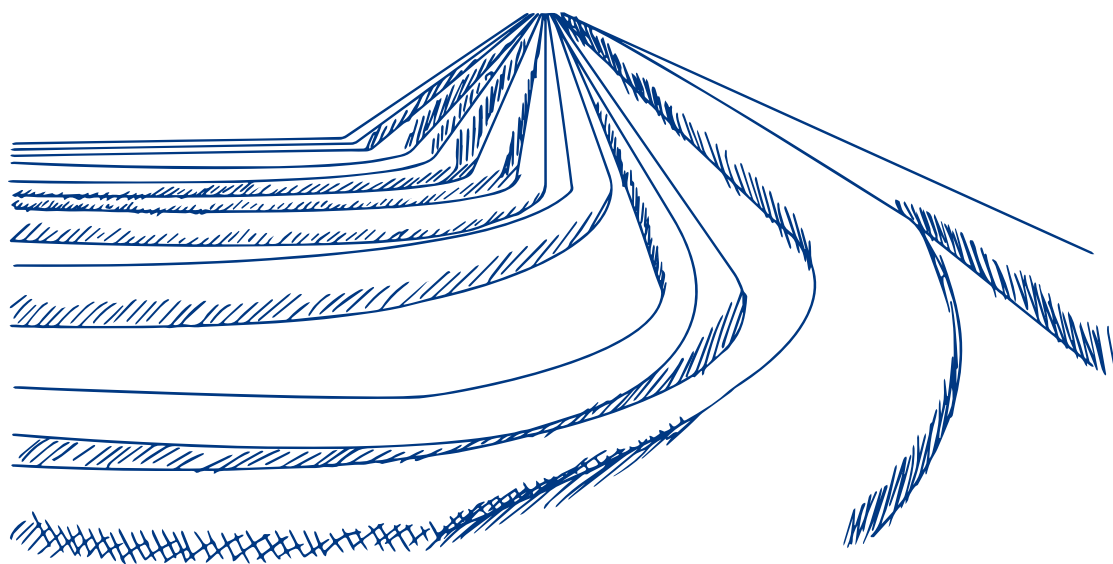


# Ukraine

## Annual Implementation Report






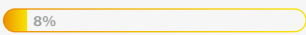

1 November 2020





# Ukraine

## Summary Implementation

Summary Indicators	Transposition Assessment	Implementation Status	Descriptions
 Electricity		 49%	Implementation in the electricity sector of Ukraine is moderately advanced.
 Gas		 84%	Implementation in the electricity sector of Ukraine is almost completed.
 Oil		 35%	Implementation in the oil sector of Ukraine is still at an early stage.
 Renewable Energy		 52%	Implementation in the renewable energy sector of Ukraine is moderately advanced.
 Energy Efficiency		 67%	Implementation in the energy efficiency sector of Ukraine is well advanced.
 Environment		 64%	Implementation in the environment sector of Ukraine is well advanced.
 Climate		 51%	Implementation in the climate sector of Ukraine is moderately advanced.
 Infrastructure		 8%	Implementation in the infrastructure sector of Ukraine is yet to begin.
 Statistics		 81%	Implementation in the statistics sector of Ukraine is almost completed.
 Cybersecurity		 35%	Implementation in the cybersecurity sector of Ukraine is still at an early stage.

Overall number of cases: **4**

ECS-6/17 Electricity

ECS-8/14 State aid

ECS-4/18 Infrastructure

Procedure  
by Article **91**

Procedure  
by Article **92**

ECS-1/185  
Energy efficiency



# Ukraine

## State of Energy Sector Reforms

In the electricity sector, the opening of the wholesale market was completed with the introduction of the ancillary services market in 2020 complementing the earlier launch of bilateral, day-ahead, intraday and balancing markets. However, the market still remains largely distorted by a range of regulatory measures, including price caps and public service obligations, which channel nuclear and hydropower electricity from state-owned generators to the universal service suppliers at prices that are detrimental to competition and safe operation of power plants alike. Households are still supplied at prices below cost level, which impedes retail market competition. The certification of the transmission system operator Ukrenergo, one of the last ones not yet unbundled in the Energy Community, already failed once and now requires legislative changes transposing the independent system operator model. Unbundling and certification are no mere formalisms – membership in ENTSO-E, in the pan-European ITC mechanism and further market integration depend on it.

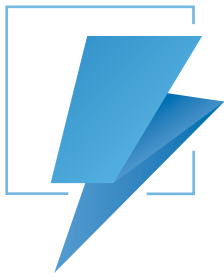
In the gas sector, the adoption of the Gas Market Law and certification of the transmission system operator have been a major breakthrough in the history of Ukrainian energy sector reform, with a pan-European dimension. Yet the market is still dominated by the incumbent Naftogaz and regional utilities on the retail level. Moreover, the lack of financial stability of district heating remains a major challenge to the gas market. The amended Public Service Obligations Act abolished regulation of supply prices to households and left the gas supply under this scheme only to district heating. Naftogaz's right to stop the supply to district heating companies in case of debts triggered

unauthorized offtakes and costs incurred by the transmission system operator (for balancing gas) as district heating companies will not be disconnected even if not paying. Progress has been made in the creation of a liquid gas exchange. A draft law on minimum stocks of crude oil and petroleum products is currently undergoing approval by the competent authorities.

In terms of environment and climate, Ukraine's biggest challenge remains the reduction of emissions from its outdated coal plants within the thresholds and timelines set by the Large Combustion Plants Directive. Ukraine has adopted a National Emission Reduction Plan (instead of complying with the emission limit values on an individual basis). It also opted out a total of 80 combustion plants. A modest carbon price is applied, and an emission trading scheme is under preparation. The country paid direct subsidies worth some EUR 476 million to support coal-fired power generation in 2019. Energy efficiency suffers from the lack of a legal basis.

Renewable energy production has boomed recently, mainly because of a generous feed-in tariff system which expired at the end of 2019. The boom critically affects the liquidity of the state-owned offtaker (the Guaranteed Buyer). The mediation process between the renewable energy investors and the Ministry in charge of energy under the auspices of the Secretariat resulted in a memorandum and a law restructuring the existing power purchase agreements. Auctions still remain to be launched. Work on the National Energy and Climate Plan is likely to be postponed.

Ukraine is the largest Contracting Party of the Energy Community. Despite producing significant volumes of natural gas, the country is dependent on gas (and oil) imports and remains a major transit route for Russian gas exports towards Europe. The electricity mix comprises coal, natural gas, nuclear and large hydropower. The so-called Burshtyn island, a zone not connected to the main part of the Ukrainian electricity network, trades electricity with its Western neighbours. The country's transmission system operator is engaged with ENTSO-E for the synchronization of the main grid with the one of continental Europe. The renewable energy sector has been rising fast in the last years due to increasing investment.



# Ukraine Electricity

## Electricity Implementation

Electricity Indicators	Transposition Assessment	Implementation Status	Descriptions
Unbundling			The transmission system operator is not yet unbundled and certified, which requires changes to the Electricity Law. Distribution system operators are legally unbundled.
Access to the system			Network tariffs are public and applied also to generators. Access to cross-border capacities is allowed only to market participants registered in Ukraine. Implementation of the Transparency Regulation has started. The Connection Network Codes are transposed.
Wholesale market			Bilateral, day-ahead, intraday, balancing and ancillary services markets are operational, but subject to many regulatory interventions. Non-compliant public service obligations and regulated prices of state-owned generation companies are impeding competition. Losses are procured by the transmission (Ukrenergo) and distribution system operators on the market. REMIT has not been transposed.
Retail market			All customers in the retail market are free to choose their supplier. Universal service suppliers are obliged to supply electricity to households under regulated tariffs (different tariffs for consumed volumes below and above 100kWh) which do not cover their costs. They are also obliged to offer electricity to other categories of customers with capacity up to 150 kW until 31 December 2020 at the day-head market price.
Regional integration			Coordinated auctions for cross-border capacity allocation do not exist under the market rules and require changes to the Electricity Law. Arrangements for the settlement of unintended deviations were agreed between the transmission operators of Ukraine and Moldova.

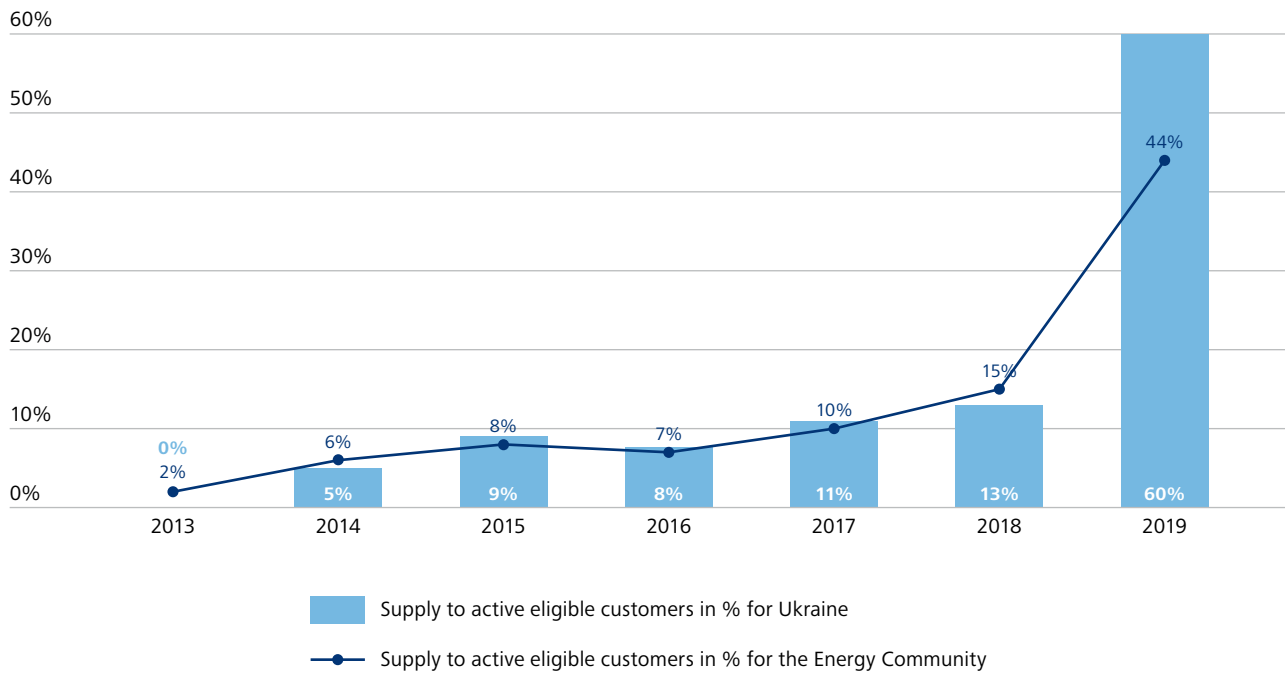
The introduction of the ancillary services market in 2020 complements the earlier launched bilateral, day-ahead, intraday and balancing markets, which replaced the non-compliant single buyer model. However, there was no progress towards phasing out of excessive public service obligations. Together with price regulation, they continue keeping the market largely foreclosed in practice.

The regulator, NEURC, issued a preliminary decision certifying the transmission system operator, Ukrenergo, in October 2019 under the ownership model, despite that the separation of control is insufficient. In February 2020, the Secretariat issued

a negative Opinion. The final decision by the regulator is still pending. In any event, amendments to primary legislation are needed to meet the requirements of ownership unbundling or the independent system operator model.

Legal unbundling of the distribution system operators from supply activities is in effect as of 1 January 2019. Compliance of the distribution system operators with the legal and functional unbundling requirements is still to be assessed by the Secretariat, upon which the open infringement case may be closed. The Law requires distribution system operators to be unbundled from production, supply and transmission also in terms of ownership.

## Retail Market Opening



Source: Ministry of Energy and Coal Industry

Regulation (EU) 543/2013 was transposed by NEURC's resolution of June 2018. Ukrenergo has started publishing a limited number of data on the ENTSO-E Transparency Platform. Amendments to primary legislation required for the transposition of the REMIT Regulation were drafted but their adoption is pending.

Ukraine's retail electricity market is formally open since 1 January 2019. According to the Law, NEURC was required to phase out cross-subsidization between different categories of consumers before wholesale market opening on 1 July 2019. However, the prices for households remain the same (since 2017) and do not cover the costs of supply. The difference is covered by the guaranteed buyer (state-owned trader) through the public service obligation, and the state-owned generators Energoatom and Ukrhydroenergo are obliged to sell electricity at a low price determined by the non-compliant public service obligation act adopted by the Government. This impedes the development of competition and may affect safe operation of power plants, especially nuclear plants.

The latest amendments to the Electricity Market Law extended the scope of the customers entitled to universal service supplies at tariffs applied to households to apartment buildings, different types of cooperatives, legal persons - owners of properties used for compact settlement of internally displaced persons

and religious organizations. The universal service supply and the supply of last resort are regulated by NEURC methodologies. The imbalance costs of the universal service supplier are not covered.

Until 1 January 2021, the incumbent regional suppliers will continue to be appointed to perform the functions of universal service suppliers. According to the provisions of the Electricity Market Law, the Government was to organise a tender procedure for universal supply before 1 July 2020 but with the amendments to the Law of 21 July 2020, the deadline was postponed until 1 July 2021.

The provisions of the Third Energy Package on vulnerable customer protection were transposed by the Electricity Market Law. The governmental act defining the vulnerability criteria is still missing.

According to the Electricity Market Law, Ukrenergo should have implemented coordinated auctions for cross-border capacity allocation not later than for the 2019 annual auctions. The rules for cross-border capacity allocation, adopted by NEURC in April 2020, fail to ensure coordinated auctions. The agreement in principle between the transmission operators of Ukraine and Moldova on the terms of financial settlement of unintended deviations is a positive development.



# Ukraine

## Gas

### Gas Implementation

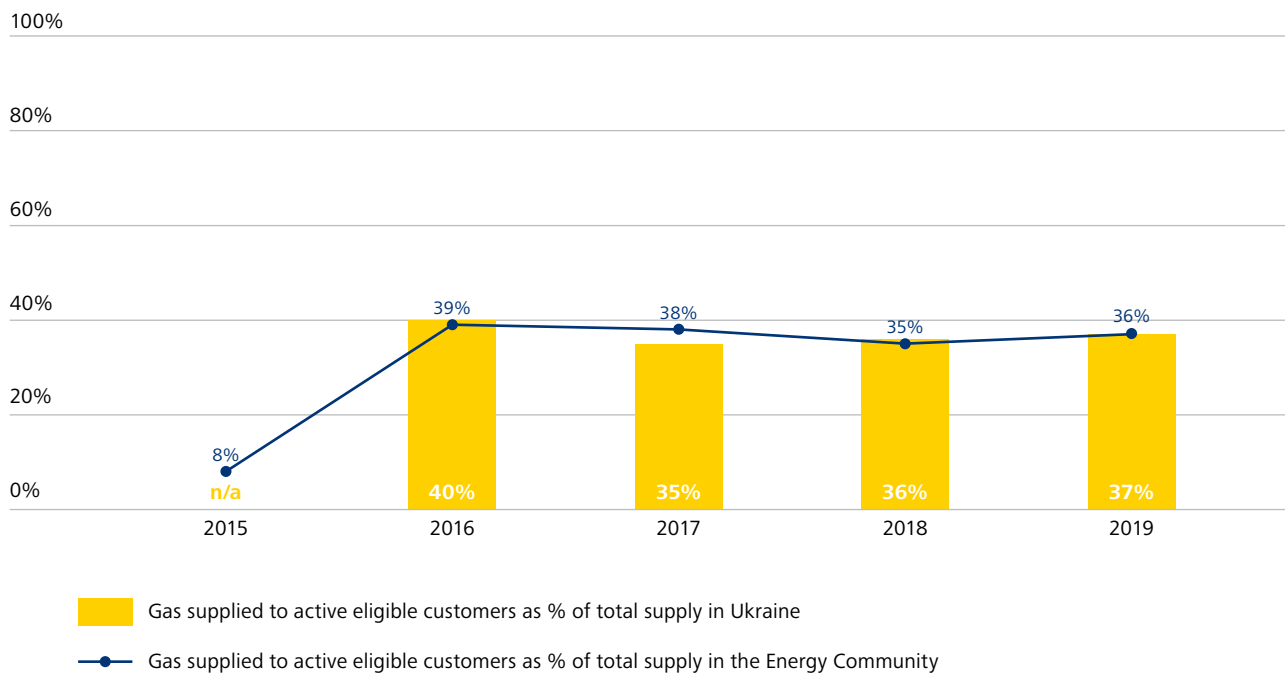
Gas Indicators	Transposition Assessment	Implementation Status	Descriptions
Unbundling			The transmission system operator is unbundled and certified in line with the Third Energy Package. The storage system operator and the distribution system operators are unbundled in legal, information and accounting terms.
Access to the system			Third party access to transmission, storage and distribution systems is in place, with some space for improvement in terms of tariff cost reflectivity. The gas Network Codes have been implemented to a great extent. The transmission operator started to offer capacity at international platforms. Congestion management and transparency, as required by Regulation (EC) 715/2009, are still not fully implemented.
Wholesale market			The deregulated segment of the wholesale gas market increased significantly from 40% to 80% by releasing household customers from the Public Service Obligation regime. A virtual trading point is in operation, and trade takes place on the existing exchange with limited functionalities. The non-implementation of REMIT, due by 29 May 2020, decreases the overall implementation status.
Retail market			All customers are formally eligible. Household prices are deregulated since 1 August 2020 and only gas for district heating companies has remained under the scope of the Public Service Obligation Decree. Secondary acts, aimed to enable supplier switching, have been upgraded.
Interconnectivity			The transmission system is well interconnected with vast capacity on all country borders. The majority of interconnection points are covered by interconnection agreements aligned with the Network Code on Interoperability and Data Exchange. Security of supply preparedness is improving continuously, following Regulation (EU) 2017/1938, which is not mandatory yet.

During the last reporting period, Ukraine made significant progress in several areas of the gas market: unbundling of the transmission system operator, deregulation of prices and implementation of the gas Network Codes.

Unbundling of the transmission system operator resulted in the successful certification of the operator under the independent system operator model in December 2019. This was in line with the Secretariat's Opinion and just in time for the entry into force

of the new transit contract with Gazprom. This also enabled the new transmission system operator, GTSO, to sign new interconnection agreements with all neighbouring transmission system operators, thus increasing interoperability and enabling the smooth flow of gas along all routes. The interconnection agreements for the interconnection points at the Russian – Ukrainian border were signed as well as with the Slovakian transmission system operator for the interconnection point Velke Kapushany/Uzhorod, which seemed impossible for five years.

## Retail Market Opening



Source: National Electricity Regulatory Commission (NEURC), compiled by the Energy Community Secretariat

The newly unbundled transmission system operator progressed well in the implementation of the Capacity Allocation Mechanism Network Code, offering capacity at two regional capacity platforms, RBP and GSA, and establishing a virtual interconnection point at the borders with Hungary and Poland.

The import flow to Ukraine, which comes solely through its western borders, increased by 30% in comparison to the previous year, while 40% of imports came as virtual reverse flow or backhaul. By offering the short haul service as well as a favourable tax regime and storage tariffs, Ukraine managed to increase the use of its vast underground storage capacities by European traders.

Ukraine has continued to work towards a fully functional daily balancing system and gas exchange. Two memoranda of understanding, at political and technical levels, were signed by the Secretariat with the Ukrainian Energy Exchange, EBRD, the new transmission system operator GTSO, the energy regulator and the Ministry of Energy to establish the gas exchange in line with European energy market standards. The work on establishing the exchange will have to continue further, including legislative changes to enable the transmission system operator to purchase balancing services in a dynamic way.

The balancing regime is in line with the Balancing Network Code, including interim measures at the time of publication

of this report. Neutrality charges have been widely discussed during the past year, but their full introduction has been postponed for an additional year. The main obstacles to defining the charges are accumulated debts for imbalances and the lack of proper reference prices. A functional gas exchange will ultimately enable the implementation of the Balancing Network Code. Payment discipline for imbalances, together with a solution for accumulated debts, should be fostered. Interventions to the approved distribution tariffs did not contribute to solving the issue of unauthorised offtakes and should be avoided in the future, respecting the cost-reflectivity principle.

The gas supply price for households was deregulated as of 1 August 2020. A customer safety net – including amendments adopted by the regulator to the existing supply switching rules and the supplier of last resort chosen via a tender procedure – was put in place in parallel. Effectiveness and robustness of the household retail market opening are yet to be proved in the upcoming winter season.

Only gas for district heating companies, i.e. 25% of annual consumption, remains regulated under the Public Service Obligation Decree. These gas quantities remain under regulated prices and are not offered on the gas market. The release of that production and comprehensive reform of the district heating sector are challenges for the upcoming period.

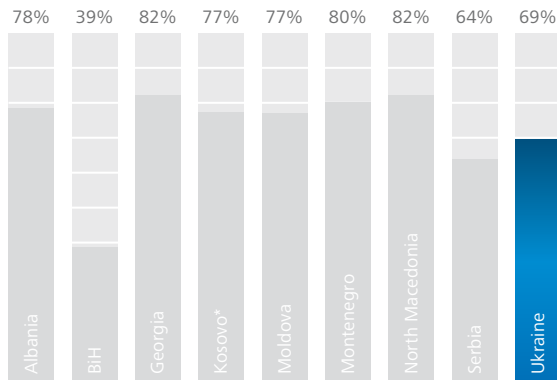


# Ukraine

## National Authorities



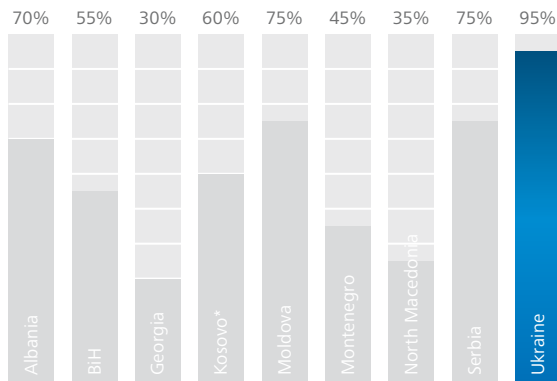
### Regulatory Authority



The current situation whereby the National Energy and Utilities Regulatory Commission of Ukraine (NEURC) operates as a 'central executive body' established by the Council of Ministers, a temporary solution meant to address the constitutional court's ruling that the regulator's independent status is unconstitutional, is a clear breach of the acquis. The necessary constitutional amendments need to be adopted as soon as possible and the regulator's independence restored. The recent dissolution of the regulator's strategy department is also of concern. In spite of these challenges, the Commission has continued to use its technical expertise to pursue steady market reforms. Moreover, the abolishment of the requirement to publish NEURC's decisions in the Official Gazette as a pre-condition for their entry into force is a positive development.



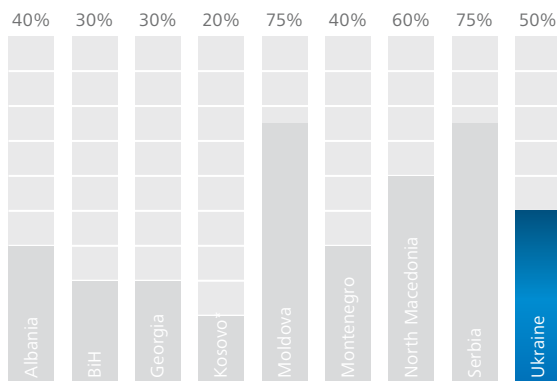
### Competition Authority



The Antimonopoly Committee of Ukraine (AMCU) is one of the most active and rigorous enforcers of competition law in the Energy Community. It mainly focuses on investigating abuses of dominance, such as exclusionary conducts, which foreclose the market and harm consumers, but also investigates anti-competitive agreements and concerted actions in the electricity and gas sectors. The AMCU actively cooperates with the Secretariat regarding the investigation of alleged abuses of dominance.



### State Aid Authority



Although the Antimonopoly Committee of Ukraine has started to review and monitor potential State aid measures, in particular in the coal and electricity sectors, no decision has been taken in the energy sectors since the entry into force of the Law on State Aid for Business Entities. The lack of an active enforcement system of the State aid acquis is subject to a pending case.





# Ukraine Oil

## Oil Implementation

Oil Indicators	Transposition Assessment	Implementation Status	Descriptions
Stockholding obligation		<div style="width: 0%;"><div style="width: 0%;"></div></div> 0%	There is no emergency oil stocks policy in place. The draft Law on minimum stocks of crude oil and petroleum products is pending approval by the executive authorities involved.
Emergency procedures		<div style="width: 0%;"><div style="width: 0%;"></div></div> 0%	A draft legal act on an Oil and Petroleum Products Market Crisis Plan is prepared but not adopted. Therefore there are no emergency procedures in place in compliance with Directive 2009/119/EC.
Fuel specifications of petrol, diesel and gas oil for non-road mobile machinery (NRMM)		<div style="width: 80%;"><div style="width: 80%;"></div></div> 80%	According to the 2013 Technical Regulation on requirements for motor petrol and diesel, the Euro 5 standard (10 ppm sulphur in petrol and diesel) is obligatory for fuels marketed in Ukraine since the beginning of 2018. The environmental specifications of petrol and diesel are in conformity with European standards. Gas oil used in NRMM is not specified in the Regulation.
Monitoring compliance and reporting including the lay down the rules on penalties		<div style="width: 60%;"><div style="width: 60%;"></div></div> 60%	There is no annual monitoring programme for petroleum products in place even though it is foreseen by the Regulation. The level of penalties for non-compliance of fuel quality is regulated by the Law on the State Market Supervision and Control of Non-food Products.

Ukraine has currently no legal framework for emergency oil stocks. The draft Law on minimum stocks of crude oil and petroleum products is being reviewed by the competent authorities. A final decision on a specific model for emergency oil stockholding is yet to be made. The development of secondary legal acts under the EU4Energy Governance project will be finalized by the end of October 2020.

A Technical Regulation from 2013 establishes requirements for motor petrol, diesel, marine and boiler fuels put into circulation and sold on the territory of Ukraine. Gas oil used in non-road mobile machinery (NRMM) is not specified. This should be rectified by amendments to the 2013 Resolution. Sulphur content of gas oil used in NRMM should be up to 10 mg/kg only.



# Ukraine

## Renewable Energy

### Renewable Energy Implementation

Renewable Energy Indicators	Transposition Assessment	Implementation Status	Descriptions
National Renewable Energy Action Plan			Ukraine submitted its NREAP as well as all three Progress Reports on the implementation of the Renewable Energy Directive to the Secretariat. In 2018, Ukraine reached a 7,01% share of energy from renewables, still below the trajectory of 9,1%.
Quality of support schemes			Administratively set feed-in tariffs (FiTs) are granted since 2009. Following a settlement of a dispute mediated by the Secretariat's Dispute Resolution and Negotiation Centre, a Law on Restructuring Feed-in Tariffs was passed in July 2020. Its implementation is pending. Auctions are yet to be implemented although envisaged by legislative amendments adopted in December 2019.
Grid integration			Guaranteed access and gradual balance responsibility for large renewables producers in compliance with the acquis was introduced in the new Electricity Market Law, and revised by the Law on Restructuring Feed-in Tariffs in July 2020. Offtake of electricity under the FiT regime is an obligation for the state-owned Guaranteed Buyer, which suffers from liquidity problems.
Administrative procedures and guarantees of origin			The existing national measures only partially comply with Directive 2009/28/EC as not all administrative procedures are transparent, streamlined and expedited at the appropriate administrative level. There is no single administrative body.
Renewable energy in transport			In April 2020, the draft Law on amendments to legislative acts on the mandatory use of liquid biofuels (biocomponents) in transport was registered in the Parliament, however, it did not pass first reading. The current share of renewables in transport is 2,2%.

In the reporting period, a dispute between investors and the State almost triggered a wave of arbitrations against the country. The dispute was resolved by a memorandum and the law on restructuring of feed-in tariffs (FiT), which applies not to all investments though. Implementation remains a challenge and is made more difficult by an inappropriate electricity market design.

All three sectorial targets (electricity, heating and cooling, transport) and the overall 2020 target, are far from being reached. Following the adoption of the Law on Ensuring Competitive Conditions for Electricity Production from Alternative Energy Sources in April 2019, Ukraine adopted an order on auctions for the distribution of support quotas and standard electricity purchase agreements between the Guaranteed Buyer and the entity company eligible to take part in the auctions. The scheme

foresees that auction volumes will be determined based on the defined quotas for wind, solar PV and other renewables. However, no volumes have been set so far.

Due to a liquidity crisis caused by a significant increase of renewables investment under the FiT scheme, the memorandum signed between the Government and renewables investors in June 2020, negotiated under the auspices of the Secretariat's Dispute Resolution and Negotiation Center, foresees reform of the FiT regime. In July 2020, the Verkhovna Rada adopted a corresponding law on the restructuring of FiTs.

Under the new Law, plants with installed capacity of 1 MW or higher will become fully balance responsible by the end of 2022. The Law also introduces a compensation mechanism for

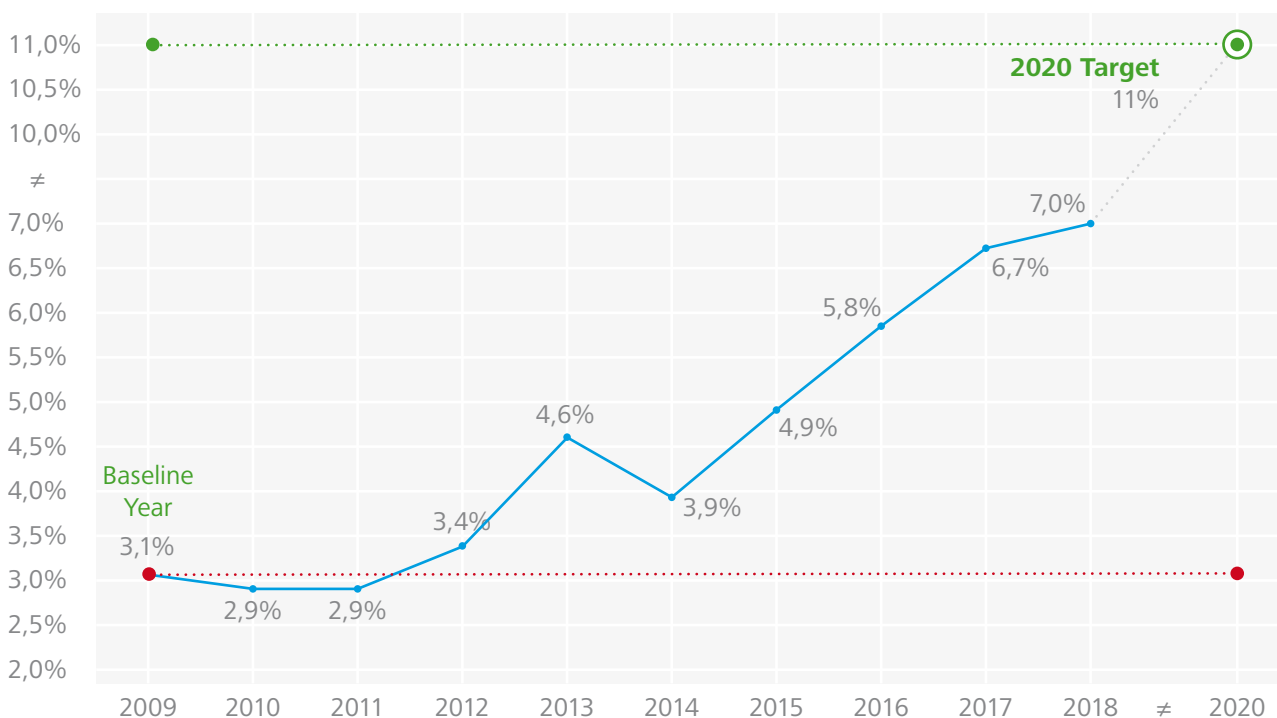
curtailment, State financing for renewables and exemption for certain large industries from paying the renewables surcharge.

Ukraine adopted a secondary act on guarantees of origin in 2013. However, the State Agency on Energy Efficiency and Energy Saving as the designated body has failed to implement an electronic system compatible with the European Energy Certif-

icate System.

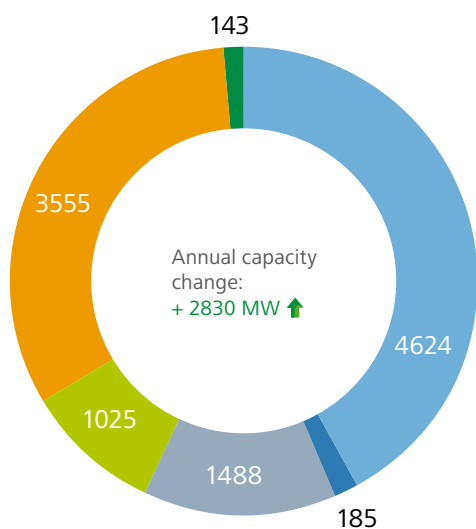
During the next reporting period, Ukraine should introduce a functional market-based renewables support scheme. The electronic system for guarantees of origin should be established without further delays.

### Shares of Energy from Renewable Sources



Source: Progress Reports on promotion and use of energy from renewable energy sources, State Agency on Energy Efficiency and Energy Saving of Ukraine according to the Energy Balance 2018

### Total Capacities of Renewable Energy 2019 (MW)



- Large hydropower
- Small hydropower <10 MW
- Pumped storage
- Wind
- Solar
- Biogas

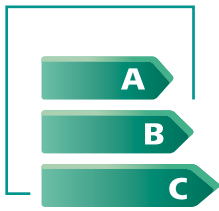
In spite (or because) of all shortcomings in the support scheme mechanism, the country increased significantly its renewable energy capacities. In 2019, solar PV capacities more than doubled, reaching 3.555 MW. Small hydro and wind capacities also almost doubled, reaching 185,4 MW and 1.025 MW respectively.

A legal regime for biofuels, which would finally introduce the sustainability criteria and set the mandatory share of liquid biofuels in total annual gasoline sales, should be adopted without further delay.

Total capacities (MW):

11019

Source: State Agency on Energy Efficiency and Energy Saving of Ukraine (SAEE)



# Ukraine

## Energy Efficiency

### Energy Efficiency Implementation

Energy Efficiency Indicators	Transposition Assessment	Implementation Status	Descriptions
Energy efficiency targets and policy measures			The NEEAP is still pending adoption by the government. The drafted Energy Efficiency Law, which is to include the specific targets, also remains to be adopted. The fourth Annual Progress Report was submitted to the Secretariat in September 2020.
Energy efficiency in buildings			Ukraine has adopted thirteen of the fourteen by-laws needed to implement the Buildings Directive, five of which are in the process of being amended, to align with the Energy Efficiency Directive. The missing by-law on minimum energy performance requirements is currently in public consultation. A resolution on the adoption of the national nearly zero-energy buildings plan was adopted.
Energy efficiency financing			The Energy Efficiency Fund was launched in September 2019 with a budget of UAH 1,5 bil. and EUR 100 mil. from the EU and Germany. It is dedicated to increasing energy efficiency in multi-apartment buildings. The energy services market is significantly more developed than in any other Contracting Party. Energy service company projects for buildings renovation are progressing well.
Energy efficient products - labelling			All energy labelling regulations related to the Labelling Directive were adopted, including the one on space heaters adopted in 2020. Ukraine has drafted but not adopted four out of the five new regulations for the implementation of the new Regulation (EU) 2017/1369 on labelling. The country has transposed Directive (EU) 2009/125/EC on eco-design and 23 product regulations on a voluntary basis.
Efficiency in heating and cooling			Ukraine has a relatively developed district heating infrastructure, with over 1.600 district heating companies supplying centralized heat and hot water. 60% is generated in heat-only boilers and 40% in CHP plants. Gas and coal account for around 90% of the total energy mix in this sector. Ukraine has not yet prepared the assessment of its high efficiency cogeneration and efficient district heating potential required by the Energy Efficiency Directive. A significant donors programme for the modernisation of district heating systems is under development.

In the past year, Ukraine has continued to make steps towards the final version of the Energy Efficiency Law under the leadership of the Ministry of Energy, including conducting several stakeholder consultations. Nevertheless, given that there were many previous attempts to finalise the Law and send it to the Cabinet of Ministers, which never materialised, and the timeline for its adoption was not known, the Secretariat decided to step up with the infringement case from 2018.

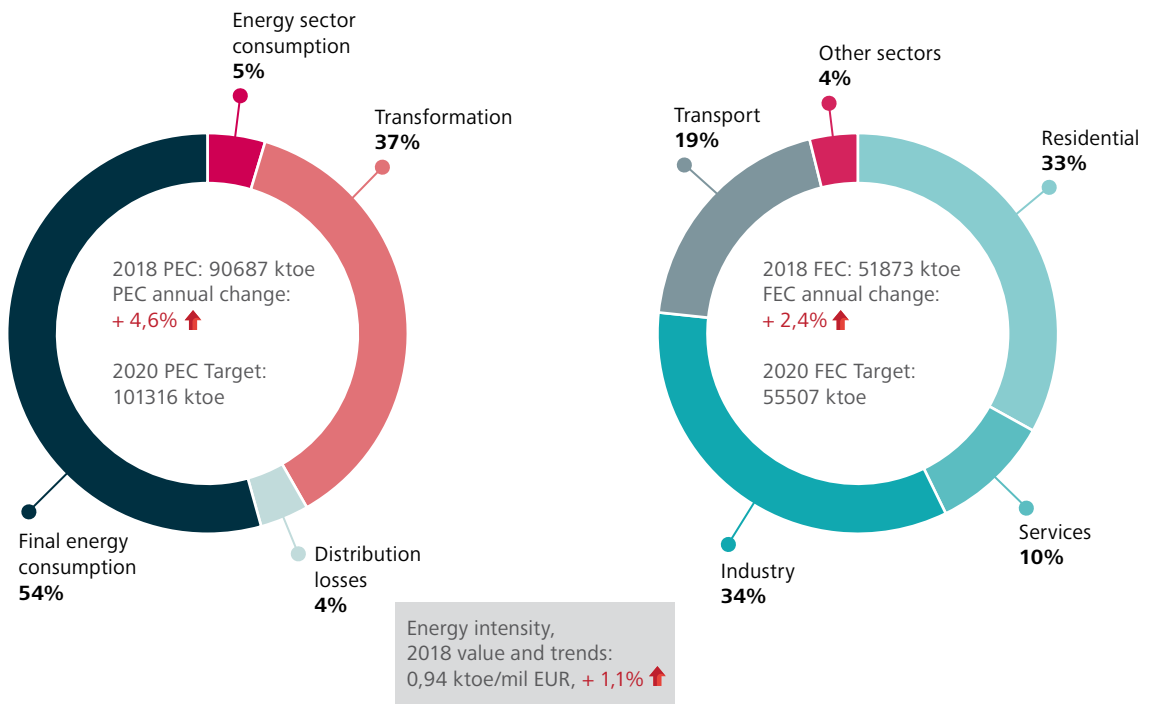
The adoption of the Energy Efficiency Law in compliance with Directive 2012/27/EU remains the utmost priority for Ukraine.

Ukraine's second priority is to adopt the already drafted framework and product regulations for the implementation of the Labelling Regulation (EU) 2017/1369.

## 2018 Energy Efficiency Indicators and Trends

### Primary Energy Consumption (PEC)

### Final Energy Consumption (FEC)



Source: EUROSTAT 2020 data and the Contracting Party's Annual Reports under Directive 2012/27/EU

## Energy Efficient Products – Overview of Implementation of Labelling Regulation

FRAMEWORK REGULATION*											
Household dishwashers	●										
Fridges and freezers*		●									
Household washing machines			●								
Televisions				●							
Air conditioners and fans*					●						
Household tumble driers						●					
Electrical lamps and luminaires							●				
Solid fuel boilers*								●			
Space heaters*									●		
Water heaters & storage tanks										●	
Domestic ovens and range hoods											●

● Adopted and implemented    ● Compliance or implementation issues detected    ● No progress with adoption/implementation

\* The new labelling package adopted by the Ministerial Council in November 2018 was assessed, as the transposition deadline expired in January 2020.

Source: multiple sources of data (EECG reports, NEEAPs etc.), compiled by the Energy Community Secretariat



# Ukraine Environment

## Environment Implementation

Environment Indicators	Transposition Assessment	Implementation Status	Descriptions
Environmental impact assessment (EIA) and strategic environmental assessment (SEA)			Legislation to fully transpose the amendments to the Environmental Impact Assessment (EIA) Directive introduced by Directive 2014/52/EU has to be adopted. Administrative capacities should be further strengthened to address the lack of proper quality control of EIA reports and the lack of a systematic screening process for projects subject to Annex II of the EIA Directive. A proactive approach is required for better public inclusion in the decision-making process.
Sulphur in fuels			Ukraine has rectified the breach identified by Ministerial Council Decision 2016/05/MC-EnC. The provisions on marine fuels were adopted.
Large combustions plants and industrial emissions			Ukraine revised its National Emission Reduction Plan (NERP) and plant inventory in 2019 and included all district heating installations, which modified the total number of plants. The NERP ceilings were not changed. For 80 plants, no derogations apply. While compliance with the 2019 NERP ceilings is achieved, the lack of finance made available for the implementation of the NERP remains problematic even after two years of implementation.
Nature protection			Protected areas still lack effective protective measures and administrative capacity that can properly assess the impacts of energy projects on the protected sites.

The Law on Environmental Impact (EIA) Assessment should be upgraded in order to fully transpose the amendments introduced by Directive 2014/52/EU. In particular, serious improvements are needed in the selection criteria which define if projects listed in Annex II of the Directive are subject to an EIA. Legal measures to ensure a higher level of quality of the EIA reports (by e.g. accreditation of providers) should be introduced in the transposing legislation. The Government should continue the capacity-building programme in order to properly address the EIA procedures, including ensuring effective public participation in the decision-making processes. Strategic Environmental Assessment reports must be prepared for all plans and programmes (or similar documents, e.g. strategies) in relation to energy (e.g. energy supply, development of mines and use of coal, utilisation of renewables, etc.). A strategic environmental assessment should be conducted for the upcoming National Energy and Climate Plan.

As regards legislation on the sulphur content of liquid fuels, Ukraine complied with the Decision of the Ministerial Council establishing a serious and persistent breach and completed the

transposition of the 1,00% sulphur threshold for heavy fuel oil and the 0,10% threshold for gas oil. The Directive's provisions on marine fuels were also transposed during the last reporting period. Ukraine should focus its efforts on the implementation of the provisions related to all fuels falling under the scope of the Directive, with particular regard to systematic compliance monitoring of the products concerned.

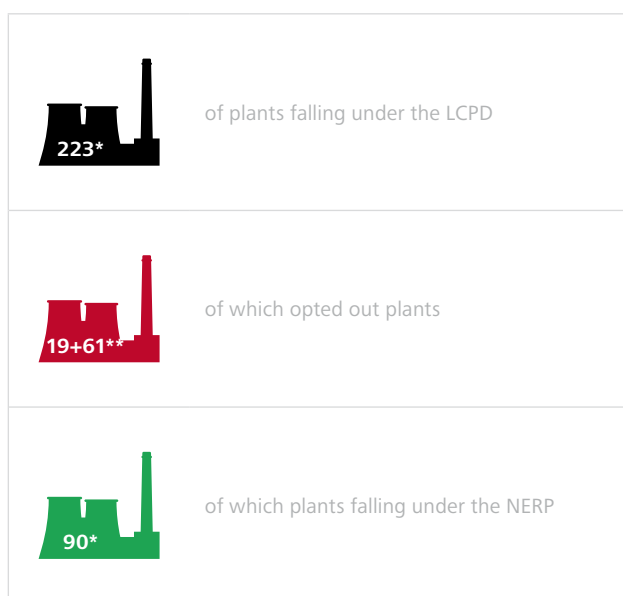
With regard to large combustion plants, the key priority for Ukraine remains the implementation of the National Emission Reduction Plan (NERP). The 2019 NERP amendments revised the plant inventory based on the common stack approach and included district heating plants in the Contracting Party. The amendments do not change the annual emission ceilings stipulated in the NERP. Ukraine complied with its reporting obligations under the Large Combustion Plants Directive in May 2020 by submitting its emissions data to the European Environment Agency for the reporting year 2019. Certain gaps exist due to the lack of data from plants located in conflict areas. The emission ceilings for all three pollutants are met, which is mainly caused by low heat

and electricity demand. A significant increase of sulphur dioxide emissions is recorded, the main reason of which is the change in fuel supply (lack of access to anthracite).

Nineteen large combustion plants are operating under the opt-out regime since 1 January 2018, meaning that they can use a maximum of 20.000 operational hours until 31 December 2023. Furthermore, 59 plants fall under the scope of Decision 2015/07/MC-EnC of the Ministerial Council, meaning that those plants may remain in operation for a maximum of 40.000 hours until 31 December 2033 at the latest. The operating hours of the plants concerned are reported together with emissions data.

A number of complaints have been registered under the Bern Convention on the Conservation of European Wildlife and Natural Habitats concerning the impacts of energy projects on protected Emerald sites. Concerns about presumed threats were raised about wind farm development projects in the Polonina Borzhava, Zatoky and Cholhynskiyi sites, while the Hodosiyin National Park, Sviati Hory, Iziumska Luka Regional Landscape Park, Ukrainskiyi Stepovyi Nature Reserve and Riznykivskiyi are concerned by hydrocarbons extraction or gas stations. Dialogue with the local communities and the civil society sector has to be ensured when conflict between planned energy projects and nature protection goals emerges.

### Installations under the Large Combustion Plants Directive

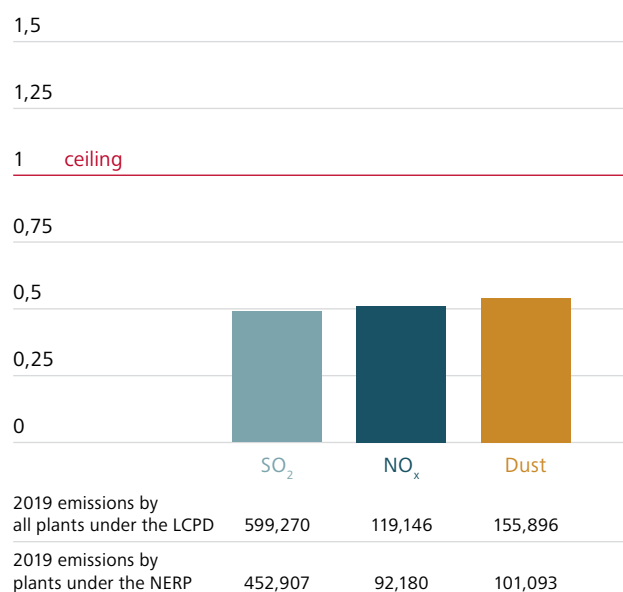


\* In 2019, Ukraine did a revision of its LCP register based on the common stack approach.

\*\* Under Decision 2015/07/MC-EnC, certain plants in Ukraine are entitled to use 40.000 hours for opted-out plants. 61 plants fall into that category.

Source: compiled by the Energy Community Secretariat

### 2019 emissions versus NERP ceilings



### Amount of operational hours used from opt-out period<sup>5</sup>

Average of plants under Decision 2013/05/MC-EnC <sup>6</sup>	Expected expiry of opt-out period: <sup>*</sup>	December 2023
	Remaining hours	15.115
	Operating hours consumed in 2018 and 2019	4.885
Average of plants under Decision 2015/07/MC-EnC <sup>7</sup>	Expected expiry of opt-out period	December 2032
	Remaining hours	34.996
	Operating hours consumed in 2018 and 2019	5.004

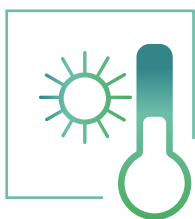
<sup>\*</sup>Calculations for the expected expiry of the opt-out period are based on 2018 and 2019 average load factor.

Source: compiled by the Energy Community Secretariat

<sup>5</sup> Due to the large number of plants under the opt-out regime in Ukraine, an average for both opt-out regimes is being provided. The expected expiry of the opt-out is also provided based on this average. It varies on a plant-by-plant basis.

<sup>6</sup> Under the regime of Decision 2013/05/MC-EnC, opted-out plants can remain in operation for a total of 20.000 operational hours until 31 December 2023.

<sup>7</sup> Under the regime of Decision 2015/07/MC-EnC, which amended Decision 2013/05/MC-EnC to reflect the special situation of Ukraine, certain opted-out plants can remain in operation for a total of 40.000 operational hours until 31 December 2033. The list of plants was adopted by Decision 2016/19/MC-EnC.



## Ukraine Climate

Climate Indicators	Transposition Assessment	Implementation Status	Descriptions
National greenhouse gas emissions monitoring and reporting systems			Secondary legislation to implement the provisions of the recently adopted Law on the Principles of Monitoring, Reporting and Verification (MRV) of greenhouse gas emissions have been adopted. However, further revision of the existing legal framework is needed to be in line with the Monitoring Mechanism Regulation.
National Energy and Climate Plans (NECPs)			The timeline for NECP finalization will be prolonged by several months. The plan is unlikely to be adopted before 2021. There were no drafts of the plan sent for review to the Secretariat by the cut-off date of the present report.

Ukraine's Nationally Determined Contribution (NDC) under the Paris Agreement includes a target of reducing greenhouse gas (GHG) emissions by at least 40% below 1990 levels by 2030. The second NDC is under preparation. Due on 1 January 2018, the country's seventh National Communication and the joint second and third Biennial Report have still not been submitted.

The Monitoring, Reporting and Verification of GHG Emissions Law transposes provisions of Directive 2003/87/EC related to the creation of a monitoring, reporting and verification (MRV) system. The Law itself will take effect in 2021. The list of activities, which are subject to MRV of GHG emissions adopted in September 2020 reflects the rules of Directive 2003/87/EC. Basic rules for the functioning of a registry system for GHG and installations are in place. The legal basis on the creation and maintenance of national inventory systems, on the formation and maintenance of the National Electronic Registry of anthropogenic emissions and removals of greenhouse gases transpose elements of Regulation (EU) 525/2013. Further alignment is needed however with the legislative package scheduled for adoption under the MRV law to be in line with the Regulation.

The country's long-term vision of low-carbon development is based on previously adopted strategic documents, including

the Low Carbon Development Strategy until 2050. A new Concept of Green Energy Transition until 2050 of February 2020 is foreseen to be substantially modified by the Government before being submitted for approval. At present, the Ministry of Energy is about to launch a revision of the Energy Strategy until 2035, the most important forecasting instrument regarding GHG emissions. It is supposed to be submitted for approval to the Government in Q2 2021.

The National Energy and Climate Plan (NECP) is not likely to be adopted before 2021, partly due to its interlinkage with the development of the second NDC and the Energy Strategy 2035 revision. Due to structural changes in relevant Ministries, the composition of the NECP technical working group should be updated and the group revived soon. So far, NECP related questions were considered by an Expert Council supporting the Ministry of Energy created in May 2020. In July 2020, external experts submitted a draft of the NECP to the Ministry of Energy, which is now being analysed by the Ministry's departments and the Expert Council. The analytical basis of the plan is still to be finalized. The Council also recommended to draw upon different modelling capacities of other institutions in Ukraine when commencing the work on the analytical basis of the NECP.





# Ukraine Infrastructure

## Infrastructure Implementation

Infrastructure Indicators	Transposition Assessment	Implementation Status	Descriptions
National competent authority		<div style="width: 20%;"><div style="width: 20%;"></div></div> 20%	Ukraine's transposition of Regulation (EU) 347/2013 and designation of the national competent authority is still pending. The draft Law prepared by the Ministry of Energy has not yet been sent to the Government for adoption.
Manual of procedures		<div style="width: 0%;"><div style="width: 0%;"></div></div> 0%	The manual of procedures, as defined by Regulation (EU) 347/2013, is yet to be drafted.
National regulatory authority involvement		<div style="width: 0%;"><div style="width: 0%;"></div></div> 0%	The Secretariat supported the regulatory authority in drafting the methodology and criteria to evaluate investments in electricity and gas infrastructure projects and the higher risks incurred by them. Yet the Ukrainian national regulatory authority has not published the methodology and criteria as required by the Regulation.

The Secretariat in 2020 assisted Ukraine in preparing the draft Law on Projects of the Highest National Priority in the Field of Energy, transposing Regulation (EU) 347/2013. The draft foresees that the Cabinet of Ministers of Ukraine acts as the national competent authority, with a possibility to transfer its power to the so-called Interdepartmental Commission.

On 29 November 2018, the Ministerial Council adopted a decision establishing a breach of Ukraine for non-transposition of Regulation (EU) 347/2013, which has not yet been rectified.

Ukraine, as a Contracting Party with a relatively high number of Energy Community infrastructure projects, stands to benefit at large from the implementation of the Regulation. This is especially relevant regarding the strategic infrastructure projects related to the synchronization of Ukraine with the Continental European power system. Other projects like rehabilitation of the overhead power lines 400 kV to Slovakia and Romania (suggested PMI 2020), as well as oil pipelines projects (Brody – Adamowo and Southern Druzhba pipelines, suggested as PECI and PMI 2020) might be positively influenced by the Regulation's adoption.

Proposed 2020 PECI/PMI projects: **4**

Electricity: **2**



PMI: **2**

Gas: **0**

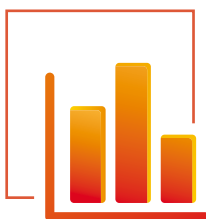


PECI: **0**    PMI: **0**

Oil: **2**









PECI: **1**    PMI: **1**



## Ukraine Statistics

### Statistics Implementation

Statistics Indicators	Transposition Assessment	Implementation Status	Descriptions
Annual statistics		 100%	The five annual questionnaires for 2018 and the questionnaire on final energy consumption of households were submitted.
Monthly statistics		 80%	Monthly coal, electricity and natural gas data are compiled and transmitted to EUROSTAT. Monthly oil data are not transmitted. Short-term monthly data are not reported yet.
Price statistics		 67%	Price statistics for electricity and natural gas are transmitted but are not broken down per price component.

By starting to transmit monthly data to EUROSTAT, Ukraine has improved its implementation status with respect to the statistics acquis.

The State Statistical Service of Ukraine (SSSU) is the central statistical institution responsible for production of energy statistics.

Annual questionnaires for 2018 were transmitted timely to EUROSTAT and published in the respective databases. Preliminary annual data for 2019 were also transmitted timely and published. The breakdown of energy consumption of households per final use, which was missing before, is now reported as required by the acquis covering the period from 2016 onwards. The quality report on annual statistics is transmitted to EUROSTAT in accordance with Regulation (EC) 1099/2008.

SSSU compiles monthly energy statistics and ensures their timely dissemination. Monthly coal, natural gas and electricity data are transmitted to EUROSTAT. Monthly oil statistics are also compiled and available in the JODI database. SSSU collects in-

formation on oil stocks, but it is not publicly available. Monthly oil data are still not transmitted to EUROSTAT, due to concerns over the confidentiality of oil stocks data.

Average gas and electricity prices charged to industrial customers and households, disaggregated per taxation level, are compiled and transmitted to EUROSTAT. Components of electricity and natural gas prices charged to end-users are not reported yet, and hence Ukraine has still not achieved full compliance with the acquis on electricity and gas prices. SSSU methodologies include reporting of disaggregated prices charged to end-users. Implementation depends on the regulatory regime and unbundling of network operators.

Recalling that most monthly data are already published on the SSSU website, it is expected that all remaining monthly questionnaires will be transmitted to EUROSTAT, including oil stocks pursuant to obligations from the acquis on oil. The breakdown of electricity and natural gas prices into components and their annual reporting have to be implemented without delay.



# Ukraine Cybersecurity

## Cybersecurity Implementation

Cybersecurity indicators	Transposition Assessment	Implementation Status	Descriptions
Institutions and legislation			Energy-specific provisions and cross-border cooperation are missing in the current cybersecurity policy and legal framework. Rules and mechanisms for implementation are to be developed and the designation of critical energy infrastructure and services should be completed.
Requirements for operators and energy regulatory authority			A risk assessment methodology for cybersecurity in energy is missing. The energy network operators develop their cybersecurity environment based on applicable standards. Legal obligations for cyber protection, building the resilience and incident reporting are not specific to the energy sector. The role and necessary powers of the energy regulatory authority NEURC in cybersecurity need to be established.

The cybersecurity landscape in Ukraine is rather complex, and competences are overlapping. Following the Information Security Doctrine approved by the Ukraine President in 2017, the National Security and Defence Council, the Cabinet of Ministers, and the Ministry of Information Policy share the responsibilities. The National Institute for Strategic Studies is also accorded specific powers. The cybersecurity legal framework is fragmented and still in development. In 2020, the Ministry of Energy took the initiative to develop a cybersecurity strategy for the energy sector and to advance critical energy infrastructure resilience through international cooperation.

The four-year Cybersecurity Strategy based on the Convention on Cybercrime was approved in 2016. Its goal is to ensure a safe cyberspace through creation of a legal and institutional cybersecurity system, high capabilities of the stakeholders to counteract cyber threats and efficient protection of critical information infrastructure. Even though energy companies are recognized as targets of cyberattacks, there are no energy-specific policies and measures, and the cross-border component is missing. The development of a new cybersecurity strategy is under way.

The Law on the Basic Principles of Cybersecurity, adopted in 2017, introduced the designation of critical infrastructure in energy and the concept of risk assessment, but left the specification of criteria to sectoral legislation. The Law identifies responsible stakeholders and facilitates cooperation between authorities. A law on protection of critical infrastructure, aiming to transpose Directive 2016/1148/EC (NIS Directive), was drafted in 2018 but its adoption was delayed. The draft is currently under review by the Committee on Digital Transformations of the Verkhovna Rada.

In 2019, the Government adopted the General Requirements for Cybersecurity of Critical Infrastructure, which transpose some aspects of the NIS Directive and apply to energy in a general manner, with no energy-specific references. Among others, the act obligates the operators to establish an information security risk management policy, designate information security officers and develop security plans. The draft Rules of Procedure for Designation of Critical Infrastructure, currently pending adoption by the Government, include the energy sector and provide energy-specific criteria. The independent audit on information security in critical infrastructures is regulated by the corresponding rules adopted by the Government.

The governmental computer emergency response team (CERT-UA), established by the State Service for Special Communication and Information Protection, applies its cyber incident response capability since 2009. Its responsibility extends over the energy sector. In 2016, the Security and Defence Council created a National Coordination Centre for Cybersecurity for detecting, preventing and responding to cyber incidents and predicting potential cyber threats, with similar competences as the CERT-UA.

The rules on security of electricity supply define the obligation for assessment of supply risks that include cybersecurity but fail to detail a specific risk assessment methodology. Security requirements and obligations for notification of threats are generally imposed by the Cybersecurity Law, with no reference to specific criteria or mechanism for the energy sector.

The energy regulatory authority NEURC does not have any powers or obligations in the domain of cybersecurity.