

7 Conclusion and recommendations

This chapter sets out the OECD's main findings on Ukraine's electricity market and offers recommendations to promote competition and more generally to improve its functioning.

The recommendations address issues relating to the wholesale and retail markets, renewables and cross-border integration. Some call for changes with wide-ranging consequences while, others target specific challenges.

Ukraine's wholesale electricity market is designed to function as a competitive market in which regulation complements competition. Despite the pro-competitive basic legal framework enshrined in the Electricity Market Law, most market participants and stakeholders are dissatisfied with the status quo. The reasons for their dissatisfaction vary and are not without individual bias, but one concern shared by an overwhelming majority concerns a lack of regulatory stability. Entering the electricity market, especially as a producer, requires a significant commitment in terms of capital, time, and technical and administrative resources. The long time horizon for recouping investment explains this sentiment.

Frequent, short-lived regulatory changes create uncertainties that have a destabilising effect on the functioning of Ukraine's electricity market and undermine confidence among both investors and potential investors. These include the frequent use of temporary measures, some of which are applied or extended several times. A shift away from the interventionist approach of the past few years would create a more stable and transparent regulatory environment. Once the war is over, the timely removal of temporary measures implemented under martial law, such as the export public service obligation (PSO), would send a clear signal that would increase market confidence and facilitate recovery efforts. More generally, regulatory decisions should follow standard procedures and include consultations with market participants, whose views should be carefully considered.

One of the most important problems identified by this study are price caps in the wholesale market. Market-based price formation lies at the core of the competitive process, even more so for a homogenous commodity such as electricity. Limiting price formation should be executed with extreme care and only in specific circumstances. From a competition perspective, price caps may be justified by the risk of excessive pricing and if there are no better alternatives. Ukraine's wholesale electricity market is characterised by a high level of concentration. Although this warrants the special attention of the energy regulator and the competition authority, it does not in itself justify the imposition of price caps. In fact, relatively high concentration in the wholesale market is common in many countries, including EU member states. In the EU, market monitoring and surveillance has proved sufficient to prevent common instances of excessive pricing, market manipulation, insider trading and similar harmful behaviours. As a contracting party to the Energy Community, Ukraine has committed to implementing a "lighter" version of the Regulation on Wholesale Energy Market Integrity and Transparency (REMIT). As a candidate for EU membership, it will need to implement REMIT fully at some point. In this context, it would be opportune for Ukraine to set up a monitoring and surveillance system that operates as similarly as possible to the way REMIT does within the EU. With a solid monitoring and surveillance system in place, Ukraine should eliminate price caps. This will also be necessary for the continued integration with EU electricity markets. Market coupling, an important step in this direction, is inconsistent with wholesale price caps, and represents an additional reason to eliminate them.

Ukraine regulates electricity prices for households at levels well below market prices. This is not only an expensive policy but also detrimental to competition. At the wholesale level, the implementation of regulated prices has led to a segmentation of the market. This has had a negative impact on the liquidity of the wholesale market, making it less efficient and increasing the risk of abuse and manipulation. The small size of the commercial segment of the wholesale market also makes it harder for suppliers to procure electricity for the retail market. Regulated prices have a more dramatic and direct impact on the retail market, completely foreclosing competition in the household segment. It should be noted that support to vulnerable consumers is a perfectly justifiable policy and likely necessary in Ukraine. Direct and targeted support is the best way to implement it. At no higher cost than the current system, it could offer more and better support to those who need it the most.

Introducing new rules and revising existing ones is not the only way to promote competition in electricity markets. Investigations of potential cases of anticompetitive conduct and market manipulation, and the imposition of remedies and penalties in proven instances of such conduct, are necessary to ensure regulatory compliance. In Ukraine's organised electricity markets, in particular the day-ahead market (DAM), systematic market surveillance is essential to detect possible cases of market manipulation.

Implementation of a market surveillance system closely aligned to the EU's REMIT framework is the best means of achieving this. Market surveillance should be complemented by case-by-case investigations either by the Antimonopoly Committee of Ukraine or the National Energy and Utilities Regulatory Commission (NEURC), depending on the type of potential manipulation and on agreement between the authorities.

Since Ukraine joined the Energy Community, its energy sector regulatory framework has been intrinsically linked to that of the EU. The benefits of aligning Ukraine's regulatory framework with EU standards go beyond the legal obligation associated with Energy Community membership. Implementation of the EU *acquis communautaire* can increase trust in Ukraine's electricity markets and is necessary for their further integration with EU markets. With synchronisation and the prospect of EU membership, full integration offers the best opportunity to increase competition. Commercial exports and imports can reduce the market power of domestic producers and make the wholesale electricity market more competitive.

The timeframe for implementation and for the realisation of benefits differs between the recommendations. Some are likely to be easier to put into place than others and they will variously yield rapid or longer-term results. Most of the recommendations presented here are designed with the post-war period in mind, when Ukraine has successfully restored the normal functioning of its economy. However, some recommendations can be implemented earlier, and, in some cases, work is already under way to do so. Where relevant, this is pointed out in the recommendations.

Many recommendations are interconnected and should be seen as a package. Some can be implemented on their own, but others will require the implementation of appropriate support measures, and the expected impact of implementation varies by recommendation. To assist with implementation following this report, the OECD's recommendations are grouped, and within those groups are loosely ordered by suggested priority. The groupings are loose, as some recommendations may fit into more than one group. The first group concerns the wholesale market, and the second targets the retail market. The third group comprises issues specific to generation from renewable energy sources (RES). The fourth group of recommendations concerns continued integration with EU electricity markets.

7.1. Promote competition in the wholesale electricity market

Effective wholesale competition is the foundation of a broadly competitive electricity market. Measures to promote wholesale competition should therefore be implemented in advance of, and in some cases in parallel with, measures aimed at the retail market. The overarching objective should be to promote competition by increasing liquidity and improving price formation.

7.1.1. Improve price formation

Unrestricted price formation is a precondition for effective competition. It should be restricted only if absolutely necessary, and then only for the shortest time possible.

Remove price limits

Price limits, especially price caps, restrict and distort price formation in the DAM, the intraday market (IDM) and the balancing market (BM). It is of the utmost importance for the entire electricity market that prices on these markets correctly reflect supply-demand conditions. The most important market for price formation is the DAM, whose prices serve as the main price reference for other parts of the electricity market. Incorrect price signals on the DAM have a particularly distortive effect on the functioning of both the wholesale and retail market, and also on investment. Although the IDM and the BM are less influential in terms of overall price formation, accurate price signals in these markets are necessary to ensure that balancing costs are managed efficiently.

Price caps also represent a major hindrance for integration with European electricity markets and are incompatible with market coupling.

Enhanced market surveillance, alongside effective penalties for misconduct, can sufficiently reduce the risk of price manipulation, especially excessive pricing. Merger control and enforcement of competition rules can also contribute to mitigating this risk.

Ideally, an effective surveillance system should be in place when price caps are removed. To further reduce risks involved in the removal of price limits, they could be first increased in several steps.

Revise technical price limits

Ukraine should revise the current technical price limits applied on the DAM, the IDM and the BM. The technical price limit should be based on an estimate of the value of lost load or on an alternative mechanism with a similar effect, such as the adjustment mechanism applied in the EU. This would ensure that bids are restricted to a level that is in line with consumer demand.

Harmonisation of technical price limits with those in the EU will be necessary for cross-border trading under market coupling.

Allow negative market prices

Price signals should not be restricted by disallowing bids below 0 UAH/MWh. The DAM and IDM Market Rules should be adjusted accordingly. Under certain circumstances, negative prices can signal an oversupply of electricity and incentivise reductions in supply and demand response, fostering greater flexibility on both the supply and demand sides in the long term. Negative prices can contribute to a better integration of a higher share of RES generation in the wholesale market.

Negative wholesale electricity prices are not an imminent concern in Ukraine, and as such not the highest priority. Yet the change should be easy to implement.

7.1.2. Reduce market segmentation

Market segmentation imposed by regulation distributes electricity volumes over several market segments. This reduces the volumes available in the commercial segments of the wholesale market and hinders the development of liquidity, potentially facilitating market concentration. Low liquidity and high concentration make a marketplace less reliable and trustworthy, and more susceptible to manipulation.

Increasing volumes in the commercial segments of the wholesale market is a crucial step towards ensuring the necessary supply side conditions for competition to flourish.

Reduce market segmentation to increase liquidity

Significant volumes of electricity are sold in the special section of the Ukrainian Energy Exchange that are not available to the commercial segments of the wholesale market. This reduces liquidity in the commercial segments and makes them less reliable and more vulnerable to manipulation.

The largest proportion of the special section comprise electricity sold under the PSO for households, which prevents Energoatom from selling part of its output there. The objective of the PSO – to ensure viable regulated household prices – can be achieved by other, less distortive means. Addressing the difference between market prices and regulated household prices by using the state budget would not interfere with the functioning of the wholesale market. Alternatively, a fully financial PSO would represent a somewhat less distortive system than the current hybrid PSO. In the medium term, the gradual introduction of market-based prices for households should eliminate the need for the household PSO.

Promote direct marketing by RES producers

RES producers should be responsible for marketing their output and thereby participate more directly in the electricity market. The RES support scheme should incentivise direct marketing by current RES producers. RES producers opting for direct marketing should be offered a feed-in-premium to replace the “green” tariff.

7.1.3. Other steps to improve market function

The recommendations below aim to improve different aspects of the wholesale market. Developing better market surveillance and increased transparency are matters of the highest priority.

Improve market surveillance

REMIT is a comprehensive surveillance system for wholesale market transactions. Implementing it can reduce the risk of market manipulation, increasing transparency and trust in the market, which benefits liquidity and competition.

Ukraine should implement REMIT “Light” and prepare for the implementation of REMIT in full. As a preparatory step, NEURC should, for instance – and to the extent it has not already done so – join European Union Agency for the Cooperation of Energy Regulators working groups as an observer and consider organisational changes to accommodate REMIT requirements.

Ukraine’s market surveillance system must be able to identify suspicious wholesale transactions in close to real time. Suspicious transactions should be investigated and, if justified, sanctioned.

As a general rule, producers other than pumped-storage hydro power plants and power plants or units that operate only a limited number of hours annually should bid at their marginal costs on the DAM. Bidding behaviour deviating from this rule should be the focus of in-depth investigations.

Increase market transparency by improving the quality of reporting

High-quality market reporting is an important tool for informing market participants and stakeholders about the state of electricity markets.

NEURC should report market indicators consistently across all market segments. It should develop and publish the methodology used to calculate indicators – especially those indicating market liquidity, concentration and power – and the underlying anonymised data to ensure its quality.

Since publication of sensitive information is restricted under martial law, this recommendation can be fully implemented only after the end of the war. However, development of the methodology need not wait for this.

Provide potential investors with reliable information on long-term generation capacity developments

Following the end of the war, up-to-date, reliable information should be provided on the phase-out of old fossil fuel plants under the National Emission Reduction Plan and the decommissioning of nuclear power plants, and on planned RES generation auctions. A firm and credible commitment should be made to shutting down old highly polluting plants and to organising RES auction plans. Whenever changes to phase-outs or RES auctions are inevitable, they should be communicated and explained to stakeholders without delay.

It is also vital to ensure the coherence of long-term plans in various high-level national policy documents, such as the National Energy Strategy of Ukraine until 2035, the National Energy and Climate Plan and the National Renewable Energy Development Action Plan, to minimise uncertainty and avoid misinformation.

Promote liquidity on the DAM

The DAM is a well-established market with a high level of transparency that offers reference prices for other market segments. Increased trading on the DAM is an appropriate way of ensuring that electricity is sold and purchased in a transparent manner. To improve liquidity, transparency and price formation, an increased minimum threshold for selling electricity on the DAM should be considered. This could serve as a temporary measure until trading on the bilateral market becomes more liquid.

Carry out an independent evaluation of bilateral electronic auctions on the Ukrainian Energy Exchange

There are indications that the outcomes of bilateral auctions do not always properly reflect market conditions. This may be due to sellers having too much scope for setting specific auction conditions, partly obstructing buyers' access to auctions.

The rules and outcomes of past auctions should be assessed with a view to improving the functioning of the bilateral agreement market. Based on an independent evaluation, the rules should be adjusted to reduce entry barriers for potential buyers.

Promote demand side response by consumers

Demand response increases the elasticity of demand, which reduces suppliers' ability to increase prices. The effect of doubling demand elasticity is equivalent to doubling the number of generators operating in the market.

Demand response can be incentivised by exposing consumers to short-term price signals on a voluntary basis. For example, time-varied electricity prices enable consumers to shift their electricity consumption away from times at which higher prices are charged and thereby reduce their energy bills.

The greatest potential for demand side response probably lies among large industrial electricity consumers. They can – and already do – participate in the wholesale market, but their participation should be encouraged further.

Finally, aggregators, as a new type of energy service provider that can regulate the electricity consumption of a group of consumers in response to real-time prices, should also be fostered.

Allow long-term commercial power purchase agreements for new generation capacity

Commercial power purchase agreements (PPAs) are one method of ensuring the financing of new generation capacity. Currently, the maximum duration of commercial PPAs is one year. Such a short duration is insufficient to secure financing for new generation capacity. For new power plants, the duration of PPAs should not be restricted. Restrictions on existing producers may be necessary to ensure market liquidity but should be imposed according to clear rules.

The removal of PPA duration limits for new power plants will be a simple measure to facilitate investment following the end of the war.

7.2. Promote competition in the retail electricity market

Measures to improve the functioning of the wholesale market, as outlined above, should be complemented by measures to boost competition in retail markets and ensure its full benefits are realised. This will be important in the short term to allow non-household users to benefit from greater competition. In medium to longer term, it can enable the introduction of effective competition in the household segment.

7.2.1. Phase out regulated prices for households

Regulated prices for households stifle competition in the retail market and result in high electricity consumption. Regulated tariffs should be abolished and replaced with more efficient pricing. To mitigate any negative effects of removing regulated tariffs for households, a gradual approach is recommended, as follows:

- **Narrow the eligibility criteria for supply at regulated prices.**

At the most basic level, regulated prices should be granted only to individual households. Collective households should be ineligible for them.

- **Gradually increase regulated prices for households to competitive levels.**

Regulated tariffs should be increased to the level of universal service supplier prices, which should take their place. Higher regulated prices should be accompanied by targeted support for vulnerable customers and extensive energy efficiency improvement initiatives. Direct support is more effective and less costly than keeping prices below market levels for all households.

The phase-out of regulated tariffs should also be accompanied by the implementation of transparency-boosting measures such as price comparison tools for household consumers and easier switching of suppliers.

7.2.2. Simplify and improve ways to switch suppliers

Ukrenergo should automate processes for changing electricity suppliers. It should implement a procedure on its Datahub platform, reviewing it after one year and regularly thereafter. Ensuring an efficient procedure for switching suppliers will be of great importance when competition is introduced to the household segment.

7.2.3. Improve transparency of supply contracts in the business segment

Easier price comparisons allow customers to identify their best supply options and incentivise competition among suppliers. Commercial offers with variable prices should provide estimates of electricity prices and potential expenditures for various consumption patterns. NEURC should adjust the rules for commercial offers and specify a common methodology to provide price estimates. It should develop and operate a price comparison tool to facilitate consumer choice in the business segment.

7.3. Promote RES generation and market participation

Support for RES is needed to reduce greenhouse gas emissions and energy dependence. Integration of RES producers into the normal functioning of the market would reduce market concentration and increase competition.

7.3.1. Develop incentives for current and future RES producers to participate in the balancing market by providing balancing services

Improving price formation on the BM by phasing out price caps would provide a market-based incentive for increased participation in this market.

Any RES support scheme for new capacity should allow and incentivise future RES producers to offer balancing services on the BM. The latest version of the RES support schemes should be reviewed and revised accordingly.

Reviewing the RES support scheme for existing RES producers and future RES projects could identify adjustments to promote RES participation and should be carried out in close co-operation with RES producers and potential investors.

7.3.2. Implement a certification mechanism for electricity produced from RES (guarantee of origin)

Both RES producers and electricity consumers would benefit from a guarantee of origin (GO) system, which would allow RES producers to market their electricity at a premium and permit consumers to opt for certified green energy. The premium could improve investment in, and operational conditions for, RES generation. A GO scheme could also facilitate direct electricity exports by RES producers.

Implementation of GOs requires legislation to appoint an issuing body and the creation of an electronic registry. The issuing body should be equipped with the necessary legal powers and have the technical, financial and human resources to set up and operate the system. The GO system should be compatible with the European Energy Certificate System. As part of this progression, the Ukrainian issuing body should join the Association of Issuing Bodies.

Income from selling certificates under the current green support mechanism could go to the Guaranteed Buyer to help settle its financial obligations to RES producers and to ensure they are paid in full and on time. RES producers outside the support scheme should receive and be entitled to use their certificates without any restrictions.

7.3.3. Create a level playing field for zero-carbon generation technologies

Internalising the cost of CO₂ emissions would put all generation technologies on an equal footing and reduce or eliminate the need to support RES generation. It could be implemented by setting the CO₂ tax at a level fully reflecting the negative effects of greenhouse gas emissions. As an alternative, an emissions trading system compatible with, and ready to be linked to, the EU Emissions Trading System (ETS) could be introduced. The emissions trading system may be less disruptive to the economy than increasing the CO₂ tax.

In setting up the system, Ukraine could benefit from the European Commission's technical support. It could also benefit from the experience Switzerland gained in linking its emissions trading system to the ETS.

7.3.4. Support for new (non-residential) RES facilities should be granted solely through competitive auctions

Auctions for RES facilities introduce an element of competition for market into the system of support for RES production. Auctions are more efficient than fixed feed-in-tariffs because competition can lower the cost of support. The success of auctions depends on many factors, including their design, regulatory stability and general economic conditions. It would be advisable to start with small-scale test auctions for RES capacity based on the latest provisions in renewables support legislation. The results of these auctions should be analysed and discussed with existing and potential investors, and adjusted, if necessary, before large-scale auctions are held.

RES producers should sell their output on the electricity market and be fully responsible for their imbalances. This should be a mandatory obligation implemented through contracts for difference.

7.3.5. Evaluate the cost-effectiveness of feed-in premiums vs. feed-in prices for RES auctions

Feed-in premiums and feed-in prices are two widely used options for supporting RES generation. Ukraine's new draft renewables support law promotes auctions with feed-in premiums. The premium exposes RES producers to market prices, but it creates significant uncertainty over revenues, which may increase

financing costs, pushing up the cost of support. Ukraine should evaluate the cost effectiveness of both approaches and, if justified, opt for auctions with feed-in prices in the form of contracts for difference.

7.4. Cross-border market integration

Successful synchronisation represents an important step towards Ukraine's electricity market integration with the EU. With Ukraine's EU candidate status, increased integration will likely become an essential part of the accession process.

Further, integration of Ukraine's wholesale electricity market with EU electricity markets presents a unique opportunity to improve competition over the long term. Increased interconnection capacities, coupled with the opportunity to import and export electricity, allow new players to compete, reducing market concentration and introducing competitive dynamics. In addition, they offer substantial benefits in terms of system security.

The recommendations below are interrelated, and their implementation should be undertaken as a package. The benefits of market coupling increase with higher cross-border capacity and vice versa.

7.4.1. Increase interconnection capacity to work towards the EU target of at least 15% by 2030

The EU set this target to improve cross-border electricity interconnections, which will allow countries to boost their security of supply and to integrate more renewables into energy markets.¹ Connecting previously isolated electricity systems mitigates the risk of electricity blackouts, reduces the need to build new power plants, and facilitates the management of variable renewable electricity sources such as solar and wind.

7.4.2. Work towards full market coupling

To achieve effective market coupling, implicit auctions should be organised and trading rules should be harmonised with those of the EU. As a short-term objective, Ukraine should implement joint auctions for cross-border electricity trading with neighbouring countries. Before such auctions are arranged, the EU guidelines on capacity allocation and congestion management² and on forward capacity allocation³ need be implemented. Related cross-sectoral legislation on matters such as tax codes, and especially VAT rules, should be reviewed and revised as necessary to ensure barrier-free cross-border trading.

Timely implementation of this recommendation is crucial. Preparatory work is under way and Ukraine plans to implement the two guidelines by the end of 2023.

Notes

¹ Regulation (EU) 2018/1999 of the European Parliament and of the Council on the Governance of the Energy Union and Climate Action, 11 December 2018, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2018.328.01.0001.01.ENG.

² Commission Regulation (EU) 2015/1222 establishing a guideline on capacity allocation and congestion management, 24 July 2015, <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32015R1222>.

³ Commission Regulation (EU) 2016/1719 establishing a guideline on forward capacity allocation, 26 September 2016, https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=uriserv%3AOJ.L_.2016.259.01.0042.01.ENG.



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