

# Policy Note 2019.3 – Debts in the Ukrainian Electricity System

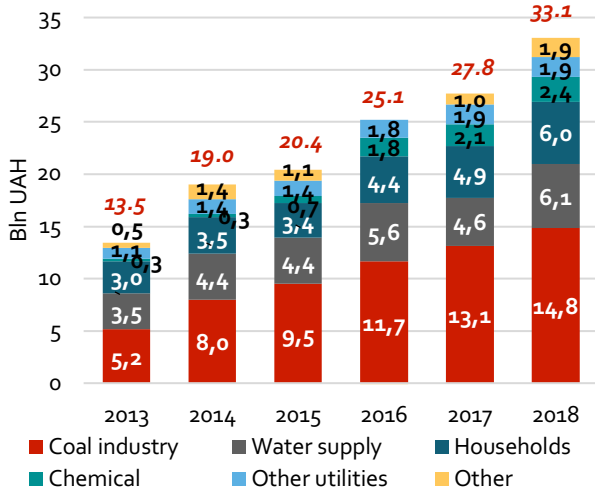
STARTING with unpaid electricity bills from consumers, debt trickles down the entire Ukrainian electricity value chain, leaving almost no participant unaffected. The problem of accumulated debt poses a major obstacle on the way towards a new electricity market as envisioned in the Energy Strategy of Ukraine. A solution to this problem needs to be found before the new electricity market design is introduced. Simply writing off old debt is clearly the wrong way as it would even encourage running into debt again. Instead, the roots of the current problem need to be identified and addressed.

## The main debtors on the consumer side

The accumulation of debt on Ukraine’s electricity market starts with consumers not fully paying electricity suppliers for the electricity they consume. In consequence, these suppliers cannot fully pay for the electricity purchased from the wholesale market operator Energorynok. Energorynok, in the end, cannot fully pay neither the electricity generating companies, the transmission system operator (TSO) Ukrenergo nor their tax obligations to the state budget. Only within the last five years, the amount of debt to suppliers has increased by around 20 billion UAH and has thus more than doubled.

It is worth taking a closer look at the landscape of debtors on the consumer side: Ukraine’s coal industry is by far the biggest debtor – between 2013 and 2018, coal industry accounted for 49% of the entire debt to suppliers. The absolute amount of its debt has almost tripled during that time. Coal industry is followed by households (15% of total debt to suppliers), Water supply companies (14%), and the chemical industry (11%).

## Dynamics of consumers’ debt to suppliers, bln UAH



Source: Own calculations

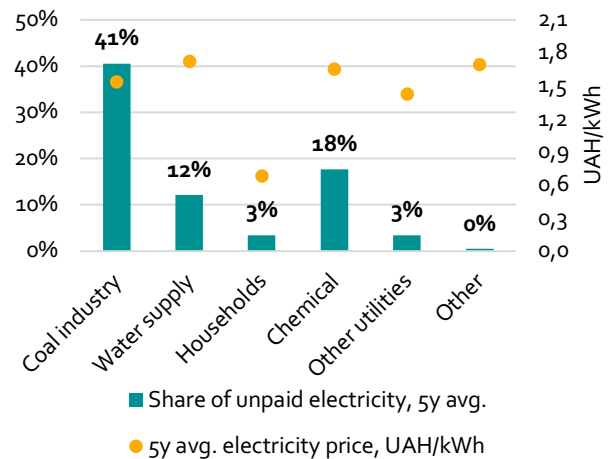
After the implementation of the new retail market in January 2019, many “notorious” debtors such as coal and water supply enterprises were transferred to the supplier of last resort, Ukrinterenergo, where new debt piles up now.

Still, the mentioned debtors only constitute small shares of total electricity consumption: With the exception of

households, who consume 16% of total electricity, the other three only consume less than 5% respectively. This indicates that payment discipline is especially bad among these actors.

In fact, the coal industry has paid less than 41% of the electricity it consumed during the last 5 years. The payment discipline for other consumer groups is significantly higher. Especially household consumers (who pay the least for each kWh of electricity) perform well. One would therefore expect higher prices leading to worse payment discipline. However, the graph below shows no clear correlation between the two.

## Shares of unpaid electricity and electricity prices



Sources: Own calculations

What the data do show is that absolute debt accumulation rises with increasing electricity prices – which is just logical given that debts are the product of (unpaid) consumed kWh times their price per kWh. Over the last five years, Ukrainian electricity consumers have faced an average 20% increase in electricity prices. At the same time, debt accumulation has on average increased with similar speed. Still, this relation is weaker for households, which have experienced a 29% price increase over five years but show an accumulation of debts of only 14% over that time, indicating a weaker link between payment discipline and price increases.

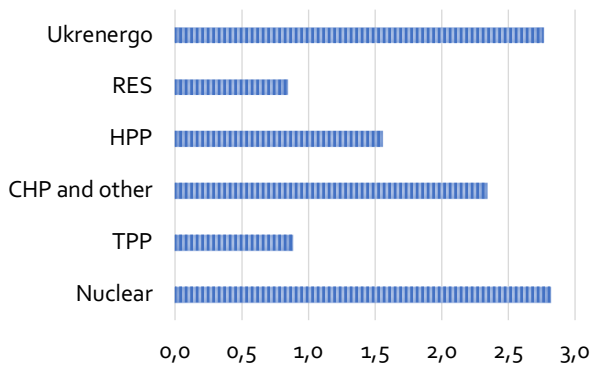
Why is Ukraine’s coal industry so heavily indebted? Around 65% of total coal industry debt stems from state-owned companies. First, this might result from the fact that state-owned coal mines are largely unprofitable, which makes it difficult for those companies to cover their electricity costs. Second, the large share of state-owned debtors could indicate inefficiencies in the regulatory framework or in its enforcement. Third, some coal enterprises might be located in non-controlled territories of Ukraine.

The indebtedness of water supply and chemical enterprises is mainly due to the fact that many of them have been protected from forced electricity cut-offs as a result of unpaid bills because such abrupt cut-offs could cause environmental damage. Despite the obvious need to protect security-related industries, this regulation might have been detrimental to the incentive to pay electricity bills.

**State-owned companies – big in debt, big in credit**

Once consumers get into debt by not fully paying supplying companies for what they consume, this debt is passed on from suppliers to Energorynok. Eventually, it ends up at the beginning of the electricity value chain – generating companies and the TSO – that are not fully paid for their product or service by Energorynok. Moreover, the state budget is therefore partially deprived of the taxes on electricity. There are large differences between generating companies in the amount of accumulated debt. Of all the electricity that was not paid for by Energorynok to generating companies, state-owned Energoatom – the operator of all four Ukrainian nuclear power plants (NPP) – accounts for 44% alone. By the end of 2018, this added up to 12.4 billion UAH (390 million EUR) in outstanding payments to Energoatom. Following Energoatom, operators of thermal power plants (TPP) have open receivables of 6.8 billion UAH (24%), operators of combined heat and power plants (CHP) have 4.7 billion UAH (17%) and the state-owned operator of hydro power plants (HPP) has 1.2 billion UAH of outstanding receivables. Summing up, this shows that state-owned companies and the state budget have the highest receivables. One might assume that Energoatom’s share simply results from the fact that nuclear provides around half of the country’s electricity. Yet, a comparison of debt to the turnover of the respective generator gives a better picture of the burden that these companies carry.

**Receivables-to-turnover ratio for generators and TSO, 2018**



Source: Own calculations

➤ A ratio of 2 means that accumulated receivables are two times higher than the usual monthly turnover

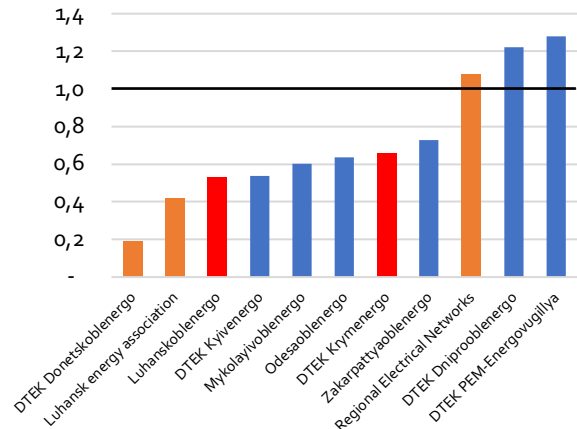
The figure above shows that the receivables-to-turnover ratio is especially high for state-owned companies – Ukrenergo, HPP-operating Ukrhydroenergo, and NPP-operating Energoatom. In the end, these companies suffer most from the initial debt from consumers to suppliers, which interestingly also stems to a large extent from state-owned companies not paying their bills.

**Suppliers inflate the amount of debt in the system**

Finally, one needs to take a closer look at the role of suppliers in the Ukrainian electricity debt scheme. Suppliers have to purchase every kWh of electricity they sell to consumers from the wholesale market, which is operated by Energorynok. If consumers do not pay their bills, suppliers cannot pay Energorynok in turn. Yet, it turns out that many suppliers have

even higher liabilities to Energorynok than receivables towards consumers.

**Coverage ratio of electricity suppliers**



Source: Own calculations

- Companies that do not conduct business
- Companies with debts from non-controlled territories

➤ A coverage ratio above 1 means that consumers’ debt is enough to cover debt for electricity to Energorynok

The graph above shows that several suppliers have even more debt to Energorynok than receivables towards consumers. Altogether, 8.6 billion UAH of debt to Energorynok is not covered by receivables towards consumers. It must be taken into account that some suppliers are from currently non-controlled territories of Ukraine, which means that short-term enforcement prospects for Energorynok are limited. As of 2018, two heavily indebted suppliers have moreover stopped operations – their debt amounts to 2.4 billion UAH and might never be collected.

**What remains to be done before a new market starts**

Ideally, the existing debt problem on Ukraine’s electricity market should be resolved before the introduction of the new market, scheduled for July 2019. It would be a grave error, however, to choose the simplest of all options: Writing off the existing debt and hoping that the problem disappears. The opposite would happen – knowing that the government stands in every time debts are out of control by freeing debtors from their obligations, debtors’ payment discipline would likely be even worse afterwards.

Instead, it is highly important to avoid the emergence of new debt and to tackle the root of the problem. On the consumer side, this might involve the need to restructure unprofitable state-owned coal mines, which hardly pay their utility bills. Another challenge is to improve the compliance with grid codes – that means cutting off consumers that do not pay.

If this debt problem is not solved properly by new market rules, it might as well turn into a real security problem soon: Energoatom, which already complained that regulated tariffs are too low to cover maintenance costs for their NPPs, additionally faces the highest pressure from ever-increasing debt piling up as receivables on their balance sheet.