Societal challenges of climate change

As the end of the year is approaching, the New Year’s resolutions are set, aimed at changing things for the better. The resolutions are firm, shaped based on the experiences and lessons learnt throughout the year. What are the resolutions made at the global scale, for the benefit of the European future from the perspective of the climate change and the societal challenges associated to the phenomena? The Paris agreement and the Marrakech plan of action have gathered the international leadership to reach the agreement on the climate change as well as long term commitment. Reaching of near zero net emissions in the second half of the century, and supporting a transition to a clean economy and low carbon society within the framework of sustainable development are the set goals, with an emphasis for a need for the fast adoption of actions and building of capacities and moreover, the political commitment, for the goals to be achieved.

The Paris agreement sets the forefront for the actions addressing the climate change. The 21st Conference of the Parties to the United Nations Framework Convention on Climate Change (UNFCCC COP21) took place in Paris in November and December of 2015. UNFCCC consists of 195 State parties and represents an international environmental agreement on climate change. The conference addressed the issue of inability to limit the rise of global temperature to at least 2 degrees Celsius, which leads to the immediate threat to the humanity and the irreversible climate change, as confirmed in the statement made by the UN Intergovernmental Panel on Climate Change (IPCC). The Paris agreement came into force on 4th November 2016. Since October 2015, 191 Parties had signed the Agreement and 85 Parties had formally joined, including China, the US and India, which count as the world’s top three country emitters, and the European Union. The number of countries that joined, represent 61% of global emissions, while 55% was set as the threshold for the Paris agreement to come into force.

The final conference of CASI that was held in Brussels on November 16-17, addressed the issue of societal challenges related to climate change and the role of civil society and other stakeholders through public participation in the democratization of research and creation of new disciplines and new research topics. In order to reach the goals set in the Paris agreement, the new type of environmental governance based on the societal mobilisation is needed. The knowledge based society and the triple helix model presenting the symbiosis of science, society and policy may be the answer. This policy brief is addressing the challenges, conclusions and actions projected in the Paris agreement and the Marrakech Plan of Action and is proposing the set of policy recommendations aimed at faster implementation of the envisioned actions and strengthening of the commitment of all relevant stakeholder groups.
**Introduction**

The Paris agreement and the Marrakech Plan of Action have set a new landmark for addressing the climate change and require the urgent transition to low-carbon development and low-carbon energy systems. When this transition was under discussion in Copenhagen in 2009, the conclusion was that it is a probability that such a transition shall occur in some distant future. The Paris agreement concluded that such a transition is a must and it is inevitable. However, as seen in the past, the pace of the transition and the implementations of the identified actions remains to be seen. The global shift in the energy systems and the goals set in the Paris agreement urge for an implementation of the current NDCs. According to the analysis conducted by the International Energy Agency (IEA), the path set by the initial round of NDCs is consistent with an average global temperature increase of around 2.7°C by 2100 and above 3°C thereafter. Hence, for the countries this represents a double challenge as apart from delivering the NCDs, the collective goal of keeping the temperature below 2 degrees needs to be reached.

**FOCAL POINTS OF THE PARIS AGREEMENT**

The agreement that was reached during the 21st Conference of the UNFCCC in Paris is based on the following focal points: reducing of emissions with an aim to limit the increase to 1.5°C, since this would significantly reduce risks and the impacts of climate change; transparency and global stocktake that would be achieved by active cooperation of governments focused on tracking of progress through a robust transparency and accountability system; adaptation through strengthening of the society to deal with the climate change and ensuring the international support to the developing countries to enable them to tackle the challenges; to develop the ability to recognise, to mitigate and address the loss and damage occurred due to effects of climate change; ensure continuous support towards reducing of emissions and building of resilience to climate change impacts in developing countries.

**MARRAKECH PARTNERSHIP FOR GLOBAL CLIMATE ACTION**

The Marrakech conference concluded the ratification of the Paris Agreement and adoption of the Marrakech Partnership for Global Climate Action with an aim to rapidly move forward towards reducing of the greenhouse gas emissions, fostering of the adaption to the climate challenges and supporting the 2030 Agenda for Sustainable Development and its Sustainable Development Goals. The Marrakech Plan of Action reassures the support that will be provided to the developing countries by reaffirming funding in the amount to USD $100 billion that will be provided on behalf of the Developed Country Parties. The political commitment is crucial and as such was emphasised. Furthermore, the working group established in Marrakech in lieu of the Paris agreement shall focus on the development of the rules necessary for implementation process, while the countries shall commit towards developing their own action plans for implementation of Nationally Determined Contributions (NDCs) and longer-term strategies.
The Paris agreement sets out four targets for mitigation of the greenhouse gas, which are considered as a prerogative for achieving the above noted objectives. I) implementation of the NDCs, covering the period till 2025 or 2035 and have a 50% probability of limiting warming to about 2.7°C by 2100, with the higher temperature increases thereafter if stronger action is not taken after 2030 (IEA, 2015a); (ii) deeper emissions cuts that involve a near-term peaking of global energy-related emissions and are consistent with a 50% probability of limiting warming to 2°C by 2100, which has been extensively analysed by the IEA in the ETP 2DS and the World Energy Outlook (WEO) 450 Scenario; iii) the increased ambition, newly established in Article 2 of the 2015 Paris Agreement, which resets the global goal to ‘well below 2°C’; and (iv) the Agreement’s call to ‘pursue efforts to limit the temperature increase to 1.5°C’, which existing analyses, though scant, indicate will likely move forward by one to two decades the date by which carbon neutrality will have to be achieved, compared with 2°C scenarios, requiring further modelling and analysis (International Energy Agency, Energy, Climate Change Report, 2016 Insights).

Even though the concrete actions and its implementation still remain to be seen, the Paris agreement did encourage a number of countries to undertake new policy directions towards further deployment of renewables. In December 2015, to support the development of solar and wind energy, the US Congress voted in favour of extension of investment tax credits for business energy (ITC) and renewable electricity production (PTC). At the same time Japan announced the auction for utility-scale solar PV projects. In India, to reach the goal of acquiring 8% of energy from the solar power, the state released targets to achieve the country’s Renewable Purchase Obligation (RPO) target of 17% by 2022 (International Energy Agency, Energy, Climate Change Report, 2016 Insights). In addition, several alliances have been formed with the same above noted objective, such as Solar Alliance in between India and France, the African Renewable Energy Initiative supported by Germany and France and other.
Mobilisation of actions aimed at addressing the impact of a climate change

The previous chapters provided insights into main elements of the Paris agreement and the Marrakech plan of action. The alarming signals urge for immediate actions and the commitment, notably at the political level, however, even if the willingness of the signatory countries is firm, the pathway towards reaching the envisioned positive outcome is still positioned in the somewhat unknown landscape. In her keynote speech at the CASI policy conference, Professor of the University of Ljubljana and Vice-chair of the Working Group 2 Fourth Assessment of Intergovernmental Panel on Climate Change, Mrs. Lucka Kajfez Bogataj, pointed out that despite of all the facts, the future is still unknowable. Therefore, the first step towards building the desirable landscape is to be transparent about the facts and findings towards the society and mobilise them around climate challenges to build the capacity and governance focused on a low carbon emission economy.

The first step towards building the capacity and climate governance is the public education about the climate change that would involve the broad group of stakeholders and organisations, from schools and universities to business and professional organisations, trade unions, publishers, journalists etc. Only the knowledge based society can be an active actor in the process of climate change adaptation and transformation. Even though the decision making process is notably taking place at the national, government level, the regions and in particular the local levels shall not be neglected in the policy making process. The cities and local authorities play a crucial role when social mobilisation is in question. Due to the fact that the climate change governance implies complex decision and policy making process, which will have an effect at the society in terms of the welfare, cost and the benefits, it is essential for the transparency and raising awareness that the public is informed and moreover, engaged in the process.

The previous chapter has touched upon the socio-economic impacts of the climate change due to which it is important for the public to be informed and engaged in the process. The climate change will have an effect on the wealth and approach to natural resources, the goods and services, production, farming but even at tourism and related leisure services and activities, but not only. For example, the climate change will affect the people’s properties and businesses as due to weather-related disasters such as floods, heat waves and droughts, the insurance costs will increase. On the other hand, the new weather conditions will require a new approach towards more resilient and energy efficient construction, which will increase the initial costs but shall lead towards savings in a long-term. Notably, the above noted are just a few of examples. The transition and adaptation towards the challenges that the climate change is imposing in front of the society asks for new solutions and innovations, new type of governance and broad stakeholder engagement, but also offers opportunities for developing new technologies, products, jobs and services that shall replace the ones destined to disappear.
In terms of funding, the European Union will invest in more than 500 major climate change projects in the programming period 2014-2020. These projects are funded by the European Regional Development Fund (ERDF) and the Cohesion Fund and listed in the concerned operational programmes. Climate change adaptation and mitigation considerations are integrated in the preparation and approval of the above noted projects. In terms of the policy making, the European Union is the leading partner in the recent initiatives such as the above noted Paris agreement and Marrakech Partnership for Global Climate Action. Furthermore, the European Union is a signatory of the Sendai Framework for Disaster Risk Reduction, for which the framework was signed in 2015 and the 2030 Agenda for Sustainable Development adopted by the General Assembly of the United Nations in September 2015. In addition, in April 2013, the European Commission has adopted the EU Strategy on adaptation to climate change, which integrates the specific actions on enhancing the resilience of infrastructure and mainstreaming climate adaptation into the regional and cohesion policy.

Concluding remarks

The policies that have been already endorsed as noted in the previous chapter are showcasing the willingness of the decision makers to tackle climate change challenges. However, the willingness and the initial commitment is not enough as the climate change brings along many complex issues.

CASI has looked into the importance of public engagement in sustainable development and that such engagement is important for dealing successfully with climate change, because:

• The road forward is unclear and the complexity of the challenge is immense, wherefore many different societal actors needs to be engaged in developing and implementing solutions.
• In order to bring forward a transition to a low-carbon society, efforts need to be made at all levels of society.
• In short, we are looking at a systemic transition that will most likely fail if all parts of society are not engaged. There are no technological and political fixes here but a need for a multitude of incremental changes and actions.
• Policy makers should therefore make sure to promote public engagement in the development of climate solutions.
Further Reading and References:

2. European Commission, Societal Challenge online portals
3. European Commission, Climate action portal, Paris agreement
   [http://ec.europa.eu/clima/policies/international/negotiations/paris_en](http://ec.europa.eu/clima/policies/international/negotiations/paris_en)
4. United Nations Framework Convention on Climate change portal: MARRAKECH ACTION PROCLAMATION FOR OUR CLIMATE AND SUSTAINABLE DEVELOPMENT
5. Societal Challenges of Climate Change, presentation of prof. Lucka Kajfez Bogataj, University of Ljubljana
CASI Project Description

CASI: PROJECT DESCRIPTION
PROJECT TITLE: Public Participation in Developing a Common Framework for Assessment and Management of Sustainable Innovation (CASI)
COORDINATOR: ARC Fund, Bulgaria: Zoya Damianova.
CONSORTIUM: The CASI consortium consists of 19 partners representing 12 European countries. Country correspondents extend the reach to 28 countries.
FUNDING SCHEME: Coordination and support action, funded under the 7th Framework Programme of the European Community, SCIENCE-IN-SOCIETY-2013.1.2-1.
DURATION: 42 months, 1/2014-6/2017
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