Legal Assessment of Paris Agreement Implementation to Mobilize Investment in Climate Adaptation and Resilience

International Law Review with Survey of Good Practices and Country Study of Ukraine

2021

FINAL REPORT

Legal Assessment of Paris Agreement Implementation to Mobilize Investment in Climate Adaptation and Resilience:

International Law Review with Survey of Good Practices and Country Study of Ukraine

10-10-2020

Authors and Contributors:

Ms. Alina Sviderska, National Legal Expert, Ukraine
Oleksandr Diachuk and Mariia Stolbova, National Legal Specialists, Ukraine

Prof. Marie-Claire Cordonier Segger, Senior Director, CISDL
Dr. Alexandra R. Harrington, Research Director, CISDL
Ms. Caroline Haywood, Legal Fellow, CISDL
Dr. Markus Gehring, Lead Counsel, CISDL
Prof. Freya Baetens, Senior Legal Fellow, CISDL

Disclaimer

This report has been produced releasing the EBRD from any liability relative to the selection of the Consultant and the quality of the Consultant's work. In no respect shall EBRD incur any liability for any loss, cost, damage or liability related to the EBRD's role in selecting, engaging or monitoring the Consultant or as a consequence of using or relying upon the services of the Consultant.

EBRD makes no representation or warranty, express or implied, as to the accuracy or completeness of the information set forth in this report. EBRD has not independently verified any of the information contained in the report and EBRD accepts no liability whatsoever for any of the information contained in the report or for any misstatement or omission therein. This report remains the property of EBRD . The views expressed in this publication are those of its authors and do not represent the views of the EBRD, the Centre for International Sustainable Development Law (CISDL), or any affiliated or partner institutions. Reproduction of this document in whole or in part and in any form for educational or non-profit purposes may be made without special permission from the copyright holders, provided acknowledgment of the source is made. The partners would appreciate receiving a copy of any publication or material that uses this document as a source. Except where otherwise noted, this work is protected under a Creative Commons Attribution Non-commercial-No Derivative Works License.

About the Report

The EBRD, in cooperation with CISDL, the Climate Law & Governance Initiative, CEENRG at the University of Cambridge, and legal scholars of McGill University, as well as in-country legal experts from Ukraine and others countries, have conducted a legal research project into legal measures for achievement of the nationally determined contributions in the selected jurisdictions. This outcome report is a by-product of this research project and is intended to inform policy-making moving forward.

Contact Information

European Bank for Reconstruction and Development (EBRD)
One Exchange Square London EC2A 2JN, United Kingdom
Tel: +44 20 7338 7553 | Fax: +44 20 7338 6102
www.ebrd.com

Centre for International Sustainable Development Law (CISDL)
Chancellor Day Hall, McGill University
3644 Peel Street Montreal, Quebec H3A 1W9, Canada
Tel +1 818-685-9931 | Fax +1 514-398-4659
www.cisdl.org

Table of Contents

Decision-Makers Summary 5

1. Introduction 9

2. A Public International Law Perspective on Paris Agreement Implementation to Mobilize Investment in Climate Adaptation and Resilience 17

2.1 – Prioritizing Climate Adaptation and Resilience 19

2.2 – Establishing Sound Climate Compliance Arrangements 22

2.3 – Strengthening Multi-Level Transparency Frameworks 24

2.4 – Accessing and Accountably Managing Climate Finance 29

2.5 – Engaging Non-Party Stakeholders 33

3. Ukraine: Legal and Institutional Means to Promote Investments in Climate Adaptation and Resilience 36

3.1 The Legal and Institutional Framework to Address Climate Adaptation and Resilience in Ukraine 39

3.2 Ukraine's NDCs Priority Sectors in National Climate Law and Policy 44

A. Climate Resilience and Adaptation for the Energy Sector 44

Roadmap of key elements and deficiencies of the legal and institutional frameworks 45

Selected legal and institutional barriers: predictability and clarity of legislation 46

Selected legal and institutional barriers: transparency of the grid 47

Selected legal and institutional barriers: financing 48

Selected legal and institutional barriers: investor protection 50

Selected legal and institutional barriers: emissions reductions and trading 50

Selected legal and institutional barriers: independence of the regulator 53

Recommendations for improving legal and institutional frameworks for climate resilience and adaptation in the energy sector of Ukraine 54

B. Climate Change Adaptation and Resilience for Agriculture 55

Ukraine's agricultural sector 55

C. Climate Adaptation and Resilience in Ukraine's Infrastructure Sector 59

Municipal planning, strategies and construction 59

Climate adaptation and resilience for transportation infrastructure 61

Climate adaptation and resilience in waste management infrastructure 62

3.3 Recommendations to Develop the Strategy for Climate Change Adaptation & Resilience for Ukraine 63

3.4 Legal and Institutional Recommendations 64

Prioritization of climate adaptation and resilience 65

Accountability and oversight mechanisms 68
Transparency and reporting frameworks 71
Accessing and managing climate finance 73
Strengthening the engagement of non-government stakeholders 77
4. Conclusions: Strengthening Implementation of the Paris Agreement 81
Summary of National Legal and Institutional Barriers to Achieving Climate Adaptation and Resilience in Ukraine 86
Acknowledgements 93

Decision-Makers Summary

The Paris Agreement, adopted during the United Nations Framework Convention on Climate Change ("UNFCCC")[1] 21st Meeting of the Conference of the Parties ("CoP 21") in December 2015 (the "Paris Agreement"), represents a landmark accord in which over 195 nations commit to lowering greenhouse gas emissions to help reduce the most dangerous effects of climate change.

The Paris Agreement is a significant public international law development, and over 186 countries have submitted their Nationally Determined Contributions (NDCs) to the global response to climate change, in accordance with article 4, paragraph 12 of the Paris Agreement, as recorded in a public registry maintained by the UNFCCC Secretariat.[2] While the Paris Agreement reflected a key consensus and sent important signals to markets, the State Parties left open key technical details related to means of implementation, transparency and reporting mechanisms, the engagement of stakeholders, climate financing, risk assessment and insurance, development of infrastructure, and adaptation and mitigation measures for key sectors such as agriculture and food security. In December of 2018, during the UNFCCC 24th Meeting of the Conference of the Parties ("CoP 24") in Katowice, Poland, the State Parties agreed to a comprehensive set of rules, collectively the "Katowice Outcomes", which are to be read alongside and in conjunction with the Paris Agreement.[3] The first stocktaking of NDCs occurred in 2018,[4] and a second stocktaking is scheduled for 2023. Stocktaking serves to inform State Parties of their progress towards meeting the Paris Agreement target of less than 2°C global warming and identifies whether higher ambition is necessary. The process supports review and preparation of updated NDCs, affecting revision of ambition levels, implementation and investment plans, capacity and institution building, and preparation of decarbonisation plans.[5] At the UNFCCC 25th Meeting of the Conference of the Parties ("CoP 25") in Madrid, Spain under the Chilean Presidency in 2019, key advances were made, including the constitution of the Paris Agreement Committee on Compliance and Implementation, however certain further important elements of guidance for Paris Agreement implementation, including those related to market-based instruments, continue to be debated among the Parties in advance of the UNFCCC 26th Meeting of the Conference of the Parties ("CoP 26") in Glasgow in 2021.

---

[1] United Nations Framework Convention on Climate Change, 'Adoption of the Paris Agreement' Decision 1/CP.21 (29 January 2016) UNFCCC/CP/2015/L.9/Rev.1.

[2] UNFCCC, 'NDC Registry (interim)' <http://www4.unfccc.int/ndcregistry/Pages/Home.aspx> accessed 20 July 2020.

[3] UNFCCC, 'Katowice Climate Package' (*United Nations Climate Change*, 2018) <https://unfccc.int/process-and-meetings/the-paris-agreement/paris-agreement-work-programme/katowice-climate-package> accessed 9 November 2019; COP 24 Presidency, The Katowice Rulebook – main principles of the document (2019) <https://unfccc.int/process-and-meetings/the-paris-agreement/paris-agreement-work-programme/katowice-climate-package> accessed 9 November 2019.

[4] UNFCCC, 'Nationally Determined Contributions (NDCs)' (*United Nations Climate Change*) <https://unfccc.int/process-and-meetings/the-paris-agreement/nationally-determined-contributions-ndcs> accessed 9 November 2019.

[5] UNFCCC, 'Further guidance in relation to the adaptation communication, including, inter alia, as a component of nationally determined contributions, referred to in Article 7, paragraphs 10 and 11, of the Paris Agreement' Decision 9/CMA.1 (19 March 2019) UNFCCC/PA/CMA/2018/3/Add.1.

This report provides analysis, in the context of public international law, of the contributions of law and governance reform to strengthening efforts of States, including through climate finance, to meet global goals for increased adaptation and resilience under the Paris Agreement and the Katowice Outcomes, supported by a review of good legal practices and analysis of selected case study countries. It is available in a modular format, with focus on key countries, and the instant report considers key challenges and opportunities for Ukraine. In particular, it examines the legal, regulatory and institutional measures undertaken to fulfil requirements under the Paris Agreement, with a focus on key sectors and priorities identified in Ukraine's NDC (see Table 1).

The report seeks to generate realistic, legally accurate recommendations which support efforts to engage key decision-makers, experts and stakeholders in incentivizing scaled up investment in climate adaptation and resilience, particularly on:

- legal and institutional means by which Paris Agreement and Katowice Outcomes compliance arrangements, transparency mechanisms including monitoring, reporting and verification ("MRV") systems, financing measures, and arrangements for engagement of non-State actors, can support Parties to the Paris Agreement in

Table 1: Ukraine NDC Priorities & Regulatory Framework

NDC Priority areas	Ukraine's existing laws/regulations/policies
Renewable energy	• Action Plan to the Concept of State Climate Change Policy Implementation until 2030 • Concept for Implementation of the State Policy on Climate Change until 2030 • National energy strategy until 2035 • Law of Ukraine on Electricity Market with Provisions Regarding Incentive Mechanism for Renewable Energy • Law of Ukraine on Renewable Energy Sources • Law of Ukraine on Heat Supply Regarding Incentives for Renewable Energy Sources for Heat Production
Energy efficiency	• Ukraine 2050 Low Emission Development Strategy • Action Plan to the Concept of State Climate Change Policy Implementation until 2030 • Concept for Implementation of the State Policy on Climate Change until 2030 • National energy strategy until 2035
Agriculture and land-use	• Decree of the Cabinet of Ministries of Ukraine "On approval of the Concept of the Development Strategy for the Agricultural Sector through 2020" dated 2013 • Land Code (Articles 187-190) • Law of Ukraine "On Land Protection" • Law of Ukraine "On State Control of Land Usage" • Law of Ukraine "On Land Amelioration"
Water	• Concept for Implementation of the State Policy on Climate Change until 2030
Environmental impacts	• Law of Ukraine "On Environmental Impact Assessment" (the "EIA") • Law of Ukraine "On Strategic Environmental Assessment" (the "SEA") • Law of Ukraine "On the Principles of State Regulatory Policies in the Sphere of Commercial Activities • Regulation "On Criteria for Determining Planned Activity, its Expansion and Change which are not Subject to the EIA" No. 1010 • Regulation "On Procedure for Conducting Public Discussion while Preparing the EIA" No. 989 • Regulation "On Procedure for the Transfer of Documentation to Provide the EIA Conclusion and the EIA Funding and on Procedure for Maintaining the Unified Register on the EIA" No. 1026
Transportation	• Concept for Implementation of the State Policy on Climate Change until 2030 • Strategy for Development of Electric Transport in Ukraine, Ministry of Infrastructure
Municipal activities	• Concept for Implementation of the State Policy on Climate Change until 2030
Waste management	• National Strategy on Waste Management until 2030 • Draft Concept of State Policy on Industrial Pollution

scaling up investment in climate adaptation and resilience; and

- how to implement NDCs in the selected States and increase private sector financing in both the mitigation and adaptation sectors by referring to specific models of strengthened legal, regulatory and institutional frameworks applicable to these countries.

The report identifies certain cross-cutting legal and institutional gaps, and provides recommendations to achieve greater adaptation and resilience to climate change in the context of public international law and domestic legal innovations and practices from different countries, leveraging a substantial upscaling of climate action. The key aspects of the Paris Agreement commitments and implementation reviewed include: (i) adaptation and resilience priorities; (ii) compliance arrangements; (iii) transparency frameworks, notably monitoring, reporting and verification systems; (iv) management of climate finance, notably conditions of access to the Adaptation Fund; and (v) engagement of non-Party stakeholders.

National and sub-national legal innovations that different States have implemented, the report finds, can assist in efforts to comply with the Paris Agreement and Katowice Outcomes, and to implement and incentivise scaled up investment in climate adaptation and resilience under NDCs. Trade, investment and financial instruments in public international law can also contribute to these endeavours.

In conclusion, across the full study of selected States, including Ukraine, which is the focus of this report, five key elements of innovative climate law and governance practices can be highlighted, in particular:

1. To **prioritise climate adaptation and resilience**, States and stakeholders can undertake **focused, tailored legal reforms, ensuring robust governance instruments for implementation,** adopting law and governance measures to integrate adaptation and resilience into sectoral development priorities such as renewable energy and energy efficiency emissions monitoring, registration and reporting standards; climate related infrastructure development reforms; public procurement rules; and agricultural sector rules and codes with related improvement to food waste management value chains;

2. To address gaps in **compliance arrangements**, States and stakeholders can establish **sound accountability/oversight mechanisms**, implementing standards and governance systems for decision making, strengthening dispute resolution and inquiry bodies, and providing prompt and adequate compensation for loss and damage;

3. To address gaps in **transparency frameworks**, States and stakeholders can develop **inter-sectoral communication and coherence,** establishing open, precautionary and robust systems of assessment, establish rules and institutions for modernized sectoral and cross-cutting monitoring, reporting and verification systems, and improvements in vertical integration between municipal, regional and national data collection and reporting;

4. To address challenges in **accessing and managing climate finance,** including meeting conditions of access to the Adaptation Fund and the Green Climate Fund, States and stakeholders can **establish and strengthen the legal and institutional foundations for climate finance**, including collaborative sectoral initiatives for project development and design, strengthening of law and governance capacity, digitalization, and mobilization of new technologies such as blockchain;

5. To address challenges in **engagement of Non-Party Stakeholders**, States and partners can strengthen **civil society and private sector engagement mechanisms**, establishing expert scientific and public advisory bodies, strengthening public-private enterprise arrangements across different sectors with leadership benchmarking and recognition, and supporting citizen-led public awareness campaigns and climate action initiatives across local, regional and national levels.

The report finds that by strengthening efforts to address these five key elements in their national legal institutional frameworks, potentially inspired by examples from different States, and guided by the international legal framework, it is possible to address current implementation challenges, engaging key decision-makers, experts and stakeholders in incentivizing scaled up investment in climate adaptation and resilience.

1. Introduction

The Paris Agreement, adopted under the United Nations Framework Convention on Climate Change ("UNFCCC")[6] 21st Meeting of the Conference of the Parties ("COP") in December 2015 (the "Paris Agreement"), represents a landmark accord in which over 195 countries commit to lowering greenhouse gas emissions to help reduce the most dangerous effects of climate change. The Paris Agreement is a universal instrument, signed by a record number of countries, which entered into force in 2016. The global action plan and targets set out in the Paris Agreement include limiting global warming to "well below 2°C" above pre-industrial levels and "pursuing efforts to limit the temperature increase to 1.5°C above pre-industrial levels."[7] However, as has become apparent through global collaborative scientific analysis such as the Inter-Governmental Panel on Climate Change ("IPCC") 2018 Report on Global Warming of 1.5°C[8] there are myriad challenges to meeting the targets set forth in the Paris Agreement, especially for key countries of the regions in which the European Bank for Reconstruction and Development (EBRD) operates.

As a significant public international law development, in the Paris Agreement, State Parties left open key technical details for clarification to support implementation, addressing transparency and reporting mechanisms and the engagement of stakeholders, climate financing, risk assessment and insurance, development of infrastructure, establishment of the compliance mechanism, and adaptation and mitigation measures for key sectors such as agriculture and food security.

Through the 22nd CoP in Marrakesh, Morocco in 2017, the 23rd CoP in Bonn, Germany under the Fijian Presidency, and the 24th CoP in Katowice, Poland, negotiations among State Parties to the Paris Agreement and the UNFCCC continued, in order to develop a "rule book" as part of the Paris Agreement Work Programme for Implementation of the Paris Agreement,[9] providing technical implementation modalities and guidelines.[10] As CoP 24 concluded, the State Parties agreed to a comprehensive set of rules, collectively known as the "Katowice Outcomes", to be read alongside and in conjunction with the Paris Agreement.[11] In the Paris Agreement and the Katowice Outcomes, Parties established legal and governance mechanisms to guide and shape the modalities of implementing new strategies to address the challenges of climate change, particularly adaptation and resilience measures.

---

[6] Paris Agreement (n 1).
[7] Ibid. art 2(1)(a).
[8] Inter-Governmental Panel on Climate Change, 'Report on Global Warming of 1.5°C' (*IPCC*, 2018) http://www.ipcc.ch/report/sr15 last accessed 29 December 2020.
[9] UNFCCC, 'Preparations for the Implementation of the Paris Agreement and the first session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement' Decision 1/CP.23 (18 November 2017) FCCC/CP/2017/L.13.
[10] Wolfgang Obergassel and others, 'The Calm before the Storm: An assessment of the 23rd Climate Change Conference (COP 23) in Bonn' (2019) 30(4) Environmental Law and Management 104.
[11] UNFCCC, 'Katowice Climate Package' (*United Nations Climate Change*, 2018) <https://unfccc.int/process-and-meetings/the-paris-agreement/paris-agreement-work-programme/katowice-climate-package> last accessed 29 December 2020; COP 24 Presidency, The Katowice Rulebook – main principles of the document (2019) <https://unfccc.int/process-and-meetings/the-paris-agreement/paris-agreement-work-programme/katowice-climate-package> last accessed 29 December 2020.

Over 180 States have ratified the Paris Agreement, transforming their previously committed 'intentions' (intended nationally determined contributions, or "iNDCs") into comprehensive national action plans (Nationally Determined Contributions, or "NDCs"). As initial analysis demonstrated, the NDCs submitted by the State Parties differ in their substance and format, but a grand majority prioritized new legal and institutional reforms from the start.[12] Some countries, like Morocco, have updated and incorporated specific targets in their NDCs, while others still lack economy wide targets and clear commitments. Regardless of their diversity, the NDCs demonstrate a near universal understanding of the importance of transparency.

The first stocktaking of NDCs occurred in 2018, and a second is scheduled to occur in 2023.[13] The stocktaking serves to inform Parties on whether the world will meet the Paris Agreement target of less than 2°C global warming target. The stocktaking process supports review and preparation of the NDCs, including *inter alia* revision of ambition levels, implementation and investment plans, capacity and institution building, and efforts towards decarbonization, adaptation and resilience.[14] In accordance with article 4, paragraph 12 of the Paris Agreement, NDCs communicated by State Parties have been recorded in a public registry maintained by the UNFCCC Secretariat, featuring the 186 NDCs submitted by Parties to date.[15] Of these, 167 of 186 NDCs explicitly prioritize legal and institutional reform in their plans to contribute to the global response to climate change for the first round of NDCs registered to the UNFCCC Secretariat by Parties, according to findings of a July 2020 international review.[16] Future climate law and governance reforms prioritized in these NDCs are mainly linked to mitigation of GHG emissions which includes legal and institutional reforms on energy, forests/land use change and agriculture, waste, industrial processes, and water; or to adaptation and resilience to the impacts of climate change, which includes early warning assessment and risk reduction. However, many States also need legal measures for implementation steps such as monitoring, reporting, and verification (MRV), finance, technology and sustainable development more broadly. Generally, initial NDCs focus on new legal and institutional reforms in energy and technology, in climate finance, and in agriculture, forests and land use change.

Following the rapid entry into force of the Paris Agreement in November 2016, national governments must identify and address key issues to facilitate the development and implementation of NDCs and pursue domestic mitigation and adaptation measures with the aim

[12] Marie-Claire Cordonier Segger et al, 'Countries Stress the Importance of Legal and Institutional Reforms and Capacity Building in their iNDCs' (Cambridge, CISDL, 2016) < http://www.climatelawgovernance.org/wp-content/uploads/2017/09/CLGI-Research-Announcement-Countries-stress-the-importance-of-legal-and-institutional-reforms-and-capacity-building.pdf> last accessed 29 December 2020.
[13] Nationally Determined Contributions (n 3).
[14] Decision 9/CMA.1 (n 4).
[15] NDC Registry (n 5).
[16] Marie-Claire Cordonier Segger, Ayman Cherkaoui, Maeve McDermott et al, '167 NDCs of 186 Registered to the UNFCCC Explicitly Prioritize Legal and Institutional Reform in Plans to Contribute to the Global Response to Climate Change' (Climate Law and Governance Initiative / Centre for International Sustainable Development Law, Cambridge 2020). See <https://www.lcil.cam.ac.uk/blog/towards-honourable-future-bridging-capacity-chasm-address-critical-global-challenges-and> last Accessed 29 December 2020.

of achieving such contributions. As part of the necessary mitigation, adaptation and finance measures, there is a legal obligation of all State Parties to transparently report to each other and to the public on how well they are doing to implement their targets and to upgrade their NDCs at least once every five years, anticipating an increase of ambition and resolve over time.[17] At this moment, preparation and update of national policy documents and strategies continues, in accordance with provisions for effective transparency and compliance, by the resumed CoP 26 serving as the meeting of the Parties to the Paris Agreement (CMA) in Glasgow in 2021.

As States move forward in their discussions of the technical aspects of implementing commitments on market and non-market approaches, and in the revision of their NDCs, many provisions of the Katowice Outcomes shape the way in which decisions are made. This requires a firm understanding of how transparency and reporting mechanisms, compliance, risk assessment and integrated decision-making and the engagement of stakeholders can serve to attract and wisely invest climate financing for climate-resilience and adaptation, including for the development of clean, resilient energy and infrastructure, and how to link adaptation and mitigation measures for key sectors such as agriculture and food, which are challenges to be addressed at the international and national levels (Table 2).

Table 2: Adaptation & Resilience in the 2018 Katowice Outcomes for Paris Agreement Implementation

The Katowice guidelines for the implementation of the Paris Agreement, as outcomes of the COP24 in December 2018, provide clarity about how to track efforts to enhance national capacities for adapting to climate change impacts.

This is essential because, even if all GHG emissions were halted, the climate will continue to change due to past emission levels. The less the world succeeds in reducing emissions, the greater the need for adaptation and support for the most vulnerable.

Information on adaptation priorities, needs, plans and actions are to be presented through "adaptation communications" as well as through the NDCs. The implementation guidelines present a non-binding list of elements that can be included in these documents. The UNFCCC Secretariat is developing a prototype of a public adaptation registry for Parties to review. The registry will enable Parties to learn from others and to explore good practices and will cover two parts: one for adaptation communications and one for NDCs.

Other elements of the guidelines include a review of the institutions supporting adaptation under the Paris Agreement, the inclusion of adaptation in the synthesis report and other reports produced by the secretariat, and a process for considering ways to mobilize greater support for adaptation.

In a move of great importance to vulnerable countries, the Katowice conference also agreed that the Adaptation Fund, originally established under the 1997 Kyoto Protocol, will now serve the Paris Agreement. The Parties to the Paris Agreement will review the adequacy and effectiveness of adaptation measures and support for adaptation in developing countries over coming years.

By 2022, the Adaptation Committee will work with the Intergovernmental Panel on Climate Change on drafting supplementary guidance on communicating information on adaptation. The Parties will take stock of the adaptation guidance in 2025 and, if necessary, revise the technical provisions.

This module of the report provides analysis, in the context of public international law, of the contributions of law and governance reform to strengthening adaptation and resilience under

[17] Jutta Brunnee and Lavanya Rajamani, 'The Legality of Downgrading Nationally Determined Contributions under the Paris Agreement: Lessons from the US Disengagement' (2017) 29(3) Journal of Environmental Law 537.

the Paris Agreement and Katowice Outcomes, with the example of Ukraine service as a selected case study. It examines the legal, regulatory and institutional measures that the State is undertaking to fulfill its requirements under the Paris Agreement, and also provides examples of laws and regulations from other States which could offer useful paradigms.

The report is based on a study that the European Bank for Reconstruction and Development (the "EBRD" or the "Bank"), in partnership with the CISDL and its consortium of collaborators through the Climate Law & Governance Initiative, have carried out as a pilot analysis of the policy and legal barriers pertaining to the implementation of the Paris Agreement and NDCs. The study focused on analysis of the Paris Agreement, including the Katowice Outcomes implementation modalities, generating practical recommendations for legal and institutional enablers for investment in climate adaptation and resilience. It engaged a broad circle of international and domestic stakeholders, and findings and recommendations were shared with experts and negotiators in the UNFCCC and through consultations, country authorities.

Specifically, the overall aims of the study were two-fold:

a) To generate recommendations on legal and institutional means by which Paris Agreement and Katowice Outcomes compliance arrangements, transparency mechanisms including monitoring, reporting and verification ("MRV") systems, financing measures, and arrangements for engagement of non-State actors, can support Parties to the Paris Agreement in scaling up investment in climate adaptation and resilience. These recommendations rest upon a comprehensive review and analysis of the Paris Agreement, complemented by research and identification of relevant provisions and legal principles emanating from climate change - related agreements and treaties, financial and investment law, and generally aspects of public international law of relevance.

b) To formulate recommendations on how to implement NDCs in Ukraine and increase private sector financing in both mitigation and adaptation sectors by referring to specific models of strengthened legal, regulatory and institutional frameworks. These recommendations are based on an examination of innovations and good legal practices from other States addressing key gaps identified during the country-level studies, addressing challenges related to transparency and reporting mechanisms and the engagement of stakeholders, climate financing, risk assessment and insurance, development of infrastructure, and adaptation and mitigation measures for key sectors such as energy and agriculture. They were also reviewed through a legal roundtable event held in one of the selected case study countries to present findings to date, and to identify, analyse and propose specific legal and regulatory measures to scale up of sustainable investment in climate adaptation and resilience, engaging private sector, government and other actors.

The legal and regulatory analysis and recommendations integrate sound legal principles and are based on dedicated research so that the outcomes could feed into related work by partners such as UNFCCC, as well as into future country assessment and policy work on NDCs implementation carried out by EBRD.

An important context for this report, as it was for earlier EBRD and CISDL collaborations, is the key role that both the public and the private sector play in achieving the commitments set out in the Paris Agreement and Katowice Outcomes. For governments and the public sector, efforts can include levelling the playing field for greener products by phasing out antiquated subsidies, reforming policies and providing new incentives, strengthening market infrastructure and market-based mechanisms, redirecting public investment and greening public procurement.

Investment by the private sector is essential to fill the gap between the action needed and the resources available to achieve them, as noted in the previous collaborative study. As noted by the World Resources Institute "while developed countries, through international agreements, have committed to channelling $100 billion by 2020 to developing countries for their climate mitigation and adaptation activities, this level of investment is clearly far from what is required. Recognizing this funding gap, public actors have become increasingly interested in using public funds to leverage private capital investment in climate change projects in developing countries."[18] Indeed, it is worth noting important announcements in the Katowice and Madrid CoPs regarding private investment. For instance, ING, BBVA, Société Générale, Standard Chartered & BNP Paribas (managing EUR 2.4 trillion) signed a "Katowice Commitment".[19] Further, 414 Investors including Alliance SE, HSBC & Zurich Insurance Group (managing US $32 trillion) announced "Global Investor Statement to Government on Climate Change,"[20] and the World Bank Group announcement of their intention to invest EUR 200 billion over 2021–2025 to support countries in taking ambitious climate action, doubling their previous commitments, with a new focus on adaptation and resilience.[21]

In addition to mobiliSing greater financial resources, private sector involvement can also lead to improved technical capabilities, the development of innovative technologies, greater community engagement and can strengthen the long-term viability of low-carbon markets.[22] The

---

[18] 'Climate Finance and the Private Sector' (*World Resources Institute,* April 13, 2016) <http://www.wri.org/our-work/project/climate-finance/climate-finance-and-private-sector> last accessed 29 December 2020.

[19] ING Bank, Katowice Commitment (2018) <https://www.ing.com/web/show/id=2078054/langid=43> last accessed 29 December 2020.

[20] United Nations Environment Programme, 'Global Investor Statement on Climate Change: Reducing Risks, Seizing Opportunities & Closing the Climate Investment Gap' (2010) <https://www.unepfi.org/publications/climate-change-publications/political-advocacy-publications/global-investor-statement-on-climate-change> accessed 20 July 2020.

[21] The World Bank, 'Understanding Poverty - Climate Change' (4 October 2019) https://www.worldbank.org/en/topic/climatechange/overview accessed 20 July 2020.

[22] Alan Miller, 'Why We Must Engage the Private Sector in Climate Change Adaptation Efforts' (*World Bank Blogs*, January 4, 2014) <http://blogs.worldbank.org/climatechange/why-we-must-engage-private-sector-climate-change-adaptation-efforts> last accessed 29 December 2020; 'Climate Finance and the Private Sector' (*World Resources Institute,* April 13, 2016) <http://www.wri.org/our-work/project/climate-finance/climate-finance-and-private-sector> last accessed https://www.cigionline.org/publications/strategies-integrating-canadian-financial-sector-financing-transition-low-carbon; Olaf Weber, Truzaar Dordi and Vasundhara Saravade, 'Strategies for Integrating the Canadian Financial Sector into Financing the Transition to a Low-carbon Economy' (2019) Centre for International Governance Innovation Paper 217

opportunities for, and barriers to, private sector involvement have been considered in this report and many of the suggestions made are intended to facilitate private investment.

<https://www.cigionline.org/publications/strategies-integrating-canadian-financial-sector-financing-transition-low-carbon> last accessed 29 December 2020.

Methodology and structure of study and report

This report is based on a study supported by the European Bank for Reconstruction and Development (EBRD), the CISDL and other institutes. A team of national legal experts from Ukraine, with support from international legal researchers, through engagement and dialogue at international level within the framework of the UNFCCC and the Paris Agreement, desk research, and international legal analysis of investment-relevant negotiations examined:

- The scope of legal and institutional reform related to climate adaptation and resilience as detailed by States in the submitted iNDCs and NDCs under the Paris Agreement;
- The Paris Agreement compliance arrangements, including the outcomes of discussions on these issues from CoP23 and CoP24;
- The Paris Agreement transparency mechanisms, including monitoring, reporting and verification rules and systems;
- The Paris Agreement financing measures, including conditions of access to the Adaptation Fund and other investment/financing vehicles;
- The Paris Agreement arrangements for engagement of non-State actors; and
- The potential for these provisions, facilitated by the measures agreed in the Katowice Outcomes, to facilitate and incentivize scaled up investment in climate adaptation and resilience, with recommendations to facilitate international and domestic implementation.

The research was verified through ongoing consultations and dialogue with key stakeholders involved in the Paris Agreement implementation at the international level, through the Climate Law and Governance Initiative, such as the UNFCCC, OECD, the NDC Partnership, The World Bank, UNDP and UNEP. [23] It was guided by high profile engagement in key events, such as the Climate Law and Governance Day 2017 during the UNFCCC CoP23 in November 2017,[24] the UNFCCC Climate Change Conference in Bonn under the Fijian Presidency in May 2018, [25] the Climate Law and Governance Day 2018 during the UNFCCC CoP24 in Katowice in December 2018,[26] the Climate Law and Governance Day 2019 during the UNFCCC CoP25 in Madrid under the Chilean Presidency in December 2019, including an extremely helpful roundtable discussion with decision-makers from Ukraine Delegation, CISDL legal experts and senior executives and legal officers of the EBRD. It was also verified by ongoing national consultations of the national legal experts with government representatives, state officials, key investors, civil society, international

[23] Climate Law and Governance Initiative, 'About Us' (*CLGI,* 2019) <http://www.climatelawgovernance.org/about/> last accessed 29 December 2020.

[24] Climate Law and Governance Initiative, 'Climate Law and Governance Day 2017' (*CLGI*, 2017) <http://www.climatelawgovernance.org/events/climate-law-governance-day-2017> last accessed 29 December 2020.

[25] Climate Law and Governance Initiative, 'Climate Law and Governance Day 2018' (*CLGI,* 2018) <http://www.climatelawgovernance.org/climate-law-and-governance-initiative> last accessed 29 December 2020.

[26] Climate Law and Governance Initiative, 'Climate Law and Governance Bonn Roundtable 2019' (*CLGI,* 2019) <http://www.climatelawgovernance.org/events/climate-law-governance-roundtable-bonn-22-june-2019> accessed 9 November 2019.

community and other stakeholders in the focus countries, as well as consultations to present national legal analysis and recommendations to authorities for feedback. In Ukraine, these consultations, including those held at CoP25 in Madrid, served as an important precursor to an international legal roundtable being held in September 2020, hosted online in the context of restrictions imposed by the global COVID-19 pandemic, to discuss the findings of the study, increasing awareness of challenges and solutions, and strengthening the analysis.

In relation to Ukraine as a selected pilot country study, further desk research and national legal analysis was also conducted to examine:

- Ukraine's NDCs, climate change strategies, policy targets and initiatives on a national and sector level, focusing on climate adaptation and resilience. This information was compiled with assistance from collaborators from government, private sector and academic backgrounds.
- Existing, forthcoming and planned primary and secondary legislation, institutional frameworks and financing activities related to scaling up investment in climate change adaptation and resilience policies and measures. Policy and investment initiatives on international, regional, national and local levels were considered, to allow for a critical assessment of the level of intragovernmental coordination by examining relevant policies, practices and agencies' activities.
- Existing EBRD and other relevant investment plans for the selected countries and other investment rules, strategies and policies.

Consultations with key stakeholders involved in the Paris Agreement at the international level and presentations in international events, also activating an international climate law and governance network and consortium through the Global Forum on Law, Justice and Development of the World Bank were extremely helpful in shaping the report.

This Final Draft Report on the Paris Agreement Implementation to Mobilise Investment in Climate Adaptation and Resilience contains a Decision-Maker's Summary, International Legal Analysis and Country-Level Legal and Institutional Recommendations sections. Following this introduction is a review of the public international law based legal and policy implications of the Paris Agreement and Katowice Outcomes, including an introduction to the urgency of climate action. This public international law analysis is supported by illustrative examples of good legal and institutional practices from selected countries. A further section of modular chapters is included, along with relevant tables, presenting a summary which focuses in the present instance on the country analysis for Ukraine. This includes identification of law and governance priorities in relation to adaptation and resilience to climate change impacts, a critical analysis of the existing frameworks for implementation, and relevant recommendations. The report concludes by identifying cross-cutting legal and institutional gaps and recommendations to achieving greater adaptation and resilience to climate change, in the context of public international law and domestic legal innovations and practices from different countries, for leveraging a substantial upscaling of climate action.

2. A Public International Law Perspective on Paris Agreement Implementation to Mobilise Investment in Climate Adaptation and Resilience

This chapter provides a public international law perspective on how the Paris Agreement seeks to achieve its objectives on adaptation and resilience, and "in enhancing the implementation of the Convention, including its objective, aims to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty, including by: (c) Making finance flows consistent with a pathway towards low greenhouse gas emissions and climate-resilient development."[27] In order to achieve these aims, the Paris Agreement must support States to appropriately plan, implement and review their adaptation and mitigation commitments, as established in their NDCs. To do so, it is crucial to establish a structure through which mutual effort, trust and cohesion is achieved.

The most significant public international law development on these issues since the 2015 Paris Agreement is the adoption of the Paris Agreement Work Program (PAWP) on 6 December 2018 in the UNFCCC 24th Meeting of the Conference of the Parties in Katowice, Poland. [28] These "Katowice Outcomes" comprise a set of some 20 Decisions which are intended to guide Parties' implementation of the Paris Agreement. The Katowice Outcomes address most of the elements of the Paris Agreement, although some issues were pushed back for resolution by CMA 2 at the UNFCCC 25th CoP under the Chilean Presidency in 2019, and further advanced to the UNFCCC 26th CoP under the British Presidency, which due to restrictions related to the global COVID-19 pandemic will now take place in Glasgow in 2021.

From the perspective of public international law related to sustainable development, the Katowice Outcomes represented a key milestone. State Parties agreed to a host of procedural rules and guidelines to support and operationalize rapid implementation of the Paris Agreement under the UNFCCC. Further, simply reaching consensus on many crucial issues in the face of key political backsliding represents a significant achievement for the international legal regime on climate change. It sent a signal to investors to take the opportunities outlined in States' NDCs seriously, scaling up efforts to channel finance and investment flows in directions compatible with the Paris Agreement.

To support this aim, this chapter explains the international legal and institutional means by which the 2015 Paris Agreement and the Katowice Outcomes establish guidance and rules for States to follow in order to achieve together climate mitigation and adaptation commitments. The key aspects of the Paris Agreement reviewed herein include: (i) adaptation and resilience priorities; (ii) compliance arrangements; (iii) transparency frameworks, including monitoring, reporting and verification systems; (iv) management of climate finance, including conditions of access to the Adaptation Fund; and (v) engagement of non-Party stakeholders. It also includes decisions taken

[27] Paris Agreement (n 1) art 2(1).
[28] Katowice Rulebook (n 11).

on the new Paris Agreement Implementation and Compliance Committee, which was constituted at the COP25 in Madrid in November 2019.

Integrated throughout discussion of these aspects, the chapter offers examples of national and sub-national legal innovations that different countries have implemented which can assist in efforts to comply with the Paris Agreement and Katowice Outcomes, and to implement and incentivize scaled up investment in climate adaptation and resilience under NDCs. It also considers the potential contributions of other trade, investment and financial instruments in public international law.

Resulting from international legal experts dialogue and review conducted during the 2017, 2018 and 2019 Climate Law and Governance Day International Symposia and country-level case studies, and linked to the guidance provided by the public international law commitments in the Paris Agreement and Katowice Outcomes, five key elements of innovative climate law and governance practices are highlighted in particular in this report:

1. To **prioritise climate adaptation and resilience**, States and stakeholders can undertake **focused, tailored legal reforms, ensuring robust governance instruments for implementation,** adopting law and governance measures to integrate adaptation and resilience into sectoral development priorities such as renewable energy and energy efficiency emissions monitoring, registration and reporting standards; climate related infrastructure development reforms; public procurement rules; and agricultural sector rules and codes with related improvement to food waste management value chains;

2. To address gaps in **compliance arrangements**, States and stakeholders can establish **sound accountability/oversight mechanisms**, implementing standards and governance systems for decision making, strengthening dispute resolution and inquiry bodies, and providing prompt and adequate compensation for loss and damage;

3. To address gaps in **transparency frameworks**, States and stakeholders can develop **inter-sectoral communication and coherence,** establishing open, precautionary and robust systems of assessment, establish rules and institutions for modernized sectoral and cross-cutting monitoring, reporting and verification systems, and improvements in vertical integration between municipal, regional and national data collection and reporting;

4. To address challenges in **accessing and managing climate finance,** including meeting conditions of access to the Adaptation Fund and the Green Climate Fund, States and stakeholders can **establish and strengthen the legal and institutional foundations for climate finance**, including collaborative sectoral initiatives for project development and design, strengthening of law and governance capacity, digitalization, and mobilization of new technologies such as blockchain;

5. To address challenges in **engagement of Non-Party Stakeholders**, States and partners can strengthen **civil society and private sector engagement mechanisms**, establishing expert

scientific and public advisory bodies, strengthening public-private enterprise arrangements across different sectors with leadership benchmarking and recognition, and supporting citizen-led public awareness campaigns and climate action initiatives across local, regional and national levels.

By strengthening efforts to address these five key elements in their national legal institutional frameworks, potentially inspired by the examples from different States provided in this chapter, it may be possible to address current implementation challenges identified in Ukraine, as discussed in subsequent chapters of this report.

International and national practices regarding the implementation of the Paris Agreement and Katowice Outcomes are evolving and new trends are consistently emerging, particularly in the five identified law and policy areas used as an evaluative frame in this report. Within recent national legal enactments and policy creations, there are examples which can be used as models for additional jurisdictions based on sectors, industries and issue areas. These are topics that can transcend geography and development status, highlighting the importance of evaluating the full range of interests and issues involved in climate resilience and adaptation.

2.1 – Prioritising Climate Adaptation and Resilience

Article 7 of the Paris Agreement establishes a global goal on adaptation in order to enhance adaptive capacity, strengthen resilience and reduce vulnerability to climate change, with a view to contributing to sustainable development and ensuring an adequate adaptation response.[29] Among the important sustainable development aspects of Article 7, the Paris Agreement provides that adaptation is recognised as a multi-dimensional global challenge faced by all.[30]

Climate adaptation is a cross-boundary, multi-level, multi-sectoral and multi-actor challenge with the specific characteristics of longevity and uncertainty.[31] Adaptation strategies should be implemented and mainstreamed accordingly, with urgent or immediate effect for developing country Parties that are particularly vulnerable to the adverse effects of climate change. [32]

In order to support the achievement of this global goal, the Paris Agreement requires that each State Party submit and periodically update an Adaptation Communication, which may include a national adaptation plan ('NAP'), specifically identified priorities, and implementation and support needs.[33] Adaptation Communications shall be recorded in a public registry maintained

[29] Paris Agreement (n 1) art 7(1).
[30] Ibid.
[31] Ibid art 7; Jörg Knieling and Walter Leal Filho, *Climate Change Governance* (Springer, 2012) 21..
[32] UNFCCC, 'NAP Central' (2019) <https://www4.unfccc.int/sites/napc/Pages/Home.aspx> accessed 9 November 2019.
[33] Paris Agreement (n 1) art 7 (10)-(11).

by the UNFCCC Secretariat and the registry is to be made available for review in order to promote transparency considerations.[34]

Supplementing the Paris Agreement, the Katowice Outcomes make it clear that State Parties' NDCs should also be used to communicate on and address adaptation measures.[35] In order to promote a thorough discussion of adaptation measures, the Katowice Outcomes re-emphasise the intended functions of adaptation *per se* and stress that any adaptation communication "is country-driven and flexible shall not pose any additional burden on developing country Parties, is not a basis for comparisons between Parties and is not subject to review."[36] This is important from the international law perspective, grounding expectations of adaptation-based communications and also limiting their role in regard to the generation of hard and soft law and any potential litigation. As agreed in Katowice during CoP 24, the Adaptation Committee will develop draft supplementary guidance for voluntary use by Parties in communicating information on adaptation by June 2022.[37]

The Paris Agreement also includes a series of cooperative frameworks and mechanisms, each of which establishes different legal rights and obligations for Parties, and explicitly makes provision for the needs of developing country Parties, especially the most vulnerable. The Paris Agreement contains a range of principles which apply when Parties intend to use cooperation mechanisms to achieve their NDCs, including that the use of the cooperation mechanisms is designed to allow for raising climate action ambition, thus increasing the effort in terms of climate change adaptation or mitigation.[38]

The Paris Agreement calls on State Parties to strengthen their cooperation on enhancing action on adaptation through identifying current adaptation needs, challenges and gaps of developing State Parties, taking into account the Cancun Adaptation Framework.[39] This call is also addressed to international institutions including a number of UN bodies.[40] Developed State Parties are required to provide new and additional public climate funds to support the preparation of adaptation communications by developing country Parties. The Climate Technology Centre and Network (CTCN) and the Paris Committee on Capacity Building (PCCB) have been created and operationalised to support developing countries in the implementation of actions outlined in their Adaptation Communication.

The Paris Agreement requires that the global stocktake recognise and enhance adaptation efforts, reviewing the adequacy and effectiveness of adaptation and financial support for it.[41] Continuous and enhanced international support should be provided to developing State Parties

[34] Ibid art 7(12).
[35] Katowice Rulebook (n 1).
[36] Ibid 34.
[37] Ibid 35.
[38] Paris Agreement (n 1) art 6.
[39] Ibid art 7(7).
[40] Ibid art 7(8).
[41] Ibid arts 7(14), 14.

for the implementation of commitments to enhance action on adaptation, to engage in adaptation planning, and to prepare, submit and periodically update their Adaptation Communications.[42]

A key innovation used by several States to ensure that responses to climate adaptation and resilience focuses are crafted and implemented in a meaningful way is the use of oversight and coordination bodies that relate to specific policy and/or geographic concerns. For example, the United Kingdom's use of the Clean Growth Inter-Ministerial Group as the core entity for addressing climate change mainstreaming allows for the needs and insights of particular sectors to be shared and coordinated in a meaningful way.[43] This is assisted by the supporting role that the Department for Business, Energy and Industrial Strategy and the Department for Environment and Rural Affairs play in informing and carrying out the policies of the Ministerial Group.[44] Specifically, the UK Clean Growth Strategy provides that it "will reinstate a regular Clean Growth Inter-Ministerial Group, which will be responsible for monitoring the implementation of this Strategy and driving ambitious clean growth policies."[45]

Further, in Germany the federal Climate Change Act contains a formal requirement that businesses have an obligation to inform about their carbon emissions and Laender (the German federal states) have to enforce and also transmit the information.[46] The Act specifically allows for Laender climate laws and cooperation between the Federal government and Laender (Art. 15).[47]

Another example of prioritising adaptation is through green government procurement. The OECD highlights the example of the Netherlands, introducing a CO2-impact ladder as part of the green procurement selection criteria.[48] In 2010, the Dutch House of Commons mandated that the Dutch public authorities must implement 100% sustainable procurement as of 2015. In response, the Government developed a methodology for infrastructure projects whereby 'the functional specification of the tender together with the quality input from the client ensure an innovative and high-quality solution.' CO2 performance ladder is a certification system. This allows the tenderer to show how CO2 emissions will be limited within the company and in projects, as well as elsewhere in the supply chain.

These forms of innovation demonstrate the importance of seeing the legal and regulatory system in which climate adaptation and resilience function as multi-layered and multi-faceted, be it within different departments of a government, sectors of the economy, or sub-national, national

[42] Ibid art 7(13); arts 7(7), 7(9)-(11).
[43] Department for Business, Energy and Industrial Strategy, *The Clean Growth Strategy: Leading the Way to a Low-Carbon Future* (Policy Paper, 2017).
[44] Ibid.
[45] Ibid 59.
[46] German Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety, "Federal Climate Protection Act of 2019" (KSG) art 5 <https://www.klimareporter.de/images/dokumente/2019/02/ksg.pdf>, accessed 11 November 2019.
[47] Ibid. art 15.
[48] OECD, Going Green: Best Practices for Sustainable Procurement, 2015, available online: https://www.oecd.org/gov/ethics/Going_Green_Best_Practices_for_Sustainable_Procurement.pdf.

and supranational entities. It is, therefore, recommended that the creation of these types of entities be considered by States seeking to implement and coordinate climate adaptation and resilience measures. In particular, this recommendation has added value in the context of a State with multiple economic sectors and associated ministerial and/or regulatory entities to oversee them and where there is a significant sub-national structure tasked with carrying out legal and regulatory policies across several governmental and institutional levels.

2.2 – Establishing Sound Climate Compliance Arrangements

Compliance arrangements within the Paris Agreement are set within the broader cycle of plan – implement – review.[49] For the planning phase of the cycle, State Parties develop and communicate their NDCs and make requests for future financial support. In the implementation phase, States work to achieve the actions they committed to in their NDCs and report on their progress (e.g. via transparency reports on Parties' progress with their NDCs, Communications on GHG emissions, and Adaptation Communications – see section 2.3 below for more information). Finally, in the review phase, States participate in a technical expert review of their individual efforts. These three phases can be broadly defined as implementing the compliance arrangements of the Paris Agreement.[50] Of further key importance, in the Katowice Outcomes, Parties agreed that the Compliance Committee could autonomously trigger its involvement in the case of significant and persistent challenges to implementing the reporting modalities.

Several points are important in this regard. First, the Katowice Outcomes build on the terms of the Paris Agreement in regard to the establishment and functioning of the new 12-person expert committee with the mandate to facilitate implementation and promote compliance – the Compliance Committee.[51] The Katowice Outcomes reaffirmed the need for the Compliance Committee to be comprised of experts and sets out the terms of their service, as well as the functioning of the Committee itself.

Second, the rules prescribe that the Compliance Committee must address a situation where a Party has not complied with a legally binding obligation.[52] In this case, the Committee has certain measures available to address non-compliance, including:

- recommending an action plan to get the Party back on track to achieve their NDCs, and
- issuing a factual statement regarding non-compliance.

---

[49] Yamide Dagnet and others, 'Setting the Paris Agreement in Motion: Key Requirements For the Implementing Guidelines' (2018) Project for Advancing Climate Transparency <https://wriorg.s3.amazonaws.com/s3fs-public/pact-setting-paris-agreement-motion-key-requirements-implementing-guidelines_0.pdf> accessed 9 November, 2019.

[50] Daniel Bodansky, 'The Legal Character of the Paris Agreement' (2016) 25 Review of European Comparative and International Environmental Law 142 < https://onlinelibrary.wiley.com/doi/full/10.1111/reel.12154> accessed 9 November 2019.

[51] Paris Agreement (n 1) art 15.

[52] Paris Agreement (n 1) [Legally binding obligations of the Paris Agreement include, under public international law, arts 4(8); 4(13); 13(7)(a); 13(7)(b); 13(11); 9(5)].

The Committee works with individual States to ensure implementation of the requirements of the Paris Agreement, including the obligation to communicate and maintain a NDC and to provide the information required under the enhanced transparency framework of Article 13 (see section 2.3 below). This will be crucial to prevent 'free riders' where one country enjoys the benefits of action to address climate change without contributing to global efforts.[53] The Committee may take up significant and persistent inconsistencies as identified in the Technical Expert Review reports. Contentious elements of this option are resolved by requiring the consent of the Party concerned, as well as by taking into account the support made available to that Party. The relationship between compliance with the Paris Agreement and investment will largely depend on the decision-making practice of this Committee, however the emphasis on support (and thus investment) for the Party not in compliance is being welcomed.

The Committee can raise issues of systemic character to the CoP, as the supreme body of the UNFCCC, serving as the meeting of the Parties to the Paris Agreement (CMA), which may prove a very important function in the long run. It takes account of crosscutting, "systemic" implementation issues faced by several Parties, which might feed into the global stocktake under Article 14.[54]

In essence, the Katowice Outcomes provide a greater definition of the Compliance Committee's functions and structure.[55] There are procedures for the initiation of complaints regarding compliance of a Party with the terms of the Paris Agreement and the Katowice Outcomes. These complaints seek to provide guidance rather than a strictly legal remedy, although the end-result of an actionable complaint will be a report that contains a set of findings regarding the complained-of conduct. This recognised, Article 15 requires the Committee to function in a facilitative, transparent, non-adversarial, and non-punitive manner.[56] While it will apply to both developed and developing States, the Compliance Committee is charged with paying "particular attention to the respective national capabilities and circumstances of Parties."[57] By promoting effective implementation and supporting greater cooperation and trust among Parties, the Compliance Committee aims to facilitate enhanced ambition over time.

Further, while the options of "facilitating a dialogue" to a financial mechanism or making a "recommendation" to one of these were not retained, the Committee may communicate a recommendation that it made to a Party to a financial mechanism at the outcome of one of its examinations as a way of facilitating access without permitting queue jumping.[58] In order to assess the effectiveness of and role assumed by the Compliance Committee, the Katowice

[53] Scott Rockart, 'The Free-Rider Problem' in Mie Augier and David Teece (eds), *The Palgrave Encyclopaedia of Strategic Management* (Palgrave, 2006).
[54] Paris Agreement (n 1) art 14.
[55] Katowice Rulebook (n 11), Decision 20/CMA.1 Modalities and procedures for the effective operation of the committee to facilitate implementation and promote compliance referred to in Article 15, paragraph 2, of the Paris Agreement; Christina Voigt, 'The Compliance and Implementation Mechanism of the Paris Agreement' (2016) 25(2) Review of European, Comparative and International Environmental Law 161.
[56] Ibid (n 1) art 15.
[57] Ibid.
[58] Katowice Rulebook (n 11) at 110.

Outcomes require that the first review of modalities for the Compliance Committee will occur during the 2024 CoP.[59]

A strong mechanism to ensure compliance with the Paris Agreement's legally binding obligations is important for trade and investment flows.[60] It is relevant, for instance, for institutional investors as they can monitor general legal compliance closely, with aspects of due diligence decision-taking findings into account. Building a financing portfolio with formally reviewed and approved funds from the Green Climate Fund, taking into account its rigorous technical checks, may help instil confidence for private investors even when a prior violation triggered this particular tranche of funding.[61]

At the national level, compliance committees and similar forms of compliance-based entities are essential for the implementation of climate adaptation and resilience mechanisms, as well as related climate change policies such as mitigation strategy. An example of this comes from Jordan, where the National Climate Change Policy 2013-2020 provides for the creation of a National Committee on Climate Change, under the auspices of the Ministry of Environmental Protection and Natural Resource of Ukraine, to assist in compliance functions.[62] As another example, the Federal German Climate Act supports full implementation of the Paris Agreement by legislation long-term ambition and concrete targets for deep de-carbonisation.[63]

2.3 – Strengthening Multi-Level Transparency Frameworks

Article 13 of the Paris Agreement establishes a transparency framework based upon regular provision of information by Parties to the UNFCCC Secretariat – thereby creating public information about the actions Parties are taking to achieve their climate commitments.[64] This transparency of information, coupled with the compliance review process, poses a significant risk to Parties' reputations if they fail to deliver what they pledge in their NDCs. [65]

As an important decision and addition to the Katowice Outcomes, a set of guidelines is provided for NDCs content, which focus on important international law concepts such as transparency and sovereignty in decision-making regarding the activities discussed.[66] Through the inclusion of transparency requirements, many aspects of international treaty law regarding environmental

[59] Ibid 106.
[60] Marie-Claire Cordonier Segger, 'Advancing the Paris Agreement on Climate Change for Sustainable Development' (2016) 5 Cambridge Journal of International and Comparative Law 202.
[61] Ibid.
[62] Ministry for the Environment, *National Strategy and Action Plan for Sustainable Production and Consumption 2016-2025* (SwitchMed, 2016) <https://www.switchmed.eu/en/documents/scp-action-plan-jordan.pdf>; Info Arab, 'Energy Minister presents the benefits of the renewable energy law' (*Oman Net*, 13 January 2010) <http://ar.ammannet.net/news/37342> accessed 9 November 2019>.
[63] Bundes-Klimaschutzgesetz of 12 Dec 2019, <http://www.gesetze-im-internet.de/ksg/KSG.pdf> accessed Aug 2020.
[64] Paris Agreement (n 1) art 13.
[65] Brunnee (n 16).
[66] Katowice Rulebook (n 11) at 17.

impact assessment considerations and elements are incorporated into the parameters of guidance for NDCs preparation and content.[67] This is furthered by the creation of parameters for the Paris Agreement-wide Transparency Framework as well.[68]

This 'enhanced transparency framework' of the Katowice Outcomes builds on the transparency arrangements under the UNFCCC (including reporting, verification and monitoring measures).[69] The information that Parties must provide under the 'enhanced transparency framework' includes:

- a national inventory report of GHG emissions by sources and removals by sinks, prepared using good practice methodologies accepted by the IPCC;[70]
- a 'transparency report', including the information necessary to track progress made in implementing and achieving NDCs;[71] and
- information regarding climate change impacts and adaptation.[72]

There is some flexibility built into the requirements of the enhanced transparency framework, with the capability of different Parties considered in its application.[73] Nonetheless, the reporting requirements are compulsory. Article 13 allows developing countries to present information on financial, technological and capacity-building support needed and received under Article 9 on climate finance, Article 10 on technology transfer and Article 11 on capacity building.[74] Developed State Parties should provide clarity on support provided and received and, to the extent possible, a full overview of aggregate financial support provided.[75]

The Katowice Outcomes designate 2024 as the first year in which a transparency report is required.[76] This is between the 2023 global stocktake and the 2025 update year for NDCs. Having a defined date for the transparency reports will be welcome as it makes commercial planning more predictable. Under international investment law, the fair and equitable treatment (FET) standard may to a certain degree protect reliance on transparency for foreign investors.

The Paris Agreement also calls on Parties to prepare and submit Adaptation Communications on adaptation priorities and support needs,[77] as a NAP, a NDC or a National Communication. These will be published in an online registry available for public access and review.

The national inventory reports on GHG emissions, the information for tracking progress against NDCs, and the level of support by developed countries to developing countries will be the object

[67] Ibid 18-19.
[68] Ibid 65-69.
[69] Ibid at 1/CP21 Adoption Decision para 88.
[70] Paris Agreement (n 1) art 13(7)(a).
[71] Ibid art 13(7)(b).
[72] Ibid 13(8).
[73] Ibid arts 13(2) and 13(12).
[74] Ibid art 13(10).
[75] Ibid art 13(6).
[76] Katowice Rulebook (n 11) at 64.
[77] Paris Agreement (n 1) arts 7(10) and 7(11).

of a technical expert review and of a multilateral consideration of progress.[78] The review process pays attention to the respective national capabilities and circumstances of developing State Parties. Support is provided to developing States to implement the requirements of the transparency framework,[79] and for building the capacity of developing country Parties to participate in the process, on a continuous basis.[80] In addition, the Capacity Building Initiative for Transparency (CBIT) trust fund is meant to help countries, particularly developing countries, in their efforts to build institutional and technical capacity for meeting enhanced transparency of action and support needs.

The Paris Agreement also stipulates that its Meetings of the Parties shall periodically take stock of treaty implementation to assess collective progress towards achieving the treaty goals (referred to as the "global stocktake"). Stocktaking will be comprehensive and facilitative, considering mitigation, adaptation and the means of implementation and support, in the light of equity and the best available science.[81] The global stocktake will specifically review the adequacy and effectiveness of support provided for adaptation.[82]

The first global stocktake is planned for 2023 and every five years thereafter,[83] and the outcome of the global stocktake is to inform Parties in updating and enhancing, in a nationally determined manner, their actions and support, as well as in enhancing international cooperation for climate action.[84] In addition to reporting obligations on Parties, the Paris Agreement calls on all relevant United Nations agencies and international, regional and national financial institutions to provide information to Parties on how their development assistance and climate finance programmes incorporate climate-proofing and climate resilience measures.[85]

Transparency in the governance system used by a country in implementing its obligations under the UNFCCC system, particularly the Paris Agreement and the Katowice Outcomes, is essential and yet the terms and requirements will necessitate tailoring based on the laws and rules which underpin the State's governing mechanisms.

A notable example of this form of transparency structuring to accommodate a State's governing mechanisms comes from the German Laender of Baden-Württemberg, where the Law for the Promotion of Climate Protection in Baden-Württemberg became effective in 2013.[86] Under the terms of this law, clear targets are established for the reduction of GHGs: the Laender's CO2 emissions are to be reduced by at least 25% by 2020, and by 2050 a reduction of 90% is envisioned.[87] In conjunction with this, the climate protection target is supplemented by a general

[78] Ibid arts 13(11)-13(13).
[79] Ibid art 13(14).
[80] Ibid art 13(15).
[81] Ibid art 14(1).
[82] Ibid art 7(14)(c).
[83] Ibid art 14(2).
[84] Ibid art 14(3).
[85] Katowice Rulebook, supra note 6 at 1/CP21 Adoption Decision, para 43.
[86] Climate Protection Act of Baden-Württemberg (2012).
[87] Ibid.

climate protection principle and the law stipulates that the unavoidable impacts of climate change must be limited by means of a Laender-wide adaptation strategy, as the legislature expects far reaching ecological and economic consequences of climate change.[88] In order to achieve the climate protection targets, the Laender government has developed an integrated energy and climate protection concept (IECC) that contains concrete strategies and measures.[89] The Act requires that the public sector sets an example and contains a general obligation for each individual to contribute to the realisation of climate protection targets within the scope of their possibilities. In addition, the Act contains amendments to the General Planning Act that combine the climate protection objective with land use planning.[90]

With transparency concerns and mechanisms comes the need for accountability and oversight systems that can monitor the effectiveness of transparency laws and rules and ensure that they are being applied in areas of particular concern. This is essential for the context of climate adaptation and resilience, where science and societal need can evolve more quickly than the legislative process and implementation systems.

An example of an effective and tailored oversight mechanism for climate-related issues comes from the UK Climate Change Act 2008, which created the Committee on Climate Change. This Committee functions as an independent entity charged with liaising with and overseeing activities of a number of UK governmental authorities and departments.[91] It is also required to provide specific advice to the UK government on request, provide reports to the UK government on national progress toward meeting GHG reduction targets and creating new reduction targets where appropriate, and publishing reports and findings for the public.[92] Additionally, the Committee includes the Adaptation Sub-Committee, which is specifically authorised to advise and consult with the UK government on potential application and development of adaptation strategies and policies.[93]

A more recent example of similar attempts to create accountability and oversight systems for climate adaptation and resilience can be found in Germany, where there are proposals for a federal Expert Advisory Council on climate change issues and stakeholder interactions. These bodies already exist at the Laender levels.[94] They advise on climate change and contain representatives from civil society including businesses, trade unions and churches.[95]

---

[88] Ibid.
[89] Ibid.
[90] Ibid.
[91] Climate Change Act 2008, c 27.
[92] Ibid.
[93] "Members of the Adaptation Committee" (*Committee on Climate Change*) <https://www.theccc.org.uk/about/asc-members> accessed 9 November 2019.
[94] Germany to Assume a Leading Role in Sustainable Finance' (*German Council for Sustainable Development,* 28 March 2019) <https://www.nachhaltigkeitsrat.de/en/news/germany-to-assume-a-leading-role-in-sustainable-finance/> accessed 9 November 2019.
[95] Ibid.

Transparency, accountability and oversight mechanisms are vital at the overarching national levels of climate adaptation and resilience policy. At the same time, they are fundamentally important for governance of climate adaptation and resilience at the sectoral and topic-focused levels as well. An example of this can be found in Denmark, a country deeply impacted by changes to coastal resources and in need of specific provisions relating to coastal resilience and management.[96] Under national law, the Denmark Safety Regions are mandated to address disaster risk management on their territory and to ensure climate change is taken into account in planning.[97] There are 25 regions with administrative responsibility for risk assessment and response. Emergency services cooperate and are organised in teams corresponding to the Safety Regions.[98]

The Safety Regions differ from the State's 12 provinces,[99] however provinces and sub-regions within Denmark also have legal and regulatory functions in climate adaptation and resilience policy, especially as it relates to coastal resources. In 2013, after mandating municipality adaptation action plans, the Danish Government established a national task force with detailed and specific expertise in local adaptation issues, which developed web-based mapping of flood, rainfall and storm-surge risk for various time horizons, modelled according to IPCC 2007 scenarios.[100] Adaptation, flooding and erosion specialists provide the Danish Environmental Protection Agency and Coastal Authority with advice, guidance, support, and help to implement adaptation solutions.[101]

Further, transparency at the national level in terms of particular industries has a key role to play in meeting international law requirements such as the Paris Agreement and the Katowice Outcomes, as well as meeting domestic benchmarks and obligations. An example of this comes from the transparency laws used for the regulation of the renewable energy sector in Jordan, where investments have been spurred because of the confidence which transparent laws and rules bring to private investors and sources of financing.[102] However, the caveat also seen in Jordan is that approval processes which take too long or are regarded as particularly onerous pose the threat of hindering development of industries and sectors that are essential for adaptation and resilience. Additionally, as can be seen in Tunisia, where national policies and strategies regarding transparency and key adaptation and resilience measures such as renewables are not supported through existing laws and regulations, achieving them can be difficult and result in a concomitant loss of interest from investors and the private sector.

---

[96] Danish National Crisis Management' (*Danish Emergency Management Agency*, 17 May 2018) <https://brs.dk/eng/emergency_management/national_emergency_management_organisation/Pages/national_emergency_management_organisation.aspx> accessed 9 November 2019.
[97] Ibid.
[98] Ibid.
[99] Ministry of Security and Justice Safety 19 Projections.
[100] Ibid.
[101] Ibid.
[102] Ricardo Puliti, 'Financing renewables: how Egypt and Jordan are attracting private capital' *Financial Times* (30 November 2015) <http://blogs.ft.com/beyond-brics/2015/11/30/financing-renewables-how-egypt-and-jordan-are-attracting-private-capital/> accessed 9 November 2019.

2.4 – Accessing and Accountably Managing Climate Finance

The Green Climate Fund and the Adaptation Fund under the UNFCCC, along with other instruments, act as co-financiers for large-scale adaptation and resilience projects in several developing countries, but this is not enough to meet the growing need for climate finance and well-managed, 'bankable' projects.[103] Under international law, governments are encouraged to collaborate with the private sector to scale up investment in adaptation and resilience. [104]

Under Article 9 of the Paris Agreement, developed State Parties shall provide financial resources to assist developing country Parties with respect to both mitigation and adaptation, in continuation of their existing UNFCCC obligations[105] and provide transparent and consistent information on this support,[106] while other Parties are encouraged to provide financial support voluntarily.[107] At the same time, the Paris Agreement requires that all Parties should increase their efforts in mobilising climate finance from a wide variety of sources, instruments and channels, noting the significant role of public funds, and considering the priorities and needs of developing country Parties, with the greater onus being on developed States Parties, which shall take the lead.[108]

Prior to 2025, the CoP shall set a new collective quantified goal for funding from a floor of USD 100 billion per year, taking into account the needs and priorities of developing countries.[109] Developed State Parties are strongly urged to scale up their level of financial support, with a concrete roadmap to achieve the total financial support for mitigation and adaptation by 2020, while significantly increasing adaptation finance from current levels, and to provide appropriate technology and capacity-building support.[110] Developed State Parties are to biennially communicate indicative quantitative and qualitative information related to scaling up of the provision of and as regards mobilising financial resources, including the balance between adaptation and mitigation,[111] as applicable, with the financial mechanism of the UNFCCC serving as the mechanism for the Paris Agreement.

The Katowice Outcomes include details on the specific information that should be presented by Parties providing support regarding expected levels of financial support under Article 9(5) in an Annex of sources of information that Parties providing financial support should refer to in their

---

[103] [To expand further, with inputs from financial investment law specialists to be sought by 10 August, if EBRD agree this is a useful point to detail.]
[104] Paris Agreement Implementation Decision, supra note 2; Louise Pryor, 'Investing for Resilience' [2016] University of Cambridge Institute for Sustainability Leadership <https://www.cisl.cam.ac.uk/resources/publication-pdfs/Investing-for-resilience.pdf> accessed 9 November 2019.
[105] Paris Agreement (n 1) art 9(1).
[106] Ibid art 9(7).
[107] Ibid art 9(7).
[108] Ibid art 9(3).
[109] Katowice Rulebook, supra note 6 at Adoption Decision, para 54.
[110] Ibid para (115).
[111] Paris Agreement (n 1) arts 9(1), 9(3), and 9(5).

biennial communications on expected levels of support.[112] Greater transparency on available funding could assist investors in identifying gaps, avoiding duplication and opening new opportunities. These reports will be publicly available, reducing the potential for violations of FET and national treatment standards, while at the same time actively promoting the focus on transparency that runs throughout the Katowice Outcomes. With reports every two years, a growing compilation of materials on climate finance could assist in tracking trends for the international investment community and financial institutions.

The provision of scaled-up financial resources should attempt to balance mitigation and adaptation resources and take into account country-driven strategies and the priorities and needs of developing State Parties, especially those that are particularly vulnerable to the adverse effects of climate change and have significant capacity constraints, such as LDCs and SIDS, considering the need for public and grant-based resources for adaptation.[113]

Specific to adaptation, there is a designated Adaptation Fund that finances concrete projects in developing countries that have signed the Kyoto Protocol and are particularly vulnerable to the adverse effects of climate change. [114] The Adaptation Fund is managed by the Adaptation Fund Board, which consists of 16 members and their deputies. However, developing countries that are Parties to the Kyoto Protocol are allowed direct access to the Fund.[115] An Accreditation Panel of the Adaptation Fund Board was instituted in early 2010 to accredit Implementing Entities, oversee the development and approval of projects and monitor their results. In November 2017, the Adaptation Fund Board published the third review report of the Adaptation Fund.[116] This was accompanied by a technical paper provided by the Secretariat. Currently, there is an ongoing Technical Examination Process on Adaptation (2016-2020), conducted by the Adaptation Committee with the SBI and the SBSTA, to review among other things the provision of support.[117]

The Katowice Outcomes provide definition and contouring of the roles and responsibilities of international financial mechanisms, particularly those established in conjunction with the Paris Agreement, including the responsibilities of the entities created to oversee and guide their functioning. [118] In this context, the Standing Committee on Finance was vested with greater and deeper responsibilities in terms of providing guidance to and oversight of the Finance Mechanism, the Least Developed Countries Fund and the Special Climate Change Fund.[119]

Of relevance for association countries might also be the EU commitment to a significantly increase in climate change funding in the so-called “Green Deal,” which aims to set Europe on a

[112] Katowice Rulebook (n 11) at 47.
[113] Paris Agreement (n 1) art 9(4).
[114] Katowice Rulebook (n 11), Decision 13/CMA.1 - Matters relating to the Adaptation Fund (2018).
[115] Ibid at Decision 1/CMP.3, para 29.
[116] Ibid at Decision 1/CMP.12, para 2.
[117] Ibid at Decision 1/CP21, para 125-133.
[118] Ibid at Decision 1/CP.24 - Preparations for the implementation of the Paris Agreement and the first session of the Conference of the Parties serving as the meeting of the Parties to the Paris Agreement (2018).
[119] Ibid at 13.

path to become the "first climate-neutral continent".[120] This new approach aims to change investment flows and transition to a greener economy, in order to facilitate "investing in environmentally-friendly technologies; supporting industry to innovate; rolling out cleaner, cheaper and healthier forms of private and public transport; decarbonising the energy sector ensuring buildings are more energy efficient and working with international partners to improve global environmental standards." The EU offers financial support and technical assistance to countries for this work, through a EUR 100 billion Just Transition Mechanism to address the social dimension and help those regions affected most by the transition to a greener economy.

Of further relevance, this trend is supported by a legal commitment to carbon neutrality in the proposed new EU Climate Law.[121] The proposed Art. 4 of the EU Climate Law on adaptation to climate change mandates that both EU institutions and Member States shall "ensure continuous progress in enhancing adaptive capacity, strengthening resilience and reducing vulnerability to climate change in accordance with Article 7 of the Paris Agreement." Further, Member States "shall develop and implement adaptation strategies and plans that include comprehensive risk management frameworks, based on robust climate and vulnerability baselines and progress assessments." The proposed EU Climate Law reflects many of the EU's and its Member States' international commitments, and makes adaptation and vulnerability part of the overall green investment strategy of the EU. As part of this European trend and likely requirement, the 2019 German Federal Climate Act established a carbon-neutrality requirement for 2050.[122]

As is evident, financing for adaptation measures is complex at the international and national levels, and can require new legal innovations for implementation and oversight. There are many ways this can be done, from omnibus legislation to laws and rules relating to financing of adaptation and resilience measures separately, and indeed it is often the case that a mixed format is perhaps the most responsive to the short, medium and long-term needs of a State.

An example of legislation that functions as both an omnibus entity and a set of rules and requirements for individual forms of environmentally focused concerns is the UK Climate Change Act of 2008.[123] As referenced above, the Climate Change Act created the Climate Change Committee as part of the advice and oversight system used by the UK government. At the same time, the Climate Change Act also contains significant financial provisions at the general and sectoral levels. Overall, the Climate Change Act requires that carbon budgeting be used throughout the UK system to take into account "energy policy, and in particular the likely impact

[120] EU Commission, A European Green Deal - 2019, <https://ec.europa.eu/info/strategy/priorities-2019-2024/european-green-deal_en>, accessed August 2020.
[121] Proposal for a REGULATION OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law)
COM/2020/80 final; <https://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52020PC0080&from=EN>, accessed August 2020.
[122] Bundes-Klimaschutzgesetz of 12 Dec 2019, <http://www.gesetze-im-internet.de/ksg/KSG.pdf> accessed August 2020.
[123] Climate Change Act 2008, c 27.

of the decision on energy supplies and the carbon and energy intensity of the economy".[124] In conjunction with this, the Climate Change Act allows for the creation of carbon trading systems in the UK under certain circumstances and sectors, including energy.[125] Further, the UK Climate Act terms establish reporting and tracking assessments for climate change impacts and investments and incentivizes municipal actors and contractors to invest in renewable energy and waste reductions.

In addition, the Climate Change Act provides for the use of piloting programmes for waste reduction in order to allow municipalities to bid for rights to operate these programs, thus generating revenue for localities as well as environmental benefits. At the national government level, the Climate Change Act requires ministries to provide reports to Parliament on waste reduction undertakings and allow for changes/amendments/repeals for authorisations if the programmes are found not to work at the ministerial or sub-ministerial levels.[126]

One further important trend of relevance for financing resilient energy systems in Ukraine involves the modernisation and digitalisation of energy markets. As the European Commission explains, digitalization can be seen as "a process that converts information to a digital form. As the technological transformation from analogue to digital advances, digital technologies will make energy systems more connected, intelligent, efficient, reliable and sustainable over the coming decades. Information and communication technologies (ICT), modern sensors, big data and artificial intelligence, and the internet of things (IoT) are some of the technologies that can innovate the way we use energy and help find solutions for decarbonising our energy systems."[127] As the EU explains regarding the energy sector: "The application of digitalization in climate change adaptation in Europe can be seen in the deployment of digital smart grids. This technology can enhance the flexibility and resilience of power infrastructure through its self-restoration capacity, automatic monitoring equipment, distributed generation, and storage enabling technology."[128] Many commentators agree that these features make power systems more resilient to extreme climatic events.[129] Many European countries such as France, Ireland, the Netherlands, Spain and the United Kingdom have set their smart grid targets and several governments are forecasting nationwide deployment by 2020.[130] An interesting example can be found in Italy, where an innovative law led to lasting changes. Voluntary deployment of smart meters in the 2010s allowed Italy to meet and surpass the Electricity Directive 2009/72/EC target (i.e. 80% of all households equipped with smart meters by 2020) by reaching a 95% penetration rate in 2011. The primary law enabling smart metering for electricity in Italy is the Legislative Decree 102/20143, approved in July 2014, which adopts the EU Directive on Energy Efficiency

[124] Ibid s 10(2)(f).
[125] Ibid s 45(1).
[126] Ibid s 71-72.
[127] European Commission, "Digitalisation and Energy", <https://ec.europa.eu/energy/topics/technology-and-innovation/digitalisation_cs> accessed September 2020.
[128] Ibid.
[129] J. Giesbrecht, Smart Grid Deployment and Climate Change Response: Evaluating Climate Change Integration in Ontario's Smart Grid Deployment Regime (University of Waterloo, 2016).
[130] AL. Balogun, et al. "Assessing the Potentials of Digitalization as a Tool for Climate Change Adaptation and Sustainable Development in Urban Centres" (2020) 53 Sustainable Cities and Society at p101888.

(EED 2012/27/EU). The Italian Decree assigned the duty of defining the functional and performance specifications of the 2G smart meters to the Authority. In 2016, this was supplemented by two resolutions on 'the definition of the functional specifications and performance levels expected for 2G smart meters' and the 'tariff regulation setting the criteria for the recognition of capital costs for smart metering systems complying with the functional requirements and performance levels'. These regulations allowed for increased innovation and deep digitalisation.[131] These changes enable the grid to respond to shocks and thus make the entire infrastructure more resilient and adaptable. Most recently, fintech solutions, many of which use blockchain technology, have been identified as not just delivering on climate mitigation but also being useful for adaptation purposes.[132] Further, the EBRD and GEF funded Finance and Technology Transfer Centre for Climate Change (FINTECC) initiative, which assisted Eastern European and Central Asian countries to accelerate the adoption of innovative climate technologies and sustainable business practices solutions, found high potential of climate technology use in the agri-food sector.[133]

Despite well-received and positively implemented legislation, financing for climate adaptation and resilience measures can be hindered at the national level by a variety of forces which are not directly connected to these policy areas. However, in Europe and world-wide, governments and stakeholders continue to strengthen their efforts to increase investment in climate resilience.

2.5 – Engaging Non-Party Stakeholders

The Paris Agreement is predicated upon an expectation that, if NDCs can be supported by peer review and public awareness, new scientific data on risks, actual impacts and greater political attention, they will lead to ever-higher ambition from all levels of government. However, equally important is ambition from non-State actors, referred to as non-Party stakeholders in the Paris Agreement. [134]

Non-State actors include city, local, tribal and state governments – many of which have made pledges of climate mitigation and adaptation actions regardless the stances of their national governments – multinational development banks and businesses. [135] During the Paris CoP 21, the French presidency declared the "Action Agenda" not another side event, but a fourth pillar of CoP 21. The Adoption Decision calls upon cities, regions, businesses, and others to redouble their climate actions going forward. It also provides a mandate for the continuation of the Non-State

[131] European Commission, Benchmarking smart metering deployment in the EU-28, Dec 2019
[132] S. Hakak, W. Z. Khan, G. A. Gilkar, M. Imran and N. Guizani, "Securing Smart Cities through Blockchain Technology: Architecture, Requirements, and Challenges" (2020) 34(1) IEEE Network at pp 8-14.
[133] EBRD, FINTECC, available online: http://fintecc.ebrd.com/cs/Satellite?c=Content&cid=1390583641879&d=Mobile&pagename=FINTECC%2FContent%2FFINTECC_Region.
[134] The Katowice Rulebook (n 11) at Decision 8/CP.24 - National adaptation plans (2018).
[135] Ibid at Decision 3/CP.24 - Long-term climate finance (2018).

Actor Zone for Climate Action (NAZCA) platform[136] and the Action Agenda.[137] It created an annual high-level event for sub/non-state actors, alongside governments and IGOs, to announce and report progress on climate initiatives and commitments.[138] It also appoints two high-level "champions" to sustain and accelerate the orchestration work of the Lima-Paris Action Agenda in the lead-up to Paris.[139]

The Paris Agreement encourages Parties to work with non-state actors to catalyse efforts to strengthen mitigation and adaptation action.[140] This is associated with a welcoming of the efforts of all non-state actors to address and respond to climate change and the establishment of a platform for the exchange of best practices on mitigation and adaptation.[141] This was reiterated in the Marrakech Partnership for Global Climate Action, and in decisions taken in Bonn CoP23.

Two questions regarding non-State actors were answered in the Katowice Outcomes at CoP24. First, non-State actors may participate in the global stocktaking exercise.[142] This is important as the participation of non-State actors, including the business community, may offer opportunities to enhance green investment ambition. NDCs may be seen by investors to guide their investment priorities, given that they can be considered as country-wide statements of national plans. While legitimate expectations enjoy only limited protection in investment law, unfair treatment could result if countries suddenly and in a non-transparent manner deviate from their NDCs.

Second, the Katowice Outcomes determined that the facilitative, multilateral consideration of progress (Transparency Framework) is closed to non-State actor participation, although they may observe the proceedings.[143] This is in keeping with the standard practices of international organizations, which provide a space for non-State actors in some capacity but do not allow them to vote or otherwise participate at levels that are reserved for Member States. At the same time, allowing for observation furthers the goals of transparency in the Paris Agreement and Katowice Outcomes implementation processes as a whole since there is no bar on non-State actors reporting back to their constituencies – and the larger public – on their observations in this context.

Within any national legal system a plethora of sub-national and non-State actors exist and have a significant impact on the creation, implementation and oversight of climate adaptation and resilience measures. These entities are often repositories of knowledge and insights which are vital to effective adaptation and resilience measures and thus are key to stocktaking as well as continued implementation.

---

[136] Paris Agreement (n 1) para 118.
[137] Ibid para 117.
[138] Ibid para 121.
[139] Ibid para 122.
[140] Katowice Rulebook (n 11) at 1/CP21, para 119.
[141] Ibid. at 1/CP21, para. 134-137.
[142] Katowice Rulebook (n 11) at 101.
[143] Katowice Rulebook (n 11) at 98.

An example of the legal and regulatory systems used to ensure inclusion of and participation by these entities comes from Germany, where a scientific expert council was established to advise the federal government on global environmental challenges.[144] This expert council has been advising climate change authorities, taking evidence from around the world on the impacts of climate change. Social and natural scientists collaborate and take evidence from citizens and NGOs as well as analysing scientific sources.[145] A recent innovation by this body, when it recommended a climate passport for victims of climate change which would allow refugees to resettle resulted in high scrutiny and interest.[146] It works closely with the Council on Sustainable Development (Rat fuer Nachhaltigkeit) which coordinates efforts in the social, economic and environmental fields and generally adopts a global perspective.[147] These efforts were further enhanced by the 2019 German Climate Law Package,[148] in which the scientific advice is now ruled to come from the Bundesumweltamt while the oversight remains shared between the Laender governments and the Ministry of Environmental Protection and Natural Resource.

The French 2019 Law on Climate and Energy contains important institutional innovations. It converts the Expert Committee for Energy Transition into the High Council for the Climate (Haut Conseil pour le climat), which is still an independent expert committee but has wider competences, modelled on the UK Committee on Climate Change, including the assessment of implementation and effectiveness of mitigation action (national as well as local) and the imposition of a carbon budget. It reports to the two houses of Parliament and must be consulted on finance bills.[149]

A further example comes from the UK, where, in 2019, after youth and children marched in YouthStrikes4Climate over the course of several months, municipal councils including Cambridge and Oxford declared a state of "Climate Emergency". As one institutional innovation, the municipal councils adopted decisions to open a Citizen's Climate Assembly at the local level, bringing stakeholders, including business and civil society together to discuss climate resilience and mitigation measures.

In addition, the mechanisms in place for implementing the Green Economy Strategy in Jordan highlight the importance of including non-governmental actors such as mosques, educational institutions and industrial facilities in planning to generate and utilize new forms of energy in the short and long-term.[150] At the same time, and as noted above, engagement of key non-governmental actors for the creation and implementation of climate adaptation and resilience

[144] German Advisory Council on Global Change (*WGBU*), <https://www.wbgu.de/en/>.
[145] Ibid.
[146] Ibid.
[147] *German Council for Sustainable Development* (October 1, 2019) <https://www.nachhaltigkeitsrat.de/en/>.
[148] Bundes-Klimaschutzgesetz of 12 Dec 2019, <http://www.gesetze-im-internet.de/ksg/KSG.pdf>.
[149] LOI n° 2019-1147 du 8 novembre 2019 relative à l'énergie et au climat, <https://perma.cc/5XYM-8VDA>.
[150] Omar Obeidat, '400 mosques in Jordan run on solar energy — Awqaf Ministry' *Jordan Times* (Amman, 16 December 2015) <http://www.jordantimes.com/news/local/400-mosques-jordan-run-solar-energy-%E2%80%94-awqaf-ministry>; Mohammad Ghazal, 'Using solar power to generate electricity: an uptrend that "needs further gov't support"' *Jordan Times* (22 July 2015) <http://www.jordantimes.com/news/local/using-solar-power-generate-electricity-uptrend-needs-further-gov%E2%80%99t-support%E2%80%99>.

measures can be damaged and undermined when there is a lack of legal and regulatory support, as demonstrated in Tunisia.

In addition to the UNFCCC regime, several key international trade, investment and financial instruments are relevant to the development and application of climate financing and facilitating investment in climate resilience.

Indeed, there are instances in which international banks and other financing institutions, governed by binding international charters or mandates, act to secure co-financing for large-scale projects focusing on adaptation and resilience in developing countries.[151] For example, the Green Climate Fund has worked with countries across Africa, South America and the South Pacific to finance adaptation measures for topics ranging from agriculture to coastal community measures to water resilience and supply.[152] These projects have been of short and long-term duration and have cut across the boundaries of multiple countries in some instances. Additionally, the Adaptation Fund specifically provides financing for climate adaptation measures and projects to developing countries.[153]

While the UNFCCC system, particularly the Paris Agreement and Katowice Outcomes, are seen as the drivers for climate financing and facilitating investment in climate resilience, the Katowice Outcomes are clear that there is space for other international agreements and actors to participate in this sphere. Indeed, given the cross-cutting nature of climate financing and investment, this is perhaps almost axiomatic. It is clear that some international agreements and organizations are already working in these areas and providing not only direct financing and investment but also creating spaces in which to incentivize the types of climate change reflective exports and trading activities that are needed for sustaining an economy. [154] It remains to be seen how much international law will need to adapt to future changes in order to keep current with the needs of climate adaptation and resilience at the small and large scale.

3. Ukraine: Legal and Institutional Means to Promote Investments in Climate Adaptation and Resilience

By Alina Sviderska, CISDL National Expert & Legal Research Fellow, Kyiv

It is possible to identify innovations, challenges and gaps—at both the national and subnational level—for the future implementation and incentivisation of scaled-up investment in climate adaptation and resilience under Ukraine's NDCs.

---

[151] The Katowice Rulebook (n 11) at Decision 3/CP.24 - Long-term climate finance (2018).
[152] "Projects and Programmes"(*Green Climate Fund*) <https://www.greenclimate.fund/what-we-do/projects-programmes>.
[153] Adaptation Fund (n 45).
[154] Gehring MW, Cordonier Segger M-C and Newcombe AP, "Sustainable Development in World Investment Law" (Kluwer Law International, 2011).

Ukraine's legal and institutional framework for action on climate change, including measures to incentivize investment in adaptation and resilience, has undergone extensive development in recent years. This is especially true since, in 2020, climate change risks became more visible (e.g. the great flooding of June 2020, which caused damages to thousands of people and damaged around 300 villages and 500 km of roads throughout the country[155] and the April 2020 Chernobyl fires, which made Kyiv one of the worst quality air locations in the world).[156] The rate of change with regards to laws and policies towards climate change has further accelerated under the new 2019 Zelensky Presidential Office.

However, some of the most urgent reforms have yet to be enacted. For example, Ukrainian electricity law still requires adaptation to accommodate the growing demand for green energy and its further integration. If the government chooses to support sustainable development, it has to make rapid and bold decisions with regard to coal and nuclear industries and sectors. The coal industry needs a plan for shutting down and the nuclear industry should have a right to properly participate on the market, as well as receive compensation (or funding) for nuclear phasing out and disposal of nuclear waste.[157] On the other hand, to further reforms in the agricultural and energy sectors, the Zelensky Administration has "passed a land sales law and separated the gas production company from the transmission network of state-owned Naftogaz."[158] These reforms are important from a climate perspective, as it is expected they will make gas markets more competitive. The land sales law equally reforms the rural Ukrainian economy, potentially allowing for further reforms.

There are also concerns regarding the energy market in Ukraine and the surrounding region. Ukraine is a full Party to both the Energy Charter Treaty and the Energy Community Treaty, linking Ukraine firmly to the EU energy market and relevant EU policies. Accession to the Energy Community Treaty was delayed over concerns in the gas sector by EU Member States. However, with the final unbundling of the gas transmission network in 2020, remaining concerns seem to now have been largely addressed. However, the geopolitical dimension of Russian gas delivery via Ukraine is potentially of some continuing concern. Many EU Member States were reminded of their reliance on Russian gas when Gazprom briefly halted deliveries via Ukraine in 2009. The most recent Energy Union includes supply security as one of its principles, together with the principles to "promote energy efficiency and energy saving; decarbonise the economy and move towards a low-carbon economy in line with the Paris Agreement and to promote the development of new and renewable forms of energy to better align and integrate climate change

[155] Zhanna Bezpiatchuk, "Ukraine flood: why climate change and logging are blamed" *BBC News* (1 July 2020) <https://www.bbc.com/news/world-europe-53233387>.
[156] Reuters, "Fires near Chernobyl make Kiev air most polluted in world" *Reuters* (17 April 2020) <https://www.reuters.com/article/us-ukraine-chernobyl-fire-pollution/fires-near-chernobyl-make-kiev-air-most-polluted-in-world-idUSKBN21Z1CP>.
[157] Yuri Kubrushko, "For passing the energy crisis there is a need for clear goals and political will" (in Russian) <https://kosatka.media/category/blog/news/yuriy-kubrushko-dlya-preodoleniya-krizisa-v-energetike-nuzhny-chetkie-celi-i-politicheskaya-volya>.
[158] Tony Barber, "A hard road ahead for Zelensky in Ukraine - Sympathy for the president in western capitals and the IMF is now tempered by concern" *Financial Times* (26 July 2020) <https://www.ft.com/content/22d2db8a-6da8-41b8-b3a0-df362f283d0c>.

goals into the new market design".[159] While Naftogaz concluded a new gas delivery agreement in December 2019, scepticism remains as to whether Gazprom will comply with all terms.[160] The EU is keen that all EU Member States and those participating in the internal gas market comply with a recent ruling of the Court of Justice mandating that even pipelines with third countries have to allow competitors to use their infrastructure. However, these demands will likely not be fulfilled by Russian owners.[161]

In the following analysis, the five key elements of innovative climate law and governance practices are highlighted. First, the chapter considers Ukraine's efforts to prioritize climate adaptation and resilience, and discusses relevant focused, tailored legal reforms and governance instruments for implementation. The chapter highlights Ukraine's recent adoption of law and governance measures to integrate adaptation and resilience into sectoral development priorities such as renewable energy and energy efficiency emissions monitoring, registration and reporting standards. The chapter also considers climate resilience related infrastructure development reforms and opportunities to adjust agricultural sector rules and codes, briefly considering related improvement to food waste management value chains. Second, the chapter identifies innovations and gaps in Ukraine's compliance arrangements, including its ability to establish sound accountability/oversight mechanisms, taking into consideration the standards and governance systems for decision making, dispute resolution and inquiry bodies and the provision of prompt and adequate compensation for loss and damage.

Throughout, the chapter explores opportunities, challenges and gaps in transparency frameworks, noting in particular progress in national frameworks to establish inter-sectoral communication and coherence, and taking into account areas of opportunity to strengthen open, precautionary and robust systems of assessment, establish rules and institutions for sectoral and cross-cutting monitoring, reporting and verification systems, and improve vertical integration between municipal, regional and national data collection and reporting. The chapter also notes Ukraine's first steps and remaining challenges in accessing and managing climate finance, including meeting conditions of access to the Adaptation Fund and the Green Climate Fund, and efforts to establish and strengthen the legal and institutional foundations for climate finance, including collaborative sectoral initiatives for project development and design. In addition, the chapter addresses Ukraine's progress toward and remaining challenges and areas of opportunity to strengthen engagement of Non-Party Stakeholders, including through strengthening public-private enterprise arrangements across different sectors with leadership benchmarking and recognition; establishing and taking into account expert scientific and public advisory bodies; improving civil society and private sector engagement mechanisms; and supporting citizen-led

[159] Communication from the Commission to the European Parliament, the Council, etc: A Framework Strategy for a Resilient Energy Union with a Forward-Looking Climate Change Policy, COM/2015/080 final and EU Regulation on the governance of the energy union and climate action (EU)2018/1999 entered into force on 24 December 2018.
[160] The Economist, "Competition, sanctions and the new geopolitics of Russian gas" *The Economist* (23 January 2020) <https://www.economist.com/finance-and-economics/2020/01/23/competition-sanctions-and-the-new-geopolitics-of-russian-gas>.
[161] Ibid.

public awareness campaigns and climate action initiatives across local, regional and national levels.

3.1 The Legal and Institutional Framework to Address Climate Adaptation and Resilience in Ukraine

Ukraine ratified the Paris Agreement on 14 July 2016.[162] Ukraine's NDCs under the Paris Agreement includes a target of reducing GHG emissions by at least 40% below 1990 levels, including land use, land-use change and forestry (LULUCF) by 2030.[163] The NDC indicates that "an approach to including the LULUCF sector in the climate change mitigation structure will be defined as soon as technical opportunities emerge, but no later than 2020."[164] This process is still ongoing. Ukraine has also indicated that its NDCs will be revised after the restoration of its territorial integrity and state sovereignty, as well as after the approval of post-2020 socio-economic development strategies, including opportunities for investment mobilisation.[165]

Carbon Tracker reports that: "in May 2020, the Ukrainian government approved the Economic Stimulus Programme to help stabilise the economy. While the document mentions optimising the environmental tax to promote eco-friendly modernisations, links to climate and environmental policy are limited, and local environmental NGOs argued that money from the economic stimulus funds could be used for restructuring the coal industry to save mining jobs. If Ukraine neglects low carbon development strategies and policies, emissions could rebound and even overshoot previously projected levels by 2030, despite lower economic growth."[166] From an international and comparative perspective, this approach is also enhancing access to adaptation finance and strengthens stakeholder engagement.

After ratification of the Paris Agreement, Ukraine adopted three key framework documents governing climate change actions:

1) Concept for Implementation of the State Policy on Climate Change until 2030 (adopted by the Cabinet of Ministers of Ukraine on 7 December 2016) (the "***Concept***");[167]

---

[162] Law of Ukraine, 'On the ratification of the Paris Agreement' <https://zakon.rada.gov.ua/laws/show/1469-19#Text>.

[163] Cabinet of Ministers of Ukraine, 'Ministry of Environment: Ukraine is Actively Involved in the Work on the New Global Climate Agreement' (*State Sites of Ukraine Government Portal*, 22 October 2015) <https://www.kmu.gov.ua/ua/news/248571404 > accessed 11 November 2019.

[164] Ibid.

[165] National Environmental Investment Agency, 'Intended Nationally Determined Contribution of Ukraine to a new Global Climate Agreement' (2015) <https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Ukraine%20First/Ukraine%20First%20NDC.pdf >, accessed 11 November 2019.

[166] Carbon Tracker, 'Ukraine', available online: <https://climateactiontracker.org/countries/ukraine/>, accessed on 31 July 2020.

[167] Cabinet of Ministers of Ukraine, 'Implementation of Public Policy on Climate Change for the Period Until 2030' (Kiev, 7 December 2016) 932 <http://zakon3.rada.gov.ua/laws/show/932-2016-%D1%80/paran8#n8 >, accessed 11 November 2019.

2) Action Plan to the Concept for Implementation of State Policy on Climate Change until 2030 (the "***Action Plan***");[168] and
3) Ukraine 2050 Low Emission Development Strategy (the "***LED Strategy***").[169]

The ***Concept*** fixes general commitments to develop necessary climate change legislation in energy, municipal, agricultural and transportation spheres. The Concept, among other things, stimulates: creation and implementation of an internal system for emission trading according to Directive 2003/87/EU; formation of the special authorized body on emission trading; establishment and operation of the system of monitoring, reporting and verification of the GHG emissions; and improvement of approaches to environmental taxation in terms of GHG emissions, including creation of a mechanism for targeted usage of revenues. There is, however, nothing mentioned specifically about the agricultural, waste management or transport industries. Additionally, the Concept focuses more on climate change mitigation than adaptation.

The ***Action Plan*** contains a more detailed description of actions which need to be taken to achieve Ukraine's NDCs. The Action Plan includes 49 measures (33 of them are aimed at climate change mitigation and 16 at adaptation). However, most of these actions include development of various strategies (rather than concrete actions). For example, the Action Plan provides for the development and adoption of a full climate change adaptation strategy for Ukraine by 2020 that is intended to be in effect until 2030. It also includes provisions for the adoption of new NDCs by 2020 and for reviews of the NDCs at intervals of five years thereafter, and for the development of recommendations on climate change adaptation measures for agribusiness, which are to be adopted between 2019 and 2020 and extend to 2030.

Further, the Action Plan seeks the implementation of a ***Low Carbon Development Strategy*** for Ukraine, which would fix emissions reductions requirements to 66 – 69% below 1990 levels. This Strategy was officially approved by the Ukrainian Cabinet of Ministers in 2018. In addition to national measures, the Action Plan highlights the importance of developing climate change adaptation plans for the various regions within Ukraine, as well as individual cities and villages. The Action Plan also promotes the development of proposals to create new financial instruments for public-private partnerships in climate change projects, particularly progressive financing mechanisms that seek to stimulate businesses in their responses to climate change.

In January 2020, the Ministry of Energy and Environmental Protection and Natural Resources presented the *Ukraine 2050 Green Energy Transition Concept*.[170] This has the potential to

[168] Cabinet of Ministers of Ukraine, 'Approving the Action Plan for Implementing Climate Change Policy for the Period Until 2030' (Kiev, 6 December 2017) 878 <http://zakon3.rada.gov.ua/laws/show/878-2017-%D1%80 >, accessed 11 November 2019.

[169] Ministry of Energy and Environment of Ukraine, 'Ukraine 2050 Low Emission Development Strategy' (Kiev November 2017) <https://unfccc.int/sites/default/files/resource/Ukraine_LEDS_en.pdf >, accessed 11 November 2019.

[170] Ministry of Energy and Environment of Ukraine, "Ukraine 2050 Green Energy Transition Concept" <https://menr.gov.ua/news/34424.html>. This concept is not adopted as a normative act as of now. It

intersect with the EU Green Deal, which in turn could assist in advancing international climate adaptation in Ukraine through accessing and managing climate finance for adaptation.

Ukraine's key legal documents governing environmental protection are also relevant to this analysis. They include: 1) the Law of Ukraine "On Environmental Impact Assessment" (the "EIA"); 2) the Law of Ukraine "On Strategic Environmental Assessment" (the "SEA"); 3) the Regulation "On Criteria for Determining Planned Activity, its Expansion and Change, which are not Subject to the EIA" No. 1010; 4) the Regulation "On Procedure for Conducting Public Discussion while Preparing the EIA" No. 989; and 5) the Regulation "On Procedure for the Transfer of Documentation to Provide the EIA Conclusion and the EIA Funding and on Procedure for Maintaining the Unified Register on the EIA" No. 1026. Additionally, it should be noted that there is also continuous work on behalf of the Ministry of Environmental Protection and Natural Resources of Ukraine to reduce industrial pollution. Thus, the Government approved the ***Concept of State Policy on Industrial Pollution*** (in line with the EU Directive 2010/75/EU)[171] and the Plan of Action on implementation of the Concept of State Policy on Industrial Pollution.[172] Significant reductions in industrial pollution can also be seen as a way to prioritise climate adaptation and resilience.

The EIA law implements Directive 2011/92/ EU "On the Assessment of the Effects of Certain Public and Private Projects on the Environment". The EIA Law envisages that a company should follow the EIA procedure if it is involved in a planned activity, meaning an activity that includes construction, reconstruction, re-engineering, liquidation (disassembly) of objects and other interference in the natural environment. The law lists a wide range of business activity types which fall under this regulatory system. It should also be seen as a key part of enhancing the transparency framework of climate adaptation decision-making.

The SEA law (following the requirements of the Kiev Protocol of the Espoo Convention) provides for preliminary preparation of methods, establishment of an advisory base, development of normative and methodological documents on strategic environmental assessment, generalises the practice of implementing a strategic ecological assessment, and application of the newest methods of environmental assessment, development of scientific substantiation of complex norms aimed at prevention of ecological harm, integration of ecological requirements and approval of documents made by means of public planning. [173] Again, this law also contributes to the transparency framework of climate adaptation decision-making. In order to avoid duplication, the status overview of the Ukrainian environmental legislation is contained in the

presumes that Ukraine should ensure "transition of the Ukrainian economy to climate neutrality by 2070 in a socially positive way".

[171] "Concept for the Implementation of State Policies for Industrial Pollution" (22 May 2019) <https://zakon.rada.gov.ua/laws/show/402-2019-%D1%80#n8>, accessed 23 August 2020.

[172] "Plan of Actions on implementation of the Concept of State Policy on Industrial Pollution" (27 December 2019) <https://zakon.rada.gov.ua/laws/show/1422-2019-%D1%80#Text>, accessed 23 August 2020.

[173] B Mayer, 'Environmental assessments in the context of climate change: The role of the UN Economic Commission for Europe' (2019) 28 Review of European, Comparative & International Environmental Law 82.

report “Ukrainian strategies relevant to sustainability” prepared by the GFA Consulting Group GmbH in June 2018.[174]

The new Convocation of the Ukrainian Parliament adopted two further acts either directly or indirectly influencing implementation of Ukraine's climate change commitments: (1) the Law of Ukraine “On Ozone-Depleting Substances and Fluorinated Greenhouse Gases”[175] and (2) Law of Ukraine “On the Principles of Monitoring, Reporting and Verification of Greenhouse Gas Emissions”.[176]

There have been several analyses of the legal status of implementation of Ukraine’s climate change commitments. The UNDP’s report *“Incorporation of the recommendations regarding implementation of the UN Framework Convention on Climate Change in Ukraine”*, dated October 2017, is among the most thorough.[177] The report presents the analysis of recommendations generated in 2015 during the sectoral analyses of policies, programs, plans and legal documents on the implementation of the provisions of the UN Framework Convention on Climate Change in Ukraine. Out of 194 recommendations, 72 were fully or partially implemented and a further 122 were not effectively implemented. This state of affairs opens important opportunities for investment and further work on all levels. The progress of implementation can be tracked across the sectors by considering the number of recommendations fully or partially implemented against the number of total recommendations: 1) transport sector (18/47); 2) environment and natural resources (14/32); 3) economic development (14/23); 4) energy (13/15); 5) municipal development (6/25); 6) agriculture (4/10); 7) social support (2/18); and 8) education and science (0/24).

---

[174] Kozlowska, M and Shcherbyna, S. “Ukrainian Strategies Relevant to Sustainability” (2018) EuropeAid/137074/DH/SER/UA <https://eu-ua.org/sites/default/files/inline/files/annex_c.3.12_a4u_an._studies_and_business_consultations_n21_-_ukrainian_strategies_relevant_to_sustainability.pdf >, accessed 11 November 2019.

[175] Law of Ukraine “On ozone-depleting substances and fluorinated greenhouse gases” <https://zakon.rada.gov.ua/laws/show/36-IX>, accessed on 9 September 2020. It was adopted on 12 December 2019. The draft law was inherited by the 9th convocation of Verkhovna Rada from the past one. It implemented the provisions of Regulation (EC) №2037 / 2000 on substances that deplete the ozone layer and the provisions of Regulation (EC) № 842/2006 of the European Parliament and of the Council on certain fluorinated greenhouse gases as well as the Montreal Protocol on Substances that Deplete the Ozone Layer. The Law should reduce the release of named substances into the environment and, accordingly, the negative pressure on the climate system and the environment.

[176] Law of Ukraine “On the principles of monitoring, reporting and verification of greenhouse gas emissions” <https://zakon.rada.gov.ua/laws/show/377-20#Text>, accessed on 9 September 2020. It was adopted on 12 December 2019 and similarly inherited from the previous convocation of the Ukrainian Parliament. It was developed based on Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community. The act finally introduces the monitoring system. The first step will be the registration of GHG emitting installations in the State Register of Installations in 2021.

[177] Maruschevska, Olga, and Mordan, M. “Incorporation for the Recommendations Regarding Implementation of the United Nations Framework Convention on Climate Change in Ukraine” *UNDP* (8 December 2017) <http://www.ua.undp.org/content/ukraine/en/home/library/sustainable-development-report/Analytic-report-climate-change-recommendations.html>, accessed 11 November 2019.

There are several key problems slowing down implementation. From the outset, most of the recommendations made at the national level have been contained in strategies and plans, which require further time and legislative action in order to become fully implemented as binding laws in Ukraine. This is particularly problematic since it typically takes between 2 to 4 years to develop and adopt Ukrainian laws, depending on the political will within the country and associated pressures from the international community.[178] In conjunction with this is a high rate of turnover of governmental officials persists in Ukraine, which leads to inconsistencies in priorities and the direction of work relating to climate change adaptation.

There are several projects supported by international donors and institutions which are financing development of relevant framework for climate change legislation in Ukraine. For example, the EBRD is providing financing for the *reforms project office* within the Ministry of Environmental Protection and Natural Resources, which is, among other things, tasked with drafting the Ukrainian climate change adaptation strategy. It is expected that this strategy will be approved in 2020. In addition, in August 2018, the EBRD launched a 1-year expert support group project on *implementation of the Paris Agreement* within the Ministry of Environmental Protection and Natural Resources.[179] The project makes a great emphasis on need of strategic adaptation planning, in accordance with which the Government of Ukraine should take the following steps:

- Develop and adopt the Adaptation Strategy of Ukraine till 2030, which is currently hampered by barriers:
  - ⇒ relatively low priority of climate change adaptation due to permanent presence of other issues related to national security;
  - ⇒ high economic instability causing lack of budget resources available even for adaptation planning activities;
  - ⇒ inertia in national understanding inertia in national understanding that climate change mitigation actions have higher priority than adaptations ones.
- Ensure institutional arrangements and capacity are developed at the national and sub-national levels:
  - ⇒ Enhance institutional structure to clarify roles and enshrine responsibilities of actors such as ministries, state agencies, and regional authorities in order to improve coordination across sectors to foster an integrated approach to adaptation and climate resilience, including explicit linkages and synergies with Sustainable Development Goals (SDGs).
  - ⇒ Set up an innovative cooperation mechanism between the government and non-state actors, including private sector, to capitalize on existing capacity and currently fragmented ongoing activities having been implementing for adaptation.

[178] "Main Page" (*The Verkhovna Rada of Ukraine* 2019) <https://iportal.rada.gov.ua/en>, accessed 11 November 2019.

[179] EBRD call for experts to the Government of Ukraine on updating its Nationally Determined Contributions (NDCs)). See EBRD, "Support to the Government of Ukraine on Updating its Nationally Determined Contribution (NDC)" <https://www.ebrd.com/cs/Satellite?c=Content&cid=1395274488850&d=Mobile&pagename=EBRD%2FContent%2FContentLayout>.

•Establish reliable and sustain reporting system for adaptation actions under the Paris agreement.
•Gather and systematise existing national scientific findings on climate change modelling, impacts, vulnerability, risks, adaptation options, and identifying gaps.
•Create knowledge database and providing a broad access to information for all interested persons.
•Use mid and long-term climate change projections for vulnerability and risk assessments.
•Determine mechanism and ways to revise adaptation plans at national and sub-national levels every few years to avoid maladaptation through integrating new scientific information.
•Integrate adaptation through coordination between various sectors, collaboration between governmental departments, and cross-sectoral adaptation initiatives.

Further, a number of international donors provide support for the development of *climate change adaptation plans for cities and villages* in Ukraine (for example, in Orlivka village in Southern Ukraine,[180] Kamyanske city in South-Eastern Ukraine,[181] and Yavorivshina region in Western Ukraine[182]).

Based on the analyses of the Concept and the Action Plan, as well as supporting laws and implementation systems, several priority sectors can be defined. First, *renewable energy*, for which the Energy Strategy of Ukraine has established benchmark targets of percentage inclusion in the overall national energy consumption scheme as 12% by 2025 and 25% by 2035.[183] Linked to this is *energy efficiency*, for which a goal of improvements of 9% by 2020 has been established. Second, for the *agricultural and food sectors*, enforcement of adaptation measures for the agricultural sector relating to climate change are of importance for the industry and for overall national plans. Third, there is a need to consider *municipal governance and infrastructure*, especially regarding improvements to the capacity of local communities to develop climate change adaptation mechanisms as these are essential elements to national goal completion. In this regard, it is also important for the *waste management infrastructure* to introduce waste recycling systems and reduce household and industrial waste.

3.2 Ukraine's NDCs Priority Sectors in National Climate Law and Policy

A. Climate Resilience and Adaptation for the Energy Sector

[180] Voice of Nature, "Climate Change Adaptation Plan for Orlovka," (2015) <https://climateforumeast.org/uploads/files/CC_Adaptation_Plan_Orlivka_ukr_FINAL.pdf>, accessed 11 November 2019.
[181] Voice of Nature, "Climate Change Adaptation Plan for Kamianske," (2016) <http://voice.dp.ua/ext/file/plan_adaptacii_Kmnsk.pdf >, accessed 11 November 2019.
[182] Yavorivshina region climate change adaptation plan (2016; in Ukrainian): <https://unfccc.int/sites/default/files/resource/Ukraine_LEDS_en.pdf>, accessed 11 November 2019.
[183] Cabinet of Ministers of Ukraine, "Security, Energy Efficiency, and Competitiveness: Ukraine Strategy Until 2035" (Kiev 8 August 2017) 605 <https://www.kmu.gov.ua/ua/npas/250250456> , accessed 11 November 2019.

Roadmap of key elements and deficiencies of the legal and institutional frameworks

Ukraine has set increasing renewable energy generation in Ukraine from 2% in 2018 to 25% in 2035. This is evident in key legal regimes and systems in Ukraine, notably the National Energy Strategy (until 2035); the Law of Ukraine on Electricity Market with Provisions Regarding Incentive Mechanisms for Renewable Energy; the Law of Ukraine on Renewable Energy Sources; and changes to Law of Ukraine on Heat Supply Regarding Incentives for Renewable Energy Sources for Heat Production.

Renewable energy must be seen in the context of the whole Ukrainian energy sector. Overall, there are more than 20 million energy consumers throughout the country, including more than 500,000 representatives of small and medium businesses. Energy consumption rates in Ukraine account for 33% of every US $1 of the national GDP, while in the EU as a whole the rate is 13% for every US $1 of GDP. By the end of 2019, the renewable energy market expanded in Ukraine to occupy almost 13% (total installed capacity in 2019 is 6,379 MW (solar 4,925 MW, wind 1,170 MW) out of 50 GW total energy system). There are approximately 25,000 households using green energy and 30% of all the investments in the Ukrainian green energy market are foreign direct investments (FDIs).[184] In terms of legal control and rules, the entire energy sector in Ukraine, including renewable energy, is subject to 1,433 regulatory acts (62 laws, 286 Resolutions of the Cabinet of Ministers and 1,085 acts of central executive bodies), which raises the potential for incoherency in application. Additionally, it should be noted that the use of a green tariff fixed in Euros until 2030, and including solar, wind, hydro and biomass energy sources, is the main support mechanism for the existing renewable energy projects in Ukraine. Starting in 2020, auctions would be the stimulus to develop new projects in Ukraine in a more competitive environment.

On 1 August 2020, the new law which retroactively reduces feed-in-tariffs entered into force.[185] This law was subject of discussions from October 2019 onwards and, because of it, the mediation procedure between the Ukrainian Government and business was launched in December 2019 and is still pending.[186] From an international perspective, the 2020 law reducing feed-in-tariffs initially did not seem to be in line with transparency frameworks mandated by climate law, but this concern was later addressed in government-industry discussions.

This new regime involves significant reductions in the level of existing feed-in tariffs (15% tariff reduction for solar stations and 7,5% reduction for wind stations) and also going forward with reductions of up to 60% from late 2020. In return, the industry received a guarantee that no further changes to the existing feed-in-tariffs are intended ("The state guarantees that revised [feed-in-tariffs] will not be further changed. The laws effective on the date of entry into force of

[184] Statistics from the National Energy and Utilities Regulatory Commission <https://www.nerc.gov.ua/>.
[185] Law of Ukraine "On Introducing Amendment to Certain Laws of Ukraine to Improve Condition of Electricity Production from Renewable Energy Sources" (21 July 2020) <https://zakon.rada.gov.ua/laws/show/810-IX#Text>.
[186] Energy Community Secretariat's page on the dispute <https://www.energy-community.org/aboutus/disputeresolution/registry/open/201902.html>.

the Law will apply to the rights and obligations of the [renewable energy source] Producers.")[187] There is still no consolidated market reaction to this legislation. There is a possibility of arbitration against Ukraine as not all market participants supported the legislation.[188]

At the same time, there are a number of critical gaps in the legal and institutional framework for climate change adaptation and renewable energy generation in Ukraine. One of the most pressing of these gaps is the lack of realistic action plans and roadmaps for realisation of existing national strategies and national plans. Indeed, most of the crucial current regulations are at the level of policy papers and strategies rather than legally binding mechanisms and there is a lack of commitment to and progress in the form of legal systems. In addition, the lack of coordination between national bodies with regard to climate change policies and energy policies causes areas of gaps and uncertainty. For example, energy issues are presently treated by the Ministry of Energy, the Ministry of Environmental Protection and Natural Resources of Ukraine, the Ministry of Regional Development, the Ministry of Economy and the State Agency on Energy Efficiency and Energy Saving. Since some of these bodies have overlapping authorities, situations can arise in which no entity is responsible for vital decisions or there are conflicting views.

Underlying many of these issues is a lack of political will to implement sustainable development at the national level and across all sectors of law and policy. This is highlighted by the fact that the Paris Agreement and Ukraine's NDCs are not in the national political agenda and are not mentioned in any political party's political platform.

Selected legal and institutional barriers: predictability and clarity of legislation

The Ukrainian Ministry of Energy is currently working on a new version of its Energy Strategy and seeking to align it with key elements of the EU Green Deal, as proposed by the Von der Leyen Commission.[189] Such alignment would probably trigger a renewed emphasis on renewable energy and strengthen access to adaptation finance.

Constantly changing legislation for renewable energy support causes difficulties for investors in terms of business planning. For example, the feed-in tariff was introduced in Ukraine in 2009, considerably reviewed in 2014 (at which time proponents sought to fix feed-in-tariffs until 2030)

---

[187] See Law on Amendments to Certain Laws of Ukraine on Improvement of Support Conditions of Electricity Production from Renewable Energy Sources (No. 3658), also see Summary of amendments, available online: <https://euea-energyagency.org/wp-content/uploads/2020/07/Draft-Law-3658-Summary-Eng-v8.pdf>.

[188] Letter from the U.S. Congresswoman Marcy Kaptur and U.S. Congressman Mike Quigley, see <https://www.usubc.org/site/recent-news/letter-to-ukrainian-president-zelenskiy-about-energy---security-and-the-development-of-renewable-energy> and statement from the ACC, see <https://chamber.ua/news/joint-call-to-action-by-the-business-community-to-resolve-the-renewables-sector-crisis-before-the-parliamentary-recess/?fbclid=IwAR3IuHMdDlU8jKnvt7oy1DMP5b_7nvvHYrmuFz4aTP7HuIkqhdxQpmcEgwA>.

[189] Interfax Ukraine, Ukraine to review Energy Strategy harmonizing document with European Green Deal, 8 July 2020, available online: <https://en.interfax.com.ua/news/economic/673657.html>.

and is now being substituted with the tariff auctions from 2020.[190] Although the law on the new electricity market recently entered into force, it will still require a number of secondary laws in order to ensure smooth transition to proper competition on the electricity market. At the same time, issues with lack of transparency in regulations for the electric grid connections can significantly increase the cost of a renewable energy project or other climate change adaptation projects.

Selected legal and institutional barriers: transparency of the grid

Often the most efficient way to address this particular market challenge is to increase transparency. Many other countries also face challenges ensuring transparent operations in their grid and its interconnectivity. For example, in the 2016 Incentive Regulation Ordinance (Anreizregulierungsverordnung) Germany legislated for the transparency of the grid by establishing publication obligations for the regulator and corresponding monitoring obligations so that the operators' costs and profits were visible and transparent.[191] Such publication and monitoring obligations could be legislated in Ukraine by instituting obligations on both the regulator and the operators in the grid.

In this respect, the decision to trade green energy using the Prozorro platform, reflected in the Government Decision No. 1175 dated 27 December 2019, is significant.[192] By moving successively to an online platform, which is also for procurement of renewable energy, the platform enhances familiarity with modern technology and supports efficient markets. While not yet fully implemented, it shows that the use of modern Internet platforms and technology can help in the transition to a greener economy. Indeed, the move to increased digitalisation in the energy sector in Ukraine has the potential to support a more efficient energy market, one which benefits from increased resilience. This move supports accessing and managing climate finance. In particular,

---

[190] Trypolska G, 'Support scheme for electricity output from renewables in Ukraine, starting in 2030' (2019) 62 Economic Analysis and Policy 227.

[191] Zweite Verordnung zur Änderung der Anreizregulierungsverordnung, available online: https://www.bmwi.de/Redaktion/DE/Downloads/A/anreizregulierungsverordnung-aenderung.pdf?__blob=publicationFile&v=6

[192] Decision No. 1175 dated 27 December 2019 on Introduction of Competitive Conditions to Stimulate Electricity Production from Alternative Energy Sources, available online: <https://www.kmu.gov.ua/npas/pro-zaprovadzhennya-konkurentnih-umov-stimulyuvannya-virobnictva-elektrichnoyi-energiyi-z-alternativnih-dzherel-energiyi-i271219-1175>. On 27 December 2019, a decision was approved for green auctions to sell energy produced from alternative sources transparently through the Prozorro Sales platform. Prozorro.Sales is a system initiated by the Ministry of Economic Development and Trade of Ukraine, Transparency International Ukraine, the Deposit Guarantee Fund, the National Bank of Ukraine and Ukrainian electronic platforms which aims to support transparent, fast and effective sales of state and communal property, while reducing corruption and providing equal access to data, public control and expansion of the buyers' circle. The sale of green energy via Prozorro.Sales was to be launched in April 2020, given the extraordinary conditions, the Ministry of Energy began preparation of necessary secondary legislation after entry into force of the new Law of Ukraine "On Amending Certain Laws of Ukraine on Improving Conditions for Supporting Electricity Production from Alternative Energy Sources" on 1 August 2020, and auctions are planned to start through Prozorro.Sales in 2021. By enhancing digitalization of the energy market, this process has the potential to incentivize investment in resilience of the grid for the emerging renewable energy sector.

it establishes and strengthens the legal and institutional foundations for climate finance by strengthening law and governance capacity through digitalization and mobilisation of new technologies such as blockchain.

In addition, the Technical Regulation No 804 of 3 October 2018, transposing the Eco-design Regulation 2009/125/EC, also significantly enhanced practices to stimulate government procurement of energy efficient products by public entities. These are traded on the Prozorro platform and it is hoped that energy efficient alternatives for products, such as power transformers, electric motors, ventilators driven by motors, water pumps, circulators and directional lamps shall be used widely, contributing to more public acceptance and more resilient households and infrastructure as a result.[193] This has the potential to assist Ukraine to prioritise climate adaptation and resilience as these focused and tailored legal reforms—if supplemented by robust governance instruments for implementation—assist in integrating adaptation and resilience into sectoral development priorities such as renewable energy and public procurement rules.

Selected legal and institutional barriers: financing

The attempt to generate increased financing for and commoditisation of renewable energy is undermined by existing legislation that lacks support mechanisms and incentives for small and medium scale projects. Financial viability of support for renewable energy projects is further hindered by the fact that Ukraine is still paying subsidies to low-income families to cover their utilities costs (mostly for heating costs (UAH 80+ bln in 2018)), while funding the only programme for support of energy modernization of buildings in form of cheaper loans (UAH 400 mln in 2018) and the upcoming Fund of Energy Efficiency (UAH 1,6 bln estimated).

Green energy in Ukraine developed rapidly in 2019, mainly due to the fact that it was the last year when companies could fix green tariffs for their projects. From 2020 onwards, all new projects have to pass through auctions in order to qualify for state support. In fact, Ukraine overachieved the planned goal of having 11% of green energy by 2020 (achieving 13% instead).

Despite this positive growth, the market is facing other difficulties. From 1 July 2019, the new electricity market law entered into force and caused the creation of a number of malfunctions, including debts. There is a more detailed analysis of the problems of the new Ukrainian electricity market conducted by the "Low Carbon Ukraine" project.[194] In particular, the law fails to foresee effective participation in the market of all the participants and leans heavily on public service obligations. Such participation is also useful from an international and comparative perspective as it would strengthen non-party stakeholder engagement.

[193] Technical Regulation No 804 of 3 October 2018, transposing the Eco-design Regulation 2009/125/EC, available online: <https://zakon.rada.gov.ua/laws/show/en/804-2018-%D0%BF#Text>.
[194] Low Carbon Ukraine report "Monitor of Electricity Market Opening" <https://lowcarbonukraine.com/wp-content/uploads/2020/04/MEMO_4_eng.pdf>.

Private sector investment and support of climate financing and facilitating investment in climate resilience is a crucial element for discussion and highlights the importance of developing public and private partnerships in the fields of adaptation and resilience.[195]

Financing of energy-related activities can be hindered by the high costs of capital, which leads to high borrowing costs and very limited sources of financing for large projects by local lenders. [196] One way of addressing these challenges is through large scale public-private partnerships.[197]

As a first step, a transparent and reliable public-private partnership law can offer legal clarity for a more stable investment climate. Second, a well-structured public fund could act as both a delivery partner for resilient infrastructure projects, particularly if it can serve as a public finance partner, potentially attracting further private funders. To do so, the fund could be developed with a holistic strategy *ab inicio*, similar to the Scottish Futures Fund, to manage climate financing using public private partnerships, and carefully structured feed-in tariff or premium legislation. As such, Scotland has introduced the Scottish Futures Trust which plans and finances investments in energy infrastructure. It is seen as an innovative approach of green procurement.[198]

This is compounded by significant tariff pressures on businesses and energy producers stemming from the cross-subsidising of electricity prices. At the municipal level, the lack of funding to mobilise resources and prepare for investments in renewable and green energy, coupled with existing legal and regulatory systems at the local level, can cause significant delays in operation and/or costs to investors. For example, most Ukrainian villages and cities do not have proper land zoning documentation, causing investors to bear costs and time expenditures involved in establishing zoning permissions, which usually complicates the situation and dissuades investor's activities.

At the governmental level, support can be given for investments in adaptation and resilience by instructing export guarantee schemes and export insurers to prioritise climate action. [199] Similar support can also be given through prioritising climate-friendly exports within the parameters of international trade law and WTO requirements.[200]

At the level of international financing, the International Finance Corporation, World Bank and other financing sources for regional and international projects are already required to meet

[195] Ann Gardiner and others, *Public-Private Partnerships for Climate Finance* (Nordic Council of Ministers, 2015).
[196] Kharlamova G, Nate S and Chernyak O, 'Renewable energy and security for Ukraine: challenge or smart way' (2016) 9 Journal of International Studies 88.
[197] See above under 2.4.
[198] D. Asenova, "Organizational Innovation in Public Procurement in Scotland: The Scottish Futures Trust" in: Valkama P., Bailey S.J., Anttiroiko AV. (eds) Organizational Innovation in Public Services. Governance and Public Management (Palgrave Macmillan, London 2013).
[199] Markus Gehring and Kristin Price, 'Export Credits and Foreign Investment Insurances for Sustainable Development?' in Thijs Etty and Hans Somsen (eds), *European Yearbook of Environmental Law* (Volume 8, OUP, 2008).
[200] Sierra Club, 'Discussion Paper: A New, Climate Friendly Approach to Trade' (2005).

criteria in order to approve loans. [201] As the 2018 US Supreme Court decision in *JAM et al. v International Finance Corp.* highlights, there is a responsibility for supervision of these projects in order to confirm that they are meeting their obligations and requirements, including environmental damage and impacts.[202]

Further, at the international law level, governments and the private sector are encouraged to work together to scale up investment in climate adaptation and resilience. In terms of government procurement, the WTO Code on Government Procurement provides that governments are free to establish their own criteria for use in procurement practices as long as these criteria are transparent and do not unfairly put in a disadvantage position foreign corporations.[203] This requirement works well with the terms of the Katowice Outcomes, which provide an additional level of transparency, enhancing government abilities to procure to combat climate change and address adaptation and resilience needs. In terms of State aid and subsidies, the terms of the WTO Subsidies Agreement provide for restrictions on governmental subsidies, however generalized support for building climate-resilient infrastructure, for instance, would be permitted.[204]

Selected legal and institutional barriers: investor protection

While there has been a certain amount of incentivisation of investments in these types of activities by the private sector, more work in the field is needed and, along with it, increased attention to issues of investor protection. This can be assisted by the terms of new model bi-lateral investment treaties to encourage investment in climate action and/or to allow for climate compliant measures restriction polluting investments.[205] Focus in bi-lateral or multi-lateral instruments should include explicit recognition of multilateral environmental agreements including reference to compliance with the Paris Agreement, promotion of green goods and services including integration of designated technologies in the attached Annex, and explicit commitments to support climate change adaptation and mitigation measures.

Selected legal and institutional barriers: emissions reductions and trading

In terms of emissions reductions and trading, there are few effective Ukrainian legal mechanisms to ensure emissions reductions. There are a number of key challenges that remain unaddressed, such as the need to reform environmental inspections, to ensure effectiveness of the

[201] The World Bank, 'Finance for Climate Action' (International Bank for Reconstruction and Development, World Bank, 2015), <https://www.worldbank.org/content/dam/Worldbank/document/Climate/FinanceClimateAction_Web.pdf >.
[202] *Jam et al. v. International Finance Corporation* 586 US 139 S. Ct. 759 (2019).
[203] World Trade Organization, Agreement on Government Procurement (March 2016).
[204] World Trade Organization, Agreement on Subsidies and Countervailing Measures (15 April 1994) 14.
[205] Markus Gehring and others, 'Climate Change and Sustainable Energy Measures in Regional Trade Agreements (RTAs)' (Issue Paper 3, International Centre for Trade and Sustainable Development, 2013); Rafael Leal-Arcas, 'Climate Change Mitigation from the Bottom Up: Using Preferential Trade Agreements to Promote Climate Change Mitigation' (2013) 7(1) Carbon and Climate Law Review 34.

environmental tax, and to launch proper online monitoring of emissions. [206] The existing low tax rates on CO2 emissions are problematic in that they do not create an environment of incentivisation for reductions in CO2 emissions.

One of the concrete steps that the Ukraine government could take is to consider a slow, but steady, increase of CO2 taxes over time, accompanied by enhanced public awareness, education and stakeholder engagement, the social acceptability can be greatly enhanced. Several countries have experimented with carbon taxes to increase climate financing. For example, Sweden was one of the first countries in the world to introduce a carbon tax. The new tax was initially set relatively low but increased over time, as more technology to avoid carbon intensive options, such as fossil fuels, became more available. Most recently, the tax was increased to over EUR 100 per ton of CO2, arguably one of the highest in the world. The tax covers the use of oil, coal, natural gas, liquefied petroleum gas, petrol, and even aviation fuel when the flights are domestic. A recent study found that these measures were significantly reducing GHG emissions in Sweden.[207] Less dependency on fossil fuel also makes the Swedish economy more resilient and less vulnerable to fossil fuel price shocks.

Renewable energy is a source of continued legal and regulatory gaps and contestation, and many outdated standards and over-demanding requirements are still in use. This is exacerbated by an inefficient regulatory framework for business investment in renewable energy sources in Ukraine. For example, green energy companies are being paid at the level of 10% during March-July 2020 and are promised to receive around 65% in August, although there is no further clarification on rates after this. The overall debt to green energy companies by the end of 2020 could reach around EUR 1 bln.[208] All of this results in imperfect legal mechanisms that do not allow proper compensation under green tariffs. This system could be changed by allowing green energy producers to participate in the market directly (thus receiving at least some compensation for their electricity) and to receive feed-in-premium instead of feed-in-tariffs. Germany is an example of the country that piloted financing of its feed-in tariff legislation in the Energy Compilation Act (2018 Energiesammelgesetz) - while smaller renewable energy installations benefit from a premium (in addition to the fluctuating market price), larger installations are benefiting from 'tenders.' These special tenders are mandated in the Act, and a total of 4 gigawatts each for solar plants and onshore wind energy plants are put out to tender additionally until 2021. In order to increase competition, the amount of energy put out to tender was increased from 1 gigawatt in 2019 to 1.4 gigawatt in 2020 to 1.6 gigawatt in 2021.[209]

---

[206] Romanko S, 'Carbon Tax Perspectives in Ukraine: Legal Regulation and Comparison of the National and European Experience of Implementation' (2018) 5 Journal of Vasyl Stefanyk Precarpathian National University 137,

[207] J. Andersson, "Carbon Taxes and CO2 Emissions: Sweden as a Case Study" (2019) 11(4) American Economic Journal: Economic Policy at pp 1-30.

[208] Information for the SE "Guaranteed Buyer" <https://www.gpee.com.ua/main/news?id=342>.

[209] Federal Economy Ministry, Energiesammelgesetz - Gesetz zur Änderung des Erneuerbare-Energien-Gesetzes, des Kraft-Wärme-Kopplungsgesetzes, des Energiewirtschaftsgesetzes und weiterer energierechtlicher Vorschriften, available online: https://www.bmwi.de/Redaktion/DE/Artikel/Service/energiesammelgesetz.html.

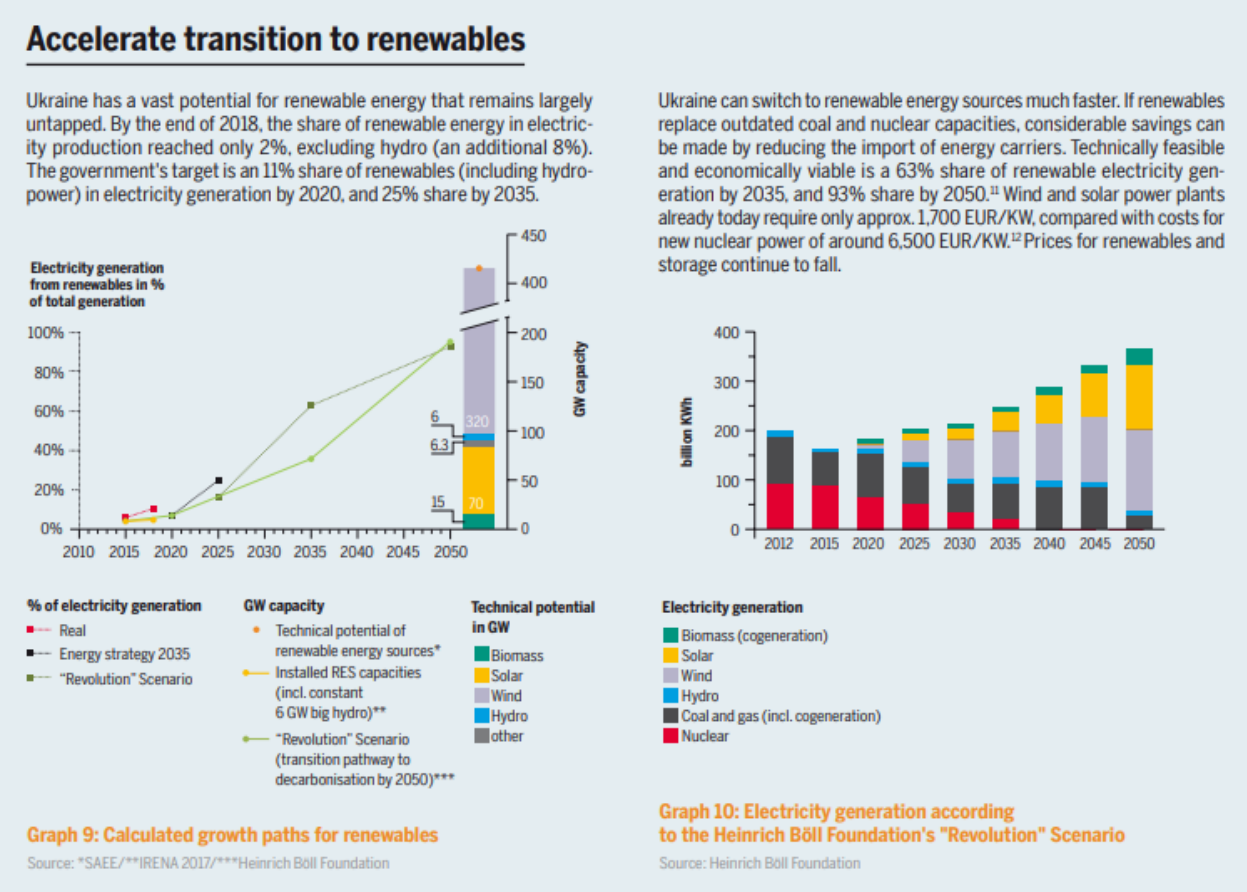
In most countries, as discussed earlier in this report with international examples, feed-in-tariffs are not static. The first step in a practical, structured legislative and institutional approach could be slowly reducing the tariff, as the Ukraine government did in 2020. Rather than almost abolishing the tariff, governments have found it more successful to phase them out slowly and over a long, reliable and stable period, which allows investors to plan their engagement in the economic sector.[210] Eventually, a transition to a simple premium could be made. In addition, and as a further practical step, a tender could be introduced for larger renewable energy projects as was done in Germany.

The turmoil in the energy market stems less from feed-in-tariffs than from public service obligations imposed on nuclear and hydro-electric companies, as well as cheap nuclear energy imported from Russia and Belarus.[211] The success of the renewable energy sector took some in the industry by surprise and, rather than blaming structural problems, some blamed the renewable energy sector for the market disruption.

Many in the NGO sector of Ukraine are convinced that both coal and nuclear energy are either unnecessary or insecure in their supply, as well as damaging to public health. Further, many see that renewable energy sources have not been explored to their real potential in Ukraine.

[210] Federal Economy Ministry, Energiesammelgesetz - Gesetz zur Änderung des Erneuerbare-Energien-Gesetzes, des Kraft-Wärme-Kopplungsgesetzes, des Energiewirtschaftsgesetzes und weiterer energierechtlicher Vorschriften, available online: <https://www.bmwi.de/Redaktion/DE/Artikel/Service/energiesammelgesetz.html>.

[211] Svitlana Chernetska and Oksana Aliieva Finding the Culprits: Will Curtailing Renewable Energy Resolve the Energy Crisis? Boell 19 May 2020, available online: <https://ua.boell.org/en/2020/05/19/poshuk-vinnikh-chi-zgortannya-vidnovlyuvanoi-energetiki-vivede-z-energetichnoi-krizi>.



Source: Ukraine and EU: Towards a decarbonisation partnership (November 2019).[212]

Selected legal and institutional barriers: independence of the regulator

At the level of energy regulation, it must be noted that there is significant political influence on the current energy market regulator, which is designed to be an independent body, and there is a need to legally secure its independence. There could be various ways to ensure the independence of the regulator. Instead of a politically-dependent appointment process, an initial first step could see the regulator being proposed by experts and appointed directly by Parliament, highlighting a practical separation and institutional independence from the government. Given the influence that is normally exerted in the energy sector, a second step could be the adoption of safeguards and obligations on all actors not to try to influence regulatory decisions. As a third step, and as is done in some countries, the Minster might not even have a ministerial veto over the energy regulator's decisions. Finally, supranational oversight might be the most effective way to ensure independent decisions. The EU Commission, for example, is consulted as part of a

[212] Boell Foundation, Ukraine and EU: Towards a decarbonisation partnership, Nov 2019, available online: <https://ua.boell.org/sites/default/files/2020-01/Ukraine_Energie_2019.pdf>.

Member State regulator's most fundamental decisions and has the ability to veto a decision made by the regulator (to ensure Member State regulators do not deviate from EU law).[213]

In Ukraine's energy monopoly systems, unbundling has yet to start and the risk of delaying the introduction of a new, competitive electricity market has become significant. Overall, it should be highlighted that most major policies for energy production and financing in Ukraine are designed without proper market analysis and financial modelling.

Recommendations for improving legal and institutional frameworks for climate resilience and adaptation in the energy sector of Ukraine

To address significant price fluctuation in summer and winter, energy supply companies could first consider the need to increase and/or install energy storage units, especially for electricity. While there is still no relevant legislation regarding this in Ukraine, this offers potential economic and supply benefits. Second, improving grid connection is essential, as the electricity cables are usually destroyed during winter storms and the restoration of these cables tends to fall to electricity companies rather than a governmental entity. In this regard, there is significant investment potential, and Ukrenergo SE, a power company responsible for operational and technological control of the Integrated Power System (IPS) of Ukraine, is already doing huge procurement contracts to modernise the grid. Third, improving Ukrainian energy audit and management regulations in order to increase control and predictability of energy supplies is critical to achieving legal and institutional frameworks for climate resilience and adaptation. At the moment, private companies might have these regulations, but there is no relevant legislation on the national level and Ukraine would need to adopt it as per EU Directive 2012/27.

For consumers, improving legal and institutional frameworks for climate resilience and adaptation will involve diversifying the sources of energy supply, ensuring energy independence (in case of electricity black outs) and decreasing energy consumption. Several measures are required to address these challenges, perhaps most fundamental being to allow energy consumers to become energy "prosumers" (produce and consume). Incentivizing development of smart grids and energy cooperatives is vital. At present, the draft law on energy cooperatives exists, but has not progressed through the parliamentary agenda. To achieve significant progress at the domestic level, as well as industrial level, applying energy management systems for private households and incentivizing their use is important. Finally, creating favourable and innovative regulations for households to use green energy sources, such as leasing solar panels, and using blockchain technology to sell electricity and to invest in other green energy projects, is another critical step. These suggestions are also consistent with international legal developments, which favour technology to prioritise climate adaptation and resilience.

A recent EU-Ukrainian Virtual Roundtable on Energy Transition recommended similarly:

[213] EU Commission, Energy Union, available online: <https://ec.europa.eu/energy/topics/energy-strategy/energy-union_en>.

> "1. Systematic and continuous holistic reform of the energy sector and of the electricity market in order to increase its flexibility and security of supply is required; 2. Ukraine needs to select a political vector of future energy sector development: either green just transition or fossil fuels and to go by this way step by step but not making two steps back and one forward. This political vector should coincide with already taken by Ukraine international commitments; 3. Stability of market conditions and no hand management are necessary for future energy transition; 4. Distributed renewable energy development generation should be of specific priority for Ukraine."[214]

Network balancing should also be made easier by joining the European Energy network.

Finally, the EBRD report on updating NDC recommends the following objectives to ensure adaptation of the energy sector:

•increasing manoeuvring capabilities of the interconnection, in particular the allowable number of starts-stops of power units, the introduction of consumer regulators, increased regulatory range of TPP;
•optimising the technological schemes of thermal and nuclear power plants, in particular, the introduction of additional systems for cooling water, increasing the power of water purifier, alignment of the power station capacities with their water requirement;
•adjusting the standards for construction of overhead power lines; transition from the power supply using overhead lines to supply of electricity through underground cables; implementation of standby power; implementation of decentralized supply systems; enhancing the capabilities of repair and emergency services in eliminating accidents aftermath; and
•increasing wire section, primarily the main portions of the distribution network; introduction of unloading step-up substations.

B. Climate Change Adaptation and Resilience for Agriculture

Ukraine's agricultural sector

Agriculture is one of the key sectors of the economy in Ukraine, with 70% of Ukrainian territory consisting of arable land and 66% of this covered by some of the most fertile soils in the world (black earth). Overall, agriculture's share of Ukrainian GDP was 14,4% in 2016. Further, most of the Ukrainian rural population relies on smallholder farming for industry and subsistence. Major changes in soil and subsequent harvests due to climate change will deeply affect the majority of the Ukrainian population, especially the most vulnerable.

Additionally, a key concern emerging in Ukraine involves the lifting of a moratorium on the sale of agricultural land. At present, much agricultural land is under lease by large agri-industrial

[214] Oksana Aliieva, Does the New Memorandum Break the Deadlock for Renewables in Ukraine? Boell, 29 June 2020, available online: <https://ua.boell.org/en/2020/06/29/does-new-memorandum-break-deadlock-renewables-ukraine>.

corporations who exhaust lands during the period of lease and do not consider long term concerns about the quality of soil relevant, as they do not own the land. Depending on the course of this reform (i.e. full or partial cancellation of the moratorium) there will be new policies as to how landowners should treat the soil. In this context, it would be important to incorporate climate change considerations in the national strategy on lifting the moratorium in order to anticipate all possible climate change scenarios in light of new land ownership structure (i.e. small farms vs. large corporations).

Table 3. Key Climate Risks for the Agricultural Industry of Ukraine

Climate change risk	Consequence	Opportunity for business	Legislative measures
Less water in Southern parts of Ukraine	Potential loss of 70% of crops	Creation of new water-efficient technologies and companies	Increase efficiency of water usage; change the criteria for stimulation of business and give more support and privileges to "climate friendly companies"
Volatile weather (from very cold to very warm and vice versa)	Loss of certain types of crops	Develop new weather-resistant technologies to grow crops	Provide privileges/stimulation for development of new climate change related agro-technologies
	Small business is more vulnerable to the loss of crops, hence, large corporations prevailing in the market	Create innovative business governance models where small business can survive volatile weather (for example, creation of energy cooperatives where loss of crop can be compensated with other agro-related activities, such as energy production (biomass))	Stimulate development of small farming, particularly in line with ongoing land reform (i.e. cancellation of moratorium on the sale of agricultural land)
Longer period for insect's activity due to earlier start of warm weather	Decrease of forests and some crops	Larger demand for agro-chemicals	Since there will be an increase in usage of agro-chemicals which also have negative impacts on climate, there will be a need to support more sustainable agro-chemicals
Change of the river landscape	Change of the fish fauna	Creation of fish farms, diversifying fish products	Control minimal water usage

There are few national regulations governing how the agricultural sector plans to respond to climate change. One of the most comprehensive documents is the Decree of the Cabinet of Ministries of Ukraine "On approval of the 2013 Concept of the Development Strategy for the Agricultural Sector through 2020". However, it does not carefully address the risks, opportunities

or eventualities of climate change. The National Plan mentions the necessity for development of the strategy for adaptation of agriculture to climate change, but also provides limited guidance.

Several key donors, however, have provided financing for important analytical studies that assess opportunities to reform state policy towards facilitation of climate change adaptation in Ukraine's agricultural sector. For instance, the Food and Agriculture Organisation of the UN has developed the *Draft Strategy for Climate Change Adaptation of the Agriculture, Forest and Fish Industry by 2030*, which also covers the implementation programme for this strategy until 2023. The main concept of the draft centres on "climate smart agriculture". The key recommendations from the implementation programme include:

Institutional level: 1) the creation of a coordination and advisory body on issues of climate change within the Ministry of Agriculture; 2) the creation of coordination working groups on climate change within the regional state administrations; and 3) the development of advisory services for all sectors and levels of government.

Regulatory: 1) the addition of climate change issues to the regional programmes on development of agricultural sphere; 2) the updating of legislation on food security and waste management across all levels of government; and 3) the development of recommendations for food security measures in conditions of climate changes.

Technology and science: 1) the development of biotechnology, breeding and seed production systems and knowledge; 2) the improvement of methods of long-term weather forecasting, including model yields of the main crops, in order to facilitate meaningful adaptation measures; and 3) the improvement of methods of forecasting dangerous weather phenomena for agricultural lands and refinement of methods of forecasting of optimal terms of conducting agrotechnical measures.

Stimulation of innovation and climate change oriented business: 1) the creation of conditions for the effective use of agricultural land; 2) the provision of subsidies to SMEs which use climate change related technology; 3) the development of "green energy" and "climate" credits to incentivize deforestation projects and stimulate biomass projects within agro-companies; 4) the development and use of agricultural insurance; and 5) the use of ISO / TS 14067 GHG for establishing the carbon footprint of products). The text of the draft strategy remains publicly unavailable until approval by the relevant authorities.

Another example is the EBRD project "Support to the Government of Ukraine on updating its nationally determined contribution" that has set some adaptation objectives for the Ukrainian agriculture sector, among which are:

- rational placing the agricultural crops, taking into account shifting the agro-climatic zones;
- providing selection and further cultivation of heat- and drought-tolerant species;
- creation of effective irrigation systems;
- improving the monitoring system for diseases and pests of agricultural plants;

•introducing new species of animals into the country's livestock breeding;
•developing and implementing recommendations on feeds and livestock feeding practices;
•improving the monitoring system for diseases, parasites and pests of animals, strengthening the potential of the veterinary service;
•introducing an ecosystem approach to fishery and aquaculture; and
•restoration and creation of new field-protective forest strips that will be under improved agro-forestry management. Forestry sector objectives, in turn, should be aiming at:

- ⇒ ceasing of forest loss (due to drying, high temperature and other climate change-induced causes);
- ⇒ preventing a spread of pests and fungi infections;
- ⇒ making amendments to various guidelines and rules for forestry, which is important for planting and harvesting of forests;
- ⇒ ensuring permanent process of reforestation and afforestation;
- ⇒ preventing and fighting against forest fires.

Further, the EU has supported a Clima East project which, among other things, is developing the concept of state policy on the adaptation of the Ukrainian agricultural industry to climate change.[215] The key recommendations from this concept paper include: 1) improve legislation which protects soil; 2) monitor legal frameworks for usage of agricultural lands; and 3) ensure implementation of legislation for the protection of biodiversity.

Brief recommendations related to land preservation include changes to or updating of the following laws:

Legislation	General description	Weak sides, problems in practice
Land Code (Articles 187-190)	- covers key tasks for land protection; - recognises the need to fight with degradation of land and loss of soil fertility; - meets the requirements Convention on the fight against Desertification.	- clauses on land degradation and loss of soil fertility are not fully elaborated.
Law of Ukraine "On Land Protection"	- creates a legal basis of rational and ecological use of land resources; - determines the task of the state control.	- there is no effective mechanism of control of soil fertility; - there is no information and consultancy support to land users and landowners on the issues of the rational usage of land.
Law of Ukraine "On State Control of Land Usage"	- defines the main tasks of state control over the use and protection of land, the principles of its implementation, authorised bodies, the procedure for	- the state control system for land use is ineffective (virtually absent), including in the field of monitoring and control of soil fertility;

[215] Clima East. "Development of National Economic Policies for Rural Adaptation to Climate Change in Ukraine" CEEF2016-083-UA (26 April 2017) <http://1067656943.n159491.test.prositehosting.co.uk/wp-content-sec/uploads/2017/05/CEEF-083-UA-final-report-UKR_v7.pdf >, accessed 11 November 2019.

	monitoring the soil fertility, the authority of the central executive body, which ensures the implementation of state policy in the field of control in the agro-industrial complex.	- there are institutional gaps in ensuring reliable supervisory authority; - there are gaps in mechanisms of economic stimulation of landowners and land users for the introduction of soil protection measures, combating desertification and adaptation to climate change, including conservation of degraded land.
Law of Ukraine "On Land Amelioration"	- regulates legal relations in part of hydrotechnical, chemical, agrotechnical, agro-forestry land reclamation relations.	- in practice, there is still much destruction of field-protective forest bands or moratorium/buffer zones; - there are risks and high costs for agrochemical fertilizers and ameliorants; - there is a lack of funds for reclamation measures, and uncontrolled persists (amber).

The Clima East report focuses more on technical and scientific problems of adaptation of agriculture to climate change, rather than legal gaps and relevant detailed solutions. Recommendations to improve relevant policies include to: 1) provide state financial support of the agricultural industry; 2) provide for soil protection, for example through creating a relevant supervisory body and conducting another comprehensive soil investigation and monitoring exercise; and 3) develop the national climate change advisory service, mainly to support small farmers.

C. Climate Adaptation and Resilience in Ukraine's Infrastructure Sector

Municipal planning, strategies and construction

The National Plan mentions the need to develop a state strategy on the adaptation of cities, regions and villages to climate change.[216] The strategy would require reforms to directives and institutions regulating local administrative authorities, and construction legislation, such as changes to city planning, construction permits and general planning of the territory of Ukraine. Such reforms might be important for key reasons, including transparency and participation of non-state actors.

As has been highlighted in recent research reports, the inclusion of municipalities and other forms of local and regional government is essential for the successful implementation of the National Plan. This emphasizes the idea that it is necessary to "define which national stakeholders will be informed and consulted during the drafting process, stakeholders should be reflective of

[216] Rohovenko OV and others, 'The Current Status of the Local Self-Government Reform in Ukraine: Preliminary Conclusions and Outlook' (2017) 8 Journal of Advanced Research in Law and Economics 178.

the variety of supply side and demand side as well as sectors and territories being taken into account."[217]

The abovementioned EBRD project on updating its nationally determined contribution suggests a number of objective tailored for adaptation of the municipal sector, including:

•adapting buildings by using up-to-date technologies and materials, electricity and heat networking upgrades to meet changed heating/cooling demands;
•elimination of uncontrolled disposals, which promote pathogen and disease vectors under hotter temperature;
•building the resilient water supply system (introduction of water efficient technologies and network upgrades to combat water stress; diversification of water sources, improving of water storages, network upgrades/leak reduction); and
•creating the green infrastructure, including urban forestry, urban and peri-urban agriculture, adapting land use toward greening through regulation and planning .

With this in mind, suggestions for policy development in this area stress that "Ukraine's [National Energy and Climate Plan or NECP] should come up with a vision as to how it will see its energy, climate sector and economy developing towards 2030 and meeting the 2030 objectives, what are the goals it will set for itself by sector and how it will achieve them, with a clear understanding of how this will impact the various segments of the economy, the state budget, etc. The document should give a clear view on how best to ensure competitive supplies, energy security, the development of low carbon generation and energy efficiency, market integration and regional cooperation, as well as territorial and social cohesion."[218]

These findings and requirements underline the importance of establishing adaptation and resilience priorities within Ukraine, and ensuring that they take into account the municipal, local and regional levels as well as the national context as a whole. Overall, this necessarily involves the inclusion of non-Party actors in dialogue and engagement. In turn, this correlates to the need to establish compliance review mechanisms at multiple levels of government and sub-government that have sufficient authority to examine the functioning of municipal, local and regional actors as well as multifaceted industries such as construction. Ensuring the incorporation of sub-national governmental apparatuses and multi-faceted industries into a sustainable National Plan requires that there be a dedicated and robust MRV system that is capable of providing oversight of issues that are at once complex and smaller in scale. It is essential that climate financing in Ukraine accommodate such complexities in order to meet all aspects of engaging with municipalities, local governments, regional governments and multi-faceted industries.

[217] Low Carbon Ukraine, Policy Paper [PP 02/2019]: *Developing a National Energy and Climate Plan for Ukraine: Key Objectives, Strategic Questions and Options* (2019) 16.
[218] Ibid.

Climate adaptation and resilience for transportation infrastructure

The Ministry of Infrastructure has prepared the Strategy for Development of Electric Transport in Ukraine. According to this Strategy, Ukraine aims to have at least 15% of electric cars on roads by 2020, as well as the development of electric cars by 2033 and relevant financial mechanisms to stimulate usage and production of electric cars.[219]

However, there have been issues in implementing electric transportation efforts and regulations in Ukraine, particularly in urban areas where there is a bifurcated system of public transportation, using the choice of electric transport or bus transport.[220] In this system, the modes of electric transportation are publicly owned and overseen while the buses are privatised and administered by for-profit entities.[221] As has been noted, in the transportation context, "the environmental challenges of Ukraine are significant and they represent one of the most complex areas for the country to address, given the pressures of continuous economic growth and social transition."[222]

Beyond the local concerns reflected in Ukrainian transportation practices, studies recommend consideration of Ukraine's "urban electric transport in a broader context – regional or local development. The general assumptions of the system that represent the position of the state on transport policy shall be regarded as a macro approach affecting regional development. Concrete implementations at the level of individual cities affect the efficiency of these centres, as well as determine the living conditions therein. As a consequence, they are part of the local development process."[223]

The development of Ukrainian laws regarding electric transportation, especially in urban areas, and the significant policy considerations have been "based on the accessibility of transport services for all population groups, the priority of urban electric transport development in cities with high levels of environmental pollution and spa regions, creating favourable conditions for the development of the production of domestic rolling stock and the profitability of carriers' operations."[224] In the context of electric transportation, Ukraine has been successful in securing financing from several layers of public sources of investment, in addition to other private and international sources in certain instances.[225] Such efforts may provide initial foundations to be built on, in the context of the Paris Agreement and Katowice Outcomes implementation.

The issues highlighted regarding the development and implementation of sustainable transportation infrastructure in Ukraine highlight the importance of engaging non-Party stakeholders, as the ultimate success of these measures relies on the attitudes of individuals and

[219] Rudakevych I, Sitek S and Soczówka A, 'Transformations of Urban Electric Transport in Ukraine After 1991 in the View of Transport Policy' (2019) 26 European Spatial Research and Policy 61.
[220] Ibid 61-62.
[221] Ibid 62.
[222] Ibid.
[223] Ibid.
[224] Ibid 65.
[225] Ibid.

local government systems. In this context, providing a platform of understanding for these constituencies is essential. Similarly, in order to create a minimum level of use and development of adaptive capacities in transportation infrastructure across the country, priority for sustainable transport must be given at the national level. Given the public nature of electric transport infrastructure, in particular, the inclusion of compliance review mechanisms and MRV systems in the laws and policies developed and implemented by Ukraine is vital from a legal, economic and functional perspective. Finally, transportation infrastructure, and particularly the use of electric and other sustainable transportation, needs to be covered by available climate adaptation funding and finance in order to establish a system to meet the current and future needs of Ukrainians. Inclusion on finance schemes to support transition to electric vehicles was identified as a central factor for jurisdictions advancing these efforts.[226]

Climate adaptation and resilience in waste management infrastructure

In 2016, Ukraine generated 11 million tons of household waste, occupying approximately 9 thousand hectares of waste landfills. Around 6% of these landfills are overloaded, with 21% requiring improvement and 30% not meeting established ecological standards.

Ukraine has developed the "National Strategy on Waste Management until 2030", in which it plans to create around 800 stations for waste recycling by 2030, reducing the total amount of household waste disposal from 95% to 30%, as well as create the national registry of waste generation sources.[227] There are at least three legal hurdles impeding proper waste management under current Ukrainian laws and the National Strategy. First, the environmental inspection agencies are not functioning properly and there is a need to ensure a balance in their functions so that they have sufficient control powers but do not become subject to corrupt practices. This would require a shift in legal and regulatory practice and mindset, as until now, the focus of environmental agencies was mainly to control business rather than to protect the environment. Second, the environmental tax is not directed to environmental protection. Further, there is a need to review the way it functions so that those at the local level can have better control of it. And, finally, there is a lack of available business models for waste management. Currently, the only viable model is that of a green tariff for biogas stations, which are located near the landfill sites. Additionally, there is a need to legally ensure the existence and incentives for other businesses in waste management. This business model issue may be resolved by a Draft Law 2207-1-d, which passed the first reading in the Parliament in July 2020.[228]

---

[226] Theo Lieven, "Policy measures to promote electric mobility – A global perspective" Transportation Research Part A 82 (2015), 78-93.

[227] Cabinet of Ministers of Ukraine, "On the Approval of the National Waste Management strategy in Ukraine Until 2030" (Kiev 8 November 2017) < https://zakon.rada.gov.ua/laws/show/820-2017-%D1%80 >, accessed 11 November 2019.

[228] Draft Law on Waste Management <http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=69033>, accessed on 9 September 2020. Even adopting this law in the first reading can be viewed as a huge achievement in the waste management sphere due to numerous, diverse and influential lobby. It has significant innovations for Ukrainian legislation: 1) waste management hierarchy, 2) introduction of an extended producer responsibility system, 3) creating opportunities to attract investment in the construction of waste processing

3.3 Recommendations to Develop the Strategy for Climate Change Adaptation & Resilience for Ukraine

The Ministry of Environmental Protection and Natural Resources of Ukraine is responsible for drafting the country's climate change adaptation strategy.[229] Although a reform office has been created in the Ministry, and one of its tasks was to develop climate change adaptation strategy, this work has not been completed. Subsequently, the reform office is facing changes in view of institutional restructuring. Informal inquiries showed that, with the current resources within the Ministry, experts were able to develop only a skeleton of a strategy. Experts and authorities highlight a lack of expertise to draft a practical strategy. A clear gap in Ukraine is the need to develop an updated climate change adaptation strategy. The Ukrainian government needs assistance in how to use best international practices in this drafting process.

At the same time, the Ministry is actively working to develop the country's second set of NDCs. The EBRD project "Support to the Government of Ukraine on Updating its Nationally Determined Contribution (NDC)," funded by the Swedish International Development Agency (SIDA) and implemented by the Institute for Economics and Forecasting of the National Academy of Sciences of Ukraine, assisted the Government to prepare a report modelling Ukraine's second NDCs (which was published in July 2020). Further, the Ministry is to work on developing effective carbon budgets and sectoral policies and measures for different sectors of the economy, as well as recommendations on the amount of investment needed to achieve the goals of Ukraine's second nationally determined contribution to the Paris Agreement.[230]

There are many further challenges for compliance and enforcement of climate change regulations in Ukraine as the mechanisms for implementation are not systematic. First, the Ukrainian government has not prioritised climate change in the past and instead most governmental reform strategies focused, at most, on green energy development. Second, most climate change efforts produce strategies and plans, with minimum legislation and legally binding responsibility. There is, however, a lack of knowledge, urgency, consistency and expertise in this field. Most of the strategies for climate change adaptation across industries are not written down and there is a need to embed "climate change thinking" into regulators' minds.

---

plants. This also will be a "framework" for regulating specific types of waste (batteries and accumulators, medical waste, organic waste, etc.).

[229] In 2019, it was the Ministry of Environment. However, in August 2019, the new Parliament created a joint Ministry of Energy and Environment ignoring the voice of civil society. A bias towards energy and the appointment of temporary Minister with Energy background resulted in significant environmental budget cutting. After fires in Chernobyl and Zhytomyr region it was decided to separate the ministries again. From the end of May 2020, the Ministry of Environmental Protection and Natural Resource operates as a separate institution. It has even created a special division responsible for adaptation to climate change.

[230] Ministry of Environmental Protection and Natural Resource of Ukraine, "Report on modeling the second nationally determined contribution of Ukraine to the Paris Agreement" (Kyiv, 15 July 2020) <https://menr.gov.ua/news/35546.html>, accessed on 9 September 2020.

One of the ways to achieve this is to add a "climate change checklist" into the regulatory impact assessment (RIA) legislation. There are several regulations in this field, including the Law of Ukraine "On the Principles of State Regulatory Policies in the Sphere of Commercial Activities" and its methodology for carrying out analyses of a regulatory act's impact. The Ukrainian RIA requires considering the following when creating a regulatory act: (a) business impact assessment (i.e. which categories of companies are facing a business impact; how many companies will actually be affected by the proposed legislation; and what are the socio-economic effects); and (b) administrative burden (how many resources and how much money would be required to implement the regulatory act; what are the alternatives for this regulatory decision; what are the expected results). The following questions can be added to the RIA: 1) what are the consequences for energy usage and mobility; 2) what are the consequences for consumption/management of raw materials; 3) what are the consequences waste and emissions into the air, soil and surface water; and 4) what are the consequences for use of the available physical space? Further analysis is required of other good practices, in order to strategically adjust or tailor the Ukrainian RIA to address climate adaptation and resilience, while avoiding additional bureaucracy and motivating regulators to think through climate change filters.[231]

In conclusion, Ukraine's legal and institutional framework for action on climate change, including measures to incentivize investment in adaptation and resilience, has undergone extensive development in recent years. At national and sub-national levels, through a critical assessment, it is possible to identify both innovations, and also challenges and gaps, for the future implementation and incentivisation of scaled up investment in climate adaptation and resilience under the country's NDCs.

3.4 Legal and Institutional Recommendations

Each of the five key elements identified in earlier chapters of this paper can be considered within the context of Ukraine's legislative and institutional frameworks, taking into account the Paris Agreement and the Katowice Outcomes guidance. International legal innovations and good practices from other countries can also be considered as inspiration to incentivise investment in climate adaptation and resilience in the country.

[231] Jacob K and others, "Integrating the Environment in Regulatory Impact Assessments" (The OECD Regulatory Policy Committee 2011). There is a number of best practices on climate change RIA from other countries.

Prioritisation of climate adaptation and resilience

The prioritisation of climate adaptation and resilience, rather than just climate mitigation/emission reductions, has been lacking across Ukraine to date, and there is a need for deeper levels of political commitment to climate adaptation. There are several recommendations that can be made to prioritise climate adaptation and resilience. Ukrainian national plans and policies can include stronger, more coherent policies on climate adaptation and resilience, within and between industries and sectors. Additionally, laws must be introduced to properly and fully implement the policies, plans and strategies that currently abound and can cause detrimental gaps or areas of overlap in law and policy creation and implementation.

Table 4: Legal and Institutional Recommendations to Incentivise Investment in Climate Adaptation and Resilience across Ukraine

Ukraine has started its road towards prioritising climate change adaptation. Currently, there is a Law of Ukraine "On the Core Principles (strategy) of the State Ecological Policy of Ukraine for the Period till 2030". According to the Law, Ukraine confirms its commitment to obligations arising out of the Paris Agreement related to reduction of emissions and thereby adaptation to climate change. This act stimulates domestic companies to reduce greenhouse gas emissions, reduce energy and resource intensity, as well as maintaining such conditions of the climate system which will make it impossible to increase the risks to human health, well-being and the environment as the foundations of state policy. In addition, as one of the expected results in 2030, the legislator expects to have at stake mechanisms for economy decarbonisation and effective legislation to meet the challenges of adaptation. Adaptation to climate change is also in Goal 3 of the Strategic Goals addressed in this Law.[232] Despite the Law's use of the term "adapt to climate change", the measures covered (emissions reduction) identify that this is primarily a mitigation, not adaptation, approach. There is no further progress in legislative regulation of climate change and in particular adaptation of climate change.

[232] Law of Ukraine "On the Core Principles (strategy) of the state ecological policy of Ukraine for the period till 2030", available online: <https://zakon.rada.gov.ua/laws/show/2697-19#Text>.

After ratification of the Paris Agreement back in 2016, the issue of adaptation became a topic of various acts of secondary legislation: Regulations of Cabinet of Ministers. CMU Regulation No. 932-r, dated 7 December 2016, "On approval of the Concept for the Implementation of State Policy in the Field of Climate Change until 2030" sets the grounds for the development of draft laws and other regulations, strategies and action plans for their implementation for various components of public policy in the field of climate change. One of the directions of implementation of the concept is "adapting to climate change, increasing resilience and reducing the risks associated with climate change". It also prescribes that this target shall be performed by several tools:

- "developing and implementing effective measures to adapt to climate change and increase resilience to climate-related risks and natural disasters for health, human life, economic sectors and natural ecosystems;
- development and implementation of a mechanism for the formation of adaptation policy on the principle of local (regional) to national level, giving priority to the actions of those communities and sectors of the economy that are most vulnerable to the effects of climate change;
- identification and implementation of approaches and technologies that provide balanced management of natural ecosystems;
- creation of a nationwide system of risk management due to changes in the frequency and intensity of extreme weather events and natural disasters in Ukraine, as well as migration of people due to climatic factors;
- implementation of transboundary climate change adaptation projects together with neighboring partner countries;
- development and implementation of a medium-term strategy for adaptation to climate change in Ukraine until 2030, coordinated with strategies and plans for the development of economic sectors and regional development strategies."[233]

On 20 December 2019, the Ministry of Energy and Environmental Protection turned to local administrations asking them to include issues of climate prevention and adaptation in regional development strategies for 2021-2027.[234]

In summary, it appears that Ukraine is taking its first steps towards prioritising adaptation and resilience. At the same time, the scope of work that remains should clearly lead to reflecting the issue of adaptation (and not only mitigation) in legislation. There are several potential ways that a change in the legal and institutional context in Ukraine might assist in further ensuring that

[233] Regulation No. 932-r dated December 7, 2016 "On approval of the Concept for the implementation of state policy in the field of climate change until 2030", available online: <https://www.kmu.gov.ua/npas/249573705>.

[234] Letter of the Ministry of Energy and Environment Protection to the local administrations on including the issues of environment and climate to the 2021-2027 Strategies, available online: <https://mepr.gov.ua/files/images/news_2019/24122019/%D0%9B%D0%B8%D1%81%D1%82-%D0%B7%D0%B2%D0%B5%D1%80%D0%BD%D0%B5%D0%BD%D0%BD%D1%8F%20%D0%B4%D0%BE%20%D0%9E%D0%94%D0%90.pdf>.

investment in adaptation and resilience gains even higher priority, alongside mitigation, in the country's plans and policies.

Ukraine may benefit from considering the example of the UK's regulatory reform processes. To ensure that adaptation and resilience is prioritised, RIAs may be one useful tool. In the UK, implementation and mainstreaming of a coherent climate change approach is headed by the Clean Growth Inter-Ministerial Group. Ukraine could look to the UK's Climate Change Act 2008 as one international example of a comprehensive law addressing such issues. The UK added a "climate change checklist" into the RIA legislation, and this may have been instrumental in ensuring that adaptation and resilience, as well as climate mitigation priorities, are taken into account in laws across different sectors. The UK experience in providing a specific "climate change checklist" may serve as a valid option for future consideration by the responsible Ukrainian Ministry. Further, Ukraine might consider focusing more on adaptation, but not only GHG, for EIA, while SEA procedure shall be more specific as to influence documents on adaptation to climate change and resilience. This process should include the integration of climate considerations in the SEA including through establishment of a broad scope, multifaceted review of potential impacts, and integration of expert studies to verify and validate potential effects.

In 2014, the Cabinet of Ministers of Ukraine approved the Concept of Technogenic and Natural Emergency Risk Management[235] in response to, in particular, the high level of natural emergency risks due to global and regional climate change, increased seismic activity, etc., as well as the intensification of man-made impacts and human activities on the natural environment. In 2015, an action plan for the implementation of this Concept was approved, which, in particular, provides for:

- providing information coverage and explanation of management methods and technologies in the field of man-made and natural safety;
- analysis and revision of existing regulations on the compliance of their provisions with the Concept;
- development and adoption of national standards in the field of risk management, which meet international standards in this area;
- development of regulations on the organization of risk management;
- development of sectoral regulations on the application of risk-oriented approaches in the conduct of activities to regulate safety in the field of production;
- development of risk assessment methodology and risk map for certain types of emergencies;
- developing recommendations for the application of risk assessment methods, standards and programs;
- determination of acceptable levels of risk and algorithms for their reduction to the levels used in economically developed countries and specified in the Concept;

[235] Regulation No. 37-r dated January 22, 2014 "On approval of the Concept of Technogenic and Natural Emergency Risk Management", available online: <https://zakon.rada.gov.ua/laws/show/37-2014-%D1%80#n8>.

- analysis of the state of technogenic and natural safety in Ukraine and zoning, taking into account the presence of potentially dangerous objects and dangerous geological, hydrogeological and meteorological phenomena and processes, as well as the risks associated with such phenomena and processes.
- development of a set of economic mechanisms of state regulation in the field of risk management, including those that will provide for the introduction of a system of compulsory risk insurance.
- development of a training course "Risk management in the field of man-made and natural safety" and training of specialists in this field.

Ukraine also ratified the Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context.[236] However, Ukraine needs more legislative regulation and the UK experience may be extremely useful in this regard.

Accountability and oversight mechanisms

Ukraine needs to establish **sound accountability/oversight mechanisms**. As discussed above, this is important to ensure that a robust system of regulation and development is uniformly applied and is responsive to the nation's needs and those of actors within it. Ensuring the incorporation of sub-national governmental actors and multi-faceted industries requires dedicated and robust **governance mechanisms** that all actors are able to use effectively and which is capable of providing oversight of issues that are at once complex and smaller in scale. This reflects the multi-faceted aspects of climate adaptation and resilience activities and the complex system of actors involved in implementing policies. Laws are required to establish systems for coordinating and overseeing the activities of multiple levels of government in order to achieve overall national goals and targets. Ukraine could consider, for instance, creating **coordination working groups on climate change within sectors (at a national level) and within regional state administrations**.

This climate adaption law and governance challenge in the Ukraine relates concretely to the need for accountability and oversight, including review mechanisms that can ensure compliance with the law. In this context, there is a need for **inter-sectoral coherence and horizontal coordination and vertical coordination and communication**.

An Interdepartmental Commission for the Implementation of the United Nations Framework Convention on Climate Change was established back in 1999 in Ukraine.[237] The name and composition of this body have been constantly changing (currently it is called the

[236] Law of Ukraine "Ratification of the Protocol on Strategic Environmental Assessment to the Convention on Environmental Impact Assessment in a Transboundary Context", available online: <https://zakon.rada.gov.ua/laws/show/562-19#Text>.
[237] Resolution of the Cabinet of Ministers of Ukraine No. 583 dated April 14, 1999 "On the Interministerial Commission for Enforcement of the UN Framework Convention on Climate Change". Available at: https://zakon.rada.gov.ua/laws/show/583-99-%D0%BF#Text

Interdepartmental Commission on Climate Change and Ozone Conservation).[238] Unfortunately, meetings of the Interdepartmental Commission (both current and previous ones) are extremely rare and are not characterised by in-depth professional discussions of pressing issues related to climate change adaptation. Moreover, for the first time, the current composition of the Interdepartmental Commission does not include representatives of scientific institutions, but only government officials. At the same time, the National Academy of Sciences (NAS) of Ukraine has established a Council for Coordination of Research on Complex Problems of Environmental Protection and Use of Natural Resources in 1973, which, in 2002, was renamed the Scientific Council of the NAS of Ukraine on Environmental and Sustainable Development.[239] Moreover, in 2016, the Presidium of the NAS of Ukraine established the Coordinating Council of the NAS of Ukraine on issues related to the UN Framework Convention on Climate Change, which also takes care of combating and adapting to climate change.[240]

The Interdepartmental Commission and the Coordinating Council of the NAS of Ukraine on Issues Related to the UN Framework Convention on Climate Change do not cooperate with each other or regional administrations. Rather, cooperation between various ministries and departments, as well as with local authorities on climate adaptation and resilience in Ukraine is manifested only after significant negative consequences caused by natural disasters, such as floods in the Carpathian region[241] or forest fires in Ukraine. In such cases, all stakeholders of various levels involved in dealing with the aftermath of these tragic events were mobiliSed.[242]

In response to this problem, France offers a potential template. In order to generate better inter-sectoral communications, the new 2019 French Law on Energy and the Climate created a High Council for Climate in Chapter IIBIS.

Article L.132-2 of the French law provides:

> "The High Council for Climate, an independent body, shall be placed under the authority of the Prime Minister. In addition to its President, the High Council for Climate shall comprise no more than twelve members chosen for their scientific, technical and economic expertise in the fields of climate and ecosystem sciences, the reduction of greenhouse gas emissions and adaptation and resilience to climate change. The members of the High Council for Climate are appointed by decree for a five-year term, renewable

[238] Resolution of the Cabinet of Ministers of Ukraine No. 879 dated September 23, 2020 "On the Interministerial Commission on Climate Change and Ozone Depletion". Available at: https://zakon.rada.gov.ua/laws/show/879-2020-%D0%BF#n11

[239] Resolution of the Presidium of the Academy of Sciences of the USSR No. 224 dated June 1, 1973. Available at: http://www.nas.gov.ua/text/QuestionsProtectionNature/%D0%9D%D0%B0%D1%83%D0%BA%D0%BE%D0%B2%D0%B0%20%D1%80%D0%B0%D0%B4%D0%B0.pdf

[240] Resolution of the Presidium of the National Academy of Sciences of Ukraine No. 61 dated March 2, 2016. Available at: http://www.nas.gov.ua/text/QuestionsProtectionNature/KoordRada_Klimat.pdf

[241] The acute phase of flood elimination in the western regions will last 10 days. Available at: https://www.dsns.gov.ua/ua/Ostanni-novini/110347.html

[242] The largest forest fires in Ukraine. Available at: https://www.slovoidilo.ua/2020/07/08/infografika/suspilstvo/najmasshtabnishi-lisovi-pozhezhi-ukrayini

> once. When a member ceases to hold office, a new member is appointed, after advice from the President of the High Council for Climate, for the remainder of the term to be established. The members of the High Council for Climate shall not seek or receive any instructions from the Government or any other public or private person in the performance of their duties."[243]

The French law makes it clear that members are chosen to serve in the advisory High Council for their expertise (for example on adaptation or resilience) with the intention of making their findings more credible and, crucially, independent. In this sense, the High Council shares similarities with the highly credible Climate Change Committee in the UK. Having independent institutions can increase government transparency and inter-sectoral communication.

Taking into account the experience of France and the UK, it may also be appropriate to create a High Council for Climate for scientific, technical and economic expertise in the fields of climate and ecosystem sciences, the reduction of greenhouse gas emissions and adaptation and resilience to climate change in the Ukraine. As in France, the members of such a High Council for Climate would not seek or receive any instructions from the Government or any other public or private person in the performance of their duties. The High Council for Climate would also coordinate the work of the Interdepartmental Commission and the Coordinating Council of the NAS of Ukraine on issues related to the UN Framework Convention on Climate Change.

Denmark provides another potential template for improving vertical coordination through legal reform in the Ukraine. In 2013, after mandating municipality adaptation action plans, the Danish Government established a national task force with detailed and specific expertise in local adaptation issues. The task force developed web-based mapping of flood, rainfall and storm-surge risk for various time horizons modelled according to IPCC 2007 scenarios. Adaptation, flooding and erosion specialists provide the Danish Environmental Protection Agency and Coastal Authority with advice, guidance, support, and help to implement adaptation solutions.

This example provides Ukraine with a potential roadmap of how to connect national climate change adaptation issues to their practical implementation at the local level. Local authorities are less able to address the effects of climate change and develop a clear system for interacting with and cooperating with the Government of Ukraine and/or central authorities. Through the Danish model, such authorities will have significant results not only in addressing climate adaptation and resilience, but also in early warning. In addition, it is important in such situations to provide local authorities not only financial assistance, but also scientific, technical and economic expertise, as mostly highly qualified specialists in these fields exist only in the capital of Ukraine.

---

[243] 2019 French Law on Energy and Climate, <https://www.legifrance.gouv.fr/download/pdf?id=v0Gd9wIlQmOzErIvM2NH0IstvrbVw7vibSIX3L_C8eE=>.

Transparency and reporting frameworks

Ukraine has made further progress in establishing more effective communication and reporting on climate adaptation and resilience, taking into account areas of opportunity to strengthen **open, precautionary and robust systems of assessment, monitoring, reporting and verification (MRV).** In addition, however, Ukraine must still establish rules and institutions for sectoral and cross-cutting monitoring, reporting and verification (MRV) systems, and improving vertical integration between municipal, regional and national data collection and reporting. Ukraine may also activate Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) laws to address these concerns.

Ukraine has a number of open registers to review information. However, sometimes these registers are not detailed or complex enough, which makes it hard to compare different data. One of the country's successful reforms in the area of complex monitoring systems is the "Inspection portal" – a test module for planning measures of state supervision (control) and collecting information to launch an integrated automated system of state supervision (control) introduced in 2018.[244] This example could be an inspiration towards creating a unified system of monitoring and verification for environment in general and climate change in particular. Further, another significant step worth mentioning was the adoption of Law of Ukraine "On the Principles of Monitoring, Reporting and Verification of Greenhouse Gas Emissions". While adopted in December 2019, the system was only introduced in 2021.[245] Further, there is a draft law "On Prevention, Reduction and Control of Industrial Pollution" brought to the Parliament on September 29, 2020 by the Government.[246] This draft law aims at completely changing the system of permits and verification of emissions amount. However, we should mention that the first version of the draft Law "On State Budget for 2021" ignores the financial needs of the system (e.g. personnel, equipment).[247] While the Environmental Committee of the Parliament requested to add a new financial program for monitoring system, the result is not clear for now. Certainly, a wider public discussion shall serve as an effective tool to support and even direct these changes. Therefore, it could be valuable to explore the experience of Germany and other countries that have a developed climate protection reporting. Despite this being primarily a climate change mitigation tool, it is of a huge significance for adaptation as well because it allows Ukraine to understand real conditions and real risks.

These types of problems have also been addressed in Germany through legal and governance reform, which might also be of interest to Ukraine. The German Federal Environment Ministry is under an obligation to produce an annual report under its Climate Action Programme. This "climate action report" contains mainly important mitigation information. The climate action

[244] Inspection portal Official Website, available online at: <https://inspections.gov.ua/>.
[245] Law of Ukraine "On the principles of monitoring, reporting and verification of greenhouse gas emissions", available online: <https://zakon.rada.gov.ua/laws/show/377-20#Text>.
[246] Draft Law "On prevention, reduction and control of industrial pollution", available online: <http://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=70077>.
[247] Draft Law "On State Budget for 2021", available online: <https://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=69938>.

report in turn is then incorporated by the Federal Economic Ministry in its own annual report on energy transitions. Concrete legal rules regulate the collection and use of data and projections are done in coordination with civil society groups.[248] Adaptation is dealt with regularly in the progress reports for the German Adaptation Strategy for climate change.[249] The first one was adopted in 2015[250] and the second one in 2019. These reports are now enshrined as legal obligations. The publication of scientific assessment on the climate performance of Germany has generated important public discussions in Germany. The Government is consulting extensively before these reports are finalised. The scientific veracity is further enhanced by relying on several expert committees advising the government from environmental experts to economic experts. Due to significant stakeholder engagement, the mitigation and adaptation reports also generate public discussions about the level of ambition and innovative policy proposals. The legal obligation by Government actors to take the reports into account further strengthens their public reception and generally tries to avoid becoming a box-ticking exercise. A good example is the 2019 Monitoring Report on the German Strategy for Adaptation to Climate Change by the Inter-ministerial Working Group on Adaptation to Climate Change.[251]

As a further potentially relevant way forward on transparency and reporting challenges for adaptation and resilience, Ukraine could also benefit from review of the mechanisms for compliance and oversight, such as the country's Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) rules. In the Ukrainian context, it is recommended that EIAs and SEAs are streamlined into coherent, integrated instruments that can be used to factor climate change into impact assessment procedures, helping to evaluate adherence to the law and accountability of government agencies and private sector actors. A broadly applicable mechanism such as the EIA or SEA may also reduce redundancies in reporting and ensure that essential issues in an application for development, such as lack of adequate resilience to climate impacts, are not missed. Through regulatory impact assessment (RIA) elements of updated EIA or SEA plans, policies and laws may be tailored to explicitly reflect the needs of municipalities and regions in Ukraine and to thoroughly reflect the complex nature and needs of climate adaptation and resilience. It is also recommended that Ukraine include non-Party stakeholders in mechanisms such as EIAs and SEAs. This ensures that all impacted constituencies can offer insights into potential challenges and are given a voice and an opportunity for participation.

---

248 BMU, Aktionsprogramm Klimaschutz 2020 https://www.bmu.de/fileadmin/Daten_BMU/Pools/Broschueren/aktionsprogramm_klimaschutz_2020_broschuere_en_bf.pdf p 75.

249 German Government, Deutsche Anpassungsstrategie, https://www.bmu.de/fileadmin/bmu-import/files/pdfs/allgemein/application/pdf/das_gesamt_bf.pdf

250 German Government, Fortschrittsbericht zur Anpassungsstrategie, https://www.bmu.de/fileadmin/Daten_BMU/Download_PDF/Klimaschutz/klimawandel_das_fortschrittsbericht_bf.pdf.

251 2019 Monitoring Report on the German Strategy for Adaptation to Climate Change Report by the Interministerial Working Group on Adaptation to Climate Change, https://www.umweltbundesamt.de/sites/default/files/medien/421/publikationen/das_2019_monitoring_report_bf.pdf.

Ukraine introduced EIA and SEA mechanisms in 2017 and 2018, respectively, by adopting the legislative acts. The Ukrainian Law on EIA includes specific reference to the impact on climate. However, it still primarily focuses on climate mitigation.[252] At the same time, the Ukrainian Law of SEA ignores making climate change a specific criterion for accessing consequences of implementing state documents just mentioning it as one of the environmental consequences (in the definition hereof).[253] While certain stakeholders criticize these laws, the core issue with EIA and SEA remains the secondary legislation. There are significant drawbacks with developing all the documents necessary to ensure sufficient guidance of the procedures. Among the factors giving rise to such delay are both objective and subjective implications, e.g. reorganization of the Ministry and change of heads of the latter combined with lack of experience and the influence of big business.

Accessing and managing climate finance

Ukraine has **taken initial steps towards accessing and managing climate finance**, including meeting conditions of access to the Adaptation Fund and the Green Climate Fund. In the context of electric transportation, Ukraine has been successful in securing financing from several layers

[252] Law of Ukraine "On Environment Impact Assessment". Available at: <https://zakon.rada.gov.ua/laws/show/2059-19#Text>. See Article 6, which reads:

> **Article 6. Environmental Impact Assessment Report**
>
> 1. An economic entity shall ensure the preparation of an environmental impact assessment report and shall be responsible for the accuracy of the information provided in the report in accordance with the law.
>
> 2. The environmental impact assessment report shall include:
>
> […]
>
> 4) a description of environmental factors that are likely to be affected by the planned activity and its alternatives, including public health, fauna, flora, biodiversity, land (including land acquisition), soil, water, air, **climatic factors (including climate change and greenhouse gas emissions)**, tangible objects, including architectural, archaeological and cultural heritage, landscape, socio-economic conditions and the interrelationships between these factors
>
> […]
>
> 5) description and assessment of possible environmental impact of the planned activity, in particular the magnitude and scale of such impact (area and population that may be affected), nature (if available - transboundary), intensity and complexity, probability, expected start, duration, frequency and inevitability of impact (including direct and any indirect, collateral, cumulative, transboundary, short-term, medium-term and long-term, permanent and temporary, positive and negative impact), due to:
>
> […]
>
> the impact of planned activities on climate, including the nature and extent of greenhouse gas emissions, and the sensitivity of activities to climate change;

[253] Law of Ukraine "On strategic ecological assessment. Available at: <https://zakon.rada.gov.ua/laws/show/2354-19#Text>. Article 1 reads:

> Article 1. Definition of terms
>
> 1. In this Law, the following terms are used in the following meaning:
>
> […]
>
> 6) consequences for the environment, including for public health, - any probable consequences for flora, fauna, biodiversity, soil, subsoil, climate, air, water, landscape, natural territories and objects, safety of life of the population and his health, tangible assets, cultural heritage sites and the interaction of these factors;

of public sources of investment, in addition to other private and international sources in certain instances. Such efforts may provide initial foundations to build on. Key sectors, such as the energy sector, should be regulated in ways that support their efficiency and seek to ensure that they are in an optimal position to apply for and receive climate financing and climate investment.

Ukraine could create new financial instruments for public-private partnerships in climate change projects, particularly experimenting with progressive financing mechanisms that seek to stimulate businesses in their responses to climate change. Ukraine could also consider legal and institutional reforms to ensure financial oversight and financial reporting requirements are included as key aspects of national compliance reviews so that there is an existing national system to ensure that bankable, accountable projects use donor and Ukrainian funds effectively.

There are new forms of PPPs that countries can employ to help the insurance sector in their effort to adapt to climate change and ensure greater resilience to climate related risks.[254] An interesting example comes from Denmark. Its public "Storm Council" provides flood insurance for major incidents and disasters. It is a body that unites different stakeholders and allows for innovative interaction aimed at common goal (i.e. the provision of storm surge and fluvial flood insurance). The EU Commission reports that in recent years the Storm Council benefitted from the greater involvement of private sector insurers. The Council decides, "whether a storm surge has taken place. The Council also handles cases involving compensation following flooding from waterways and lakes. In addition, the Council makes decisions in cases concerning subsidies for reforestation after storms."[255] The pay-outs in cases of storm damage, for example through storm surges, is financed by a storm tax which constitutes a small proportion of the fire insurance payments to private insurance companies for home and fire insurances. The Council is appointed by the Business Minister in Denmark, but has representatives from central government, local government and insurance companies.[256]

The Danish example clearly shows how important it is to combine the efforts of central government, local government and insurance companies to fairly compensate for losses in the event of storm damage. This experience can be adopted by Ukraine. In Ukraine, the Government or local temporary commissions for the elimination of the consequences of a natural disaster are formed only after such disasters have occurred. Instead, it is important to have a permanent organization/institution that will take care not only of loss compensation, but also of prevention and response to natural disasters, including those related to climate change. It is important that

[254] See European Commission - DG Climate Action, Using insurance in adaptation to climate change (Brussels, 2018), available online: <https://ec.europa.eu/clima/sites/clima/files/docs/insurance_adaptation_en.pdf>.
[255] Danish Storm Council, available online: <https://www.danishstormcouncil.dk/>.
[256] "Storm Council - A Council shall be set up consisting of one chairman and seven other members and alternates for them. The Minister for Business appoints the President of the Council, the Vice-President of the Council, who represents the Ministry of Business, and 6 other members of the council representing the following authorities and organisations: Ministry of Environment and Food, Ministry of Energy, Supply and Climate, Ministry of Justice, KL, Insurance & Pensions and Consumer Council. These are appointed by the Coastal Directorate and the Environmental Protection Agency respectively. The special experts shall not have the right to vote." Sec. 21 Law on Storm and Storm Surges, available online: <https://www.retsinformation.dk/eli/lta/2018/28>.

this permanent organization/institution has financial instruments that are used on the principles of PPPs.

Public financing for adaptation and resilience also remains a challenge in Ukraine. In this context, a concrete question about relationships with the Green Climate Fund and how other similar countries that are not OECD countries, and in general how climate finance could be made easier to access, remains open. There are certain limited funds available but a successful concrete instrument or legal obligation to finance adaptation measures or resilience has yet to be drafted. Financing for such reforms might, among other options, be available from different international sources, including for instance EBRD.[257]

Current access to "green funds" also strongly relies on general economic condition and relations of Ukraine with its financial partners (IMF, EBRD, etc.). While it has had problems accessing these organizations, Ukraine recently received EUR 10 mln from the European Union for "Climate package for a sustainable economy: (CACE) in Ukraine" after entering into an agreement on October 6, 2020. The package is aimed at Ukraine's accession to the EU Green Deal.[258] It is very important to understand that the EU itself has undergone changes in how it considers climate change and has shifted from primarily mitigation, fixed in the current version of the Action Plan, to a "more ambitious EU strategy on adaptation to climate change".[259] It is envisaged that a new plan will be adopted in the beginning of 2021.[260] Ukraine, as a part of the EU integration mechanism, will likely shift from mitigation goals in favour of adaptation.

In addition, the Ukrainian Ministry of Environmental Protection and Natural Resources tries to ensure that financing is accountable and complies with transparency rules. The Ministry set up a

---

[257] As one example, the EBRD Green Economy Transition (GET) programme aims to fund EBRD countries to build green, low carbon and resilient economies. The Bank aims to increase their green financing up to a least 50% by 2025, saving millions of tons of GHG emissions in the process, aiming for a "systemic approach in supporting the transition to low-carbon and resilient economies" through:

1. "Assessing projects in relation to the principles of international climate agreements, principally the Paris Agreement;
2. Enhancing policy engagement for the development of long-term low carbon strategies and greening of financial systems; and

Scaling investments across a set of priority environmental, climate mitigation and resilience theme, including greening the financial sector, energy systems, industrial decarbonisation, cities and environmental infrastructure, sustainable food systems, green buildings and sustainable connectivity. See EBRD, Green Economy Transition, <https://www.ebrd.com/what-we-do/get.html>.

[258] Olha Stefanishyna signed three agreements with the EU to the tune of €60 million, available at: <https://www.kmu.gov.ua/en/news/olga-stefanishina-pidpisala-tri-ugodi-z-yes-na-zagalnu-sumu-60-mln-yevro>

[259] Communication From The Commission To The European Parliament, The European Council, The Council, The European Economic And Social Committee And The Committee Of The Regions. The European Green Deal. COM/2019/640 final. Available at: <https://eur-lex.europa.eu/legal-content/EN/TXT/?qid=1596443911913&uri=CELEX:52019DC0640#document2> at Clause 2.1.1.

[260] EU climate action and the European Green Deal. Available at: <https://ec.europa.eu/clima/policies/eu-climate-action_en#:~:text=In%20early%202021%2C%20the%20Commission,change%20into%20their%20risk%20management>.

sectoral working group to coordinate international technical assistance that includes more than 50 members from various international donors. The first meeting of the group took place on September 30, 2020. The Deputy Minister informed that in total there are 7 priorities and adaptation to climate change is one of them.[261] This could be one of the ways to increase Ukrainian access to finance.

As a further example of how to potentially match international finance with national resources which flow to local communities, the Scottish experience could also be instructive. The Scottish government has set up the so-called "Climate Challenge Fund." It supports communities across the country to take action on climate change and most recently also includes action for climate impact adaptation and resilience. The Scottish government has announced a regional network of community climate support hubs in order to support "communities in making the transition to low carbon and climate resilient living." These hubs also aim to facilitate better networking, joined-up approaches and supporting the project legacy.[262] The fund has a close relationship with the Community Empowerment (Scotland) Act 2015, which allows for local community planning to be supported by the Scottish government.[263]

The idea of creating a Climate Challenge Fund arose in Ukraine a long time ago, but has not yet been implemented due to institutional gaps and lack of funds. The task of transition to low carbon and climate resilient living requires significant efforts from both the national government and local communities. However, most communities are unable to achieve such ambitious goals on their own, and the creation of a Climate Challenge Fund, which would be replenished from both state and local budgets, including through carbon tax reform and possibly through international

---

[261] Ministry of Environmental Protection and Natural Resources set up a sectoral working group <https://www.facebook.com/EnvironmentalofUkraine/posts/151636359934245>.

[262] Government of Scotland, Climate Challenge Fund, available online: <https://www.gov.scot/policies/climate-change/climate-challenge-fund/#:~:text=The%20Climate%20Challenge%20Fund%20supports,take%20action%20on%20climate%20change.&text=The%20fund%20supports%20community%2Dled,legacy%20of%20low%2Dcarbon%20behaviour>.

[263] Community Empowerment (Scotland) Act 2015, Sec. 4 - Community planning:

> (1) Each local authority and the persons listed in schedule 1 must carry out planning for the area of the local authority for the purpose mentioned in subsection (2) ("community planning").
>
> (2) The purpose is improvement in the achievement of outcomes resulting from, or contributed to by, the provision of services delivered by or on behalf of the local authority or the persons listed in schedule 1.
>
> (3) In carrying out community planning, the local authority and the persons listed in schedule 1 must—
>
> (a) participate with each other, and
>
> (b) participate with any community body (as mentioned in paragraph (c) of subsection (6)) in such a way as to enable that body to participate in community planning to the extent mentioned in that paragraph.
>
> (4) Outcomes of the type mentioned in subsection (2) ("local outcomes") must be consistent with the national outcomes determined under section 1(1) or revised under section 2(5)(c).
>
> (5) In carrying out the functions conferred on them by this Part in relation to the area of a local authority—
>
> (a) the local authority for the area and the persons listed in schedule 1 are collectively referred to in this Part as a "community planning partnership", and
>
> (b) the authority and each such person is referred to in this Part as a "community planning partner".

aid or international climate funds, would allow for reliable source of funding for climate mitigation, adaptation and resilience measures. This Scottish model could be quite useful for Ukraine and should be studied in more detail.

The City of Toronto represents another innovative local legal and governance innovation to attract and increase financing by involving the private sector in climate adaptation.[264] The City of Toronto's Council adopted a Climate Change, Clean Air and Sustainable Energy Action Plan in 2007. It aimed to include measures to address so-called Urban Heat Islands, i.e. the increased risks for particularly vulnerable urban populations and people working outdoors. This phenomenon can happen when infrastructure instead of the natural environment absorbs and retains heat. The City decreed a doubling of the tree canopy and incentivized tree planting on private land through design and construction prescriptions for new developments, such as green roofs and non-heat retaining surfaces. For example, its "Eco-Roof Incentive Program" funded over 100 green and cool roofs on buildings across the city with partial funding awards for private organisations willing to fund these city adaptation measures.[265]

There are significant drawbacks in state financing of climate change adaptation projects in Ukraine. This may be explained by various factors, which are objective (influence of COVID-19 on economy as well as general condition of Ukrainian economy with the planned budget deficit in 2021 in the amount of UAH 270 billion[266] (approx. EUR 8,128 billion) and subjective (e.g. the need to transform coal regions, a lack of universal understanding of the problem). Meanwhile, both the Ministry and the Ecology Committee in the Parliament are conscious of the real needs and actively battle for sufficient and fair financing.

This being said, should funds be available, there is also a challenge of how state budget lines can be ringfenced for climate adaptation and resilience funding. In this respect, an interesting example is provided by the legal reform process in Ireland, which has a budget law that may provide a useful example. After the Irish Climate Action Plan from 2019, the government incorporated and ringfenced certain climate activities in its 2020 budget. It increased the carbon tax by €6 (aiming to reach €80 by 2030). This carbon tax is ringfenced to support mitigation measures, but there are also provisions explicitly intended to protect those most vulnerable and enable a just transition, which is an important part of adaptation and resilience.[267]

Strengthening the engagement of non-government stakeholders

[264] See Druce, L., Moslener, U., Gruening, C., Pauw, W.P. and Connell, R., 2016. Demystifying adaptation finance for the private sector (Geneva, UNEP 2016).

[265] City of Toronto, Green Your Roof programme, <https://www.toronto.ca/services-payments/water-environment/environmental-grants-incentives/green-your-roof/>.

[266] Draft Law "On State Budget for 2021". Available at: <https://w1.c1.rada.gov.ua/pls/zweb2/webproc4_1?pf3511=69938>.

[267] Eversheds, How the Climate has been addressed in the 2020 Budget, <https://www.lexology.com/library/detail.aspx?g=10035d13-ba00-44d8-afcf-5407856c6f87>.

Finally, Ukraine does face certain challenges **in strengthening the engagement of non-governmental stakeholders, including through strengthening public-private enterprise arrangements across different sectors with leadership benchmarking and recognition**. It could consider improving civil society and private sector engagement mechanisms and supporting citizen-led public awareness campaigns and climate action initiatives across local, regional and national levels. For example, sustainable transportation infrastructure in the Ukraine highlights the importance of engaging non-Party stakeholders, as the ultimate success of these measures relies on the uptake of these modes of transport by individuals and local government systems. In this context, providing a platform of understanding for these constituencies is essential. Policies and laws in Ukraine can also incorporate multiple levels and identities of actors and stakeholders within their terms and requirements in order to properly and thoroughly regulate industries and growth.

As identified, stakeholder engagement on climate adaptation and resilience remains a challenge in Ukraine. That said, Ukraine itself also has valuable experience in the sphere of cooperation with stakeholders, including collaborations that are supported by laws and regulations. For instance, according to Regulation of CMU No. 996 dated November 3, 2010 "On Ensuring Public Participation in the Formation and Implementation of Public Policy" each state institution should have a public council.[268] The Ministry of Environmental Protection and Natural Resources launched the process of forming the new council after the reorganization on July 30, 2020.[269] The selection process underway and is expected to finish at the end of November.[270]

While NGOs are very active, there remains real hesitation from the private sector and questions on how private sector actors should become involved in the adaptation and resilience debate, if at all, remain alive. Many companies feel this is the government's responsibility. The Ministry seems to be conscious about this problem of private sector cooperation. On October 2, 2020, the Minister signed a cooperation agreement with the American Chamber of Commerce - one of local

[268] Regulation of CMU No. 996 dated November 3, 2010 "On ensuring public participation in the formation and implementation of public policy", available online at: <https://zakon.rada.gov.ua/laws/show/996-2010-%D0%BF#Text>:

> "4. Ministries, other central executive institutions, the Council of Ministers of the Autonomous Republic of Crimea, regional, Kyiv and Sevastopol city, district, district in Kyiv and Sevastopol state administrations shall:
> - take measures to hold within three months from the date of entry into force of this resolution the constituent assembly with the participation of civil society institutions for the formation of public councils at central and local executive institutions and ensure their functioning;
> - before the formation of these councils to ensure the functioning of public councils formed before the entry into force of this resolution;
> - in accordance with the legislation, to take into account the position of trade unions and their associations, employers' organizations and their associations when making decisions on issues related to the formation and implementation of socio-economic policy and regulation of social and labor relations".

[269] The process of forming a new public council at the Ministry of Environmental Protection and Natural Resources has been launched, available online at: <https://mepr.gov.ua/news/35663.html>.

[270] Notification on the procedure for submitting applications for participation in the constituent assembly for the formation of the public council at the Ministry of Environmental Protection and Natural Resources of Ukraine, available online at: <https://mepr.gov.ua/news/36034.html>.

business associations. It was declared that the main object of the agreement was to cooperate in determining the key provisions of the regulation of the packaging waste management system, taking into account the principles of the hierarchy of waste management and extended producer responsibility.[271] It should be noted, that such aspiration cooperation is common for not every institution in Ukraine.

For successful engagement, a proactive approach on the part of key sectors and the national and sub-national governments is necessary to engage key constituencies in generating advice and supporting government action. Indeed, in 2019, Germany established a Scientific Expert Council advising the federal government on global environmental challenges. Interestingly, around the same time in Germany, the involvement of different Ministries, such as Agriculture, the Economic Ministry as well as the Ministry of Research and Education, has also helped different stakeholders from the business sector to come together.[272] A part of stakeholder engagement is now enshrined in the Climate Act 2019. Section 9 of the Act legislates for climate protection programmes. These require the Cabinet, in regular intervals, to decide how the long-term climate objective can be achieved and that the programme has to be based on the best available estimates of GHG reductions. The environmental, social and economic effects also have to be evaluated. Most interestingly the third paragraph of Sec. 9 determines that: "For each climate protection programme, the Federal Government shall obtain in a public consultation procedure federal states, municipalities, business associations and civil society organizations as well as the science platform climate protection and scientific advisory bodies of the German government."[273] As such, business associations are included as public consultees in the climate programme decision-making process, giving them special access and information rights in any mandated consultations for changes in measures. This inclusive approach may have facilitated the success of the first climate protection programme for 2030.[274]

In Ukraine, the practice of establishing Working Groups in the preparation of strategically important programs, strategies, plans, etc., with the involvement of key stakeholders from government agencies, business associations and national and local civil society organizations is widespread. One such example is the Working Group on the Development of Ukraine's Second NDCs to the Paris Agreement,[275] which includes more than 50 representatives of governmental

[271] The Ministry of Environmental Protection and Natural Resources signs the agreement with the ACC. Available at: <https://www.facebook.com/EnvironmentalofUkraine/posts/152254316539116>.
[272] See M Rotter et al. & Umweltbundesamt, Stakeholder participation in adaptation to climate change - lessons and experience from Germany, 2013, <https://www.researchgate.net/profile/Jesko_Hirschfeld/publication/276937174_Stakeholder_Participation_in_Adaptation_to_Climate_Change_-_Lessons_and_Experience_from_Germany/links/555c64cd08ae91e75e76f3b2/Stakeholder-Participation-in-Adaptation-to-Climate-Change-Lessons-and-Experience-from-Germany.pdf>.
[273] Germany, Federal Climate Act 2019, <http://www.gesetze-im-internet.de/ksg/KSG.pdf>.
[274] Germany, Federal Climate Action Programme 2030, https://www.bundesregierung.de/breg-en/issues/climate-action.
[275] The first meeting of the working group on the development of the second National-Defined Contribution (NDC) of Ukraine to the Paris Agreement. Available at: https://mepr.gov.ua/news/33079.html

and non-governmental organizations, business associations and companies and has already held five meetings, including with the Expert Council at the Ministry of Energy of Ukraine.[276]

NGOs in Ukraine are quite active in climate change and adaptation and offer constructive proposals to address issues and set ambitious goals. However, the above German experience could be useful, especially as regards the commitment of the Cabinet of Ministers to make decisions based on the best available science-based estimates of GHG emission reductions and adaptation to climate change, with environmental, social and economic implications. It is also important that the Ukraine pay close attention to the establishment of a scientific platform on climate protection and scientific advisory bodies, as the Ukrainian Interdepartmental Commission on Climate Change and Ozone Conservation[277] no longer includes representatives of scientific institutions, but only government officials. Further, Ukraine has not approved the State Scientific and Technical Program in the field of climate change as required by the Action Plan for the implementation of the Concept for the implementation of state policy in the field of climate change until 2030.[278]

Similarly, Ukraine has demonstrated various examples of effective cooperation between state institutions, business and civil society. For instance, at the beginning of the armed aggression in the eastern part of Ukraine in 2014, the state army was in such a drastic condition that it could not respond to the posed challenge. There was lack of both people and necessary equipment. [279] Active mobilization of Ukrainians by 2020 led to the emergence of 37 volunteer battalions combatting for territorial integrity and sovereignty of Ukraine.[280] These people played a significant part in resisting active attacks of proxies of the Russian Federation at the beginning of war. Meanwhile, there was also a shortage of basic goods, ammunition and equipment. Starting in 2014, people with different backgrounds and socially responsible businesses instituted volunteer donations systems, purchased basic necessities, weapons, etc., which were delivered to the front.[281] In addition, several NGOs were created focusing on protection of rights of veterans and advocating the rights of volunteering soldiers in the Parliament, government and other institutions. For instance, Legal Hundred was instituted in summer of 2014 as a group of caring volunteer lawyers on Facebook. They initially provided assistance to wounded participants

[276] The second nationally determined contribution of Ukraine to the Paris Climate Agreement was discussed within the extended meeting of the Expert Council of the Ministry of Energy. Available at: http://mpe.kmu.gov.ua/minugol/control/publish/article?art_id=245446311

[277] Resolution of the Cabinet of Ministers of Ukraine No. 879 dated September 23, 2020 "On the Interministerial Commission on Climate Change and Ozone Depletion". Available at: https://zakon.rada.gov.ua/laws/show/879-2020-%D0%BF#n11

[278] Resolution of the Cabinet of Ministers of Ukraine No. 878-r dated December 6, 2017 "On approval of the action plan for the implementation of the Concept of implementation of state policy in the field of climate change for the period up to 2030". Available at: https://zakon.rada.gov.ua/laws/show/878-2017-%D1%80#Text

[279] Experts have shown how Ukraine's combat effectiveness decreased until 2014. Available at: https://www.pravda.com.ua/news/2018/11/21/7198892/

[280] List of volunteer battalions involved in the anti-terrorist operation. Available at: <https://bastion.tv/perelik-dobrovolchih-bataljoniv-yaki-zadiyani-u-ato_n17343>.

[281] Post of Ministry of Veterans to the day of volunteers. Available at: <https://www.facebook.com/mva.gov.ua/posts/2610127272400000/>.

in military hospitals. In January 2015, Legal Hundred was registered as an NGO. One of the NGO's projects is a free Legal Aid Hotline, launched in December 2014, along with an illustrated guide with information about the rights, responsibilities and social guarantees of the participants of the Russian-Ukrainian war and members of the families of the victims.[282] There are special Veteran Hubs, where teams of specialists work with veterans, military, cadets, police, rescuers and their families assisting in legal, employment, education and social matters.[283] People returning from war started creating socially responsible businesses employing veterans and allocating funds for the army.[284]

Such examples of strong and effective cooperation of all stakeholders can be found also during the events resulting from the COVID-19 pandemic. The Ukrainian medical system is in a poor condition and lacks the necessaries to protect medical personnel from COVID-19 (e.g. ventilators, biological protection suits and rapid tests). While the Ukrainian Parliament created a special COVID-19 fund in the budget, the funds were not allocated properly. In response, businesses united to provide the necessary items to hospitals.[285] In addition, numerous volunteers joined health NGOs to assist with coordination of procurements, translating and making available recent foreign materials on COVID-19 and related matters. This work assisted in smart and universal provision of needs to hospitals.[286] Several companies launched fundraising initiatives to provide food packages for elderly.[287]

These examples show that Ukrainian businesses, civil society and state can unite in the face of danger. This experience may become valuable in addressing climate change adaptation as it is also a common interest of the community. It would be to Ukraine's advantage to begin a program of uniting the country around climate change and ensuring that the public has access to the necessary information to understand the critical nature of this issue.

4. Conclusions: Strengthening Implementation of the Paris Agreement

Implementation of State Party obligations under the Paris Agreement and Katowice Outcomes requires an interlocking set of supportive laws, regulations and policies at the national and sub-national levels.[288] It is apparent that the content of these laws, regulations and policies will depend on the context of the State and the issues addressed in its NDCs.

---

[282] Our history. Legal Hundred. Available at: <https://legal100.org.ua/pro-nas/>.
[283] About us. Veterano Hub. Available at: <https://veteranhub.com.ua/about>.
[284] Veterano Group: business of anti-terrorist operation veterans. Available at: <https://dojo.ua/veterano-group-biznes-veteraniv-ato/>.
[285] Ukrainian business protects against coronavirus. Available at: <https://bituk.media/syuzhet/ukrainski-kompanii-iaki-riatuiut-krainu-vid-koronavirusu/>.
[286] Patients of Ukraine Charitable Foundation helps 218 hospitals fight coronavirus in five months of initiative. Available at: <http://patients.org.ua/2020/09/08/bf-patsiyenty-ukrayiny-dopomig-218-likarnyam-u-borotbi-z-koronavirusom-za-p-yat-misyatsiv-initsiatyvy/>.
[287] Helping the elderly: Ukrainians can "hang" food kits. Available at: <https://rubryka.com/article/ukrayintsi-zmozhut-zamovyty-produkty-dlya-litnih-lyudej/>.
[288] MC Cordonier Segger (n 32).

As this report has demonstrated, public international law guidance for measures relating to climate adaptation and resilience, particularly transparency and reporting mechanisms and the engagement of stakeholders, climate financing, risk assessment and insurance, development of infrastructure, and adaptation and mitigation measures for key sectors is essential for States.[289] At the same time, the legal and institutional practices of case study countries such as Ukraine, highlight the various ways in which obligations can be met and gaps identified and addressed across differing States and systems. What emerges from this is an understanding that innovative solutions are needed to implement existing measures and craft new systems which will allow for the implementation of obligations from the Paris Agreement and Katowice Outcomes from 2018.

In the country analyses, sector-specific barriers and opportunities for achievement of climate adaptation and resilience in Ukraine have been provided. It is hoped that these country-specific recommendations will provide specific directions for further reform. This concluding section summarises the legal gaps in Ukraine and how the legal framework could be strengthened to better incentivise investment for the selected priority sectors. The national analyses reveal several common cross-sectoral legal and institutional barriers to achieving climate adaptation and resilience. In particular, and responding to the international legal context provided by the Paris Agreement and the Katowice Outcomes, the five key elements of innovative climate law and governance practices have been highlighted throughout this report, identifying measures which might incentivize investment in climate adaptation and resilience were highlighted, in order to generating both country-specific recommendations, and broader insights for the international process.

First, the report considered country-level efforts to prioritise climate adaptation and resilience, and highlighted certain focused, tailored legal reforms and governance instruments for implementation. The chapter focused in particular on climate adaptation and resilience aspects of renewable energy and energy efficiency; climate related infrastructure development reforms; government procurement and opportunities to adjust agricultural sector rules and codes with related improvement to food waste management value chains.

As chapter 2 highlighted, the Paris Agreement calls on Parties to strengthen their cooperation on enhancing action on adaptation through identifying the current adaptation needs, challenges and gaps of developing country Parties, taking into account the Cancun Adaptation Framework in Article 7.7. This call is also addressed to international institutions including a number of UN bodies as per Art. 7.8. Developed countries Parties are required to provide new and additional public climate funds to support the preparation of adaptation communications by developing country Parties. The Climate Technology Centre and Network (CTCN) and the Paris Committee on Capacity Building (PCCB) have been created and operationalized to support developing countries in the implementation of actions outlined in their Adaptation Communication.

[289] Mason-Case SA and others, "IDLO-CISDL Compendium of Legal Best Practices on Climate Change Policy" (2012).

As noted in chapter 3, Ukraine's Draft Concept of State Policy on Industrial Pollution envisages four key activities for addressing industrial pollution issues. First, the Draft Concept seeks to reform the permits system used for industrial pollution, including the potential of issuing a unified permit for various forms of pollution. Second, it seeks to develop methodologies for determining the allowed volumes of industrial pollution in different sectors in Ukraine. Third, the Draft Concept promotes the creation of an open and accessible electronic database of the actual volumes of industrial pollution emitted in Ukraine. And, fourth, it seeks to improve the monitoring, reporting and controlling systems for industrial pollution throughout the nation. Taken together, this is a key potential system for addressing a component of climate adaptation measures. Further, the new Internet-based platform Prozorro helps trade energy efficient products and will be expanded to include renewable energy procurement.

Second, the report identified innovations and gaps in country-level compliance arrangements and efforts to establish sound accountability/oversight mechanisms, taking into consideration opportunities to strengthen standards and governance systems for decision making, and to establish or improve dispute resolution and inquiry bodies, providing prompt and adequate compensation for loss and damage.

As chapter 2 highlighted, a strong mechanism to ensure compliance with the Paris Agreement's legally binding obligations is important for trade and investment flows.[290] It is relevant, for instance, for institutional investors as they can monitor general legal compliance closely, with aspects of due diligence decision-taking findings into account. Building a financing portfolio with formally reviewed and approved funds from the Green Climate Fund, taking into account its rigorous technical checks, may help instil confidence for private investors even when a prior violation triggered this particular tranche of funding. [291]

As chapter 3 highlighted, the Ukrainian EIA law implements Directive 2011/92/ EU "On the Assessment of the Effects of Certain Public and Private Projects on the Environment". The EIA Law envisages that a company should follow the EIA procedure if it is involved in a planned activity, meaning an activity that includes construction, reconstruction, re-engineering, liquidation (disassembly) of objects and other interference in the natural environment. The Law lists a wide range of business activities as falling under its scope.

Third, the report explored opportunities, challenges and gaps in country transparency frameworks, noting in particular progress in national frameworks to establish inter-sectoral communication and coherence, and taking into account areas of opportunity to strengthen open, precautionary and robust systems of assessment, establish rules and institutions for sectoral and cross-cutting monitoring, reporting and verification systems and improve vertical integration between municipal, regional and national data collection and reporting.

[290] Segger M-CC, "Advancing the Paris Agreement on Climate Change for Sustainable Development" (2016) 5 Cambridge International Law Journal 202.
[291] Ibid.

As highlighted in chapter 2, the Paris Agreement also stipulates that its Meetings of the Parties shall periodically take stock of treaty implementation to assess collective progress towards achieving the treaty goals (referred to as the "global stocktake"). Stocktaking will be comprehensive and facilitative, considering mitigation, adaptation and the means of implementation and support, in the light of equity and the best available science (Article 14.1). The global stocktake will specifically review the adequacy and effectiveness of support provided for adaptation (Art. 7.14(c)). The first global stocktake is planned for 2023 and every five years thereafter (Article 14.2), and the outcome of the global stocktake is to inform Parties in updating and enhancing, in a nationally determined manner, their actions and support, as well as in enhancing international cooperation for climate action, as per Article 14.3. In addition to reporting obligations on Parties, the Paris Agreement calls on all relevant United Nations agencies and international, regional and national financial institutions to provide information to Parties on how their development assistance and climate finance programmes incorporate climate-proofing and climate resilience measures, as per the Paris Agreement's 1/CP21 Adoption Decision, at para. 43.

As highlighted in chapter 3, renewal energy sources in Ukraine are a site of continued legal and regulatory gaps and contestation and many outdated standards and over-demanding requirements are still in use. This is exacerbated by an inefficient regulatory framework for business investment in such energy sources. Further, authorities have alleged that the current market operator is sabotaging the signing of preliminary power purchase agreements for renewable energy sources, thus jeopardizing the search for financing and increasing the risks for investors.[292]

Fourth, the report noted Ukraine's initial steps towards accessing and managing climate finance, including meeting conditions of access to the Adaptation Fund and the Green Climate Fund and efforts to establish and strengthen the legal and institutional foundations for climate finance, including collaborative sectoral initiatives for project development and design.

As highlighted in chapter 2, the Katowice Outcomes include details on the specific information that should be presented by Parties providing support regarding expected levels of financial support under Article 9(5) in an Annex of sources of information that Parties providing financial support should refer to in their biennial communications on expected levels of support. Greater transparency on available funding could assist investors in identifying gaps, avoiding duplication and opening new opportunities. These reports will be publicly available, reducing the potential for violations of FET and national treatment standards, while at the same time actively promoting the focus on transparency that runs throughout the Katowice Outcomes. With reports every two years, a growing compilation of materials on climate finance could assist in tracking trends for the international investment community and financial institutions. Digitalization, including

[292] H Strelkova and others, "Prerequisites for Regulatory Innovations in Ukraine under Renewable Energy Sector Development" (IEEE 2019).

modern technology such as blockchain, have also been identified as a potential conduit for increased, more resilient, and accessible private climate adaptation finance.

As highlighted in chapter 3, constantly changing legislation for renewable energy sources in the Ukraine causes difficulties for investors in terms of proper business planning. For example, the feed-in tariff was introduced in the Ukraine in 2009, considerably reviewed in 2014 (with fixing feed-in-tariffs till 2030) and is now being substituted with the tariff auctions from 2020, the legal mechanism for which are yet to be developed.[293] Although the law on the new electricity market recently entered into force, it will still require a number of secondary laws in order to ensure smooth transition to proper competition on the electricity market. Among significant achievements is transferring future auctions to Prozorro. At the same time, other issues with the lack of transparency in regulations for the electric grid connections can significantly increase the cost of a renewable energy project or other climate change adaptation project.

Finally, the chapter addressed country-level progress and remaining challenges and areas of opportunity to strengthen engagement of Non-Party Stakeholders, including through strengthening public-private enterprise arrangements across different sectors with leadership benchmarking and recognition; establishing and taking into account expert scientific and public advisory bodies; improving civil society and private sector engagement mechanisms; and supporting citizen-led public awareness campaigns and climate action initiatives across local, regional and national levels.

As highlighted in chapter 2, the Paris Agreement encourages Parties to work with non-state actors to catalyse efforts to strengthen mitigation and adaptation action (1/CP21, para. 119). This is associated with a welcoming of the efforts of all non-state actors to address and respond to climate change and the establishment of a platform for the exchange of best practices on mitigation and adaptation (1/CP21, para. 134-137). This was reiterated in the Marrakech Partnership for Global Climate Action, and in decisions taken in Bonn CoP23.

As highlighted in chapter 3, the Ukrainian Action Plan highlights the importance of developing climate change adaptation plans for the various regions within Ukraine, as well as individual cities and villages. The Action plan also promotes the development of proposals to create new financial instruments for public-private partnerships in climate change projects, particularly progressive financing mechanisms that seek to stimulate businesses in their responses to climate change.

[293] G Trypolska, "Support Scheme for Electricity Output from Renewables in Ukraine, Starting in 2030" (2019) 62 Economic Analysis and Policy 227.

Summary of National Legal and Institutional Barriers to Achieving Climate Adaptation and Resilience in Ukraine

Table 5: Legal & Institutional Gaps for Achieving Climate Adaptation and Resilience in Ukraine

Priority NDC objectives	Key legal and institutional gaps	Recommendations to address gaps
Renewable energy & energy efficiency	● Lack of realistic action plans and roadmaps for realization of abovementioned strategies and national plans; most of current crucial regulations are on the level of policy papers and strategies, there is lack of commitment and progress in form of legislation ● Lack of coordination between state bodies with regard to climate change policies and energy policies (for example, currently energy issues are treated by the Ministry of Energy, Ministry of Environmental Protection and Natural Resource, Ministry of Regional Development, Ministry of Economy and State Energy Efficiency Agency; some of these state bodies have overlapping authorities leading to no one being responsible for vital decisions) ● Lack of political will for sustainable development – Paris Agreement and Ukraine's NDCs are not in political agenda and are not mentioned in any political parties' program ● Existing legislation lacks support mechanism and incentives for small and medium scale projects ● Ukraine is still paying subsidies to low-income families to cover their costs for utilities, mostly for	● For energy companies: ● Increase and/or install energy storage units, especially electricity (there is still no relevant legislation with this regard in Ukraine ● Improve grid connection as the electricity cables are usually destroyed during winter storms (there is big investment potential with this regard – Ukrenergo SE, a power company responsible for operational and technological control of the Integrated Power System (IPS) of Ukraine, is already doing huge procurement contracts to modernise the grid) ● Improve energy audit and management regulations in order to increase control and predictability of energy supplies (private companies might have these regulations, but there is no relevant legislation on the national level and Ukraine would need to adopt it as per EU Directive 2012/27) ● For consumers: ● Allow energy consumers to become energy prosumers (produce and consume) ● Incentivize development of smart grids and energy

	heating costs (UAH 80+ bln in 2018) while funding the only program for support of energy modernization of buildings in form of cheaper loans (UAH 400 mln in 2018) and upcoming Fund of energy efficiency (UAH 1.6 bln estimated) – difference is notable ● Government is still reluctant on bringing natural gas prices up to market level for households, which holds up incentive for energy modernization among population ● Significant political influence on current energy market regulator, which is designed to be an independent body ● Risk of delaying introduction of a new competitive electricity market – most monopolies haven't started to unbundle ● Most major policies are designed without proper market analysis and financial modeling ● Constantly changing legislation for renewable energy support deprives investors of proper business planning. For example, the feed-in tariff which was introduced in Ukraine in 2009, considerably reviewed in 2014 (with fixing FIT till 2030) and now policy makers are again reviewing the FIT legislation with a debate to change it to tariff auctions from 2019-2020 ● Unfavourable and non-transparent electricity grid connection regulations which significantly increases project's cost	cooperatives (the draft law on energy cooperatives was developed but not moved on with the parliamentary agenda) ● Apply energy management systems in household and incentivize their usage ● Create favourable and innovating regulations for household to use green energy sources (such as, leasing solar panels, using blockchain technology to sell electricity and to invest in other green energy projects, etc.)

	● Lack of effective mechanisms for implementation on emissions reduction goals ● Low tax on CO2 emissions, which does not create incentive for CO2 emission reduction ● Current market operator sabotaging signing of preliminary power purchase agreements for RES, thus, jeopardizing search for financing and surging the risks for investors ● Inefficient regulatory framework for business to invest into RES ● Outdated standards and over-demanding requirements	
Agriculture and land use	● Few regulations which would describe how agricultural sector would respond to climate change ● Existing moratorium for the sale of agricultural land	● Adopt laws and regulations which define the relationship between the agriculture sector and climate change ● Adopt laws and regulation which define the relationship between land use and related practices and climate change ● Incorporate climate change considerations in the state strategy on lifting the moratorium in order to anticipate all possible climate change scenarios in light of new land ownership structure (small farms vs. large corporations)
Water		
Environmental impact	● Lack of prioritization of climate change in law, regulations and policy ● Most of the climate change efforts end up with strategies and plans, with minimum legislations and responsibility	● Add “climate change checklist” into the regulatory impact assessment (RIA) legislation ● In the context of the Environmental Impact Assessment portion of the RIA, add the following

	● Lack of knowledge, urgency, consistency and expertise in this field	questions: what are the consequences for energy usage and mobility; for consumption/management of raw materials; waste and emissions into the air, soil and surface water; and for use of the available physical space? ● Analyse the best approaches to implementing environmental aspect in Ukrainian RIA, to avoid additional bureaucracy and at the same time motivate regulators to think through climate change filters

Table 6: Acronyms

APA	Ad Hoc Working Group for the Paris Agreement
BOT	Build-Operate-Transfer
CBIT	Capacity Building Initiative for Transparency
CFT	Clean Technology Fund
CISDL	Centre for International Sustainable Development Law
CO_2e	Carbon dioxide equivalent
CoP	Conference of the Parties
CoP21	UNFCCC 21st Meeting of the Conference of the Parties, Paris, 2015
CoP22	UNFCCC 22nd Meeting of the Conference of the Parties, Marrakesh, 2016
CoP23	UNFCCC 23rd Meeting of the Conference of the Parties, Bonn/Fiji, 2017
CoP 24	UNFCCC 24th Meeting of the Conference of the Parties, Katowice, Poland 2018
CSP	Concentrated Solar Power
CTCN	Climate Technology Centre and Network
DRR	Disaster Risk Reduction
EBRD	European Bank for Reconstruction and Development
EIA	Environmental Impact Assessment
EU	European Union
FAO	Food and Agriculture Organization
FET	Fair and equitable treatment
FIPA-Tunisia	Foreign Investment Promotion Agency
FiT	Feed-in-Tariff
FPIC	Free, prior and informed consent
GCC	Gulf Cooperation Council
GDP	Gross domestic product
GHG	Greenhouse gas
GIZ	Gesellschaft für Internationale Zusammenarbeit
GW	Giga watt
IECC	Integrated energy and climate protection concept
IFAD	International Fund for Agricultural Development
IGO	Inter-governmental organization
iNDC	Intended nationally determined contributions
INRA	Institut National de Recherche Agricole (Morocco)
IPPC	Inter-Governmental Panel on Climate Change
IPP	Independent Power Producer
IPS	Integrated Power System (Ukraine)
IRENA	International Renewable Energy Agency

LCIL	Lauterpacht Centre for International Law
LDC	Least Developed Countries
LRS	Light Rail System
LULUCF	Land use, land-use change and forestry
PNDM	National Household Waste Programme (Morocco)
PPP	Public Private Partnership
MASEN	Morocco Agency for Sustainable Energy
MEMEE	Ministry of Energy, Mining, Water and Environment (Ministère de l'énergie et des mines, de l'eau et de l'environnement) (Morocco)
MEPS	Minimum Energy Performance Standards
MHAI	Ministry of Endowments and Islamic Affairs (Morocco)
MOU	Memorandum of Understanding
MRV	Monitoring, Reporting and Verification
MW	Mega watt
NAP	National adaptation plan
NAZCA	Non-State Actor Zone for Climate Action
NDC	Nationally determined contribution
NGO	Non-governmental organization
OECD	Organisation for Economic Cooperation and Development
OME	Moroccan Energy Observatory
ONEE	Office National de l'Eau et l'électricité (Morocco)
ONSSA	National Office of Food Safety (Morocco)
OREDD	Regional Observatories for the Environment and Sustainable Development (Morroco)
PAWP	Paris Agreement Work Program
PCCB	Paris Committee on Capacity Building
PPA	Power Purchase Agreement
RDPs	Regional development plans (Morocco)
REDD	Reducing Emissions from Deforestation and Forest Degradation
REEM	Report on the State of the Moroccan Environment
REER	Regional Reports on the State of the Environment (Morocco)
RIA	Regulatory Impact Assessment
RICs	Regional Investment Centres (Morocco)
SDIs	Sustainable Development Indicators
SDM	Sustainable Development Mechanism
SIDS	Small Island Developing States
SIE	Energy Investment Company (Société d'Investissements Energétiques) (Morocco)
SMEs	Small and medium enterprises
SNDD	Stratégie Nationale de Développement Durable (Morocco)

SRAT	Regional spatial planning schemes (Morocco)
TEC	Technology Executive Committee
TSP	Tunisian Solar Plan
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value Added Tax
WTO	World Trade Organization

Acknowledgements

The Centre for International Sustainable Development Law (CISDL) at McGill University, the scholars from the University of Cambridge Lauterpacht Centre for International Law (LCIL) and Centre for Energy, Environmental and Natural Resources Governance (CEENRG), and national legal experts from leading universities Ukraine and the region, wish to thank the authors of the chapters in this report for their legal research, project management and editing assistance. Specific thanks to the European Bank for Reconstruction and Development (EBRD) and their staff of the encouragement and engagement with this analysis.

Thanks are also due to many colleagues for their valuable insights, advice and engagement in international review events including those in Katowice, Poland, Bonn, Germany and Madrid, Spain.

Within the EBRD, particular thanks go to Marie-Anne Birken, Vesselina Haralampieva, Jan Willem van de Ven, Margot Aubert and Angela Delfino.