

# 5 Energy Infrastructure in Ukraine

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This chapter examines the current context of energy infrastructure investments in Ukraine. It reviews the recent reforms to boost upstream, midstream and downstream infrastructure investments, including private participation through public-private partnerships. It also proposes recommendations to overcome the remaining obstacles to improving the business environment in Ukraine for private investments in renewable energy and energy efficiency projects..

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## Introduction

Ukraine has undertaken a wide range of institutional, economic and regulatory reforms to increase the role of market forces in the energy sector and advance its integration with the European Union. Some of these reforms have been based on the commitments that Ukraine acquired by becoming, in 2011, a Contracting Party to the Energy Community Treaty, namely the legislative frameworks that enable private participation in the electricity and gas sectors. Additionally, in 2017, the government launched the “Energy Strategy of Ukraine until 2035” (ESU 2035) as an overarching policy to increase the share of renewables in the energy mix, and to achieve energy efficiency, security, competitiveness and greater integration with the EU energy space.

The economic recovery from the COVID-19 crisis presents Ukraine with an opportunity to build back better, placing special emphasis on green infrastructure projects. The government can build back better and advance investments that are properly planned for future generations. Moreover, the world is heading towards a consensus in which international investors are interested in projects that phase out carbon-intensive technologies and infrastructure. Therefore, Ukraine must advance policies that foster green investments in the energy sector.

Ukraine has established policies and programmes that ease the availability of finance for energy infrastructure projects. Finance is available through foreign and domestic capital investors, private banks, development entities and financial institutions. Public-private partnerships and concessions have been two important mechanisms to finance energy projects. As a result, the country passed from having 5% of its total energy mix from renewable energy sources (RES) to 12.4% by the end of 2020 and aims to achieve a goal of sourcing 25% of its power from RES by 2035.

Investments in renewable energy generation and integration capacities of RES to the power grid still face regulatory and market obstacles, along with country-specific impediments, technical challenges, and weak policies to level the playing field between RES and hydrocarbon generators. This chapter assesses the policies and programmes that are critical to unlock private investment in renewable energy infrastructure as well as in energy efficiency.

## Financing availability for energy infrastructure projects

Energy infrastructure investments in Ukraine have traditionally relied on the public sector, although the government has had limited fiscal space for advancing them over the past decade. As such, increasing private sector participation in infrastructure investment is an important priority for the development of the country. However, in Ukraine, one of the key difficulties to overcome for the successful implementation of impactful energy infrastructure projects is the availability of financial resources. Not only do energy infrastructure projects require important amounts of financial resources at their inception, but they also often generate return on investment only in the mid to long term and therefore need long-term commitments of stakeholders. Such commitments have the potential to expose stakeholders to important risks, which explains the use of financial schemes ensuring adequate risk sharing among the numerous stakeholders. Both capital and debt are used to finance energy infrastructure projects, with debt usually representing the vast majority of the financial resources. These resources can be scarce if investors perceive the risks as being too high, but the modernisation of the financial sector through increased market depth and liquidity can strengthen the availability and readiness of investors to bring financial resources to upgrade energy infrastructure, especially with respect to developing renewables.

Ukraine has made important progress to enhance its financial sector. However, ensuring adequate implementation of the regulatory framework for local and financial institutions remains a challenge. Ukraine scores poorly in the Financial System pillar of the 2019 Global Competitiveness Report, obtaining only 42.3 points out of 100 and ranking 136<sup>th</sup> out of 141 countries (World Economic Forum, 2019<sub>[1]</sub>). The Global

Competitiveness Report identifies low domestic credit to the private sector, limited availability of venture capital and insufficient financing to SMEs as the main obstacles. Moreover, Ukraine is burdened by the highest non-performing loan (NPL) ratio globally and operational costs are elevated at state-owned banks (SOBs) (World Bank, 2020<sup>[2]</sup>).

Facilitating access to finance is critical to spur investments in innovative and sustainable energy infrastructure. In Ukraine, energy infrastructure is financed by various actors, including foreign and domestic private investors, state-owned enterprises (SOEs), banks and international financing institutions (IFI). However, local banks reportedly offer unfavourable financing conditions to foreign and domestic investors that want to invest in energy infrastructure projects<sup>1</sup>. Local banks face a high share of NPLs – 49% overall and 65% in SOBs – which constrain credit growth to the private sector and hinder equity investments. This situation was aggravated during 2019, when retail loans in Hryvnia grew by 25% (mostly driven by consumer lending), while loans to enterprises declined by 8% (World Bank, 2020<sup>[2]</sup>). Therefore, resources of international capital markets or IFI are essential to secure financing of energy infrastructure.

Large energy companies have access to capital through the Ukrainian Exchange, which offers trading in a wide range of financial instruments, from equities to futures and options. Out of 41 issuing firms with listed equity securities on the Ukrainian Exchange, eight were energy companies, as of July 2021. This limited number of issuing firms demonstrates the room available to strengthen capital markets in Ukraine. The regulator of Ukraine’s capital markets, the National Securities and Stock Market Commission, lacks financial and operational independence barring the country from becoming a signatory of the Multilateral Memorandum of Understanding Concerning Consultation and Cooperation and the Exchange of Information of the International Organisation of Securities Commissions.

To support Ukraine’s progress in sustainable finance in line with international good practice, the National Securities and Stock Market Commission, sponsored by the International Finance Corporation, joined the Sustainable Banking Network (SBN) — a community of financial sector regulatory agencies and banking associations from 40 emerging markets committed to advancing sustainable finance. The SBN and IFC will work with the National Securities and Stock Market Commission to design a sustainable finance roadmap, develop a regulatory framework, and provide technical guidance on developing green and climate finance products as well as implementing good ESG standards and practices (IFC, 2020<sup>[3]</sup>).

To introduce new models of organised markets and financial instruments aligned with EU legislation, in June 2020 Ukraine’s parliament adopted Law N. 738-IX “On Amendments to Certain Legislative Acts regarding the Simplification of Investment Attraction and Introduction of New Financial Instruments”. The new regulation provides for the creation of green and infrastructure bonds on Ukraine’s capital market, which can be used to finance improvements of Ukraine’s energy infrastructure. It is expected that this law will increase the issuance of green bonds.

Green Eurobonds were issued in Ukraine for the first time by private Ukrainian energy company DTEK, before the adoption of the Law N.738-IX. In 2019, DTEK Renewables issued Green Eurobonds with a five-year maturity worth EUR 325 million. DTEK Renewables committed to use the proceeds for financing projects that are aimed at increasing the production, connection and distribution of renewable energy and related infrastructure. To ensure transparency and accountability, the company will use a public reporting system that details exactly how these funds are being distributed in relation to particular projects and describes the projects themselves. The RES crisis that has been affecting renewable energy producers in Ukraine since 2020 has raised concerns among investors who have flagged that DTEK Renewables might need to use green bond proceeds to fund its day-to-day operations, but the company declared that this would not be the case.

Project finance has been used to fund the construction of renewable energy projects in Ukraine, in particular for solar and wind power plants. According to the regulatory framework, the registration of the loan agreement contract for an energy infrastructure project between a Ukrainian borrower and a foreign lender is mandatory and should be done with the National Bank of Ukraine (NBU). This could be perceived

as an additional obstacle by foreign lenders, and could weigh on the decision to lend, thus restricting access to finance for energy infrastructure projects in Ukraine. State-guaranteed loans and loans provided by IFIs are, however, exempted from this requirement, which facilitates transactions.

Foreign companies interested in investing in Ukraine's energy sector are also particularly sensitive to being able to repatriate their profits in different jurisdictions and in foreign currency. The Law "On Currency and Currency Transactions" that entered into effect in February of 2019 marked an overhaul of Ukraine's currency environment. The NBU abolished all restrictions related to the repatriation of dividends, allowing payments of dividends to a foreign investor's account in Ukraine or abroad without limits. The NBU also cancelled the mandatory sale of currency proceeds by businesses, removed the hryvnia reserve requirement against foreign currency purchases for banks, and allowed unlimited daily purchase of foreign currency by individuals through banks, financial institutions, and online banking. In September 2019, the NBU cancelled the monthly EUR 5 million limit for the repatriation of proceeds received by a foreign investor from selling shares of, or withdrawing investment from a Ukrainian company. These proceeds were previously capped following measures to restrict capital outflows from Ukraine by the NBU in 2014, but the NBU's current road map is aimed at removing currency restrictions starting from 20 July 2021.<sup>2</sup> Additionally, business will be able to purchase foreign currency in the amount of up to EUR 100 000 per day and will not need to present their reasons and commitments nor submit confirmation documents to the bank (National Bank of Ukraine, 2021<sup>[4]</sup>). The implementation of the Inclusive Framework on Base Erosion and Profit Shifting (BEPS) and the strengthening of general economic conditions should further liberalise currency flows.

As for projects including government or multilateral support, the Export-Import Bank of Ukraine, Ukreximbank provides substantial lending to energy infrastructure, especially to green energy projects. It is a 100% state-owned bank, acting as the sole financial agent of the Government of Ukraine, with respect to foreign loans, from IFIs borrowed or guaranteed by Ukraine. Ukreximbank was the first bank in the country to introduce energy efficiency and renewable energy financing, starting in 2007. It works closely with IFIs and foreign banks. Ukreximbank has provided financial support to energy investors in partnership with the Global Climate Partnership Fund, Energy Efficiency Fund, Nordic Investment Fund, Nordic Environment Finance Corporation, IBRD, EBRD, IFC, EIB, and KfW. Ukreximbank has executed over USD 500 million from IFIs under sustainable energy facilities and financed over 300 renewable energy and energy efficiency projects.

Sustainable energy credit lines administered by Ukreximbank are similar to more mainstream credit products, particularly on credit assessments and interest rates. The key difference lies in the eligibility criteria and the strict compliance that takes place during the application process. Borrowing from a sustainable energy facility offers the advantages of having access to technical assistance, such as energy audits and business plan support. Green credit lines also offer more generous grace periods, which are essential for the project being able to continue operating during difficult times. They proved, for example, to be particularly useful through the 2020 Renewable Energy crisis (see Chapter 2).

Local commercial banks have an important role to play in providing access to green energy infrastructure, but under the current market conditions in Ukraine, their involvement remains limited. This challenge can be partially explained by the dominant participation of state-owned banks, which account for 55% of banking sector assets. Additionally, lending rates are high, with 16.3% overall in national currency in 2020 (13% to businesses and 34% for households) (World Bank, 2020<sup>[2]</sup>). Hence, the high cost of funds and unresolved NPLs, at 49% of total loan portfolio at the end of 2019, remain the key impediments for commercial banks to achieve credit growth for the private sector. Having new actors entering the green energy finance market in Ukraine and opening the competition within the sector could possibly lead to better conditions for borrowers and lead to increased demand for green lending. Ukgasbank provides a particularly good example as a bank that has excelled in granting green energy credit lines and now has the largest green energy investment portfolio in Ukraine (Box 5.1).

### Box 5.1. Ukrgasbank, a key bank to finance green energy infrastructure in Ukraine

Ukrgasbank, a bank over which the Ministry of Finance has 95% ownership, has positioned itself as the first environmental bank in Ukraine. It provides services to over 46 000 large corporate and SME customers. The bank focuses on financing projects that contribute to the efficient use of resources, the reduction of CO<sub>2</sub> emissions and renewable energy development. Ukrgasbank, is currently the leader in financing clean energy facilities in Ukraine, with more than one third of green loans in its portfolio. The green projects financed by the bank contribute to a carbon emissions reduction of more than 1.4 million tons a year.

Since 2016, Ukrgasbank has collaborated with the IFC to develop policies and procedures for green loans and to identify target markets for green finance. Ukrgasbank also incorporated the IFC Performance Standards into green-loan agreements and introduced substantive positive changes to corporate governance practices. On February 2021, the IFC provided a EUR 30 million convertible loan to Ukrgasbank for green investments, including projects on renewable energy and energy efficiency.

Source: IFC, *IFC Supports Ukraine's Ukrgasbank to Boost Financing for Green Energy*, (2021), <https://pressroom.ifc.org/all/pages/PressDetail.aspx?ID=26166> and *Ukrgasbank, at a glance*, (2021), [/www.ukrgasbank.com/en/about\\_us/glance/](http://www.ukrgasbank.com/en/about_us/glance/)

## Public Private Partnerships and Concessions as mechanisms to spur investments in energy infrastructure

Public-Private Partnerships (PPPs) are viable tools to develop energy infrastructure in Ukraine and their value for energy projects has exponentially increased from USD 24.5 million in 2017 to USD 1.4 billion in 2019. This major increase in the value of energy PPPs is a direct consequence of the 2016 reform to the Law on Public Private Partnerships, which was backed by the EBRD.

According to the EBRD Public-Private Partnership Assessment 2017-18 (EBRD, 2018<sup>[5]</sup>), which benchmarks the conformity of the local legal framework for PPPs with internationally accepted standards and best practices, Ukraine obtained a “high compliance” score for concession and non-concession PPPs legislation. The evaluation of the institutional framework indicator and the PPP business environment indicator nevertheless resulted in a “low compliance” score. Ukraine scored 68% in the bankability indicator, which serves to establish whether a country’s legal framework incorporates fundamental requirements for making PPPs feasible for financing, as seen from a lender’s perspective.

Ukraine PPP legislation is extensive, comprising one set of laws and regulations governing non-concession PPS and another set for concession PPPs (Box 5.2). According to the Law on Public-Private Partnerships, PPPs may be executed in four different forms: i) concession agreement, ii) property management agreement, iii) agreement on joint activities, and iv) mixed agreement. The Law on Public-Private Partnership determines that this contractual figure is applicable for the production, transport and supply of heat. Additionally, the law is applicable for the production, distribution and supply of natural gas, production, distribution and supply of electricity and production and implementation of energy-saving technologies. Nevertheless, the Law on PPP includes some burdens for investors. As determined in article 7, PPPs are not possible if a public partner is subject to a privatisation procedure. This limitation affects in practice the potential opportunities for private companies to direct their investments in energy infrastructure, as has been the case with the six SOE oblenergos that have been in the process of privatisation for the past ten years.

### Box 5.2. Concession and non-concession PPP regulatory framework for energy infrastructure projects

#### Non-concessions (governed by the Law on Public Private Partnerships)

- Relevant regulations for energy infrastructure include: -Resolution of the CMU No. 384 On Certain Issues of Organisation of Public Private Partnership;
- Order of the Ministry of Economic No. 255 On Certain Issues of Carrying out Analysis of Public Private Partnership Effectiveness;
- Resolution of the CMU No. 232 Methodology of Identification, Assessment and Management of Risks related to Public Private Partnership.

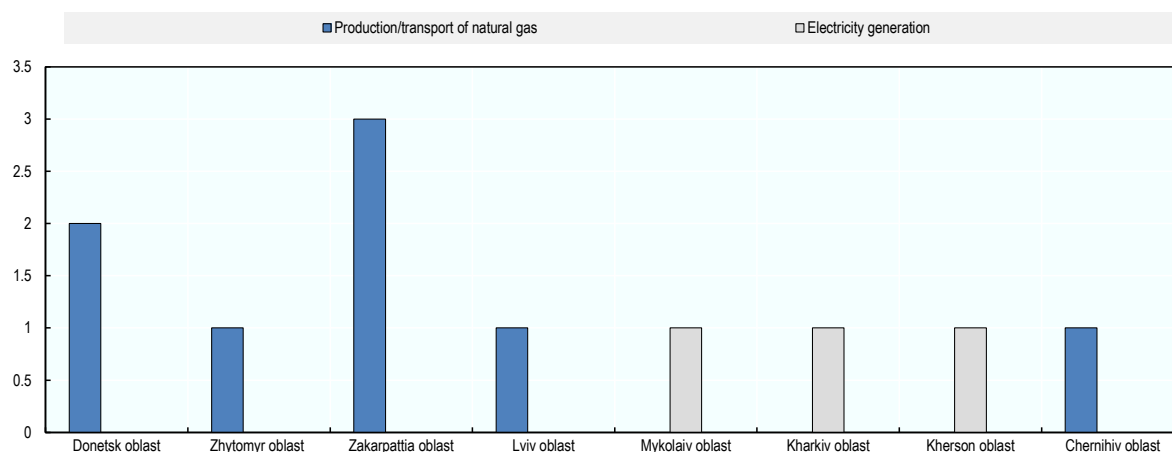
#### Concessions (governed by the Law on Concessions)

- Relevant regulations for energy infrastructure include:  
Law on Peculiarities of Lease and Concession of Municipal Heating, Water Supply and Water Drain Facilities;
- Law on Peculiarities of Lease and Concession of State-owned Fuel and Energy Facilities;
- Resolution of the CMU No. 642 Regulation on Concession Tenders, Conclusion of Concession Contracts in Relation to State and Municipal Property.

Source: (EBRD, 2018<sup>[5]</sup>).

International experience shows that PPP legislation plays a major role in attracting private companies to the infrastructure sector. Although there has been an advancement in the PPP regulatory framework, governmental authorities responsible for implementing PPPs appear to be insufficiently trained and consultations with investors held in the framework of this Review have suggested that local businesses are largely unaware of the advantages and the potential that can come from PPPs, generating low award statistics. Ukraine could follow the example of Costa Rica and Mexico, OECD countries that, in collaboration with the Inter-American Development Bank, provide continuous training to officials involved in PPPs, covering topics from project selection criteria, contract management, prioritisation in infrastructure development and fiscal impacts of the projects (Interfax-Ukraine, 2020<sup>[6]</sup>). According to central and local authorities in Ukraine, as of January 2020, only ten PPP contracts were being implemented in the energy sector. Eight PPPs were implemented for the production and transport of natural gas and three for the generation of electricity (Figure 5.1).

**Figure 5.1. PPPs in Ukraine's energy sector (as of February 2021)**



Note: The left axis refers to the number of PPPs.

Source: *Monitoring of PPP implementation in Ukraine, 2020*, (Ministry of Economy of Ukraine, 2021<sup>[7]</sup>)

Ukraine adopted a new Law on Concession N. 155-IX in October 2019 that provides both local and foreign investors with new opportunities, ranging from converting leases into concessions to providing additional guarantees for creditors. The new Law on Concessions establishes a framework based on international best practice to attract private investment in infrastructure and is in compliance with EU standards and regulations pertaining to concessions. Key enhancements of the new Law include: (i) a transparent procedure for selection of the concessionaire on a competitive basis, (ii) clear ownership control, (iii) provisions to enable bankability such as compensation in case of early termination, step-in rights, and direct agreement between project lenders, concessionaires, and grantors, (iv) simplified procedures for licences and permits and for allocating land plots, (v) the possibility of dispute resolution by international commercial or investment arbitration, and (vi) a clear mechanism for monitoring fulfilment of the concession agreement.

The new Law on Concessions is aligned with the PPP Law, including provisions for rigorous economic appraisal of project proposals. An innovative figure of the law is the step-in right, a procedure for changing a concessionaire upon application of the creditor in case of improper fulfilment of obligations. To operationalise the step-in right, in July 2020, the CMU adopted Decree 541 “On approval of the Procedure for replacement of a private partner (concessionaire) under an agreement concluded within a public-private partnership (concession agreement)”. The regulation of step-in rights is a relevant improvement by the government to strengthen the PPP regulatory framework and to incorporate best international practices into the local regulation. In addition, the Concession Law incorporates practices that aim to benefit investors, such as a simplified procedure for obtaining property rights for land plots that are required for concession activities and a tighter deadline within which to conduct the selection of a concessionaire. The Law follows the principles of international law by allowing disputes under a concession agreement to be solved via mediation, non-binding expert assessment, international commercial arbitration or investment arbitration based in Ukraine or abroad (see chapter 4). The Law on Concessions specifies the legal, financial and organisational basis of concession projects aimed at modernisation of infrastructure and improvement of quality of important public services. However, it does not apply to projects on the search of minerals, exploration and extraction of mineral resources.

The Law, which is aligned with EU standards and regulations pertaining to concessions, will enable Ukraine to continue to shift its infrastructure investment toward a more climate-friendly and green path, in line with its commitments to the EU as outlined in its Association Agreement. The new law includes specific provisions that incentivise energy efficiency in concession investments. In particular, Article 8 of the law

specifies limits on the amount of losses and thermal energy per unit of service provided for heating, water supply and wastewater disposal facilities, which must be part of the terms of the concessions' agreement. With appropriate strengthening of the environmental assessment system and enforcement mechanisms, foreign and private investors will be expected to increase social responsibility awareness and introduce climate-friendly and environmentally sound technologies and practices that support climate adaptation and mitigation.

Although the efforts of Ukraine to adopt new regulatory frameworks covering PPPs and concessions are commendable, it is important for the country to transpose the EU Regulation 347/2013 through the Law on Projects of Highest National Priority in the Field of Energy and to designate the national competent authority. The draft foresees that the Cabinet of Ministers of Ukraine acts as the national competent authority, with the possibility of transferring its power to the so-called Interdepartmental Commission. By adopting this law, Ukraine will comply with its obligations to adopt the EU *acquis* as a Contracting Party of the Energy Community and will benefit from EU technical support in the development of strategic infrastructure projects related to the synchronisation of Ukraine with the Continental European power system, as well as oil and gas pipeline projects.

## Property rights for energy infrastructure projects

For the adequate implementation of energy infrastructure projects, it is essential to ensure the availability of relevant construction permits and land ownership rights. To ensure real property rights and the unification of urban planning and land management documentation in one publicly available electronic document, in July 2020, Ukraine's parliament adopted the Law N. 2280 "On Amendments to the Land Code of Ukraine and Other Legislative Acts on Land Use Planning", as mentioned in Chapter 3. The Law, as amended, allows property owners to determine the use of their land as long as the use is relevant to the functional destined purpose of the territory defined by the approved land use planning. Establishing and changing the type of intended use of the land plot by its owner does not require documentation on land management and decision-making by local authorities. In addition, the law determines that during the privatisation of land, communication with local governments shall be done through the interface of the Public Cadastral Map, making the process simpler and more transparent. In April 2021, further amendments to the land code were adopted in order to facilitate access to land resources of the population and business, cancel unnecessary permits and duplication of procedures, introduce an independent control of land management documentation, open and make data publicly available, and reduce the cost and length of procedures related to land management, as well as reduce the risks of bribery and corruption.

Since 2019, the State Cadastre Service has set up an online map showing land use by energy enterprises. It has been improved over 2019 and 2020 to include additional features, such as showing different layers (crops, mineral deposits, and oil and gas wells, among others). Full digitalisation entails every land plot being assessed and stored in an electronic database, thereby enhancing openness and transparency of data. The updated information can be used during the development and approval of land management documentation in terms of determining possible restrictions on the use of land.

To foster the participation of private investors in energy infrastructure projects, the government adopted a reform allowing investors to own the land used for the development of energy projects. The Law "On lands for the energy sector and legal regime of special zones for energy objects" adopted in 2011 foresees that state- and municipally-owned land may be transferred to private owners who develop energy projects. The law is then approved by the state executive bodies or the relevant local authorities, following the procedures described by the Land Code. Moreover, energy objects may be built on all land plots without changing the destined purpose of the land.

Article 116 of the Land Code (version as of May 2021) determines that legal and natural persons may acquire property rights of state and municipal land plots on the basis of auctions, as is set out in the Land



Code. However, the same Code waives the auction requirement for Public-Private Partnership projects for the construction and maintenance of energy infrastructure.

For the construction, location and operation of electricity or heat transmission facilities, land plots of all forms of ownership, under an agreement with the owner or user of the land plot, may also establish permanent or temporary land easements without changing the purpose of these land plots. Therefore, energy investors have the rights to own, lease and use land plots on the basis of the Land Code and the specialised law on land for the energy sector.

Most of the equipment of power plants operating on renewable energy sources can be located only on land plots that have the purpose of "electricity industry land". As an exception, electricity transmission facilities (overhead and cable transmission lines, transformer substations, distribution points and devices) may be located on land of any purpose. Any other use of land plots for electricity production (with a purpose other than "electricity industry lands") is only possible if the land is repurposed. It should be borne in mind that Ukraine has a moratorium on repurposing most agricultural land, which is essential to advance biofuels. Another problem that affects investors, as highlighted in chapter 3 of this *Review*, is that foreign companies (Ukrainian legal entities with foreign investment) are not authorised to own agricultural land. Any acquisition of state and municipal land by foreign legal entities is also subject to approval by the Cabinet of Ministers.

## Transparency in energy infrastructure

In Ukraine, much remains to be done in the field of transparency and anti-corruption in energy infrastructure. Corruption remains an everyday reality in Ukraine's energy sector and this includes infrastructure projects as previously highlighted in this *Review*. The wide range of institutions and stakeholders involved in every phase of energy infrastructure projects, and their vulnerabilities to different types of misconduct, have exposed projects to acute risks of corruption. To mitigate those risks, fostering a culture of transparency and openness is essential in order to mobilise citizens and stakeholders against corruption practices. In recent years, several initiatives have sought to address this issue.

An example of a private initiative aimed at raising awareness and providing solutions to these issues is the "Infrastructure Transparency Initiative" (CoST), developed in Ukraine with the support of the government and the World Bank. CoST, which has been implemented by Ukraine since 2015, addresses corruption risks in the infrastructure sector. It focuses on four core features that are especially relevant for energy infrastructure in Ukraine: disclosure, assurance, multi-stakeholder working and social accountability. More specifically, it offers a multi-stakeholder approach to strengthening governance in the infrastructure sector through improved transparency, stakeholder engagement and accountability. This approach enables coordinated discussions and decisions related to energy infrastructure, ensuring that private, bilateral or multilateral investors can feel confident about investing in Ukraine and that their perspective is discussed at the adequate level of government. Considering the complexity of energy infrastructure projects, investors typically seek a particularly high level of transparency to minimise risks and select the best value-for-money outcomes. Consequently, private and public infrastructure investments can increase in value and quality with higher transparency, which is particularly useful for stimulating investments in REs and energy efficiency projects.

CoST regularly publishes assurance reports to monitor the achievements and efforts made. As detailed in the CoST Ukraine Sixth Assurance Report (2019)<sup>3</sup>, Ukraine is almost fully compliant with the Open Contracting for Infrastructure Data Standard (2018)<sup>4</sup>, that is used to guide what data and information should be disclosed at each stage of the project cycle. Ukraine has also enjoyed a successful transition from a paper-based system to a modern one aligned with the Open Contracting Data Standard (2017)<sup>5</sup>, which defines a common data model to enable the disclosure of data and documents at all stages of the contracting process. The main gaps identified by the Open Contracting Standards are related to citizen

participation and information disclosure. In particular, Ukraine obtains the lowest scores in the indicators assessing the formalisation of citizens' participation opportunities and online mechanisms, as well as the disclosure of information relative to the supervision of infrastructure contract procurement and implementation.

In addition, as further discussed in chapter 7 of this *Review*, the Government of Ukraine has been actively involved in increasing transparency and anti-corruption practices, starting from the elaboration and implementation of strategic plans addressing the issue of corruption in general, that have had positive impacts on the issue of widespread corruption and lack of transparency in the energy infrastructure sector. One of the key milestones in this area includes the launch in June 2020 of the National Anti-Corruption Strategy for 2020-2024 and the adoption at first reading by parliament on 5 November 2020 of the draft Law "On the Principles of State Anti-Corruption Policy for 2020-2024", which at the time of drafting of this *Review* was awaiting its second reading. The draft has been strongly supported by international partners and is seen as filling many gaps identified in the previous National Anti-Corruption Strategy for 2014-2017 (see chapter 7). The government is involved in increasing transparency in the energy sector by working with international partners, such as USAID through the Energy Security Project (2018-2023) and the Energy Sector Transparency initiative (2019-2023)<sup>6</sup>. These initiatives aim to help government agencies and the energy regulator meet EU energy acquis requirements, establish competitive energy markets, and reduce opportunities for corruption in the energy sector. Transposition of EU regulation, such as through the draft Law on Projects of the Highest National Priority in the Field of Energy, which transposes EU regulation 347/2013, also has positive impacts in terms of transparency and anti-corruption practices.

These strategic plans and efforts have led to material outcomes, such as the creation of a comprehensive anti-corruption institutional infrastructure in Ukraine, or the upgrade of procurement processes. As is further discussed in chapter 7 of this *Review*, the anti-corruption system is composed of the National Anti-Corruption Bureau (NABU), the Specialised Anti-Corruption Prosecutor's Office (SAPO), the High Anti-Corruption Court (HACC), the National Agency for Corruption Prevention (NACP) and the National Agency on Recovery and Asset Management (ARMA) that enforce relevant laws, establish preventative mechanisms, investigate, prosecute and adjudicate corruption cases. Separately, and particularly relevant for the infrastructure sector, the government has implemented the ProZorro platform to ensure fair procurement processes (see chapter 2).

Corruption unfortunately exists in all sectors and its consequences are universally negative, but corruption in infrastructure is particularly harmful for transition economies. Despite increasing awareness and decisive steps that have been taken to decrease corruption and improve transparency in Ukraine, including in Ukraine's energy sector, on-the-ground observations point to the persistence of corruption. With the COVID-19 pandemic putting health, social and economic strains on an already fragile global economy, mitigating corruption in infrastructure is more critical now than ever. The perception of corruption also has reputational risks for governments, undermining public trust and disincentivising public-private co-operation with quality contractors.

### **Specific infrastructure investment: the example of heat transmission**

A key sector where Ukraine would greatly benefit from achieving energy efficiency gains is heating. Heating in Ukraine is mostly centralised, due to the Soviet legacy, and the lack of investment to update or maintain this outdated heating infrastructure generates significant energy and monetary losses. Investment to modernise heating transmission and distribution networks, as well as to improve building insulation would create immediate gains for the government and municipalities in terms of energy efficiency and financial proceeds, while contributing to wider goals such as the decrease of GHG emissions and of energy consumption per capita.

Ukraine has 33 122 kms of heat transmission and distribution networks. Transmission pipelines total 3 500 kms and distribution pipelines are owned by municipalities and total 20 800 km. Additionally, there are 12 400 kms of industrial pipeline networks. Despite the large heating network in the country, district heating is characterised by inefficient and outdated technologies, with assets close to or beyond the end of their design lifespans, considerable energy losses and inadequate maintenance of the infrastructure. As an inheritance of the Soviet era, most boilers have low efficiency factors, resulting in heat losses of 10% to 15%. Losses in the distribution network, mainly due to leaks and lack of pipe insulation, are estimated at around 17%.

Breakdowns are also frequent in Ukraine's district heating systems, estimated at more than 1.6 breakdowns per km of network in operation, which is approximately ten times higher than in well-maintained modern systems. Moreover, 70% of the delivered heat is lost in the end-use phase due to insufficient building insulation and the absence of adaptability of heat delivery to consumer requirements. By the end of December 2017, the installation of heat meters in buildings had increased to 90% from 32% in 2014<sup>7</sup>.

Government actions do not always align with the need to modernise heating infrastructure, and the overall energy infrastructure. For example, Naftogaz, which provides gas to district heating companies, indicates in its 2020 annual report<sup>8</sup> that it was forced to pay more than 90% of its profit to the national budget as dividends for two years in a row. This results from a decision by the Cabinet of Ministers of Ukraine to raise the mandatory payment of SOEs to the State from 75% to 90% of their net profit in 2019<sup>9</sup>. Naftogaz perceives this requirement as hampering its investment capabilities because it prevents the company from using retained profits to invest, and obliges it to raise external finance not necessarily on the most favourable terms.

## Outlook and policy recommendations

Investment in energy infrastructure is essential for providing the country with reliable, green and affordable supply of energy. The Energy Strategy of Ukraine until 2035 envisions that the government shall invest by itself, from the State Budget to develop energy infrastructure, not more than 5-10% of the general amount of investments. Hence, there is a gap in energy infrastructure investment that can only be filled with the participation of private investors.

Energy infrastructure is financed from different sources: by private investors like foreign and domestic corporations investing in renewable energy power plants, by SOEs, for example, Naftogaz in hydrocarbons extraction, storage, transport, and supply, or Energoatom building and reconstructing NPPs. In Ukraine, companies, both public and private, have access to capital via banks by means of loans or guarantees, IFIs, or capital markets, by means of bonds issue. However, foreign and domestic investors of energy infrastructure project still face challenges in accessing domestic long-term financing at affordable rates.

- **Improve market conditions for commercial banks to finance a higher share of energy infrastructure** by adopting policies that enable competition between commercial and state-owned banks. Reinforce projects' screening by lenders to avoid the very high proportion of non-performing loans that in turn increase banks' profitability and widen access to affordable credit.
- **Foster the development of green and climate financial products**, such as green bonds, that comply with best environmental, social and governance standards and practices.
- **Strengthen institutional capacity of the governmental agencies that participate in PPPs** by providing training to officers and develop awareness-raising tools directed at investors.
- **Establish prioritisation of PPP projects by the government** in order to send clear signals to investors and outline long-term relevant goals in PPP area. In addition, Ukraine should evaluate

the possibility of allowing PPPs in SOEs that are in the process of being privatised, in order to mobilise private capital in energy infrastructure.

- **Finalise the pending reform on land and evaluate the restriction on foreign companies to acquire agricultural land**, especially if Ukraine would like to activate the biofuel industry.
- **Continue implementing measures to enhance transparency and tackle corruption in the energy sector** by using technological tools in infrastructure energy projects such as CoST, and align citizen participation and information disclosure with the Open Contracting and Open Data Standards.
- **Advance the efforts to upgrade district heating and open investment opportunities to private companies** by scaling up the capital available for energy efficiency and DH modernisation projects with further potential to attract FDI.
- **Transpose EU Regulation 347/2013** through the Law on Projects of Highest National Priority in the Field of Energy.
- In collaboration with IFIs or development agencies, **create and offer continuous trainings to officials involved in PPPs**, covering topics from project selection criteria, contract management, prioritisation in infrastructure development and fiscal impacts of infrastructure projects, focusing on energy efficiency and renewable energy.

## Notes

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<sup>1</sup> IPR Questionnaire, answers provided by the Government of Ukraine.

<sup>2</sup> Resolution of the Board of the National Bank of 13 July 2021 No 80 on Approval of Amendments to the Regulations on protection measures and determination of the procedure for carrying out certain operations in foreign currency.

<sup>3</sup> CoST Ukraine Sixth Assurance Report, 2019, <https://infrastructuretransparency.org/resource/cost-ukraine-sixth-assurance-report/>.

<sup>4</sup> The Open Contracting Data Standard (OCDS) has many stakeholders: governments (procuring entities, monitoring & oversight authorities, project managers and policy makers), the private sector, and civil society organisations. The needs and interests of these stakeholders, as publishers and users of the data, are varied. As OCDS develops over time, with updated versions and new features, it is important that a diverse group of stakeholders are engaged in the process. See more at <https://standard.open-contracting.org/latest/en/>.

<sup>5</sup> The [Open Contracting Partnership](#), [CoST](#) - the Infrastructure Transparency Initiative - and [Open Data Services Co-operative](#) are working together to document how the [Open Contracting Data Standard](#), and additional standardised data models, can be used to represent, share and analyse all the information required under the [CoST Infrastructure Data Standard](#). See more at <https://standard.open-contracting.org/infrastructure/latest/en/>.

<sup>6</sup> [www.usaid.gov/ukraine/energy-energy-security](http://www.usaid.gov/ukraine/energy-energy-security).

<sup>7</sup> [www.iea.org/reports/ukraine-energy-profile/energy-security](http://www.iea.org/reports/ukraine-energy-profile/energy-security).

<sup>8</sup> Naftogaz 2020 Annual Report, [www.naftogaz.com/files/Zvity/Annual\\_report\\_Naftogaz\\_2020\\_EN\\_28\\_04\\_2021\\_3.pdf](http://www.naftogaz.com/files/Zvity/Annual_report_Naftogaz_2020_EN_28_04_2021_3.pdf).

<sup>9</sup> <https://interfax.com.ua/news/economic/583737.html> (Russian).

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**From:**  
**OECD Energy Investment Policy Review of Ukraine**

**Access the complete publication at:**

<https://doi.org/10.1787/6e6e58c6-en>

**Please cite this chapter as:**

OECD (2021), "Energy Infrastructure in Ukraine", in *OECD Energy Investment Policy Review of Ukraine*, OECD Publishing, Paris.

DOI: <https://doi.org/10.1787/0eafbf43-en>

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