No detailed

commitments to capacity building are foreseen in the draft text. However many developing countries called for the establishment of a capacity building mechanism, a request which was opposed by developed countries. The European Union pointed out that further capacity development should be supported by all Parties and suggested making use of existing mechanisms to ensure capacity building.

Capacity building under the Convention and under the Kyoto Protocol covers the individual, institutional and systemic level (i.e. the level of economic and regulatory policies). Since 2012, the Durban Forum on Capacity Building has been meeting once a year to exchange experiences and good practices in this area.

At the COP in Lima, the summary report of the third meeting of the Durban Forum was discussed and preparations were made for the third comprehensive review of the implementation of the framework for capacity building in developing countries. However, progress on a new COP/CMP decision relating to this topic was slow in the SBI and considerations were referred to the next SBI meeting (SBI 42).

#### 2.2.6. Transparency

Transparency is a key concept in international climate policies, as it ensures the accountability of mitigation actions and of the provision and use of climate finance.

During negotiations in Lima, the options for transparency provisions in the new agreement were highly diverse, ranging from building on existing arrangements to a new transparency framework. Concerning transparency in mitigation, developing countries called for additional monitoring, reporting and verification requirements for countries other than Annex I Parties, which was opposed by many developed countries as it was seen as an additional burden.

For the implementation of the future agreement and its credibility, it will be crucial that climate related action (e.g. mitigation and adaptation measures) and support (financing, technology transfer, capacity building) can be accounted for. Therefore, transparency is a key issue, which, however, can be substantiated only once action and support have been better defined.

According to Article 12 of the Convention, all Parties are required to submit information on greenhouse gas emissions by sources and removals by sinks (i.e. greenhouse gas inventories) and additional information, such as a description of mitigation actions. The requirements are more detailed for Annex I Parties (see Figure 1). In particular, these Parties are required to submit detailed greenhouse gas inventories on an annual basis.

In Lima, the revision of the guidelines for National Communications for Annex I Parties was discussed. This item is on-going and needs to be finalised at least one year before the next National Communications are due on 1 January 2018. A more immediate issue was the finalisation of review guidelines for national inventories, which had to be adapted to the structure and methods of the IPCC 2006 Inventory Guidelines ([IPCC 2006](#)). The work on the review guidelines was finalised, with a simplification allowing for “desk reviews” under certain conditions, which had been requested by Annex I Parties.

**Figure 1: National reports and topics covered**

	Annex I Parties			Non-Annex I Parties	
	National Inventory Report			Biennial Update Report	
	Biennial Report			National Communication	
	National Communication			National Communication	
National circumstances	X			X	
Greenhouse gas inventory	X	X	X	X	X
Mitigation actions	X	X		X	X
Projections	X	X			
Adaptation measures	X			X	
Technology / finance	X	X		encouraged	X
Research	X			encouraged	
Education	X			encouraged	

**Source:** Decisions [4/CP.5](#), [2/CP.17 \(Annex I\)](#) and [24/CP.19](#) for Annex I countries; Decisions [17/CP.8](#) and [2/CP.17 \(Annex III\)](#) for non-Annex I countries.

National Communications are to be submitted every four years. In Biennial Update Reports, information on technology, finance and capacity-building *needs* and *support received* is requested.

Non-Annex I countries can seek support via the GEF (see Box 12) in the preparation of their National Communications and Biennial Update Reports.

In Lima, a so-called “Multilateral Assessment” session was held for the first time. For 17 Annex I Parties (16 countries plus the EU), progress towards the achievement of their quantified economy-wide emission limitation/reduction target was assessed. This was organised as question-and answer sessions and as part of the International Assessment and Review (IAR) process, which is based on [Decision 1/CP.16](#).

#### 2.2.7. Legal form of the new agreement

In the discussions in Lima, many Parties made clear that at that point in time, it was too early to define the legal form of the new agreement. Consequently, the Lima Call for Climate Action ([Decision 1/CP.20](#)), stipulates that the communication of the draft negotiation text “will not prejudice whether the outcome will be a protocol, another legal instrument or an agreed outcome with legal force under the Convention applicable to all Parties”.

Besides the legal form of the agreement which is still open, it remains unclear which parts of the agreement will be legally binding and how compliance will be monitored and ensured. Most Parties support an outcome with legally binding commitments in the areas of mitigation and finance. It will be one of the main challenges at the COP in Paris to agree on a type of agreement that is acceptable to all Parties.

The European Union and its Member States are planning to fulfil their commitment under the new agreement jointly, i.e. the emission reductions will apply to all Member States

combined, rather than to each of them individually. This is the approach they followed under the Kyoto Protocol and which came to be known as “EU bubble”. For some Parties, the design of an “EU bubble” under the new agreement may still be a topic of negotiation.

After the Conference in Lima, work on the agreement continued during 2015 at several additional ADP meetings. These are summarised in chapter 2.3 and the up-to-date status of the draft agreement as of October 2015 is presented in chapter 2.3.10 (ADP meeting 2-11 in Bonn).

#### 2.2.8. International aviation and shipping

Greenhouse gas emissions from international maritime transport and aviation had a share of approximately 3 % in global CO<sub>2</sub> emissions in 2013 ([Olivier et al. 2014](#)) and are projected to further increase in the future.

According to a study of the International Civil Aviation Organization ([ICAO 2010](#)), aviation emissions of CO<sub>2</sub> are estimated to increase by a factor of 1.9 to 4.5 between 2005 and 2050. The International Maritime Organization ([IMO 2015](#)) projected maritime greenhouse gas emissions to increase by 50 % to 250 % between 2012 and 2050.

Currently, emissions are not included in the Parties’ mitigation targets under the Convention or the Kyoto Protocol. Although such emissions are calculated as part of national greenhouse gas emission inventories, they are excluded from national totals and reported separately under “emissions from international bunker fuels”.

Since the start of 2012, the European Union has been including emissions from all flights to and within the European Economic Area in the EU Emissions Trading System (ETS). However, the application of the EU ETS for flights to and from non-European countries is currently suspended in order to give the International Civil Aviation Organization (ICAO) time for negotiations on a global market-based mechanism ([European Commission 2015c](#)).

A decision on such a mechanism is planned for the 39<sup>th</sup> Assembly of the ICAO in 2016. The ICAO published a guidance document on the use of emissions trading for aviation ([ICAO 2008](#)) and in its 38<sup>th</sup> Assembly Session in 2013 decided to develop a global scheme of market-based measures (MBM) for international aviation.

ICAO Member States, the aviation industry and other stakeholders are currently developing a proposal for an MBM scheme capable of being implemented from 2020, for decision by the 39<sup>th</sup> ICAO Assembly in 2016. The progress of this initiative was most recently laid out in ICAO’s report submitted to the SBSTA session in Bonn in June 2015 ([SBSTA 2015](#)).

On maritime transport, the International Maritime Organization (IMO) is working on guidelines to support the uniform implementation of energy-efficiency regulations for ships. On overall greenhouse gas emission reduction commitments, the organisation is more cautious. In September 2015, the IMO’s secretary general, Koji Sekimizu, objected to specific measures aimed at reducing shipping’s overall contribution to CO<sub>2</sub> emissions. He pointed out the role of shipping as part of the world economy and argued that the development of further measures in this sector falls under the responsibility of the IMO ([IMO 2015b](#)).

Once the rules are negotiated for the implementation of mitigation commitments under the Paris agreement, emissions from international transport will be re-considered. This topic is currently listed in the ADP working document of September 2015 ([ADP 2015d](#)) as an element whose inclusion requires further consideration. It can therefore be expected to resurface as a negotiation item after the Paris conference.

In September 2015, a Global Sustainable Aviation Summit took place in Geneva, organised by the industry association “Air Transport Action Group” (ATAG). In an open letter published during the conference, representatives from the aviation industry, including Airbus and Boeing, underlined their commitment to global market-based measures for the sector, to be developed through ICAO and expected to be in place from 2020 ([ATAG 2015](#)).

At the Paris conference, a side event will take place where ICAO will present its activities and joint initiatives with other UN bodies and the aviation industry on technical, operational and market-based measures. IMO will present progress made on technical and operational measures for enhancing the energy efficiency of shipping ([UNFCCC 2015i](#)).

For more information on the International Civil Aviation Organization, see chapter 5.3.2; for the International Maritime Organization see chapter 5.3.3.

To summarise the outcome of the negotiations in Lima, progress was made on a range of technical issues. The willingness of the international community to commit itself to a global climate agreement was reaffirmed in Lima, but diverging opinions remained, which had to be tackled in a series of negotiation rounds during 2015.

### **2.3. Developments in 2015**

During 2015, in the run-up to the Paris conference, delegates gathered repeatedly to continue work on the draft agreement. Parties submitted Intended Nationally Determined Contributions (INDCs) and stakeholders explained their positions at a multitude of events. In this chapter, the key meetings of 2015 are summarised. These include various sessions of the ADP, the Subsidiary Body meeting in Bonn in June and other conferences at UN level.

Important statements made by Parties during 2015 are discussed under the respective Party section in chapter 3, and statements by other stakeholders are presented in chapter 5. Nevertheless, in order to provide an overview of the key statements, Box 15 lists them in chronological order and shows the chapters where they are discussed in more detail.

### **Box 15: Selected statements made by Parties and stakeholders during 2015**

9 March 2015: The European Union submits its INDC (see chapter 3.3.3)

18 March 2015: The IPCC launches the complete version of the Synthesis Report, the final instalment of the Fifth Assessment Report (see chapter 5.3.1).

31 March 2015: The United States of America submits its INDC (see chapter 3.2.3)

17-19 May 2015: The Petersberg Climate Dialogue discusses the process in the run-up to the Paris conference (see chapter 5.2.4).

24 May 2015: Pope Francis publishes the Encyclical Letter “Laudato si’ on care for our common home” (see chapter 5.2.6, Box 23).

8 June 2015: The Group of Seven (G7) heads of state affirm their determination to adopt an ambitious, robust and inclusive agreement in Paris (see chapter 5.2.1).

15 June 2015: The Assembly of the African Union convenes and makes a decision on Africa’s engagements in the global climate negotiations (see chapter 4.5).

30 June 2015: China submits its INDC (see chapter 3.1.3).

18-19 July 2015: The Major Economies Forum convenes to discuss elements of the Paris agreement (see chapter 5.2.3).

3 August 2015: President Obama and the U.S. Environmental Protection Agency announce the Clean Power Plan (see chapter 3.2.2, Box 19).

18 August 2015: Muslim scholars issue an “Islamic Declaration on Climate Change” (see chapter 5.2.6).

18 September 2015: The European Environment Council presents its conclusions for the COP in Paris (see chapter 3.3.4).

24 September to 1 October 2015: Major developing countries submit their INDCs, including Indonesia, South Africa, Brazil and India (see chapters 3.4 to 3.11).

10 November 2015: The European Economic and Financial Affairs Council presents its conclusions on climate finance (see chapters 3.3.4 and 7.1).

#### **2.3.1. ADP meeting 2-8 in Geneva (February 2015)**

The Ad Hoc Working Group on the Durban Platform for Enhanced Action (ADP) had been mandated by the COP in Lima to prepare a negotiating text for the new agreement, based on the elements provided in the Annex to the “Lima Call for Climate Action” ([Decision 1/CP.20](#)).

From 8 to 13 February 2015, the ADP reconvened in Geneva for the eighth part of its second sessions (ADP 2-8). In meetings of the ADP contact group, the Parties went through the Annex to Decision 1/CP.20 and proposed various additions, which were included in the draft text. In the course of the session, co-chairs Ahmed Djoghla (Algeria) and Daniel Reifsnyder (USA), as well as Party representatives made suggestions for streamlining the draft text.

However, as several Parties had reservations about streamlining the text at this point in time, all additions were kept in the text, which was adopted by the ADP closing plenary as the “Geneva Negotiating Text” (GNT, [ADP 2015a](#)).

The “Geneva negotiating text”, with its 90 pages, is more than twice as long as the draft elements of the Annex to the Lima Call for Climate Action. Hence, it has become clear that

more work still had to be done to streamline it in time before the Paris conference. Given the limited time available until the conference in Paris, some delegates have expressed their disappointment at the fact that no streamlining took place in Geneva ([IISD 2015a](#)).

On the other hand, the text comprehensively reflects the Parties' positions and was published as an official document ([ADP 2015a](#)) on 25 February 2015. Therefore, ADP fulfilled its mandate ahead of schedule which was, according to Decision 1/CP.20, to make available a negotiating text before May 2015.

In Geneva, the ADP also discussed its workstream 2, i.e. increasing mitigation ambition before 2020. Contact group discussions took place and a session on the Technical Examination Process (TEP) was held. The TEP explores, *inter alia*, emission reduction policies, as well as barriers to their implementation, incentives and options for support.

### 2.3.2. UN World Conference on Disaster Risk Reduction in Sendai (March 2015)

From 14 to 18 March, the Third UN World Conference on Disaster Risk Reduction took place in Sendai (Japan). At this conference, the Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted ([United Nations 2015](#)).

In this agreement, delegates cite evidence that the exposure of persons and assets to disasters has increased faster than their vulnerability has decreased. Therefore, they demand urgent action to anticipate, plan for and reduce disaster risk. The Sendai Framework introduces seven targets, with the aim to achieve "a substantial reduction of disaster risk and losses of lives, livelihoods and health and in the economic, physical, social, cultural and environmental assets of persons, businesses, communities and countries".

This goal is to be achieved by four priorities of action, i.e. understanding disaster risk, strengthening disaster risk governance to manage disaster risk, investing in disaster risk reduction for resilience, and enhancing disaster preparedness for effective response.

The framework acknowledges that many disasters are exacerbated by climate change and that climate change is one of the underlying drivers for disaster risk. It states that addressing climate change represents an opportunity to reduce disaster risk in a meaningful and coherent manner, but it also respects the mandate of the UNFCCC in this area.

### 2.3.3. Meeting of Subsidiary Bodies (SB 42) and ADP meeting 2-9 in Bonn (June 2015)

From 1 to 11 June 2015, the 42<sup>nd</sup> session of the UNFCCC's subsidiary bodies (SBI and SBSTA, see Box 4) took place in Bonn. Subsidiary Body meetings have been taking place in Bonn each May/June since 1998, complementing the sessions held in parallel to each COP at the end of each year. Unlike in other years, however, a key focus of interest in Bonn was on the session of the Ad-Hoc Working Group on the Durban Platform for Enhanced Action (ADP 2-9), which took place at the same time in Bonn as well.

ADP was faced with the task of structuring the "Geneva negotiating text" ([ADP 2015a](#)) which had grown in size substantially during the Geneva session (see section 2.3.1). 11 focus groups were working on the various sections of the text. On adaptation, delegates were able to add clarity by re-arranging text passages and by adding subheadings, but the overall negotiation text was shortened by a few pages only.

Key issues which still contained widely diverging options concerned, *inter alia*, the timeframes and the role of reviews under "mitigation", potential new institutions under "capacity building" and existing versus new mechanisms under "financing". Under "technology", the text was already well structured. Diverging views became evident in



discussions as to which parts should be included in the agreement and which parts would be addressed by COP decisions.

In the closing session of the ADP, Parties agreed that the pace of consolidation was very slow given the large amount of work still lying ahead. Therefore, the co-chairs were mandated to provide an informal note ("non-paper"), to further streamline elements of the text and differentiate between elements intended for the agreement text and elements for COP decisions.

**Box 16: The ADP co-chairs' scenario note and tool**

After the ADP session in June, the ADP co-chairs, Ahmed Djoghlaif and Daniel Reifsnyder, compiled an informal document which was published on 24 July 2015 under the title "Scenario note on the tenth part of the second session of the Ad Hoc Working Group on the Durban Platform for Enhanced Action" ([ADP 2015b](#)).

This scenario note describes the progress achieved so far, the objective of the forthcoming ADP session 2-10 in August/September and the proposed organisation of the work to be done.

Annex II of the scenario note contains the so-called "co-chair's tool", in which possible elements of the Paris agreement are presented, for the first time structured in three parts.

What is new about this text is that the elements proposed in the previous ADP sessions are now structured (as suggested by the co-chairs) in three parts:

- Part 1 contains elements that are intended to be included in the Paris agreement.
- Part 2 presents elements that are to be covered by separate Decisions of the COP, rather than by the agreement.
- The elements listed in Part 3 are those which, according to the co-chairs, require further clarity and discussion among Parties.

The co-chairs emphasised that their suggested text was derived directly from the "Geneva negotiating text" ([ADP 2015a](#)) and that the suggested distribution of the provisions was without prejudice to the negotiations among Parties. The document was welcomed by many delegates as a timely and helpful tool to support negotiations in the ever shortening timeframe that was left. However, concerns were voiced about the elements included in part 3 of the tool ("elements requiring further clarity") which might – despite their importance – be put on hold in the further negotiation process.

In addition to the discussion on the new agreement, the ADP also discussed workstream 2 during the June 2015 session, i.e. increasing ambition before 2020. Technical Expert Meetings (TEMs) were held on renewable energy and energy efficiency in urban environments.

In the course of the session, diverging views became evident between many developing and developed countries on what concerns the scope of workstream 2: The European Union and many other developed country Parties held the view that the TEMs should continue in their current form and focus on mitigation actions. On the other hand, the G-77 and China and other groups of developing countries called for a new TEM process on adaptation.

Following the June 2015 session, the ADP co-chairs compiled an outcome document containing elements for a draft decision on workstream 2 ([ADP 2015c](#)), which was provided in July 2015.



Along with the ADP, the subsidiary bodies under the Convention convened in Bonn. Under the SBSTA, methodological issues on REDD+ (see Box 10) were agreed on and discussions on response measures (see chapter 2.2.1) advanced. Also, the multilateral assessment process (see chapter 2.2.6) was concluded, with 24 Annex I countries being questioned on their progress towards meeting their targets under the Convention.

Many other agenda items to be discussed by the subsidiary bodies, which address the implementation of the Convention and the Kyoto Protocol, were postponed until the SBI and SBSTA session 44, scheduled for May 2016 in Bonn.

#### 2.3.4. Third International Conference on Financing and Development in Addis Ababa (July 2015)

From 13 to 16 July 2015, the Third International Conference on Financing for Development took place in Addis Ababa, where financing related to the sustainable development goals for 2030 (cf. chapter 2.3.7) was discussed. The conference adopted the Addis Ababa Action Agenda ([United Nations 2015b](#)), which contains a wide range of actions to support sustainable development.

Many of the actions are climate-related, e.g. promoting the sustainable use of ecosystems, building resilience, or rationalising inefficient fossil-fuel subsidies.

The agreement also includes a mechanism for financing new technologies in developing countries and it calls on developed countries to implement their commitments and provide climate finance of USD 100 billion per year by 2020.

#### 2.3.5. Informal ministerial consultations hosted by France (July 2015)

In the run-up to the Paris conference, the French government held several informal ministerial consultations. The first consultation on 20 and 21 July 2015 was hosted by Laurent Fabius, French Minister of Foreign Affairs and International Development who will also be the president of COP 21.

The discussions focused on questions of differentiation and on mitigation ambition. Ministers “expressed their concern about the slow pace of the negotiations and the need for a clear and concise negotiating text” ([Governments of France and Peru 2015a](#)). Hence, the ministerial consultations once again highlighted the view voiced by many negotiators and decision-makers during 2015, namely that the draft negotiation text lags behind the political discussion.

On 6 and 7 September 2015, another round of the consultations was held, focusing on means of implementation and adaptation/loss and damage. Participants highlighted the importance of transparency in mobilising climate finance, both pre- and post-2020, and demanded that political parity of adaptation and mitigation should be ensured in the Paris agreement ([Governments of France and Peru 2015b](#)). Another important ministerial meeting hosted by France took place three weeks before the Paris conference – the “Pre-COP” from 8 to 10 November (see chapter 2.3.11).

#### 2.3.6. ADP meeting 2-10 in Bonn (August/September 2015)

From 31 August to 4 September 2015, the ADP reconvened in Bonn to continue its work on the draft negotiating text for the Paris agreement. Like previous meetings, this meeting was organised as part of the second session of the ADP, therefore numbered ADP 2-10.

Starting with the text from the scenario note and tool provided by the ADP co-chairs in July 2015 (see Box 16), delegates worked on the various topics of the agreement in facilitated

group meetings. Proposals for bridging the divides between positions were discussed but progress was made in some areas only. Many delegates held the view that the overall progress achieved was still not enough given the short time that remained until the Paris conference.

In the closing session, the ADP co-chairs were mandated to draft a new document, based on the Geneva negotiation text ([ADP 2015a](#)) and the “co-chairs’ tool” of July 2015 ([ADP 2015b](#)). The new text was provided by the co-chairs on 5 October 2015 ([ADP 2015e](#)) and constituted the starting point for the last ADP session before Paris (see chapter 2.3.10). The document provided by the co-chairs included a text for a draft agreement and for draft COP decisions on the agreement and on ADP workstream 2.

The document, with a total of 20 pages, including the agreement text of only eight pages was seen by many as a reasonable starting point for negotiations, however with a need for improvement. Various options, including suggestions for compromises, had been removed from this text and it became clear that the Parties would aim at re-introducing some of them in the following ADP session (see chapter 2.3.10).

In addition to the work on the agreement text, a facilitated workstream 2 group meeting was held to discuss an extension of the Technical Examination Process (TEP, see section 2.3.1) beyond mitigation. Similarly to the workstream 2 session in June, diverging positions prevailed on whether and how to extend this workstream to include adaptation.

#### 2.3.7. UN Sustainable Development Summit (September 2015)

On 25 September 2015, the United Nations General Assembly adopted the “2030 Agenda for Sustainable Development”, which includes a set of 17 sustainable development goals ([United Nations Department of Economic and Social Affairs 2015](#)). These include the “climate action” goal and other goals related to the climate agenda, e.g. “affordable and clean energy”, “sustainable cities and communities” or “life on land”.

The goals are composed of a total of 169 targets. Under “climate action”, the strengthening of resilience, the integration of climate change measures, education and capacity building are included as broad targets. One specific target is the implementation of the commitment by developed country Parties to jointly mobilise USD 100 billion by 2020 (cf. the Copenhagen Accord, chapter 2.1). On the list of targets it is acknowledged that the UNFCCC is the primary international intergovernmental forum for negotiating the global response to climate change.

#### 2.3.8. The Annual Meetings of the World Bank Group and the IMF (October 2015)

From 9 to 11 October 2015, the annual meeting of the World Bank Group and the International Monetary Fund (IMF) was held in Lima. In the course of this meeting, the World Bank Group pledged to increase the share of climate-related finance in the group’s overall funding from 21 to 28 % by 2020 ([World Bank 2015](#)).

In a climate finance ministerial meeting on 9 October, various countries announced or reiterated their intention to increase climate financing by 2020 ([Governments of France and Peru 2015c](#)). On the sidelines of the meeting in Lima, the Vulnerable Twenty (V20) group was founded (see Box 21) and an OECD report on “Climate Finance in 2013-14 and the USD 100 billion goal” was published ([OECD 2015](#), see Box 13).

### 2.3.9. The INDC Forum in Rabat (October 2015)

From 12 to 13 October, the INDC Forum was hosted in Rabat by the government of Morocco, the European Commission, UNDP and UNEP. In this conference, the overall effect of INDCs submitted by Parties was discussed and the need for a long-term goal and a dynamic approach for further increasing climate action were pointed out.

At that time, countries contributing approx. 90 % of global greenhouse gas emissions had submitted INDCs, which has to be quantified as a significant success, although these pledges combined still fall short of the 2 degrees C goal.

### 2.3.10. ADP meeting 2-11 in Bonn (October 2015)

The eleventh part of the second session of the ADP (the ADP's last meeting before the Paris Conference) took place from 19 to 23 October in Bonn. The fact that the Parties made a total of 126 submissions during these 5 days demonstrates that they were eager to re-introduce options and positions which they felt were missing from the concise co-chairs' text of 5 October (see chapter 2.3.6).

The group of G-77 and China, in particular, considered the text to be unbalanced. The group was perceived as the most prominent actor during the negotiations in Bonn, with pointed statements, a considerable number of additions to the text, and lengthy coordination meetings. All this can be explained by the fact that the G-77 and China are a very large and diverse group which can be expected to play a key role also in Paris.

On 23 October, when the ADP closed, the draft text had increased in size considerably, but there was widespread view among the Parties that they had gained ownership of the text.

#### **Box 17: Draft agreement and draft decision (work of ADP 2-11)**

The draft text which was produced at the end of the ADP 2-11 meeting on 23 October 2015 ([ADP 2015f](#)) consists of

- a draft agreement text (31 pages);
- a draft COP decision for workstreams 1 and 2.

Under the topic of mitigation, the text contains, *inter alia*, paragraphs on the collective long-term goal, on individual efforts by the Parties and options for differentiated efforts and dynamism.

With respect to adaptation, it is important to note that loss and damage has been re-introduced in a separate article. Under the topic of finance, a considerable range of options on differentiation have been introduced.

Still, the text adheres to the basic structure of the concise document produced by the ADP co-chairs before the meeting (see section 2.3.6).

The challenge at the Paris conference will be to turn this extensive draft version into a concise final text which is supported by all Parties. At the end of ADP 2-11, the secretariat was requested to prepare a technical paper identifying possible streamlining and consolidation options. This paper was provided on 6 November 2015 ([ADP 2015g](#)), listing closely related paragraphs and duplications in tabular format. It also includes an overview table of the location of key concepts within the text.

Although the result of ADP 2-11 contains many diverging options, the broad willingness of Parties to reach a meaningful outcome in Paris was clearly visible. The determination to come to an agreement in Paris remains strong across the Parties.

#### 2.3.11. The Pre-COP in Paris (November 2015)

From 8 to 10 November 2015, approx. 60 ministers met in Paris for the so-called “pre-COP”, to discuss diverging options and explore possible compromises on negotiation topics. Discussions were organised around four topics: equity/differentiation, ambition, pre-2020 action and support and post-2020 finance.

According to Laurent Fabius, the host and president of the upcoming COP, progress was made, *inter alia*, towards agreeing on a cycle of reviewing and increasing ambition ([Le Monde 2015](#)). Such a cycle had been supported by a growing number of Parties, including in a joint statement of the presidents of China and France at the beginning of November ([France Diplomatie 2015](#), see also chapter 7.1).

### 2.4. Issues to be tackled in Paris

At the meetings described in chapter 2.3, progress was achieved for many aspects, but diverging views and approaches still exist and compromises need to be found in order to achieve a comprehensive agreement in Paris. In particular four issues stand out which will be critical in Paris. These are

- differentiation,
- long-term goal and dynamism,
- loss and damage and
- finance.

These issues are explained in Table 2. At present, it seems that an overall agreement can be reached in Paris only if adequate solutions can be found for each of these issues.

It has to be noted that for the issues listed in this table, alliances already exist between developing and developed countries. Nevertheless, how these issues can be resolved in a way that is acceptable to all Parties is a question that is still open.

**Table 2: Key issues for the Paris agreement**

Key crunch issue	Explanation
<b>Differentiation</b>	<p>Many Parties feel that the differentiation between Annex I and Non-Annex I Parties (the classification of the signatories to the Convention) no longer reflects the global economic, social and environmental context for climate action. Developed country Parties feel strongly that</p> <ul style="list-style-type: none"> <li>all major emitting countries need to reduce their emissions in order to limit warming to less than 2 degrees C. This implies similar emission reduction commitments as well as similar rules for monitoring, reporting and verification (transparency, accounting);</li> <li>all countries in a position to do so should provide support with respect to means of implementation (MoI, comprising finance, technology and capacity building) to the most vulnerable countries.</li> </ul>
<b>Long-term goal and dynamism</b>	<p>Realising that the level of</p> <ul style="list-style-type: none"> <li>ambition as expressed in INDCs is by far not adequate to limit warming to less than 2 degrees;</li> <li>support for less developed countries falls short of the support required,</li> </ul> <p>from the perspective of developed country Parties and many developing country Parties, the agreement needs to include a long-term goal for global climate action as well as a process to strengthen commitments to reduce emissions and to further enhance support. Such a process is known as “dynamism”.</p>
<b>Loss and damage</b>	<p>Realising that the residual risk related to climate change will increase throughout the 21<sup>st</sup> century despite all efforts related to mitigation and adaptation, from the perspective in particular of AOSIS (supported by other developing country Parties), the agreement needs to include an additional mechanism to address loss and damage.</p> <p>From the perspective of developed countries, such a mechanism should build on the Warsaw International Mechanism on Loss and Damage but should exclude liability and/or compensation and be based on solidarity with the most vulnerable countries/regions/people.</p>
<b>Finance</b>	<p>Developed country Parties need to demonstrate the implementation of the commitment made in the Copenhagen accord to mobilise jointly financial flows of USD 100 billion by 2020 to support developing countries. At the same time, many developing countries would like to see further commitments post-2020.</p>

**Source:** Authors' view.

Concerning differentiation, the fact that both developed and developing country Parties have submitted INDCs, several of which include emission reduction targets for the first time, can be seen as a step away from the former binary distinction between Annex I and non-Annex I Parties. However, throughout 2015, many developing countries emphasised the historical responsibility of and the means of implementation available to the developed countries. Therefore, it can be expected that there will still be a differentiation between relevant approaches in many parts of the Paris agreement.

The importance of a long-term goal and a dynamic approach to increase ambition over time became especially clear at the beginning of November 2015, when several analyses suggested that the INDCs would fall short of delivering an emission trajectory in line with the 2 degrees C target. Options for dynamic approaches are included in the draft agreement text ([ADP 2015f](#)). However, it may turn out that details of the actual approach will be agreed after the Paris conference only.

Loss and damage has been re-introduced in a separate article of the draft agreement text. It will therefore play an important role in the negotiations and the outcome is still open.

The same is true for finance. Developing countries may call on developed countries to pledge additional financial support in order to achieve a conclusion in the negotiations. However, any additional resources that these developed countries are willing to pledge are very limited.

In the following chapters, the positions of the main Parties, groups of Parties and other stakeholders on these key issues and on the various negotiation topics are presented.

### 3. MAIN PARTIES

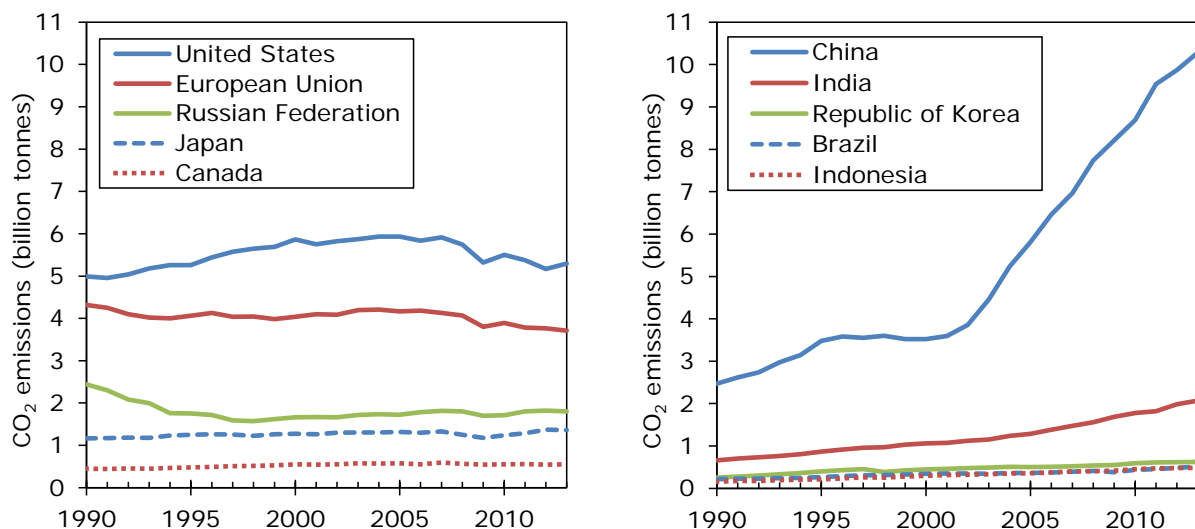
In UNFCCC negotiations, all countries participate independent of population size or greenhouse gas emissions. Nevertheless, in view of the new agreement, it is important to take a closer look at those that make up the largest share of emissions. In the following, information is provided on the ten Parties with the largest CO<sub>2</sub> emissions (as compiled for the year 2013 by [Olivier et al. 2014](#)). Together, they account for approx. 76 % of global CO<sub>2</sub> emissions. They also include the world's five most populous countries and the top eight Parties measured according to gross domestic product (GDP).

In this chapter, the European Union is presented as one Party. Germany is both an EU Member and a Party to the UNFCCC and accounts for the 6<sup>th</sup> highest CO<sub>2</sub> emissions. In this chapter, Germany is considered as part of the EU and not presented separately.

Figure 2 presents the development of CO<sub>2</sub> emissions of the ten largest emitters from 1990 to 2013. It has to be noted that not all sources of CO<sub>2</sub> emissions are accounted for here and that greenhouse gases other than CO<sub>2</sub> are not included. Nevertheless, this dataset is used because it constitutes the most recent consistent time series that is comparable across all Parties.

**Figure 2: CO<sub>2</sub> emissions of Parties to the UNFCCC with largest emissions in 2013**

**Parties listed in Annex I to the Convention (left) and Parties not listed in Annex I (right).**



Emissions of the European Union are expressed as the sum of the 28 Member States over the whole time series.

**Source:** European Commission Joint Research Centre (JRC) / PBL Netherlands Environmental Assessment Agency (2014), <http://edgar.jrc.ec.europa.eu/>.

Information on other indicators such as emissions per capita or per GDP is provided in Table 3. Total greenhouse gas emissions, including other gases, are also shown in this table. The most recent data available for all Parties are from 2012 ([World Resources Institute 2015](#)). Again, they may differ from the figures provided by the Parties but they constitute the most recent information that is comparable across all Parties.

**Table 3: Parties to the UNFCCC with largest CO<sub>2</sub> emissions in 2013**

Party	CO <sub>2</sub> emissions (million tonnes) in 2013	CO <sub>2</sub> emissions (percent of world total)	CO <sub>2</sub> emissions (tonnes per capita)	CO <sub>2</sub> emissions per GDP (kg / 1 000 USD)	Greenhouse gas emissions <sup>1</sup> 2012
China	10 281	29.1 %	7.4	229	10 975
United States	5 298	15.0 %	16.6	334	6 235
European Union	3 763	10.5 %	7.3	222	4 399
India	1 983	5.9 %	1.7	139	3 014
Russian Federation	1 818	5.1 %	12.6	507	2 322
Japan	1 368	3.9 %	10.7	279	1 345
Republic of Korea	618	1.8 %	12.7	387 <sup>2</sup>	693
Canada	548	1.6 %	15.7	335	714
Brazil	482	1.5 %	2.6	99	1 013
Indonesia	476	1.4 %	2.0	100	761

**Source:** European Commission Joint Research Centre (JRC) / PBL Netherlands Environmental Assessment Agency (2014), <http://edgar.jrc.ec.europa.eu/>.

<sup>1</sup> Greenhouse gas emissions excluding land use, land use change and forestry (LULUCF). Source: World Resources Institute (2015), <http://cait.wri.org>, data derived from several sources.

<sup>2</sup> Data for 2012, source: World Resources Institute (2015), <http://cait.wri.org/>.

It can be seen from Table 3 that the per capita CO<sub>2</sub> emissions are highest for the United States and that the Russian Federation has the highest CO<sub>2</sub> emissions per unit of GDP. China is the largest emitter of CO<sub>2</sub> as well as for total greenhouse gases; although recent research suggests that its actual emissions may be lower when applying country-specific emission factors (see chapter 3.1.1).

This chapter provides information for each of the Parties listed above on their greenhouse gas emissions, climate policies, Intended Nationally Determined Contribution (INDC) and on their position on the contents and structure of a new agreement. At the end of the chapter (section 3.11), key information is given on additional Parties which are not among the top 10 CO<sub>2</sub> emitters, but still important players in climate change negotiations (Australia, Mexico, Saudi Arabia, South Africa).



### 3.1. China

The Republic of China, the world's most populous nation, has experienced a long phase of high economic growth and, since 2006, has been the world's largest CO<sub>2</sub> emitter ([Olivier et al. 2014](#)).

#### 3.1.1. Emission profile

As can be seen from Table 3, China contributed approx. 29 % to the world's total anthropogenic CO<sub>2</sub> emissions in 2013. Concerning other greenhouse gases, the most recent detailed inventory is available from China's Second National Communication ([People's Republic of China 2013](#)). According to that inventory, CO<sub>2</sub> accounted for approx. 80 % of the total greenhouse gas emissions (expressed in CO<sub>2</sub> equivalents) in 2005, followed by methane with 12.5 % and nitrous oxide with 5.3 %.

In recent years, after 2011, a slow-down in the annual increase of CO<sub>2</sub> emissions was observed which can be attributed, *inter alia*, to a smaller increase in coal consumption ([Olivier et al. 2014](#)).

Recent research suggests that Chinese CO<sub>2</sub> emissions may constitute an over-estimation and may be lower when adjusted for country-specific emission factors, taking into account the lower carbon content of domestic coal and other country-specific circumstances. [Liu et al. \(2015\)](#) estimated China's CO<sub>2</sub> emissions in 2013 to correspond to 2.49 Gt (gigatonnes) of carbon, which translates to approx. 9 100 million tonnes of CO<sub>2</sub>, i.e. 13 % below the value given in Table 3. On the other hand, it has to be noted that Chinese coal consumption data for recent years were revised upward in 2015 by China's National Bureau of Statistics ([U.S. Energy Information Administration 2015](#)).

#### 3.1.2. Climate policies

A comprehensive overview of China's climate policy was given in the document "China's Policies and Actions for addressing Climate change" ([People's Republic of China 2013](#)) which was later supplemented by various statements and by China's Intended Nationally Determined Contributions in June 2015.

China's economy consists of energy-intensive industries and its industrial policy aims at transforming and upgrading traditional industries, improving energy efficiency and developing the service industry ([People's Republic of China 2013](#)). However, it has been pointed out that with a strong focus on energy-related CO<sub>2</sub> emissions, emissions of other greenhouse gases such as methane, nitrous oxides or fluorinated gases may be underrepresented in Chinese climate policies ([Climate Action Tracker 2015b](#)).

Besides mitigation, adaptation plays a key role in China's climate policy, with action plans developed for the 2011-2015 five-year plan period in the areas of forestry, water resources, marine resources, public health and disaster prevention and mitigation.

On 25 September 2015, China's President Xi Jinping and U.S. President Barack Obama reaffirmed their mitigation commitments which had been announced in November 2014 ([The White House 2015c](#)). In the statement of September 2015, two new Chinese initiatives stand out, namely a national emission trading system planned for 2017 and a "South-South Climate Cooperation Fund" to support other developing countries to combat climate change.

### 3.1.3. INDC

On 30 June 2015, China submitted its Intended Nationally Determined Contribution to the UNFCCC Secretariat ([People's Republic of China 2015](#)). It consists of three parts – a summary of enhanced actions (goals), a list of policies and measures to achieve these goals, and China's views on the process and outcome of the 2015 agreement.

The enhanced actions in part I comprise the goals to be achieved. China is aiming to reach the peak of CO<sub>2</sub> emissions around 2030 and will make best efforts to peak early, to lower its CO<sub>2</sub> emissions per unit of GDP by 60 to 65 % from the level of 2005, to increase the share of non-fossil fuels in primary energy consumption to around 20 % and to increase the forest stock volume by around 4.5 billion cubic metres compared to 2005.

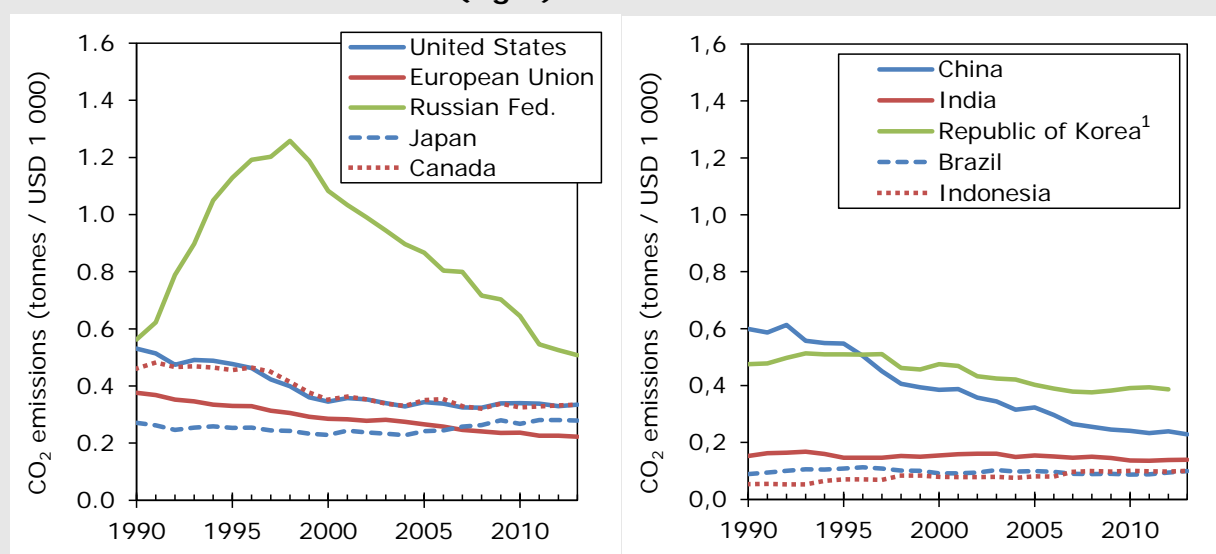
#### Box 18: CO<sub>2</sub> emissions per unit of GDP

China included in its INDC a pledge to lower CO<sub>2</sub> emissions per unit of GDP. It is therefore instructive to present this metric for all Parties discussed in this chapter. In Figure 3, it can be seen that countries such as the Russian Federation or the Republic of Korea have high CO<sub>2</sub> emissions per unit of GDP, due to their carbon-intensive industries. China has made important improvements since 1990. It has to be noted that its CO<sub>2</sub> emissions per unit of GDP have further decreased since 2005, which means that part of the decrease stated in China's INDC has already been achieved and the additional improvement from the present to 2030 is correspondingly lower.

For the other Parties included in Figure 3, it can be seen that their emissions per unit of GDP have not changed drastically over the past few years. In absolute terms, this rate is lowest in the EU, among the Annex I parties shown, but considerably lower for the other three non-Annex I parties shown here.

**Figure 3: CO<sub>2</sub> emissions per unit of GDP of Parties with largest emissions in 2013**

**Parties listed in Annex I to the Convention (left) and Parties not listed in Annex I (right).**



**Source:** European Commission Joint Research Centre (JRC) / PBL Netherlands Environmental Assessment Agency (2014), <http://edgar.jrc.ec.europa.eu/>. Note that the US dollar is adjusted by purchasing power parity of 2011.

<sup>1</sup>Data for 1990-2012, taken from World Resources Institute (2015), <http://cait.wri.org/>.

In part II of China's INDC, a wide range of policies and measures is listed, including national and regional actions, enhancement of energy efficiency, low-carbon development, and financial and policy support.

Finally, in part III of the INDC, China's positions on the 2015 agreement negotiations are laid out. These are summarised in section 3.1.4, below.

#### 3.1.4. Positions on the new agreement

China laid out its position on the new agreement in part III of its Intended Nationally Determined Contribution submitted on 30 June 2015 ([People's Republic of China 2015](#)).

On mitigation, China stresses the importance of absolute quantified emission reduction targets for developed countries, whereas for developing countries, enhanced mitigation actions are linked to financial and technical support as well as capacity building.

On adaptation and loss and damage, the strengthening of international cooperation on adaptation is pointed out. Developing countries are expected to identify their adaptation needs, whereas support is expected from developed countries via the Warsaw International Mechanism on Loss and Damage. In addition, a subsidiary body on adaptation should be established.

Concerning finance, China calls for new, additional, adequate, predictable and sustained financial support to developing countries and for quantified financing targets and a roadmap to achieve them.

China holds the view that the existing technology mechanism should be strengthened and linked with the financial mechanism, by including technology development and transferring funds through the GCF.

As regards capacity building, China calls for an international mechanism on capacity building, to develop and implement capacity building action plans.

On transparency, China calls for a differentiated approach. Concerning the developing countries, China supports the enhancement of transparency in finance, technology and capacity-building support, as well as the enhancement of the transparency of their actions, in a non-intrusive, non-punitive and respectful way. Developed countries, on the other hand, are called upon to improve the transparency of their actions through existing reporting and review systems.

As regards the legal form, the new agreement – from China's point of view – can take the form of a core agreement, supplemented by COP decisions which specify technical details and procedural rules.

On a general note, China points out in its INDC that "the outcomes of the negotiations shall be in accordance with the principles of equity and common but differentiated responsibilities and respective capabilities, taking into account differentiated historical responsibilities and distinct national circumstances, development stages and the capabilities of developed and developing countries". China thereby refers to the point made by many non-Annex I Parties, namely that the industrialised countries have been emitting greenhouse gases for a longer time and have therefore contributed more to the effects of greenhouse gases on the climate system than developing countries.

### 3.2. United States of America

The United States of America is the world's second largest CO<sub>2</sub> emitter and has the highest per capita CO<sub>2</sub> emissions among the main Parties presented here. Over the past decade, the United States has expanded shale gas fracturing and has become the world's largest natural gas producer. This shale gas expansion has led to lower natural gas prices and a shift from coal to gas in electricity generation, although this shift was partly reversed from 2012 to 2013, due to an increase in the natural gas price ([U.S. Environmental Protection Agency 2015a](#)).

#### 3.2.1. Emission profile

As can be seen in Table 3, the USA contributed, in 2013, 15 % of the world's total anthropogenic CO<sub>2</sub> emissions ([Olivier et al. 2014](#)). According to the latest inventory submitted by the USA (1990-2013), CO<sub>2</sub> accounted for 82.5 % of the total greenhouse gas emissions, followed by methane with 9.5 %, nitrous oxide with 5.3 % and fluorinated gases with 2.6 % ([U.S. Environmental Protection Agency 2015a](#)).

In 2012 and 2013, greenhouse gas emissions were lower than in any other year since 1994. High oil prices and an increased use of natural gas in total national fossil-fuel energy consumption are cited as the main reasons for the emission decrease after 2007 ([Olivier et al. 2014](#)). New research however suggests that the decreasing emissions after 2007 were largely a result of the economic recession, whereas the switch from coal to gas played a relatively minor role only ([Feng et al. 2015](#)).

Average annual per-capita CO<sub>2</sub> emissions decreased from 19.6 to 16.6 tonnes from 1990 to 2013; the population has grown by 25.8 % since 1990 ([Olivier et al. 2014](#)).

#### 3.2.2. Climate policies

In 2013 a comprehensive Climate Action Plan was laid out by President Obama covering policies and measures to reduce greenhouse gas emissions, prepare for the impacts of climate change and lead international efforts to combat and adapt to global climate change ([US Department of State 2014](#)). Mitigation efforts cover, among others, increasing the use of renewable energy, energy efficiency and fuel economy standards. Adaptation efforts focus inter alia on measures to identify vulnerabilities, promoting resilience and managing risks e.g. of wildfires and floods.

Unlike many other countries, the United States addresses greenhouse gases under its air pollution legislation, following a Supreme Court ruling ([US Supreme Court 2007](#)) that "greenhouse gases fit well within the [...] capacious definition of 'air pollutant' " under the Clean Air Act. CO<sub>2</sub> emissions are sometimes referred to as "carbon pollution" by agencies such as the Environmental Protection Agency (EPA).

Following the Supreme Court ruling, the EPA started regulating greenhouse gas emissions under the Clean Air Act in 2011. The regulations include emission standards for light-duty vehicles, corporate average fuel economy standards, and a permitting programme for stationary sources. This regulation on stationary sources was extended by adopting the "Clean Power Plan" ([U.S. Environmental Protection Agency 2015b](#), see Box 19), proposed by the EPA in 2014 and announced by President Obama and the EPA on 3 August 2015.

**Box 19: The U.S. Clean Power Plan**

Under the U.S. Clean Air Act, the Environmental Protection Agency (EPA) is authorised to issue standards, regulations or guidelines that address pollution from new and existing fossil fuel fired power plants.

For existing power plants, the EPA has introduced a state-based programme, setting state-by-state CO<sub>2</sub> emission goals ("performance rates") for the period 2022-2029 and for the year 2030. States are provided with several options for implementing state-wide plans to meet these goals. The EPA has also prepared a federal plan, to be applied to states that do not submit an approvable plan under the state-based programme.

For new, modified and reconstructed power plants, CO<sub>2</sub> emission standards have been introduced that apply nation-wide, based on emissions limits achievable through the application of the best system of emission reduction (BSER) as determined by EPA.

The implementation of the Clean Power Plan is estimated to reduce CO<sub>2</sub> emissions of the U.S. electricity sector in 2030 by 32 % compared to 2005.

The implementation of the Clean Power Plan faces legal challenges from both the states and industry representatives. By the beginning of November 2015, 26 states and a considerable number of energy firms have sued the federal government ([The Economist 2015](#)). On the other hand, several states are expected to file petitions in support of the plan. These legal challenges are unlikely to be settled before 2017, when the fate of the Clean Power Plan and other national policies will largely be in the hands of the U.S. president taking office at the beginning of that year.

Another important presidential decision in 2015 was the rejection of the proposed keystone XL oil pipeline on 6 November ([Reuters 2015b](#)). The pipeline would have allowed transporting oil (including from oil sands) from Canada to the United States. Its rejection is expected to support a shift away from oil to natural gas and other energy sources.

**3.2.3. INDC**

On 31 March 2015, the United States submitted its Intended Nationally Determined Contribution to the UNFCCC Secretariat, and expressed its intention to achieve an economy-wide target of reducing its greenhouse gas emissions by 26-28 % below its 2005 level in 2025 and to make best efforts to reduce its emissions by 28 % ([United States of America 2015](#)).

The USA also provided information to facilitate clarity, transparency, and understanding (gases, sectors, percentage of total greenhouse gas emissions) as well as quantifiable information on the reference point, time frames, assumptions and methodological approaches including those for estimating and accounting for anthropogenic greenhouse gas emissions and removals. Under the second issue the United States stressed that, at this time, it does not intend to utilise international market mechanisms to implement its 2025 target.

**3.2.4. Positions on the new agreement**

U.S. negotiators have repeatedly emphasised that common but differentiated responsibilities must account for differences among developing countries. In conformity with the Byrd-Hagel resolution of 1997, major developing countries shall be included and

U.S. competitiveness must not be adversely influenced by an international agreement on climate change ([Dernbach and Altenburg 2014](#)).

The United States is cautious about including other issues besides the main topics in the agreement. In negotiations in 2015, it voiced its concern that topics like carbon neutrality, low-emission development strategies and the long-term temperature goal should not be included in the agreement, but should be covered by COP decisions.

On mitigation, the U.S. position is in favour of quantified contributions by all Parties except those with limited capabilities or insignificant contributions to global emissions. The U.S. emphasises that each country should make at least part of their commitment unconditional.

The United States has reservations about giving room to loss and damage in the agreement. Instead, they suggest making permanent the Warsaw Mechanism on Loss and Damage and addressing loss and damage in COP decisions.

Similarly, with regard to capacity building, the United States prefers enhancing existing institutions (e.g. the TEC and the CTCN) to creating a new mechanism under the agreement.

As regards technology, the United States places a focus on protecting intellectual property rights in the area of technology transfer.

The United States emphasises the importance of private sources of finance. Opportunities for private investment were pointed out, for example, by Secretary of State John Kerry in his remarks at the Major Economies Forum ministerial meeting in September 2015 ([US Department of State 2015](#), see also chapter 5.2.3).

### **3.3. European Union**

The European Union (EU) is the only group of countries which is a Party to the UNFCCC. The EU as well as its Member States committed to reducing their greenhouse gas emissions jointly under the Kyoto Protocol. For the first commitment period, the EU-15 (i.e. those countries that were Member States before 2004) agreed to reduce greenhouse gas emissions by 8 % compared to 1990.

For the second commitment period under the Kyoto Protocol, which was laid down in the Doha Amendment (see Box 6), the EU has again made a joint commitment. The EU-28 (i.e. all current Member States) plus Iceland agreed to reduce their greenhouse gas emissions in the period 2013-2020 by 20 % compared to the base year (which is 1990 for most Member States). In July 2015, the European Council adopted Decisions on the ratification of the Doha amendment and on the inclusion of Iceland in this commitment ([Council of the European Union 2015a](#) and [2015b](#)). The EU, its Member States and Iceland are planning to simultaneously ratify the Doha Amendment to the Kyoto Protocol before the start of the Paris conference. At the time of writing this report, not all Member States have completed their internal approval procedures and on 27 October, Poland's president Andrzej Duda vetoed the ratification of the Doha Amendment ([Reuters 2015a](#)).

#### **3.3.1. Emission profile**

The European Union has seen two phases of greenhouse gas emission reductions since 1990: at the beginning of the 1990s due to, *inter alia*, an economic restructuring of the Eastern European economies and from 2008 onwards in the aftermath of the economic crisis. The total greenhouse gas emission reduction of the 28 EU Member States from 1990 to 2012 was -19.2 % excluding LULUCF ([EEA 2014](#)).



The decrease in emissions mainly occurred in the manufacturing industries and in public electricity/heat production, whereas emissions from road transport and from the use of halocarbons (fluorinated gases) increased substantially after 1990. In 2012, CO<sub>2</sub> emissions amounted to 82 % of total greenhouse gas emissions, followed by methane and N<sub>2</sub>O with 9 % and 8 % of total emissions, respectively ([EEA 2014](#)).

### 3.3.2. Climate policies

EU climate policies can be roughly categorised as follows.

**Table 4: Overview of EU climate policies**

Policies	Time period
Policies and measures for the first Kyoto commitment period, including the EU Emissions Trading Scheme (EU ETS)	2008-2012
The 2020 climate and energy package to meet the target of the second Kyoto commitment period, including the EU Emissions Trading System and national emission reduction targets.	2013-2020
The 2030 climate and energy policy framework, which forms the basis for the EU's Intended Nationally Determined Contribution (INDC).	2021-2030
A long-term strategy for a low-carbon economy, as laid out in the 2050 low-carbon roadmap.	2031-2050

**Source:** Decisions, Directives and Commission Communications as outlined in the text below.

The EU Climate and Energy package (adopted in 2009) includes targets to reduce EU greenhouse gas emissions by at least 20 % by 2020 compared to 1990; to increase the share of renewable sources in energy consumption to 20 % by 2020 and to reduce the total primary energy consumption by 20 % by 2020, compared to a business as usual baseline (known as the “20-20-20 targets”).

In order to meet these targets, the EU Emissions Trading System (ETS), including a single EU-wide emissions cap, was introduced as well as the EU Effort Sharing Decision ([Decision No 406/2009/EC](#)), setting binding annual targets for 2013–2020 for sectors not covered by the EU ETS (housing, agriculture, waste and transport, excluding aviation). In addition, Member States were assigned binding national targets under the Renewable Energy Directive ([Directive 2009/28/EC](#)). These policies are complemented by EU-wide and national measures addressing areas such as energy efficiency, low carbon technologies and transport.

For the time period beyond 2020, in its Climate and Energy Policy Framework ([European Commission 2014](#), [Council of the European Union 2014b](#)) the EU is committed to a target of an at least 40 % domestic reduction of greenhouse gas emissions by 2030 compared to 1990, a renewable energy target of at least 27 % of final energy consumption and a 27 % target for improving energy efficiency (known as the “40-27-27 targets”).

With regard to the EU's future climate strategy, the European Commission has adopted policy documents to promote the discussion on the long-term framework of climate and energy policies in Europe. These include a roadmap on moving towards a competitive low carbon economy in 2050 ([European Commission 2011a](#)), an energy roadmap 2050

([European Commission 2011b](#)) a White Paper on competitive and efficient transport systems and a bioeconomy strategy. The roadmap for moving towards a competitive low carbon economy suggests that by 2050 the EU should reduce its emissions by 80 % compared to 1990 levels.

Taking a long term perspective, the Environment Council of the European Union stressed in its conclusions of September 2015 ([Council of the European Union 2015c](#)) that global greenhouse gas emissions would need to be near zero or below by 2100, i.e. underlining the declaration of the Group of Seven (G7) of June 2015, which called for a decarbonisation of the global economy over the course of this century (see chapter 5.2.1).

### 3.3.3. INDC

The European Union submitted its Intended Nationally Determined Contribution to the UNFCCC Secretariat on 6 March 2015 ([European Union 2015](#)). According to this INDC, the EU and its Member States “are committed to a binding target of an at least 40 % domestic reduction in greenhouse gas emissions by 2030 compared to 1990”. The INDC is based on the Climate and Energy Policy Framework, as concluded by the European Council in October 2014 (see also chapter 3.3.2, above).

The European Union plans to include LULUCF in its mitigation framework and is currently exploring ways to address emissions and removals from LULUCF in the 2030 framework ([European Commission 2015a](#)).

Although a 40 % domestic emission reduction pledge is one of the most ambitious pledges, it has to be kept in mind that the EU climate and energy targets were criticised, *inter alia*, for including only a relatively modest growth of renewables and for the fact that the targets may be diluted by the use of surplus emission allowances from the EU ETS, which had accumulated over previous years ([de Vos et al. 2014](#)).

### 3.3.4. Positions on the new agreement

The positions the EU will take in the Paris negotiations are laid out in the Council Conclusions adopted by the EU’s ministers for the environment in their meeting of 18 September 2015 ([Council of the European Union 2015c](#)). Basic lines to take are discussed in a Commission Communication of February 2015 ([European Commission 2015b](#)) and the mandate for the European Parliament’s delegation to the Paris conference is laid out in a resolution adopted by the Parliament on 14 October 2015 ([European Parliament 2015](#)).

For mitigation, the European Union proposes that the agreement contains mitigation commitments by all Parties, acknowledging different national circumstances and evolving economic realities and capabilities. The European Union suggests a dynamic five-year cycle for submitting new or updated commitments or for resubmitting existing ones.

As for adaptation, the agreement should commit all Parties to plan, prepare for and respond to the adverse impacts of climate change. The European Union holds the view that risks of loss and damage are best addressed through ambitious mitigation and adaptation actions.

As regards climate finance, the EU’s finance ministers reconfirmed their commitment to scale up climate finance in their conclusions of 10 November 2015 ([Council of the European Union 2015d](#)). However, they stressed that the process for mobilising climate finance in the new agreement should include all Parties, all sources and all types of efforts (see also chapter 7.1).



The EU calls for transparency and accountability rules for all Parties, although these rules may differ according to the commitment type and Parties' capabilities and national circumstances. The EU calls for the use of common metrics, e.g. global warming potentials (GWP) according to IPCC documents, rather than alternative metrics (cf. Box 20).

Concerning the legal form, the European Union proposes that the agreement should take the form of a protocol, "in order to enshrine the strongest expression of political will and provide predictability and durability" ([Council of the European Union 2015c](#)). Mitigation agreements should be set out in an Annex to the Protocol. The EU proposes that rules, modalities and procedures should be worked out by 2017, based on a set of COP decisions and a work programme, to be agreed on in Paris. The EU and its Member States intend to fulfil their commitments jointly under the Paris agreement. Norway and Iceland intend to participate.

### 3.4. India

India, currently the fourth largest CO<sub>2</sub> emitting Party, contributes 5.9 % of the world's CO<sub>2</sub> emissions. The reasons for this high ranking position are India's population size (second most populous country) and the expanding industry and service sector – partly affected by international outsourcing – driving the national consumption of energy and other resources. Per capita emissions, however, are much lower than those of most developed countries and China ([Olivier et al. 2014](#)).

#### 3.4.1. Emission profile

As shown in Table 3, India contributed, in 2013, 5.9 % of the world's total anthropogenic CO<sub>2</sub> emissions. According to India's Second National Communication, CO<sub>2</sub> accounted for approx. 67.3 % of total greenhouse gas emissions in 2000, followed by methane with 26.7 % and nitrous oxide with 5.2 % ([Government of India 2012](#)).

The Indian economy has been growing rapidly since the 1990s, especially energy-intensive sectors such as power generation, steel, cement, refineries, chemicals, fertilisers and transport with low energy efficiency standards ([Government of India 2012](#)). In 2013 coal consumption accounted for 55 % of India's total primary energy consumption. Production as well as imports of coal and coke increased remarkably and are expected to further increase according to the 12<sup>th</sup> Five-Year Plan 2012-2017 ([Olivier et al. 2014](#)).

#### 3.4.2. Climate policies

In 2008 India launched a National Action Plan on Climate Change, outlining so-called "national missions" including a national mission for renewable energy ([Government of India 2008](#)). In this area India has implemented two major renewable energy-related policies: the 'Strategic Plan for New and Renewable Energy' (2011) and the 'National Solar Mission' (2010), containing targets for solar energy. The 'Strategic Plan for New and Renewable Energy' was developed in view of the economic growth and the enormous demand for electricity as well as the high dependence on fossil fuel imports ([Government of India 2011](#)).

Further initiatives introduced by the Indian Government are e.g. the introduction of a tax on coal (both produced within the country and imported) and the 'National Mission on Enhanced Energy Efficiency', setting targets for the energy consumed by the country's largest industrial and power generation facilities. Furthermore, a target of a 20 % ethanol and biodiesel blend by 2017 has been adopted ([Climate Action Tracker 2015c](#)).

The “national missions” under the National Action Plan on Climate Change were revisited after Narendra Modi took office as Prime Minister in 2014 and supplemented by new initiatives such as the plan to increase renewable energy capacity (mostly solar) by the factor of five by 2022 ([India 2015](#)).

### 3.4.3. INDC

India submitted its INDC on 1 October 2015 ([India 2015](#)). The document with the subtitle “Working towards climate justice” contains extensive information on current mitigation and adaptation actions. India is committed to reduce the emission intensity of its GDP by 33 to 35 % by 2030 compared to 2005. It aims at achieving an installed cumulative electric power capacity from non-fossil fuel based energy resources of 40 % by 2030 and at creating an additional carbon sink by increasing forest and tree cover.

It has to be noted that India has not specified when its emissions would peak and it is pointed out that with the currently renewable energy policies, a more ambitious energy intensity target is possible ([Climate Action Tracker 2015c](#)).

### 3.4.4. Positions on the new agreement

India holds the view that in the provision relating to finance, the obligations under the agreement should be restricted to developed countries. During the negotiations in 2015, India pointed out that public sources, rather than private investment, should be the main contributor to finance. Similar to China, India sees the importance of addressing intellectual property rights in the context of technology transfer.

## 3.5. Russian Federation

The Russian Federation is a leading producer of natural gas and oil, although in 2010, it was overtaken by the United States as the world’s largest gas producer ([Olivier et al. 2014](#)). Its greenhouse gas emissions declined considerably at the beginning of 1990s due to the closure of heavy industries after the collapse of the Soviet Union.

As a consequence of the decline in emissions since 1990, the Russian Federation over-achieved its emission commitment for 2008-2012 under the Kyoto Protocol. However, for the second commitment period under the Kyoto Protocol, the Russian Federation did not commit itself to a quantitative target.

### 3.5.1. Emission profile

The Russian Federation is the fifth largest emitter of CO<sub>2</sub>, contributing 5.1 % of the global total anthropogenic CO<sub>2</sub> emissions in 2013. According to the most recent inventory data submitted for 2013, CO<sub>2</sub> accounted for approx. 61.4 % of total greenhouse gas emissions, methane for 29.7 % and nitrous oxide for 7.8 % (expressed in CO<sub>2</sub> equivalents).

After an historical low in 1998, emissions have been increasing steadily, with the exception of a decrease in 2008 and 2009 in the wake of the global financial crisis ([Olivier et al. 2014](#)).

### 3.5.2. Climate policies

Policies and measures to mitigate climate change include legislative and regulatory acts to fulfil national commitments under the UNFCCC, as well as targeted measures and national programmes ([Russian Federation 2014](#)). Russia’s climate policy has a clear focus on energy, setting energy intensity targets to be achieved in the period until 2020. Under the

“Energy saving and energy efficiency improvement programme until 2020”, Russia has committed to reducing energy intensity per GDP by 40 % in 2020 compared to 2007 levels.

This approach requires technological improvements and the elimination of non-economic risks and barriers, e.g. in the areas of energy efficiency, public transport, fuel economy, gas transportation and timber biomass ([Kokorin & Korppoo 2014](#)). Furthermore, environmental legislation exists for an improved recovery of petroleum gas and with regard to the technical requirements for oil companies ([Climate Action Tracker 2015e](#)).

### 3.5.3. INDC

The Russian Federation submitted its Intended Nationally Determined Contribution to the UNFCCC Secretariat on 31 March 2015, although it stressed that the final decision of the Russian Federation on the INDC in the framework of the new climate agreement would be taken pursuant to the outcome of the negotiating process 2015 and the INDCs announced by other major emitters of greenhouse gases.

Russia stated in its INDC that “limiting anthropogenic greenhouse gases by 25 to 30 % compared to 1990 levels by the year 2030 might be a long-term indicator”, subject to unlimited and full use of forest sinks. No use of international market mechanisms is planned.

It has to be noted that the Russian Federation already has legally binding instruments in place to achieve at least a 25 % emission reduction ten years earlier, i.e. by 2020. The INDC would therefore not commit the Russian Federation to additional emission reductions from 2020 to 2030. As greenhouse gas emissions currently are still significantly below 1990 levels, the INDC in fact constitutes an increase in emissions between the current levels and 2030 ([Yeo and Evans 2015](#)).

### 3.5.4. Positions on the new agreement

The Russian Federation strongly recommends that the understanding of differentiation between developing and developed countries should be revised in the new agreement. It holds the view that mitigation efforts should be spread further and favors a longer review cycle for the mitigation commitments.

The Russian Federation was less active on issues other than mitigation. In the 2015 negotiations, it cautioned against including loss and damage in the general sections of the new agreement ([IISD 2015b](#)).

## 3.6. Japan

Japan is the sixth largest emitter of CO<sub>2</sub>. The recovery after the economic crisis and the closure of nuclear power plants after the Fukushima accident in 2011 has led to increasing CO<sub>2</sub> emissions in recent years. Japan possesses very limited domestic energy resources and is therefore a major importer of natural gas, coal and oil ([Olivier et al. 2014](#)).

Japan participated in the first commitment period of the Kyoto Protocol, but is not committed to a target in the second commitment period.

### 3.6.1. Emission profile

As can be seen from Table 3, Japan contributed, in 2013, approx. 4 % of the world’s total anthropogenic CO<sub>2</sub> emissions. With respect to the overall greenhouse gas emissions, CO<sub>2</sub> accounted for approx. 93 % of total emissions in 2013, followed by methane with 2.6 %

and nitrous oxide with 1.6 % (expressed in CO<sub>2</sub> equivalents) ([Ministry of the Environment 2015](#)).

Japan's CO<sub>2</sub> emissions showed a gradual increase after 1990, interrupted by the economic crisis from 2008 to 2011, and resulted in a total increase of 17 % by 2013 compared to 1990.

### 3.6.2. Climate policies

Japan's energy policy in recent years was shaped by the aftermath of the Fukushima nuclear accident. In 2011, all nuclear power plants were taken off the grid, strict energy conservation measures were imposed and gas and coal fired power generation was increased. However, in 2014, nuclear power was included in Japan's Basic Energy Plan and according to a draft plan prepared by the Ministry of Economy, Trade and Industry, the share of renewable and nuclear energy sources is expected to rise to approx. 44 % by 2030 ([WNN 2015](#)). This energy mix was also used as a basis for Japan's INDC.

Japan had already introduced effective policies in the area of energy efficiency in the transport, industrial and commercial/residential sector. These policies were recently complemented by additional policies in the buildings sector, along with a global warming tax.

Starting in 2010, Japan introduced a Joint Credit Mechanism (JCM) to help spread Japanese technologies in climate change mitigation worldwide (in particular in Asia). It has to be noted that this mechanism was established independently of the Clean Development Mechanism under the Kyoto Protocol. Japan intends to use credits originating from this mechanism to help meet its future emission targets.

### 3.6.3. INDC

Japan submitted its Intended Nationally Determined Contribution on 17 July 2015. It consists of its reduction pledge as well as relevant information in order to facilitate clarity, transparency and understanding (planning process, assumptions and methodologies), along with reference information on greenhouse gas emissions and removals and energy mixes as well as concrete policies and measures for major sectors.

Japan presented an emissions reduction target of 26 % below 2013 emission levels by 2030. Japan plans to achieve this reduction mainly through a reduction of energy-related CO<sub>2</sub> emissions, based on energy efficiency measures and a shift from fossil to renewable and nuclear power generation.

In addition, Japan intends that measures in the LULUCF sector and credits from its Joint Credit Mechanism (JCM) will contribute to achieving the target.

### 3.6.4. Positions on the new agreement

Japan, like other developed countries, voiced reservations about including loss and damage prominently in the new agreement, as this topic was not explicitly mentioned in the ADP mandate.

During the 2015 negotiations, Japan was active, together with other members of the Umbrella Group (see chapter 4.2), in making proposals for bridging divides on issues such as enhancing adaptation action or making use of the Warsaw Mechanism when addressing loss and damage.

### 3.7. Republic of Korea

The Republic of Korea contributed, in 2013, approx. 2 % of the world's total anthropogenic CO<sub>2</sub> emissions. Korea is the seventh largest emitter of CO<sub>2</sub>. 85 % of greenhouse gas emissions are caused by the energy sector, coming mainly from fossil fuel combustion.

#### 3.7.1. Emission profile

The share of CO<sub>2</sub> in total greenhouse gas emissions is 89 % (2009), followed by methane with 4.6 %, SF<sub>6</sub> with 3.1 %, nitrous oxide with 2.1 %, HFCs with 1.0 % and PFCs with 0.4 % ([Republic of Korea 2012](#)). The relatively high share of fluorinated gases in the overall emissions can be attributed to the electrical equipment and electronics industries that use those gases.

Despite the growing importance of renewable energy sources, greenhouse gas emissions are increasing. This is due to the growth of energy-intensive industries (e.g. chemical and primary metal industry) and the related use of coal and gaseous fuels.

Greenhouse gas emissions doubled between 1990 and 2008. Nevertheless, partial decoupling of emissions from GDP has been achieved since the Asian financial crisis in 1997. The 1998-2007 manufacturing output doubled while emissions rose by one third, which shows that energy efficiency has improved and a step towards shifting away from energy intensive activities has taken place ([OECD 2012](#)).

#### 3.7.2. Climate policies

In 1998 a Special Committee on Climate Change was founded, which drafted the Comprehensive Action Plans for Climate Change to promote strategies related to the environment, industry and international cooperation. "Low Carbon, Green Growth" was established as a national vision ([Republic of Korea 2012](#)).

The Republic of Korea has implemented a Green Growth Strategy, a comprehensive policy package targeting all policy areas including climate change. One of its key policies is a cap and trade scheme introduced in January 2015 ([Climate Action Tracker 2015f](#)).

#### 3.7.3. INDC

The Republic of Korea plans to reduce its greenhouse gas emissions by 37 % compared to the business-as-usual level by 2030 ([Republic of Korea 2015](#)). It plans to use carbon credits from international market mechanisms to achieve this target.

This approach was criticised for lacking ambition because, due to the use of market mechanisms, domestic reductions may be significantly lower and their level cannot be predicted as they depend on the further development of the business-as-usual scenario ([Climate Action Tracker 2015](#)).

#### 3.7.4. Positions on the new agreement

In the negotiations on the new agreement, Korea mainly contributed to operational aspects and institutional arrangements, in several cases siding with developed country Parties. Korea supports a five-year review cycle of commitments ([IISD 2014](#)).

### 3.8. Canada

Canada is the eighth largest emitter of CO<sub>2</sub>, with a share of 1.6 % in global CO<sub>2</sub> emissions.

### 3.8.1. Emission profile

Canada's greenhouse gas emissions show an increasing trend since 1990, driven primarily by increased emissions from the fossil fuel industries and transport. Canada (as well as the United States) produces shale gas and shale oil on an industrial scale. The share of unconventional gas in the total gas production was approx. 40 % in 2011. Crude oil production from oil sands (Athabasca) has grown by 30 % since 2002, and Canada is the United States' largest oil supplier ([Olivier et al. 2014](#)). CO<sub>2</sub> contributed 78 % of Canada's total emissions, methane accounted for 15 % and N<sub>2</sub>O for 6 %.

In 1995, greenhouse gas emissions started to be decoupled from economic growth. This shift can be attributed to increases in efficiency, the modernisation of industrial processes, and structural changes in the economy. In the last few years however, the emissions intensity seems to have stabilised ([Environment Canada 2015](#)).

### 3.8.2. Climate policies

Canada's climate change plan aims at regulating greenhouse gas emissions on a sectoral level and its implementation in the transportation and electricity sectors, the largest sources of national greenhouse gas emissions, has started. Federal, provincial as well as territorial governments have adopted action plans to address climate change by means of legislative and regulatory measures, tax measures, fiscal mechanisms, incentives to reduce greenhouse gas emissions, as well as measures to address climate change impacts and adaptation. Moreover, investments in clean energy technology and other non-regulatory measures shall help reduce emissions in the longer term ([Government of Canada 2014](#)).

In December 2011, Canada notified the Secretary-General of the United Nations that it was going to withdraw from the Kyoto Protocol. Withdrawal became effective in December 2012.

Recent events of November 2015 are expected to change the course of Canada's climate and energy policy in the near future. On 4 November 2015, Justin Trudeau, the newly elected Prime Minister, presented his cabinet, including a new "minister of environment and climate change", a former environment minister as minister of foreign affairs and a cabinet committee on "environment, climate change and energy" ([Huffington Post 2015](#)). According to Mr Trudeau, the Canadian government intends to be a strong and positive actor in international climate negotiations, including at COP 21 in Paris.

Furthermore, the decision by the Obama Administration to reject the proposed Keystone XL oil pipeline (see chapter 3.2.2) is expected to affect oil production from oil sands in the Canadian province of Alberta ([Reuters 2015b](#)).

### 3.8.3. INDC

In its Intended Nationally Determined Contribution, Canada has committed itself to reducing its greenhouse gas emissions by 30 % below 2005 levels by 2030. International mechanisms may be used to achieve this target ([Canada 2015](#)).

The INDC, prepared under the previous government, was criticised for lacking ambition, *inter alia* because it constitutes a modest emission reduction below 1990 levels only ([Climate Action Tracker 2015h](#)). It has to be noted that forest sinks are expected to play an important role and therefore the actual pledged emission reduction excluding land use, land use change and forestry (LULUCF) will be smaller.



### 3.8.4. Positions on the new agreement

Canada shares the view of other Umbrella Group countries that mitigation ambition should not be linked with adaptation needs and does not see the need for new institutional arrangements in the area of adaptation. On loss and damage, Canada proposes to make use of the Warsaw International Mechanism under the new agreement ([IISD 2015c](#)).

## 3.9. Brazil

Brazil ranks number nine in the list of largest emitters of CO<sub>2</sub>. Its share in global CO<sub>2</sub> emissions is 1.5 % (2013).

### 3.9.1. Emission profile

In Brazil, CO<sub>2</sub> contributed approx. 75 % of the total greenhouse gas emissions, followed by methane with 17.3 % and N<sub>2</sub>O with 7.7 % ([Brazil 2010](#)).

More than 41 % of Brazil's energy supply comes from renewable energy sources such as water, biomass and ethanol, wind and solar energy. Hydroelectric power plants are responsible for more than 79 % of the electricity generated ([Brazil 2014](#)).

The largest share of net CO<sub>2</sub> emissions originates from land-use change, especially the conversion of forests to cropland and pasture. Due to the high share of renewable energy in the energy matrix, the share of CO<sub>2</sub> emissions from fossil fuel use is relatively small in Brazil.

### 3.9.2. Climate policies

In its National Policy on Climate Change launched in 2009 and its National Plan on Climate Change, Brazil aims at both reducing greenhouse gas emissions and strengthening removals by sinks. These plans have been elaborated in a participative process, involving representatives of academia, the scientific community, economic sectors and civil society organisations.

Brazil has addressed all main emitting sectors, but the focus of actions taken has been on forestry laws that help protect native forest. This includes the National Forest Code and the Action Plans for Deforestation Prevention and Control ([Climate Action Tracker 2015g](#)).

In June 2015, the presidents of Brazil and the United States, Dilma Rousseff and Barack Obama, expressed their commitment to work on an ambitious and balanced Paris agreement in a joint statement ([The White House 2015a](#)). They launched a joint Initiative aimed at enhancing bilateral cooperation on issues relating to land use, clean energy, and adaptation.

### 3.9.3. INDC

According to its INDC submitted in September 2015, Brazil intends to commit itself to reduce greenhouse gas emissions by 37 % below 2005 levels by 2025 and (indicatively) by 43 % in 2030 ([Brazil 2015](#)). Brazil takes its position in relation to the possible use of any market mechanisms that may be established under the Paris agreement. Brazil confirms that the implementation of its INDC is not contingent upon international support.

It has to be noted that, unlike other major developing countries, Brazil commits to a substantial absolute reduction of greenhouse gas emissions relative to the base year of 2005. In its INDC, Brazil also points out the importance of adaptation and of the complimentary role of South-South cooperation.

**Box 20: The Global Temperature Potential (GTP) metric**

For countries emitting a high share of greenhouse gases other than CO<sub>2</sub>, it is relevant how the effect of these gases on the climate system is compared to the effect of CO<sub>2</sub>. In its INDC, Brazil uses a Global Warming Potential (GWP) approach, which is based on the overall warming effect of a gas over a given time period – the 100 year GWP according to the IPCC Fifth Assessment Report ([IPCC 2013](#), Table 8.7).

However, Brazil pointed out that when using a Global Temperature Potential (GTP) approach, its commitment would translate into emission reductions of over 50 % by 2030. This is because methane, which is a relatively short-lived gas, plays a smaller role when looking at its effect on global temperature at a certain point in time in the future, rather than over a given time period. Hence, Brazil's methane emissions would be less relevant when using a GTP approach and its CO<sub>2</sub> emission reductions would stand out more prominently.

It has been pointed out that the GTP may be better suited to target-based policies, including policies related to the 2 degrees C goal, and the topic "common metrics to calculate the carbon dioxide equivalence of greenhouse gases" has been on the SBSTA agenda in recent years. Nevertheless, it can be expected that the established GWP will remain the metric of choice in future agreements.

**3.9.4. Positions on the new agreement**

In negotiations, Brazil generally cautions about weakening the differentiation between developing and developed countries and points out the importance of financial support from developed countries.

**3.10. Indonesia**

In 2013, Indonesia contributed approx. 1.4 % of the world's total anthropogenic CO<sub>2</sub> emissions ([Olivier et al. 2014](#)). In addition to energy-related emissions, deforestation, peatland degradation and forest fires play an important role ([Reuters 2007](#)).

**3.10.1. Emission profile**

The share of CO<sub>2</sub> in Indonesia's total greenhouse gas emissions is approx. 81 % (2009), followed by methane with 17.2 % and nitrous oxide with 2.0 %. The main sector contributing to greenhouse gas emissions is Land Use Change and Forestry, followed by energy, peat fire related emissions, waste, agricultural and industry ([Indonesia 2011](#)).

The annual forest cover loss has increased over the last decade, with an acceleration of the trend in recent years (Climate Action Tracker 2015). Indonesia's final energy consumption has also been growing, in line with the country's economic and population growth, with fossil fuels as the dominant energy source ([Indonesia 2011](#)).

**3.10.2. Climate policies**

The National Energy Policy is Indonesia's major policy on future energy supply, including a target for renewable energy to be increased to a 23 % share in primary energy supply and for a decrease in oil and coal consumption by 2025. Feed-in tariffs and a biofuel quota are supposed to support this target. Also, LULUCF is addressed under the current legislation, although expected emissions reductions through current programmes are difficult to assess due to the high uncertainty of underlying data ([Climate Action Tracker 2015d](#)).



### 3.10.3. INDC

Indonesia commits to an unconditional reduction of greenhouse gas emissions compared to the business-as-usual scenario of 26 % by 2020 and 29 % by 2030. This reduction will be met without the use of international market mechanisms. With support provided through international cooperation, Indonesia expects to be able to increase its contribution up to 41 % ([Indonesia 2015](#)).

### 3.10.4. Positions on the new agreement

Indonesia sides with others of the G-77 group on many issues and it sided with other island states in calling for the inclusion of a temperature goal in the agreement ([IISD 2015c](#)).

## 3.11. Other Parties

### Australia

Australia is the largest greenhouse gas emitter outside the EU with an emission reduction commitment in the second commitment period under the Kyoto Protocol, though this reduction would result in a level of 99.5 % of the 1990 level and Australia has not yet ratified the Doha Amendment.

Australia submitted its INDC on 11 August 2015. It is committed to reducing greenhouse gas emissions by 26 to 28 % below 2005 levels by 2030 ([Australia 2015](#)). It has to be noted that this again would constitute a modest emission reduction compared to 1990 levels because emissions in 2005 were considerably higher and Australia intends to account for removals from LULUCF activity.

In September 2015, Malcolm Turnbull succeeded Tony Abbott as Prime Minister after an internal vote in the Liberal Party. Malcolm Turnbull had in the past been more outspoken on climate change issues than his fellow party members. Whether this will translate into a more ambitious Australian climate policy remains to be seen.

### Mexico

Mexico, besides the Republic of Korea, is the only non-Annex I Party in the Environmental Integrity Group (EIG, see chapter 4.9). In its INDC submitted on 28 March 2015 ([Mexico 2015](#)), an unconditional emission reduction of 25 % compared to business as usual is pledged by 2030. This reduction could increase to up to 40 %, subject to a global agreement addressing issues such as a global carbon price and technology transfer.

### Saudi Arabia

Saudi Arabia is the largest greenhouse gas emitter in the Middle East and the world's largest oil producer and exporter. As such, Saudi Arabia may be affected by mitigation policies in countries importing fossil fuels ("response measures", see chapter 2.2.1), e.g. through a decreasing demand for oil in the future. Hence, Saudi Arabia is a proponent of a mechanism to support countries affected by response measures. Saudi Arabia faces additional challenges, including a rapid increase in domestic consumption of fossil fuels and youth unemployment. For this reason, Saudi Arabia is nowadays placing more emphasis on economic diversification and raising this as a topic in the UNFCCC negotiations.

On 10 November 2015, Saudi Arabia submitted its INDC ([Saudi Arabia 2015](#)). It lays out plans for economic diversification, e.g. in the areas of energy efficiency and renewable energies, which are expected to create mitigation co-benefits. Likewise, adaptation

measures, such as water management and urban planning, are listed which are also expected to create mitigation co-benefits.

### **South Africa**

South Africa is Africa's largest greenhouse gas emitter and in 2015 the presiding country of the Group of 77 (G-77, see chapter 4.1). It submitted its INDC on 25 September 2015 ([South Africa 2015](#)). It prominently proposes an adaptation component, with six goals for the period 2020 to 2030 and a support component. On mitigation, South Africa's commitment takes the form of a "peak, plateau and decline" (PPD) trajectory. For emissions in 2025 and 2030, a wide range is given (approx. 400 to 600 million tonnes of CO<sub>2</sub> equivalent).

## 4. GROUPS OF PARTIES

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;
- adopt a common position in the statements prepared in the plenary, which are presented by one member “on behalf of the group”.

In the following, a brief overview is given for each of these groups, including the group members and common characteristics. The groups’ positions on international climate policies and their approaches are summarised and, in particular, their position on a new international agreement is outlined.

During each COP, closed meetings are scheduled for most of these groups on a daily basis. At the COP in Lima, the Coalition for Rainforest Nations (CfRN) had daily meetings and contributed a closing statement. This group is not presented here because it focuses on specific aspects such as REDD+ and the member countries of CfRN are part of other groups as well. Similarly, “Small Island Developing States” (SIDS) are a recognised group under the United Nations, but are not described here because in UNFCCC negotiations, the interests of these states are largely represented by the Alliance of Small Island States (AOSIS, see chapter 4.4).

The BASIC countries (Brazil, South Africa, India and China) used to be an important group in the preparation of the Copenhagen Accord in 2009 (see chapter 2.1). They continue to hold ministerial meetings on climate change – most recently on 30 and 31 October 2015 in Beijing – but have been less active as a negotiating group because of diverging positions and because they have also been represented by the “G-77 and China” group (see chapter 4.1). Therefore, the BASIC countries are not presented as a separate group here.

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. The position of the EU is presented in chapter 3.3.

Besides the groups of countries presented here, there are other groups and regular meetings of countries (such as the Group of 7 or the Group of 20) which are not directly 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. Such groups and meetings are presented in chapter 5.2 below.

### 4.1. Group of G-77 and China

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 member countries. 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" ([Group of 77, 2015](#)).

In 2015, South Africa acts as presiding country of the G-77. The Peoples' Republic of China is not a full member of the G-77, but a "special invitee" and associate member ([Masters 2015](#)). Hence, the group taking a position in UNFCCC climate negotiations is known as "G-77 and China".

### **Positions on international climate policies**

G-77 and China represent a large number of countries with diverse levels of development and diverging views. Many of its members are also affiliated with other groups (see chapters 4.3 to 4.8). Nevertheless, G-77 and China can be characterised through the following common position that it adopts on international climate policies:

The group emphasises the Convention's principle of "common but differentiated responsibilities and respective capabilities": It points out the particular responsibility of the developed countries due to their historically higher emissions and their larger financial, technological and institutional capacities. Consequently, the G-77 and China see that mitigation commitments must be a priority for developed country Parties.

Concerning adaptation, the group focuses on the challenges that its members are facing in adapting to a changing climate and calls for support from the developed countries for loss and damage. G-77 and China see financial support, technology transfer and capacity building as important pillars of international climate action.

### **Positions on a new agreement**

The principle of "common but differentiated responsibilities" is a guiding principle in the preparation of a new agreement. During ADP sessions in 2015, representatives of G-77 and China repeatedly referred to the need for differentiation in the Parties' responsibilities, but also acknowledged that no Party should be excluded from their obligations.

On loss and damage, the G-77 and China promote the introduction of a dedicated mechanism on loss and damage in the agreement, a move which goes beyond the Warsaw Mechanism (cf. chapter 2.1).

During the elaboration of the draft agreement, the G-77 and China brought forward suggestions for a capacity-building body or centre. As for finance, the group calls for ambitious obligations for the developed country Parties, again referring to their responsibilities.

#### **Box 21: The Climate Vulnerable Forum (CVF) and the Vulnerable Twenty (V20) group**

Several G-77 members that are especially vulnerable to climate change founded the Climate Vulnerable Forum (CVF) in 2009. Though the forum did not actively participate as a group in the climate negotiations, it adopted several declarations and presented its activities in the run-up to and during recent COPs.

In October 2015, the finance ministers of twenty CVF member countries founded the Vulnerable Twenty (V20) group. They announced a series of actions to promote investment in climate resiliency and low emissions development and called for better access to international climate finance ([VCF 2015](#)). It remains to be seen whether this group will act as an official negotiating group in Paris and in future meetings.

## 4.2. Umbrella Group

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, the Ukraine and the United States, although it is not a group with formal membership such as the G-77.

Most members of this group did not commit themselves to quantified emission limitation or reduction commitments in the second commitment period under the Kyoto Protocol ([Decision 1/CMP.8](#)). However, Australia, Kazakhstan, Norway, and the Ukraine made a commitment. Despite their differences over current mitigation ambition, the members share a number of common positions.

### Positions on international climate policies

Members of the Umbrella Group are characterised by historically high per-capita greenhouse gas emissions, although most of them have reduced their emissions in recent years. Some have been overtaken by developing countries in overall or per-capita greenhouse gas emissions. Consequently, they argue that a strict distinction between developed country Parties listed in Annex I to the Convention and developing countries does not represent the situation as it is today.

Members of the Umbrella Group emphasise the importance of mitigation not only in developed, but also in developing countries. They point out the importance of a level playing field, i.e. common rules for all major emitters.

They are critical about issues which may require their financial support, i.e. new commitments/mechanisms in areas of adaptation (including loss and damage), finance, technology transfer and capacity building.

Umbrella Group members do not oppose such mechanisms, but they aim at limiting the effort needed to introduce and run these mechanisms. The group is in favour of increasing the transparency of these mechanisms, whereas they oppose additional efforts to increase transparency in areas such as the review of greenhouse gas emission inventories.

### Positions on a new agreement

Concerning mitigation, the Umbrella Group holds the view that binding commitments should apply to both developed and developing countries.

They oppose additional commitments/mechanisms in the area of adaptation and loss and damage but are willing to extend existing ones, such as the Warsaw International Mechanism.

## 4.3. Like-Minded Developing Countries (LMDC)

The group of Like-Minded Developing Countries comprises Asian countries including China, India and Indonesia as well countries from Northern Africa, the Middle East and Latin America. On many topics, its views are similar to those of the G-77 and China, but more pronounced.

### Positions on international climate policies

Like the G-77 and China, the LMDC emphasises the particular responsibility of developed countries due to their historically high emissions and, in this light, are opposed to weakening the distinction between Annex I and non-Annex I countries. The group

advocates financial support for developing countries, including support for loss and damage.

As the group includes oil-exporting countries that will be affected by a future decrease in fossil fuel use, it also points out the importance of reducing the impact of the implementation of response measures (cf. chapter 2.2.1).

#### **Positions on a new agreement**

The LMDC holds the view that mitigation contributions are the main responsibility of Annex I countries and that non-Annex I countries may restrict their contributions to adaptation. Throughout the negotiations in 2015, the LMCD recommended that loss and damage should play an important part in the new agreement.

#### **4.4. Alliance of Small Island States (AOSIS)**

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 ([AOSIS 2015](#)). The alliance has 44 members and observers.

#### **Positions on international climate policies and a new agreement**

The key concern of AOSIS members is their vulnerability to the adverse effects of global climate change, such as sea level rise and changes in weather patterns. Hence, the group calls for ambitious mitigation action, including increasing pre-2020 mitigation efforts and aiming at limiting the global temperature increase to 1.5 degrees C ([Waqar 2014](#)).

AOSIS also calls for a reference to be made to the 1.5 degrees C goal and the special circumstances of small island developing states in the general part of the new agreement.

#### **4.5. African Group**

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. On 15 June 2015, the Assembly of the African Union, in a Decision on Africa's engagement in the global climate negotiations, expressed its appreciation of the African Group of Negotiators and reaffirmed the position of the African Union in international climate negotiations ([African Union 2015](#)).

#### **Positions on international climate policies and a new agreement**

The African Group emphasises the principle of common but differentiated responsibilities and respective capabilities. It aims at parity between mitigation, adaptation and provisions for enhancing means of implementation, while referring to the increased burden that adaptation places upon developing countries.

The African Group particularly stresses the responsibilities of developed country Parties in the area of climate finance and technology transfer. For the new agreement, the African group has suggested a framework for upscaling technology development and transfer.

#### **4.6. Least Developed Countries (LDC)**

Under the United Nations, countries are classified as "least developed" according to defined criteria for per capita income, human assets and economic vulnerability. Currently 48 countries are classified as LDC ([UNCTAD 2014](#)). These countries form a distinct group in the climate negotiations under the UNFCCC.

## Positions on international climate policies and a new agreement

The key issues for LDCs that have emerged over the past few years are adaptation and, in particular, loss and damage. The LDC group points out their lack of resources to adapt to the effects of climate change and to compensate loss and damage. Consequently, the group calls for financial support, technology transfer and capacity building in these areas. The group opposes an increase in transparency in some areas as this may make it more burdensome to raise support. As the greenhouse gas emissions of LDCs are comparably small, they expect mitigation efforts to be centred on Annex I Parties.

### 4.7. Bolivarian Alliance for the Peoples of Our America (ALBA)

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, *inter alia*, acts as a negotiating group on climate change issues.

Like other developing country groups, ALBA calls for ambitious mitigation action by developed country Parties and for finance and technology transfer.

In October 2015, Bolivia held the World People's Conference on Climate Change and the Defence of Life ([Climate Policy Observer 2015](#)). The event focused on indigenous rights, climate justice and loss and damage. In a conference declaration, the signatories committed to backing in the Paris conference, *inter alia*, the establishment of a mechanism on loss and damage and the development of alternatives to market-based instruments (cf. chapter 2.2.1).

### 4.8. Independent Alliance of Latin America and the Caribbean (AILAC)

The Independent Alliance of Latin America and the Caribbean brings together four South American (Chile, Colombia, Paraguay, Peru) and three Central American countries (Costa Rica, Guatemala, Panama). The group was established as a formal negotiating group in the course of the COP in Doha in 2012.

Unlike ALBA and other developing country groups, AILAC is in favour of global climate goals, rather than a strict distinction between Annex I and non-Annex I countries. On adaptation, AILAC, in a joint submission with Mexico, proposed its view that the 2015 agreement needs to include a global goal for adaptation, along with collective and individual adaptation commitments, means of implementation and institutional arrangements ([Mexico and AILAC 2014](#)).

Concerning mitigation, AILAC holds the view that pre-2020 ambition efforts should be supported by enhanced finance, technology transfer and capacity building from developed countries.

### 4.9. Environmental Integrity Group (EIG)

The Environmental Integrity group comprises two large non-Annex I Parties (Mexico and the Republic of Korea) and three small Annex I Parties (Liechtenstein, Monaco and Switzerland) that are neither part of the European Union nor of the Umbrella Group.

Their approach to climate policies can be characterised as more ambitious in several ways than the approach of other comparable Parties. Concerning mitigation, Liechtenstein, Monaco and Switzerland are committed to emission reductions in the second commitment period under the Kyoto Protocol. In areas such as loss and damage, diverse views exist within the group. Against this background, and despite the differences within the group,

EIG can play an important role in the negotiations, bringing together different views and engaging in the search for a compromise ([Darby 2015](#)).

#### **4.10. Conclusions on the positions of groups**

As can be seen from the description of groups above, many of them can clearly be attributed to either “developing” or “developed” countries, thus reflecting the differentiation between Annex I and non-Annex I Parties to the Convention of 1992. Nevertheless, this differentiation is subject to change in several ways.

The Environmental Integrity Group comprises both Annex I and non-Annex I Parties. Furthermore, AOSIS or AILAC (though made up of non-Annex I Parties) shares some of its views with Annex I Parties, e.g. on comprehensive mitigation commitments applicable to all Parties.

Depending on the topic, coalitions are formed between “Annex I” and “non-Annex I” groups, e.g. in the area of adaptation. Climate change negotiations are an iterative process, where it is possible to find common positions which clearly deviate from the groups’ original points of view.



## 5. OTHER STAKEHOLDERS

Besides the Parties to the Convention (195 countries plus the European Union), delegates from observer states (the Holy See and Palestine) and from observer organisations attend meetings under the UNFCCC. Observer organisations include:

- United Nations units and bodies established by the UN, such as the United Nations Environment Programme (UNEP) or the Intergovernmental Panel on Climate Change (IPCC)
- Inter-governmental organisations, such as the International Energy Agency (IEA) or the Organisation for Economic Co-operation and Development (OECD)
- Non-governmental organisations (NGOs)

At COP 20 in Lima, approximately 4 000 participants from such observer organisations were registered, compared to 6 300 participants from Parties and 900 media representatives. In the following, an overview is given of those observer organisations and stakeholders that are especially important in the current climate change negotiations, *inter alia* those that adopted clear positions in the run-up to the Paris conference. For the purpose of this report, these stakeholders are divided into three groups as follows:

- NGOs and local government organisations (see chapter 5.1)
- Other Stakeholders/groups of countries (see chapter 5.2)
- International organisations (see chapter 5.3)

The aims of each of these stakeholders are presented in the following, along with their position on international climate policies, including the topics of the new agreement.

### 5.1. NGOs and local government organisations

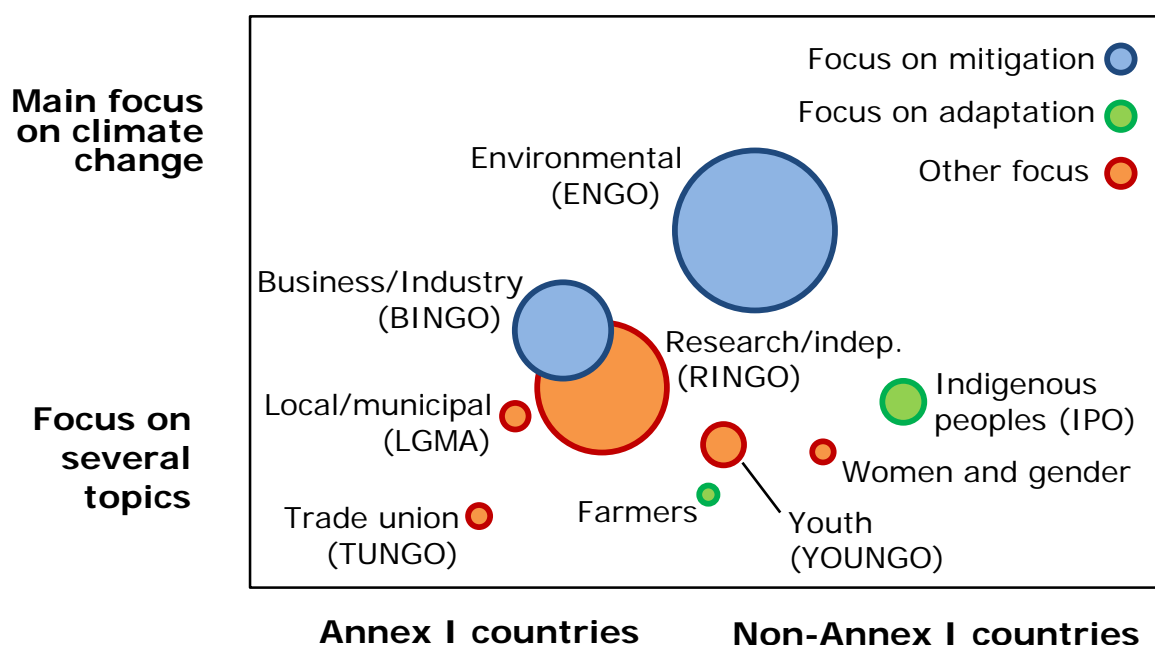
Non-governmental organisations (NGOs) actively participate in climate change conferences, through side events, exhibits and press releases. A total of more than 1 800 such organisations are currently admitted as observers under the UNFCCC.

On UNFCCC level, all organisations except intergovernmental organisations are often referred to as “NGOs” or “civil society”, although they also include local government and municipal authorities. In this chapter, these local/municipal authorities are also described alongside with NGOs, as their role is indeed separate from the role of national governments and intergovernmental organisations and closer to NGOs.

Most representatives of civil society are affiliated to one of nine constituencies (Figure 4), which act as focal points in the climate negotiation process and the interaction with the UNFCCC secretariat. Accredited observer status and affiliation to a constituency allow for contributing statements in plenary sessions and written submissions on negotiation topics as well as the organisation of side events.

**Figure 4: NGO and local government organisation constituencies**

The area of the elements is proportional to the number of organisations registered under the constituency.



**Source:** Number of NGOs and country affiliations: list of admitted NGOs ([UNFCCC 2015b](http://maindb.unfccc.int/public/ngo.pl)), <http://maindb.unfccc.int/public/ngo.pl>. The country affiliation is based on the head office; organisations may be active in and represent both Annex I and non-Annex I countries. Focus of constituencies: authors' views.

In the following, these nine constituencies and their positions on international climate negotiations are introduced.

#### 5.1.1. Environmental non-governmental organisations (ENGO)

Almost 700 organisations are registered as ENGOs under the UNFCCC. In the following, three selected ENGOs are presented which are among the most active organisations involved in the process.

The Climate Action Network (CAN) is a worldwide network of over 950 NGOs in more than 110 countries, working to promote government and individual action to limit human-induced climate change to ecologically sustainable levels ([CAN 2015](#)). CAN established regional network hubs that coordinate these efforts around the world. One regional network is CAN Europe with over 120 member organisations in more than 30 European countries.

According to CAN, aiming for a below 1.5 degrees C goal would avoid or reduce numerous impacts of climate change and is not necessarily more costly than pursuing the below 2 degrees C goal. The Network stresses that immediate near-term emission reductions are necessary to keep the door open to limiting warming below 1.5 degrees C and long-term emission pathways are critical to its achievement.

Concerning the new agreement, CAN calls for phasing out all fossil fuel emissions and phasing in a 100 % renewable energy future with sustainable energy access for all, as early as possible, but not later than 2050 ([CAN 2014](#)). CAN supports a hybrid or "package" deal in Paris that combines a core legal agreement, COP decisions, Annexes and supplementary instruments as well as political declarations. The network sees a particular focus on

agreeing as much as possible via the first three instruments. CAN argues that the cornerstone of this legally binding agreement must be ambitious mitigation commitments and actions from all countries, the nature and stringency of which will vary depending on their common but differentiated responsibilities and respective capabilities.

Friends of the Earth International (FoEI) are a grassroots environmental network representing more than 2 million members and supporters in 75 different countries. FoEI campaign on today's most urgent environmental and social issues and seek to change the perception of the public, media and policy makers with well-reasoned policy analysis and promote solutions that will help to create environmentally sustainable and socially just societies ([FoEI 2015a](#)).

FoEI see climate finance and the Green Climate Fund as essential components of the Paris agreement. They call for developed nations to timely provide the Green Climate Fund with the resources they pledged to it in 2014. FoEI support their call with examples of successful climate finance projects ([FoEI 2015b](#)), pointing out key elements for project success such as active, inclusive participation of affected communities and recognition and respect for people's rights.

Greenpeace International is a global environmental organisation, consisting of Greenpeace International in Amsterdam and 26 national and regional offices around the world, providing a presence in over 55 countries. Its overall goal is to ensure the ability of the earth to nurture life in all its diversity ([Greenpeace International 2015](#)).

In 2014, Greenpeace together with the Green Alliance, Christian Aid, the Royal Society for the Protection of Birds and the World Wide Fund for Nature (WWF) published a report on reaching a global agreement on climate change in Paris 2015 ([Willis 2015](#)). The report concludes that a meaningful deal must contain the following elements: (i) ambitious action before and after 2020, (ii) a strong legal framework and clear rules, (iii) a central role for equity, (iv) a long term approach, (v) public finance for adaptation and the low carbon transition, (vi) a framework for action on deforestation and land use and (vii) clear links to the 2015 Sustainable Development Goals.

Environmental NGOs will take the opportunity to mobilise supporters shortly before and during the COP in Paris. As an example, the campaign network Avaaz organises the Global Climate March on 29 November 2015 in cities around the world ([Avaaz 2015](#)).

#### 5.1.2. Research and independent non-governmental organisations (RINGOs)

Research and independent non-governmental organisations (RINGOs) are organisations engaged in independent research and analysis that aim at developing sound strategies to address both the causes and consequences of global climate change ([RINGOs 2015](#)). The RINGO Steering Committee is composed of representatives from research institutes in the area of climate change, such as the International Institute for Sustainable Development, the University of Zurich or Wageningen University.

On climate change related research, the conference "Our Common Future under Climate Change" took place in Paris in July 2015 and constituted the largest forum for the scientific community to come together ahead of the Paris conference in 2015. The conference was a major opportunity for scientists, stakeholders and the interested public to take stock of existing knowledge, explore and identify innovative solutions, discuss them and prepare for an ambitious post-2015 climate governance regime. In the conference outcome statement ([UNESCO, Future Earth and ICSU 2015](#)), a "solution space" is presented with a focus on mitigation action and a "problem space" highlighting the main impacts to be expected in the absence of mitigation action.

### 5.1.3. Business and Industry non-governmental organisations (BINGO)

The International Chamber of Commerce (ICC) coordinates activities of business and industry organisations related to the UNFCCC process. In June 2015, the ICC published its view on the Paris agreement ([ICC 2015](#)). It understands that addressing climate change is an imperative for the business community in all countries and that, with appropriate policy and market frameworks in place, business will further deploy climate solutions. The ICC calls for COP 21 to send a clear signal to the private sector about the future direction of global climate policy through a long-term agreement that protects competitiveness, accelerates investment and unleashes the deployment of existing and new technologies and finance.

During 2015, various large companies spoke out on climate change issues, although it has to be noted that, likewise, other companies openly or quietly oppose climate action. In June 2015, major European oil and gas companies (BG Group, BP, Eni, Royal Dutch Shell, Statoil and Total) called to governments and to the UNFCCC to introduce carbon pricing systems and “create clear, stable, ambitious policy frameworks that could eventually connect national systems” ([Total 2015](#)). According to these companies, such systems would reduce uncertainty and encourage the most cost-effective ways of reducing greenhouse gas emissions. Non-European oil or gas companies did not take part in this initiative.

In July 2015, the Obama administration, together with 13 large U.S. companies, launched the “American Business Act on Climate Change Pledge”. These companies, which include Apple, Coca-Cola, General Motors, Goldman Sachs, Google, Microsoft, UPS and Walmart, made pledges for USD 140 billion in low-carbon investments and for various new renewable energy projects ([The White House 2015b](#)).

### 5.1.4. Youth non-governmental organisations (YOUNGO)

During UNFCCC conferences, young people are given the opportunity to attend plenary sessions, to meet with officials and organise side events, exhibits or interviews. Their constituency (Youth non-governmental organisations, YOUNGO) regularly addresses plenaries and makes submissions ([UNFCCC 2015](#)).

### 5.1.5. Indigenous peoples non-governmental organisations (IPO)

Indigenous peoples’ organisations are united in the International Indigenous Peoples Forum on Climate Change (IIPFCC). In its statement in the June 2015 ADP session in Bonn ([IIPFCC 2015](#)), the Forum called for facilitating access of indigenous peoples to climate finance and stressed that their rights must be respected whenever they are affected by climate mitigation actions.

### 5.1.6. Local government and municipal authorities (LGMA)

The constituency of local government and municipal authorities is coordinated by “ICLEI – Local Governments for Sustainability” ([ICLEI 2015](#)); ICLEI stands for “International Council for Local Environmental Initiatives”.

Local and regional levels play an important role in complementing national mitigation and adaptation actions. On the level of cities, the “C40 Cities Climate Leadership group” is a network of large cities collaborating in the areas of climate change mitigation and reducing climate-related risks ([C40 2015](#)). Under the leadership of C40, ICLEI and the United Cities and Local Governments (UCLG), the Compact of Mayors was launched at COP 20 in Lima by UN Secretary-General Ban Ki-moon and Michael Bloomberg, special envoy for cities and

climate change ([Compact of Mayors 2015](#)). The aim of the Compact of Mayors is, *inter alia*, to demonstrate the cities' commitment to ambitious global climate action and to accelerate collaborative and sustainable local action.

As another example, under the Covenant of Mayors, more than 5 900 local and regional authorities across the European Union committed themselves to meeting and exceeding the EU's greenhouse gas reduction target through increased energy efficiency and the development of renewable energy sources ([Covenant of Mayors 2015a](#)). In October 2015, a "New Integrated Covenant of Mayors for Climate and Energy" was launched, extending the Covenant's target to 2030, integrating mitigation and adaptation and opening the model to the global dimension ([Covenant of Mayors 2015b](#)).

As an example from North America, Canadian cities committed themselves to the development of climate change action plans and regular reporting on their greenhouse gas emissions ([Big City Mayor's Caucus 2015](#)).

#### **Box 22: 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 2015f](#)). As of 10 November 2015, 30 cooperative initiatives have been registered, involving over 900 cities, 100 regions, 1700 companies and 400 investors.

During the COP in Paris, various presentations of these initiatives and a high-level meeting, the so-called "Action Day" are foreseen under the Lima-Paris Action Agenda.

#### **5.1.7. Women and gender non-governmental organisations**

The Women and Gender Constituency comprises 15 women's and environmental civil society organisations working to ensure that women's perspectives are embedded in the processes and results under the UNFCCC ([WGC 2015](#)). The topic "gender and climate change" has been on the agenda of COP and subsidiary body meetings since 2013, most recently in July 2015 in Bonn with an in-session workshop on gender-responsive climate policy ([UNFCCC 2015d](#)).

#### **5.1.8. Trade union non-governmental organisations (TUNGO)**

The International Trade Union Confederation (ITUC) works with its affiliates to include the labour movement on the climate agenda by focusing, *inter alia*, on the need for a fair, ambitious and binding agreement, on emission reduction targets and differentiated responsibilities, and on developing a comprehensive strategy for a "just transition" for workers and communities to a low-carbon economy ([ITUC 2015](#)).

#### **5.1.9. Farmers non-governmental organisations**

In UNFCCC negotiations, the farmers' constituency has been represented by varying organisations, most recently by the World Farmers Organisation (WFO). Initiatives such as the Climate Change, Agriculture and Food Security (CCAFS) programme work on strengthening the role of agriculture in areas such as nationally appropriate mitigation

actions (NAMAs) or technology transfer. Farmers' organisations also call for the Paris agreement to refer to food production and provide financial, technical and capacity building support for countries to enable them to devise ambitious actions for the agricultural sector ([Campbell et al. 2014](#)).

## 5.2. Other stakeholders / groups of countries

Besides the organisations described above, other groups and organisations exist which regularly lay out their position on climate change. In this section, the following are described:

- Groups of countries: These meet regularly, with or without an explicit focus on climate change.
- Dialogues: Regular meetings of high-level decision makers discussing climate change issues.
- Religious organisations: Some of them recently voiced important statements on climate change issues.

Besides national governments, actors on the sub-national level (regions or cities) make their voice heard, presenting examples on their level. In UNFCCC negotiations, representatives of such entities are classified under "civil society". They are presented in chapter 5.1.6.

Various groups of countries and their joint initiatives (so-called International Cooperative Initiatives – ICI) are also documented in the UNFCCC portal on cooperative initiatives ([UNFCCC 2015e](#)). For cooperative initiatives under the "Lima-Paris Action Agenda", please see Box 22, above.

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

The G7 consists of the major developed countries France, Germany, Italy, Japan, the United Kingdom and the United States. The European Union is also a G7 member. The Russian Federation was suspended from the group in 2014.

Climate change was a main topic at the G7 summit on 7 and 8 June 2015 in Germany. In the leaders' declaration ([G7 2015](#)), the G7 heads of state affirmed their strong determination to adopt an ambitious, robust and inclusive agreement applicable to all Parties at the climate change conference in Paris. The G7 leaders, who represent Annex 1 Parties, also pointed out that evolving national circumstances (i.e. the growing importance of non-Annex 1 Parties) should be reflected.

Besides the 2 degrees C goal and the mitigation commitments made by its members, the G7 also underlined their commitment to climate finance, noting the role of multilateral development banks and the private sector. What is new and can be considered as a bold signal is the emphasis in the declaration that "a decarbonisation of the global economy over the course of this century" is required ([G7 2015](#)).

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

In the decades since the founding of the G7, the worldwide share of this group both in terms of GDP and in terms of greenhouse gas emissions has decreased, and large emerging countries have gained in importance in many ways. Hence, the Group of Twenty (G20), which comprises 19 major developed and emerging countries plus the European Union,



plays an increasingly important role. The group was founded in 1999 and has been meeting regularly since 2008.

The 2015 summit of the G20 is scheduled to take place in November (after completion of this report). In the run-up to the summit, G20 Energy Ministers held a meeting in October 2015 on inclusive energy collaboration ([G20 2015](#)). Renewable energy and energy efficiency were discussed, but climate action, including important commitments made by G20 members recently, was not at the centre of that meeting.

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

Besides the G20, an overlapping group of countries exists which 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 2015](#)).

On 18 and 19 July 2015, at a meeting in Luxembourg, ministers from MEF members discussed elements of the new agreement. The discussions were described as constructive, but remaining differences and the need to accelerate negotiations were also pointed out ([Grand Duchy of Luxembourg 2015](#)).

The MEF met again on 29 and 30 September on the sidelines of the UN General Assembly in New York. In his remarks, U.S. Secretary of State John Kerry highlighted the number of INDCs submitted up to the end of September and recent announcements by the world's two largest emitters, the United States and China ([U.S. Department of State 2015](#), see also chapters 3.1 and 3.2).

### 5.2.4. 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. It was established with the aim to “build a bridge between implementation and negotiation” ([BMUB 2015a](#)).

At the sixth Petersberg Climate Dialogue in Berlin, Ministers and representatives from 36 countries met from 17 to 19 May 2015 to discuss the process in the run-up to the Paris conference. The main outcomes of the meeting are summarised in the co-chairs' conclusions ([BMUB 2015b](#)). They specify the main issues to be tackled on the road to the Paris conference, which are: preparing an ambitious and balanced outcome, preparing ambitious national contributions, raising ambition pre- and post-2020 and establishing sound rules for the agreement. However, they also demonstrate that for most topics consensus was still a long way away and that the participants' held very different views.

### 5.2.5. Cartagena Dialogue

The Cartagena Dialogue for progressive action brings together countries “working towards an ambitious, comprehensive and legally binding regime in the UNFCCC, and committed, domestically, to becoming or remaining low carbon economies”. It has approx. 30

members, both from developing and developed countries. The most recent meeting of the Cartagena Dialogue took place in April 2014.

#### 5.2.6. Religious organisations

In 2015, various religious organisations made statements on the responsibilities of individuals and countries related to climate change.

The Catholic Church plays a particular role because the Holy See, i.e. the Church's jurisdiction in Rome, is an observer to the UNFCCC. Its leader, Pope Francis, published an Encyclical Letter "on Care for our Common Home" ([Holy Father Francis 2015](#)) including his views on climate change and on possible ways forward.

#### **Box 23: The Encyclical Letter "Laudato Si' on Care for our Common Home"**

In June 2015, the Encyclical Letter "Laudato Si' on Care for our Common Home" was published, which is the first Papal Encyclical solely focusing on the environment. In it, the Pope

- emphasises the role of climate as a common good;
- criticises modern anthropocentrism;
- calls for an integral ecology, which clearly respects its human and social dimensions;
- points out the need for justice between the generations;
- appeals for a new dialogue on how we are shaping the future of the earth.

The Encyclical Letter can be seen as a call to integrate a moral and ethical dimension into political decisions, putting at the centre the poorest communities who are especially vulnerable to impacts of climate change ([CIDSE 2015](#)).

On 17 and 18 August 2015, Muslim scholars gathered in Istanbul for an international Islamic climate change symposium. They issued an "Islamic Declaration on Climate Change", calling upon the COP in Paris to bring their discussions to an equitable and binding conclusion. The declaration also calls on "well-off nations and oil-producing states to lead the way in phasing out greenhouse gas emissions as early as possible, no later than the middle of the century" ([International Islamic Climate Change Symposium 2015](#)).

On 29 October 2015, Buddhist leaders called for a transformational COP agreement in a signed declaration ([Global Buddhist Climate Change Collective 2015](#)).



### 5.3. International organisations

#### 5.3.1. 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 2015a](#)). As an intergovernmental body, it is open to 195 member countries of the United Nations and the WMO.

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. The assessment is shared among three Working Groups.

**Table 5: IPCC Working Groups**

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

**Source:** IPCC ([2015a](#)); [http://www.ipcc.ch/working\\_groups/working\\_groups.shtml](http://www.ipcc.ch/working_groups/working_groups.shtml).

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 2015b](#)). Key findings of the Synthesis Report are that 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 over 80 countries were selected to form the author teams producing AR5. They, in turn, drew on the work of over 1 000 contributing authors and over 1 000 expert reviewers. AR5 assessed over 30 000 scientific papers.

The IPCC also produces Special Reports, e.g. on the Risks of Extreme Events and Disasters – SREX ([IPCC 2012](#)) and Methodology Reports which provide practical guidelines for the preparation of greenhouse gas inventories.

On 6 October 2015, energy economist Hoesung Lee of the Republic of Korea was elected as new Chair of the IPCC. Hoesung Lee aims at making use of knowledge and expertise embedded in the business sector, in order to make the IPCC's output more policy-relevant

([Climate Home 2015a](#)). He also plans to place greater emphasis on solutions to climate change in future IPCC assessment reports.

#### 5.3.2. International Civil Aviation Organization (ICAO)

The International Civil Aviation Organization (ICAO) is a specialised agency of the United Nations which develops international standards and recommended practices in the area of aviation. The ICAO published a guidance document on the use of emissions trading for aviation ([ICAO 2008](#)) and in its 38<sup>th</sup> Assembly Session in 2013 decided to develop a global scheme of market-based measures (MBM) for international aviation.

ICAO Member States, the aviation industry and other stakeholders are currently developing a proposal for an MBM scheme capable of being implemented from 2020, for decision by the 39<sup>th</sup> ICAO Assembly in 2016 (see also chapter 2.2.8).

#### 5.3.3. International Maritime Organization (IMO)

The International Maritime Organization (IMO) is the United Nations' specialised agency for setting standards for safety, security and environmental performance in international shipping ([IMO 2015a](#)). Related to greenhouse emissions, the organisation is working on guidelines to support the uniform implementation of energy-efficiency regulations for ships.

In September 2015, the IMO's secretary general, Koji Sekimizu, objected to specific measures aimed at reducing shipping's overall contribution to CO<sub>2</sub> emissions. He pointed out the role of shipping as part of the world economy and argued that the development of further measures in this sector falls under the responsibility of the IMO ([IMO 2015b](#)).

## 6. INTENDED NATIONALLY DETERMINED CONTRIBUTIONS (INDCS)

### 6.1. Contents and scope

By the time this report is written, a vast majority of Parties have submitted their Intended Nationally Determined Contributions (INDCs, see Box 7). As of 10 November 2015, 159 Parties, covering approx. 89 % of total global greenhouse gas emissions, have submitted their INDCs ([UNFCCC 2015g](#), [Climate Action tracker 2015a](#)).

These submissions of INDCs are unprecedented in the history of global climate negotiations as – for the first time – Parties responsible for the vast majority of global emissions came forward with specific commitments to curb their emissions. However, as the analyses presented further below indicate, these commitments alone will not bring the world on a path in line with the 2 degrees C goal.

The INDCs submitted by the major Parties are described in chapter 3 in the respective Party chapter. In the following, an overall assessment of the INDCs, also covering those from smaller countries, is presented.

According to the Lima Call for Climate Action ([Decision 1/CP.20](#)), INDCs should contain certain pieces of information. However, Parties interpreted them differently and there is a wide variation for some aspects. The following aspects will be discussed here:

**Table 6: Main aspects and questions related to Intended Nationally Determined Contributions (INDCs)**

Aspect	Question
<b>Scope and coverage</b>	Which sectors, which greenhouse gases and which territory are included? Which importance do Parties attribute to adaptation and means of implementation?
<b>Ambition</b>	Does the INDC represent a Party's best effort in the light of its national circumstances?
<b>Planning and implementation</b>	Is the INDC part of a framework already in place or is it still open whether the actions can be implemented as planned?
<b>Consistency with previous proposals</b>	How do the contributions compare to those made in the course of COP 15 in Copenhagen?
<b>Conditionality</b>	Under which conditions do Parties commit to fulfil or surpass their contributions?

**Source:** Information to be provided in INDCs according to the Lima Call for Climate Action ([Decision 1/CP.20](#)); authors' views.

The vast majority of submitted INDCs contain sufficient information for answering the questions listed in Table 6. Most Parties submitted their INDCs in a tabular format, following the basic structure provided in the Lima Call for Climate Action. Overview information on all INDCs submitted by 1 October 2015 is provided in the UNFCCC secretariat's synthesis report ([UNFCCC 2015g](#)) and a comprehensive discussion of the

main INDCs can be found, for example, on “Climate Action Tracker” ([Climate Action Tracker 2015a](#)). In the following, the aspects listed in Table 6 are discussed.

Concerning scope, most INDCs include all major greenhouse gases and sectors, although some developing countries focus on the main sources only. Most intend to include emissions/removals from land use, land-use change and forestry, though specific accounting approaches remain open.

Several Parties submitting an INDC intend to make use of market mechanisms (e.g. Republic of Korea, Switzerland and Iceland). Some countries keep their options open. The European Union, the USA and the Russian Federation, among others, do not intend to make use of market mechanisms outside their territory.

The majority of developing countries included an adaptation component in their INDC and many of these countries also refer to loss and damage. However, the type of information varies and many refer to qualitative goals. Many countries point out the need for financial, technological and capacity building support.

**Box 24: Example of an INDC with comprehensive scope and coverage**

The INDC of Indonesia ([Indonesia 2015](#)) provides comprehensive information on all aspects requested in the Lima Call for Climate Action ([Decision 1/CP.20](#)). It contains an unconditional and a conditional component, key assumptions on mitigation and information on the country’s strategic and planning approach, covering mitigation and adaptation components.

Most Annex I countries and several developing countries expressed their ambition in terms of an absolute emission reduction compared to a base year. Approximately half of the INDCs (mostly from developing countries) express their emission reduction targets relative to a business as usual (BAU) scenario.

**Box 25: Examples of INDCs with notable ambition**

The European Union, Iceland and Norway pledged a 40 % reduction compared to the base year 1990. Switzerland pledged a 50 % reduction, though it plans to achieve part of this reduction using international credits.

Non-Annex I countries such as Brazil and the Marshall Island committed to absolute emission reduction targets for the first time.

Concerning planning and implementation, it is important that INDCs are in line with and backed by national policy frameworks. Otherwise, implementation may be hampered by short-term changes in political priorities. Most INDCs contain information on the underlying policy framework and many list the areas where specific mitigation policies and measures are planned (e.g. renewable energy or sustainable management of forests).

**Box 26: Examples of INDCs backed by national policy frameworks**

The INDCs of the four largest emitters, i.e. China, the United States, the European Union and India, are backed by comprehensive policy frameworks which are already largely in place, thereby reducing the uncertainty whether these commitments can be met as indicated. Still, some policy frameworks may be subject to legal challenges or changes in government priorities in the future (see e.g. chapter 3.2.2 for the United States).

Many INDCs differ from the pledges made for COP 15 in Copenhagen in 2009. For example, the European Union and other developed countries submitted commitments for 2030, as opposed to the Copenhagen pledges which focused on 2020. The vast majority of INDCs is in line with the pledges of 2009 or goes beyond in their ambition.

**Box 27: Example of INDCs going beyond previous proposals**

Ethiopia submitted an ambitious emission reduction commitment (including LULUCF) of -64 %, compared to the business-as-usual scenario ([Ethiopia 2015](#)). This commitment goes beyond the Copenhagen pledge, which was a list of nationally appropriate mitigation actions (NAMAs), rather than a quantitative commitment. The same is true for many other developing countries.

Several developing countries provided unconditional commitments, which were supplemented by conditional commitments. These are subject to available finance, technology or capacity building support or to the commitments of other Parties.

**Box 28: Example of a conditional reduction commitment**

Mexico, in its INDC ([Mexico 2015](#)), laid out an unconditional target of a 25 % emission reduction below business as usual (BAU) by 2030. Subject to a global agreement addressing, *inter alia*, carbon pricing, finance and technology transfer, this target could be increased up to 40 %.

Although the majority of Parties has submitted an INDC, several countries, including some important emitters, have not. As of 10 November 2015, several large oil exporting countries, such as Iran or Venezuela, have not submitted an INDC.

## 6.2. Overall effect of INDCs

After the submission deadline of 1 October 2015, several analyses were carried out to estimate the overall effect of all INDCs on future emissions and on the future development of global surface temperatures. The UNFCCC Secretariat, in its synthesis report ([UNFCCC 2015g](#)), estimates that global emission levels will reach approx. 56.7 Gt (gigatonnes) of CO<sub>2</sub> equivalent in 2030 if all INDCs are considered. This still constitutes an increase in emissions compared to current emission levels, though at a lower rate than in the period 1990-2010, and a decrease in global average per capita emissions compared to 1990 or 2010.

The future development of global surface temperatures is strongly affected by the *aggregate* global emission levels until 2030 and beyond. The UNFCCC Secretariat's synthesis report states that, when taking into account the INDCs, aggregated global emissions until 2030 do not fall within least-cost scenarios for achieving the 2 degrees C goal. In other words, additional and more costly efforts will be needed to reach this goal after 2030, based on the assumptions and scenarios detailed in the IPCC's 5<sup>th</sup> Assessment Report ([IPCC 2015](#)).

Besides the UNFCCC Secretariat, other researchers have estimated the effect of the submitted INDCs. [Gütschow et al. \(2015\)](#) found that, if fully implemented, the INDCs submitted by 1 October 2015 would lead to a warming of around 2.7 degrees C by 2100. They found that there is still a large emission gap to a 2 degrees C pathway. [Boyd et al. \(2015\)](#) analysed all INDCs submitted by 23 October 2015. In their most optimistic scenario (including all conditional targets), emissions in 2030 would be approx. halfway between a

hypothetical “business as usual” scenario and a pathway that is consistent with the 2 degree C target.

The United Nations Environment Programme (UNEP) estimated in its Emissions Gap Report ([UNEP 2015a](#)) that the implementation of the unconditional INDCs submitted by 1 October 2015 will result in greenhouse gas emission reductions of 4 to 6 Gt CO<sub>2</sub> equivalent per year in 2030, compared to emissions under current policy trajectories. However, the emissions gap between full implementation of the unconditional INDCs and the least-cost emission level for a pathway to stay below 2 degrees C still amounts to 12 to 17 Gt CO<sub>2</sub> equivalent per year in 2030.

Along the same lines, [Kitous and Keramidas \(2015\)](#) estimated that scenarios based on unconditional INDCs, extended to 2050, would cover 33 % to 40 % of the emission reductions needed to remain below the 2 degrees C target.

These analyses demonstrate that the INDCs by themselves fall short of delivering an emission path in line with the 2 degrees C goal. In order to close this ambition gap, efforts will be needed on several timescales:

- Increased pre-2020 mitigation ambition, as discussed under workstream 2 of the ADP.
- A process of dynamic review and strengthening of ambition under the Paris agreement (post-2020). Options for such processes are included under Article 3 of the draft agreement text ([ADP 2015f](#)). The European Union, among others, strongly supports such a process, based on a five-year cycle.
- Depending on the future trajectory of emissions, more action will be needed, including a global net uptake of CO<sub>2</sub> in the second half of the 21st century. It has to be noted that most emission scenarios under which the 2 degrees C target can be met rely on significant negative global emissions after 2050 (cf. [Anderson 2015](#)). However, such approaches are currently not considered in the assessment of the pledges made.

Although Parties were asked to provide information on how they consider their INDCs to be fair and ambitious, it is instructive to compare the equity of various INDCs using benchmarks. A number of NGOs contributed to a review of the equity of submitted INDCs ([Civil Society Equity Review 2015](#)). In this review, benchmarks were defined based on cumulative national emissions since 1950 and on various measures of capacity (depending on per person income of a country’s population).

Using these benchmarks, the review found that all major developed country Parties fall short of their fair share. It also found that the pledges of the majority of developing countries exceed or broadly meet their fair share, but also have mitigation potential that exceeds their pledges and fair share. It has to be noted that the results of such comparisons largely depend on the definitions of these benchmarks and the underlying subjective value judgements.

## 7. CONCLUSIONS AND OUTLOOK

### 7.1. Challenges for Paris

From the development in recent months, from the positions of the main Parties and stakeholders and from the Intended Nationally Determined Contributions, some main challenges have emerged which will be critical in the negotiations in Paris.

In general, the development of the negotiations in 2015 has been perceived as constructive but slow. Although bold statements were made on the political level (e.g. the statement of the G7 or the joint statement of the US and China, see chapters 5.2.1 and 3.1), differences on key elements of the agreement remain.

Delegates in Paris will face large challenges, especially with regard to the four key issues introduced in chapter 2.4. These were also part of the most recent discussions during the pre-COP from 8 to 10 November 2015 in Paris. In the following, the status of these four issues at the time of the pre-COP and possible implications for negotiations at COP 21 is summarised.

#### Differentiation

This topic will be most crucial in the area of mitigation. Parties will have to come to an agreement, acceptable to all, which requires some mitigation effort from all Parties and stronger/differentiated efforts from developed country Parties.

An agreement will also have to be found on the inclusion of conditional contributions, which were proposed by several developed countries in their INDCs. In the discussion on transparency, issues of differentiation will also be important, as developing countries will ask for more flexible approaches to reporting and providing information.

#### Long-term goals and dynamism

It is still open how the long-term goal will be expressed in the agreement. Representatives from small islands and low-lying coastal countries repeatedly criticised the lack of a specific long-term goal. It remains open how specific a wording will be that is acceptable to all Parties.

Concerning dynamism, it seems that there is convergence on a five-year cycle, which is supported by the European Union and other major Parties. In a joint statement on 2 November 2015, the presidents of China and France, Xi Jinping and François Hollande, voiced their support of such a cycle ([France Diplomatie 2015](#)). Growing support for such a cycle was also found at the pre-COP in Paris (see chapter 2.3.11).

#### Loss and damage

The topic of loss and damage is included as an option in the draft agreement text. Even if the agreement on loss and damage falls short of an additional mechanism, it can be expected that developing countries will push for additional support to address this topic. Irrespective of the final role of loss and damage in the agreement, it can be expected that loss and damage will be an integral part of the corresponding COP decision.

#### Finance

It can be expected that in the course of negotiations, developing countries will call for an increase of contributions to climate finance. The EU's finance ministers reconfirmed their commitment to scale up climate finance in their conclusions of 10 November 2015 ([Council of the European Union 2015d](#)). Although a new phase of the Global Climate Change Alliance



Partnership, supporting most vulnerable countries, had been launched by the EU at the end of October ([European Commission 2015e](#)), critics pointed out that no new concrete commitments have been put on the table ahead of the Paris conference ([Climate Home 2015b](#)).

In general, the additional resources that developed countries are willing to pledge are very limited. Nevertheless, the call by developing countries for additional climate finance may also require an increase of the total of USD 100 billion per year pledged for 2020 already in Copenhagen.

Such calls for additional means of implementation are supported by a recent World Bank study ([Hallegatte et al. 2015](#)). This study points out that the poor are especially threatened by the effects of climate change and shows how this threat can be contained through rapid and inclusive development, taking into account both mitigation and adaptation actions.

## 7.2. The negotiating process

The climate change conference in Paris will be dominated, in its first week, by the work of the ADP and the subsidiary bodies (SBI and SBSTA). SBI and SBSTA close on 4 December and ADP is expected to close on 5 December. The results, such as draft decisions and a draft agreement text will then be forwarded to the COP for negotiations in the second week. Negotiation topics related to the Kyoto Protocol will be forwarded to CMP. An overview schedule of the conference is available from the UNFCCC secretariat ([UNFCCC 2015j](#)). Links to detailed agendas, background documents and lists of events are available from the UNFCCC's main conference webpage ([UNFCCC 2015k](#)).

Besides the negotiations, a multitude of side events, exhibits and thematic days are scheduled. As one focus in Paris, initiatives under the Lima-Paris Action Agenda (LPAA, see Box 22) are presented.

On the first day of the conference, more than 100 heads of state are expected to attend the opening event. Another High-Level Segment (HLS) on 7 and 8 December 2015 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.

A basic challenge in Paris will be to bridge gaps between differing views on a technical level, to adjust positions and to look for common ground. In a study on "climate treaties and approaching catastrophes" ([Barrett 2013](#)), it was pointed out that if a threshold for a catastrophe is known with certainty and the loss from catastrophe vastly exceeds the cost of avoiding it, the problem of collective action undergoes a change: Rather than *cooperate*, countries need only *coordinate* to avoid catastrophe. Barrett cites the example of the Montreal Protocol on Substances that Deplete the Ozone Layer ([UNEP 1987](#)), which was agreed on and implemented successfully, with a threshold well known and with a framework in place that allowed Parties to fulfil the objective of the Protocol through coordination.

It has to be noted that in today's climate negotiations, there is no clear threshold and the actions required are much more complex than the phasing-out of ozone-depleting substances under the Montreal Protocol. Nevertheless, with a broad agreement on a goal of a maximum temperature rise and with individual INDCs on the table, ways may open up for solutions through coordination, rather than detailed cooperation.

In any case, the common ground found in Paris will have to deliver added value for all Parties in the long run. Of the solution space available, the solution has to come with a prospect of "a better future for all".

**Box 29: The “Dubai Pathway” for controlling hydrofluorocarbons (HFCs)**

The Montreal Protocol is not only worth mentioning as an example of a successful international agreement. It has also become relevant most recently as a possible vehicle for controlling certain greenhouse gases. At the 27<sup>th</sup> Meeting of the Parties to the Montreal Protocol in Dubai in November 2015, Parties agreed on working towards an amendment on hydrofluorocarbons (HFCs), with a view to adopting this amendment at an extraordinary meeting in 2016 ([UNEP 2015b](#)).

While the gases covered by the Montreal Protocol are ozone-depleting and contribute to the greenhouse effect, HFCs do not deplete the ozone layer but they are potent greenhouse gases. HFCs have partly replaced the ozone-depleting substances phased out under the Montreal Protocol, e.g. in the areas of refrigeration and air conditioning. For an agreement on phasing down HFCs, several proposals are on the table, including a proposal from the European Union ([Klaassens et al. 2015](#)). The European Union already has legislation in place to phase down the use of HFCs and other fluorinated gases in its domestic market ([European Commission 2015d](#)). A global reduction of the use of HFCs would constitute an important contribution to climate change mitigation.

**7.3. Possible outcomes**

In the first week in Paris, when the ADP meets for session 2-12, Parties will have to find common solutions on the more technical issues. Thereafter it will be the responsibility of the ministers and high level representatives to sort out the more political issues (e.g. differentiation and loss and damage).

As the draft agreement text and the draft decisions available for the negotiations in Paris ([ADP 2015f](#)) still contain a wide range of options, the outcome at the end of the Paris conference is still open. Given the strong political will, it can be expected that there will be an agreement, but the question remains *what* the agreement will be and *when* exactly it will be finalised. In Table 7, three options are presented, including their implications on the further timeline.

It has to be noted that once the details on the implementation of the agreement have been agreed (e.g. in 2017 or 2018 for the outcomes presented in Table 7), the agreement will need to be ratified by a large number of Parties. In case of delays, the agreement's entry into force by 2020 may pose a challenge.

**Table 7: Possible outcomes of the Paris conference**

<b>Outcome</b>	<b>Background</b>	<b>Implications on further timeline</b>
<b>Agreement and supporting decisions adopted</b>	Parties manage to bridge all the divides in the draft agreement text and at the end of COP 21, a comprehensive agreement is adopted.  Supporting decisions which regulate the detailed implementation of the agreement are also finalised and adopted.	Further details of the implementation of the agreement can be negotiated in 2016, with finalisation likely in 2017.
<b>Agreement adopted Supporting decisions postponed</b>	A comprehensive agreement is adopted, but different views on the implementation cannot be sorted out due to lack of time.  Supporting decisions are postponed until COP 22.	As the supporting decisions will not be adopted until COP 22 at the end of 2016, the further timeline will be delayed by one year.
<b>Agreement almost finalised, but final decision postponed Supporting decisions postponed</b>	At the end of COP 21, there are still diverging views on the agreement text. The final decision may be postponed until another COP session, a "COP 21bis".  Supporting decisions are postponed until COP 22.	As the supporting decisions will not be adopted until COP 22 or even later, the further timeline will be delayed by one to two years.

**Source:** Authors' views.

Despite their broad determination to achieve an ambitious agreement, the Parties' views vary on the pace which can be followed to reach the goal of long-term decarbonisation. The slower the pace in the coming years, the smaller any future window of opportunity will be to keep the world on track to reach the 2 degrees C goal.

This is critical for the discussion on increasing ambition before 2020. Under ADP workstream 2, it can be expected that the progress achieved on pre-2020 mitigation ambition will be criticised for being inadequate, and developing countries are expected to call for the inclusion of additional adaptation and finance aspects before 2020.

Concerning negotiation strands outside the ADP, developing countries will continue to call for new institutional arrangements for capacity building. In addition, discussions on a mechanism for response measures will proceed.

Finally, reporting and review issues will continue to be discussed. It can be expected that the current reporting and review systems for mitigation and adaptation will form the basis of reporting and review activities under the future agreement. However, what will be established should be a more transparent system, applicable to all Parties, with some flexibility and taking into account differing capabilities.

#### 7.4. Beyond Paris – work in 2016

In the current draft agreement and draft decisions, all main topics are covered, including loss and damage (as an option in the draft agreement and as integral part of the draft decision). It can therefore be expected that all main topics will be part of the Paris outcome.

However, the Paris outcome will in some areas not be specific enough to define all necessary details required for implementation. The COP is expected to mandate, e.g., its subsidiary bodies to work out further details in 2016, to be agreed on in COP decisions later. In particular, details of accounting for greenhouse gas emissions and removals will have to be worked out.

Table 8 lists specific mitigation topics which will not be concluded in Paris but are expected to constitute important topics in the future negotiations.

**Table 8: Other mitigation topics, to be worked out in detail once the agreement has been reached**

Topic	Status	More information
<b>Market mechanisms</b>	It is expected that market mechanisms, similar to international emission trading and other mechanisms under the Kyoto protocol, will be introduced under the new agreement. However, details of these mechanisms need to be discussed from 2016 onwards.	Chapter 2.1
<b>Non-market approaches</b>	Several developing countries, including Bolivia, proposed non-market approaches to support mitigation of climate change. Such approaches may not be compatible with current approaches such as REDD+.	Chapter 2.2.1
<b>International transport</b>	Emissions from international aviation and shipping are currently not included in national mitigation targets. Approaches to include these emissions will be discussed in 2016, in particular by the International Civil Aviation Organization (ICAO), which plans a decision on a global market mechanism in its 39 <sup>th</sup> Assembly in the same year.	Chapter 2.2.8

**Source:** ADP (2015d), “Elements whose inclusion requires further consideration”; authors’ views.

The main negotiating events under the UNFCCC in 2016 will be the meeting of the subsidiary bodies (SBSTA and SBI 44) in Bonn from 16 to 26 May 2016 and the Conference of the Parties (COP 22) in Marrakesh from 7 to 18 November 2016. The course which these future negotiations will take will largely and crucially depend on the outcome of the 12 days in Paris at the end of 2015.

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## NOTES



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