The Bridge over the Prut, version 2.0: the electricity interconnection between Romania and Moldova

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Contents

Introduction ............................................................................................................................................ 4
Electricity in Moldova: a sector with many issues .............................................................................. 5
The electricity interconnection with Romania: characteristics and significance ...................... 13
Three scenarios .................................................................................................................................... 15
Lessons learned from the Ungheni-Chisinau gas pipeline project .............................................. 18
Conclusions ........................................................................................................................................ 19
Recommendations ............................................................................................................................. 20
  Annex 1. Romania’s experience with the energy regulator ANRE .................................................. 24
Introduction

Moldova’s electricity sector remains vulnerable and weak because of corruption, dependence on unreliable suppliers which abuse their dominant position, and unfinished liberalization. In fact, the rules of the game in the sector are incomplete and discriminatory, at the expense of the Moldovan taxpayer or small consumer. A recent example is the controversial tender for electricity imports in early 2016. Moldova continues to purchase energy from Transdniestra, which pushes up the consumption of non-paid gas. The irresponsible behavior of players in the separatist region – with the blessing of Chisinau – increased Moldova’s total gas debts to the Russian Federation, which are now as high as 80-90% of the country’s GDP. Delays in dealing with the issues of mismanagement and corruption in the energy sector burden the whole economy of the country, far beyond the energy sector.

The full implementation of the European rules of the Third Energy Package can be a powerful tool to clean up the sector of dubious contracts. Thus, European directives require to strengthen the energy regulator ANRE, so that it can design and enforce fair rules on the market; to unbundle the interests of suppliers from networks, to commercialize the sector through liberalization and competition in the wholesale and retail markets. But the liberalization required by the Third Energy Package is neither feasible, nor in the benefit of consumers, if just a few suppliers have physical access to the market, as is now the case for electricity imports, and consumers have no choice. Similarly, competition in the market cannot be free and transparent without a regulator to ensure level play, e.g., by ensuring non-discriminatory access for all suppliers to transmission and distribution grids or requiring that all suppliers have clean balance sheets, with no debts and arrears to suppliers, in order to obtain or keep their licenses. In other words, the energy sector reform consists of simultaneous efforts to increase the number of suppliers in the market; build competitive market mechanisms and appropriate instruments; strengthen the regulator; and liberalize the sector. In this report, we focus primarily on the institutional prerequisites to be met before Moldova can be physically connected to the Romanian electricity grid and access competitive energy from Romania, providing Moldovan consumers with more choice and enhancing Moldova’s energy security.

1. Completing the physical interconnection does not make much sense if European (Romanian) suppliers have no guarantee that they can compete fairly with the incumbents. It is critical to set up a clear, transparent, competitive and internationally-observed procedure for electricity imports and to eliminate offshore energy intermediaries like Energokapital, which provides energy to now regulated consumers at non-transparent prices and builds up Moldova’s gas arrears.

2. The energy regulator must be strengthened. The real political will would become apparent at the appointments of ANRE’s leadership, while the regulator would really be independent if it could effectively withdraw Energokapital’s licence without fear of reprisal, perform an in-depth analysis of what happens with the energy contracts in the market, and could approve tariffs regardless of what the politicians say.

3. The feasibility of the interconnection project consists not only of fine engineering technicalities, but depends critically on how adequate is the institutional setup of the sector. To avoid the mistakes that delay the effective functioning of the gas interconnector Lasi-Ungheni-Chisinau, one must clarify right from the start: who owns the interconnector, who pays, how to charge the users, what are the company’s responsibility to customers, suppliers, government, financing institutions and how the responsibilities for cross-border regulation should be split between the Moldovan and Romanian ANREs.
Electricity in Moldova: a sector with many issues

In theory, Moldova relies on three sources of electricity supply (Table 1). 20-25% of consumption is produced domestically, mostly in the CHPs in Chisinau and Balti. These face many problems and are subject to a restructuring process started several years ago to put the district heating on sound economic footing and limit losses from inefficient units, e.g. by closing CHP-1. Electricity produced in cogeneration is at a regulated price. There are no other significant domestic sources of electricity and no prospect of substantial investment anytime soon. Market and current regulations are not particularly friendly towards investments in renewable energy, which make up for about 1% of the energy mix in Moldova. Investments in renewables will be limited also by the balancing capacity available in the country, estimated by Moldelectrica to be sufficient for just up to 150 MW installed capacity in uncontrollable renewables. There is potential for investments in conventional generation, for example, Termoelectrica could expand its production of heat and electricity through new and modern capacities or a gas-fired plant for balancing. Both would be feasible only with private investment. Private investors, though, would be interested only if there is a stable and reliable source of gas and only if they gain confidence in the functioning of the energy market in Moldova.

Table 1. Electricity sources in Moldova

<table>
<thead>
<tr>
<th></th>
<th>mil kWh</th>
<th>% of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic production</td>
<td></td>
<td></td>
</tr>
<tr>
<td>o/w</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Termoelectrica</td>
<td>792.8</td>
<td>21.3</td>
</tr>
<tr>
<td>CHP Nord</td>
<td>670.5</td>
<td></td>
</tr>
<tr>
<td>HPP Costeşti</td>
<td>53.2</td>
<td></td>
</tr>
<tr>
<td>Other domestic producers</td>
<td>49.8</td>
<td></td>
</tr>
<tr>
<td>Imports</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>2924.4</td>
<td>78.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>3717.2</td>
<td>100.0</td>
</tr>
</tbody>
</table>


The other energy consumed, about 75-80% (or 3 billion KWh) of total consumption, is imported either from the electricity supplier in the Transdnistrian region - Cuciurgan power plant (privatized in 2005 with the Russian group RAO EES), or from Ukraine. In November 2014, the Republic of Moldova imported half from the Ukrainian company DTEK and half from Cuciurgan. At the end of 2014, however, Ukraine suspended its exports to Moldova because it experienced supply deficits for its own domestic consumption, following the instability in the Donbass region.

Consequently, in 2015-2016, Moldova imported exclusively from Cuciurgan, just like in 2010, when 99.2% of electricity was imported from the separatist region (See Figure 1). However, at present, Ukrainians seem to be interested again to export to Moldova, as could be seen from the fact that they placed offers in the tender in the spring of 2016.

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1 In the winter 2016-2017, CHP-1 was briefly put back on line because CHP-2 experienced some technical problems.
2 Order of the Ukrainian Ministry of Energy and Coal Industry 829 of 24.11.2014, according to which the commercial electricity exports to Moldova were suspended as of 08.11.2014.
Graph 1. Production, imports and electricity purchases, 1997-2015, mil kWh. The share of imports from Ukraine vs Transdniester varied based on the "political situation" in the region.

Source: ANRE, annual report 2015

But unlike in 2010, after November 2014 all imports come from Cuciurgan station not directly, but through an intermediary, Energokapital, with offshore ownership. The company does not pay for the gas consumed by the power plant, which essentially increases Moldova’s total debt for Russian gas. It must be noted also that Energokapital acts as a "fuel processor" and not as an energy trader. The intermediary contracts directly its gas purchases and "processes" the fuel in Cuciurgan power plant, and then sells the electricity.

Despite not paying its own gas suppliers, Energokapital, with an office in Chisinau, holds a supplier license from ANRE since the end of 2014, for successive, renewable periods of 6 months. This would not be possible in Romania or in other European countries where the legislation would simply not allow that a supplier with such large arrears and dubious financial statements obtain a license to supply. A company with historical debts in a normal market would be at risk of going bankrupt, which means it could not be a safe, reliable supplier to its clients.

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3 Energokapital has two owners. The first is the company "Market Bas", registered in Tiraspol (on July 30, 2014), which has two other owners - the company "Intercom Management LTD" in the Belize Islands and Iurie Dzeta, a person known as a close associate to the former head of the administration in Tiraspol, Yevgeny Shevchuk. The other owner is the offshore company "Ornamental Art Limited", registered in Hong Kong.

4 In the first half of 2016, the debts to Gazprom reached 5.8 billion USD. [Link](http://www.moldovagaz.md/press/ru/2016/september/article771). This represents some 80-90% of the country’s GDP.

5 [Link](http://crimemoldova.com/news/social/energocapital-vs-energocom-o-nou-edin-am-nat/) “Energocapital pays to the main electricity producer in Moldova, Cuciurgan, for the processing of natural gas into electricity and then sells the energy to the state company Energocom”
The interconnections with Romania, both on electricity and gas, are critical for several reasons. First, electricity in Romania is at least 15-20% cheaper than the energy currently imported in Moldova; only this price gap would allow full recovery of the investments for the interconnection infrastructure in just a few years. The electricity interconnection makes economic sense, unlike the gas pipeline. What is more, the electricity is imported from Cuciurcan without paying for gas. This debt adds up to Moldova’s total debt to Gazprom (and it represents some 90% of the total debt), which poses a major threat to national security. At least in theory, Gazprom may at any time execute the debts and can thus gain control over certain assets or critical infrastructures in Moldova.

The electricity interconnection would also benefit producers in Romania, particularly in renewable energy, which are concentrated in Dobrogea. Thus, the Southern interconnection with Moldova could also serve to relieve the oversupply in the region and the congested Romanian electricity grid. Moreover, unlike the case of the gas interconnection, the Southern electricity interconnection does not require major investments on the Romanian side. This is an important advantage. We noted in the case of the gas interconnection how difficult it can be to finalize a project that requires money from two budgets and the coordination of investments and works in both countries.

As in the case of gas, the electricity interconnection with Romania would not switch from a dependence of imports to another, from Ukrainian and Transniestrian suppliers to Romanian ones. All participants will have to compete with each other, which would provide the Moldovan consumer with choice and greater energy security. Therefore, no matter what happens, be it that a problem occurs on a line or station, or that a supplier interrupts supply for any reason, Moldovan consumers will have an alternative. In other words, even if the interconnection with Romania is finalized, Moldovans could still buy energy from Ukraine through the existing lines (7 lines of 330 kV and 11 lines of 110 kV), which already have physical access to the infrastructure in Moldova. Furthermore, the Republic of Moldova will be able to export energy from Ukraine to Romania and from Romania to Ukraine.

It must be noted that, no matter what technical solution is chosen for the interconnection with Romania (and, implicitly, with the European energy market), whether in synchronous or asynchronous mode, the Moldovan energy system will remain interconnected and compatible with Ukraine’s. In other words, the interconnection "with the West" does not preclude the interconnection "with the East". In addition to diversifying energy supplies, the interconnection with Romania strengthens the integration of the Moldovan energy system in Europe, through Romania. This means not only physical access to energy, but also great institutional pressures "from abroad" to set up fair market institutions and rules, greater transparency and regulations that are essential to reduce corruption and vulnerabilities in the sector.

Risks of the status quo

If things continue as they are, Moldova faces two major risks: a) it will remain dependent on unpredictable, unreliable electricity supplies; and, b) it will continue the current practices in

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7 Average prices on OPCOM power exchange in 2016 are about 30-35 EUR/MWh, though they declined significantly in recent years because of the renewables boom in Romania. Import prices in Moldova, even after the “successful renegotiation” in spring 2016, are 48 USD/MWh, or 45 EUR, while before April 2016 they were 68 USD/MWh, or 60-63 EUR. Even if Romanian prices would increase in the longer run, the price difference between the two markets would not decrease too soon.
purchasing electricity for imports, through non-transparent contracts with preferential partners, at the expense of the consumers and taxpayers.

a) Unpredictable electricity supplies

Moldova's electricity import supplies are always uncertain. Before the interconnections with Romania through high voltage power lines are completed, Moldova is physically connected for imports only with Ukraine (from suppliers such as DTEK Energo, Energo Donbass etc.) and Cuciurgan. In 2014-2016, Ukraine substantially reduced its exports to Moldova, and actually suspended them completely in November 2014. In the spring of 2016, Ukrainian suppliers expressed again their interest to supply to the Moldovan market. This happened when the decision-makers in Chisinau (Ministry of Economy) launched rather non-transparent tenders for the imports of electricity. The offers received after the first non-transparent call were from Energokapital and DTEK. In the end, the authorities in Chisinau chose to extend the contract with Energokapital, which had supplied electricity produced by Cuciurgan power plant between December 2014 - March 2016, after Ukraine had stopped supplies. The new contract was signed with Energokapital for the period between April 1, 2016 – March 31, 2017 because Energokapital offered a lower price (with about 0.5 US cents per MWh or 0.0005 US cents per kWh) than the Ukrainian supplier. An additional reason presented to the public was that supplies from Ukraine would not be sufficiently reliable, because of the instability in Donbass, a strategic region for the production of electricity from Ukraine. The issues with the tender are discussed below.

It is important to note that electricity imports from Ukraine for Moldovan consumption are technically limited (the total capacity is between 350-600 MW, of which a part is used only for transit for the Ukrainian system). To increase the import capacity would require construction of new interconnection lines. Apart from imports, Ukraine plays an important role in the balancing of the power system in Moldova. The energy systems of Ukraine and Moldova are closely interlinked also because the energy consumed in Odessa is produced in Northern Ukraine and transported South through Moldova, so that balancing Moldova’s energy system is also in Ukraine’s interest. But nowadays, the Ukrainian authorities are discussing other ways to ensure the flow of electricity to Odessa, completely bypassing Moldovan territory (though it is equally important for the energy security of Ukraine to have as many alternative transport routes for energy as possible). If Ukraine prefers to supply energy bypassing Moldovan territory, for various reasons, Moldova would soon need balancing energy from other sources, most likely imported from the West or produced domestically in a new balancing capacity built in Moldova, or Ukraine would continue to provide balancing, but on different contractual terms. It should be noted that potential private investors are quite pessimistic about the perspectives in the Moldovan energy market, as there are virtually no modern regulations concerning balancing.

Given the uncertainties on Ukrainian supplies and issues with the purchases of electricity produced from Cuciurgan, the gap between consumption and domestic production could be filled only by interconnecting with the Romanian system. Currently, no electricity is imported from Romania. In the current technical conditions, Romanian suppliers can deliver a capacity of

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9 Expert-Grup, CRJM, ADEPT, Monitoring report on the implementation of the Priority Reform Action Roadmap, September 16, 2016, http://www.expert-grup.org/en/biblioteca/item/1324-raport-de-monitorizare-a-implement%C4%83rii-de-parcurs-privind-agenda-de-reforme-prioritare&category=194
10 A detailed analysis on the contract with Energokapital: https://sergiutofilat.wordpress.com/2016/08/03/schema-energokapital-explicata-pe-intelesul-tuturor/
11 Broadly speaking, electricity is delivered from Ukraine through 4 high voltage lines (330 kV).
up to 150-200 MW in “island mode” – the volume is insignificant compared to the country’s consumption needs12 (about 4 billion KWh). “Island mode” connection means, put simply, to cut out a narrow area of the Moldovan network in which energy can be delivered in synchronous mode from Romania. The electricity is delivered through one power line and the area is disconnected from the rest of the Moldovan system (which operates synchronously with the East), as long as the “island” is supplied from Romania. Island mode operation is not recommended mainly because of energy security concerns, as the “island” is powered by a single 110 kV line and its possible failure means that the whole area would be disconnected from electricity supply.

b) Tenders for the imports of electricity

Recently, some new legal provisions were approved in early 201713 at the pressures and with inputs from the Energy Community14, to ensure that the procurement of imported electricity is done competitively and transparently. This is necessary as long as the market is not competitive and the main buyer is a state company - Energocom SA - which should be subject to strict regulations regarding procurement. Though the other big buyer, GN Fenosa, is a private company, both suppliers should be subject to clear and transparent procurement procedures for electricity, as it is further sold at regulated tariffs to final consumers at cost pass-through. In the case of gas, the regulated, partially state-owned company Moldovagaz also does not purchase competitively and transparently, though here competition can emerge if there are at least two sources (i.e. after the interconnection with Romania is finalized, at a capacity that makes a difference in the market). As the main players are sole or dominant, state-owned buyers, which re-sell to captive consumers and virtually only at regulated tariffs, there must be specific and strict rules to ensure that:

- The price for energy (electricity or gas) purchases is as close as possible to prices on a competitive market, to put the energy sector on sound economic grounds (including improved energy efficiency, for instance). Energy must be sufficiently "expensive" to cover costs and reduce waste; but "cheap" enough to be affordable to consumers and to an efficient economy. Prices in European markets could be a good indicator.
- Purchases of energy do not generate arrears along the supply chain, as it happens today with the debts to the gas supplier Gazprom, which accumulate from both domestic and industrial gas consumption, including from electricity generation.
- Money paid by consumers who have no alternative in a non-competitive market are not syphoned off through companies controlled by offshore entities, while debts for gas and the risk of supply interruptions increase.

The tender in the spring of 2016 organized by the Ministry of Economy and state owned SE Energocom was not transparent and the process was at least controversial and contested. 

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12 https://www.energy-community.org/portal/page/portal/ENC_HOME/DOCS/2440189/0633975AD4447B9CE053C92FA8C06338.PDF
publicly by stakeholders and the civil society\textsuperscript{15}. In brief, the tender for electricity purchased by the suppliers Energocom and Union Fenosa\textsuperscript{16} took place as follows:

- Energocom organized a tender for electricity, deadline February 25, 2016, for supplies between April 1, 2016 - March 31, 2017. They received three bids, one from Moldova (actually from Energokapital) and two from Ukraine. Energokapital was selected because it allegedly offered the best price and Ukrainians could not provide full, credible guarantees that they could meet their contractual conditions (it was suggested that the instability in Ukraine could cause disruptions or breach of contractual terms). The tender was presented as a big success, with consumer prices being reduced from 67.95 USD / MWh to 48.995 USD / MWh. The Ministry and Energocom never stated publicly what prices were offered by the other two competitors. Thus, there were suspicions that the tender might have been rigged by changing the rules during the game. The condition to guarantee supplies was made public only when the winner was announced (Energokapital). The transaction was even more suspicious because, after the tender, DTEK came out publicly in the media announcing that there was no risk of interruption of supply from Ukraine, as Ukraine has currently an electricity surplus; that they had proposed a lower price than the competitor Energokapital (4.7 cents / kWh vs 4.8995) and that, therefore, the Ukrainian bid had been rejected unfairly\textsuperscript{17}.

- At the same time, also in early February 2016, the Union Fenosa Group launched a tender for the purchase of energy imports for the same delivery period April 1, 2016 - March 31, 2017, requesting offers from several suppliers. They received expressions of interest from Energocom, DTEK, Cuciurgan and Energokapital. On February 3, they announced the decision to extend the deadline for submission of bids to March 15\textsuperscript{18}. However, on March 2, long before the deadline previously announced, Union Fenosa surprisingly announced that two proposals were submitted for supplies from Cuciurgan and Energocom, which were selected because prices were much better than those previously provided. These prices would allow recovery of previous losses from tariff deviations\textsuperscript{19}. The manner in which the deadline for submission of offers was shortened by February 28 and the wording of the announcement fueled suspicions. Thus, it could be conjectured that there were pressures on the private company. Another speculation is that there was an understanding between the government and Union Fenosa to accept a contract extension with Energokapital, at a price that would allow the Spanish company to recover certain losses previously accumulated because of tariff deviations. Analyzing the timing of the two tenders (February 25 for Energocom, February 28 shortened deadline for Union Fenosa), it is probable that Energokapital did not make an offer to Union Fenosa because it had sold all its available energy to Energocom. Thus, Energokapital did

\textsuperscript{15} Interviews on the electricity sector and interconnections with decision-makers at central government, regulator, companies, diplomats in Moldova, September 2016.

\textsuperscript{16} Energocom is a supplier for regulated consumers connected to distribution networks RED North West and RED North and for the few eligible consumers. Union Fenosa is a supplier for regulated consumers connected to RED Union Fenosa for eligible consumers.

\textsuperscript{17} Monitoring report on the implementation of the Priority Reform Action Roadmap, September 16, 2016, http://www.expert-grup.org/en/biblioteca/item/1324-raport-de-monitorizare-a-implement%C4%83rii-foii-de-parcurs-privind-agenda-de-reforme-prioritare&category=194

\textsuperscript{18} http://gasnaturalfenosa.md/news/evolu-ia-procesului-de-selectare-celui-mai-avantajos-pre-pentru-procurearea-energiei-electrice

\textsuperscript{19} http://gasnaturalfenosa.md/news/nvre.reducerile-grupului-gas-natural-fenosa-n-moldova-au-semmat-contractele-de-cump-rare-energie
not have sufficient quantities available to make another offer, its energy being sold to Union Fenosa through Energocom.

The issue of electricity procurement and price formation can lead to suspicions either of collusion between competitors, or that inside information leaked between suppliers in the tender in the spring of 2016. Another source of concern is that intermediaries collect payments for electricity but do not pay for the gas and syphon off the funds through offshore accounts. Some of these practices could occur in any other country, not only in Moldova, and this is exactly why regulators must check and investigate suspicions of anti-competitive behavior. It is worth investigating to see why, for instance, prices for electricity purchases in 2014, both in Ukraine and Moldova, were very close to 68 USD / MWh, and in 2014, DTEK and Energokapital made simultaneously offers USD 20 / MWh (47-49 USD / MWh) lower, in theory without knowing about each other’s offers. It is also interesting that Union Fenosa buys energy from Energocom in 2014 at 67.95 USD / MWh, produced in Cuciurgan, given that the price offered by Cuciurgan directly, without intermediaries, was 68 USD / MWh. Normally, such signals should raise a red flag for regulators and trigger a serious investigation into the competition in the energy market.

However, despite the controversies surrounding the tender, the very fact that a tender was organized was a step in the right direction. The tender organized by Union Fenosa put a little more pressure for transparency in these contracts and pushed Energocom to organize a similar competitive tender. Gas Natural Fenosa has published more details about his auction, which spurred some public debate on how to contract energy imports and probably had an important contribution to reduce electricity prices by 20%.

In other words, the newly introduced tender is a good practice, but it is urgent to establish a proper procedure for it. If there is no clear mechanism, transparent, predictable tender process, the energy suppliers in Romania would not have confidence they enter a market at level play with other suppliers. In this case, the investment in the physical interconnection would be redundant. Moreover, the absence of clear rules for tenders prevent regulated electricity providers (e.g. Union Fenosa) to purchase electricity directly from producers and / or suppliers of electricity at unregulated tariffs (DTEK, including Energokapital).

In brief, we recommend the following:

- Existing contracts expire on March 31, 2017. It is urgent to implement the newly-introduced (January 2017) procedure for electricity purchases, with transparent conditions of participation, known by everyone from the onset, to eliminate suspicions that rules are changed during the game, e.g., what guarantees suppliers must provide that there is no risk of supply disruptions. It is difficult to justify how the instability in Ukraine and a potential energy deficit is a risk of supply disruption; but at the same time an intermediary with offshore shareholders which does not pay its gas (meaning that it is, de facto, bankrupt) – does not represent a higher risk to default on its contractual obligations. The procedure must be written, published and known by all stakeholders,

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21 Interviews in September 2016 on electricity sector and interconnections.
23 Licensed suppliers list, http://anre.md/ro/content/lista-titularilor-de-licen%C5%A3%C4%B3-pia%C5%A3a-energiei-electrice
suppliers and the public, and they can comment in time and correct any deficiencies before the beginning of the tender.

To restore credibility, the procedure (Guidelines) for electricity purchases, developed with the support of international partners and endorsed by them and transposed in an Order of the Ministry of Economy (4/05.01.2017), must be fully implemented. Thus, the European Commission should be able to see that the rules of the tender comply with the criteria of the competitive European energy market, on which Moldova has formal commitments (through the Association Agreement and by being a member of the Energy Community, it must transpose the European directives of the Third Energy Package). In this respect, the Energy Community Secretariat developed and proposed the Moldovan authorities a guide to such tenders, the final form of which was published on January 5, 2017.

- Also for credibility, an international observer of the Energy Community Secretariat and / or the European Commission (DG Energy, the EU Delegation in Chisinau) should be appointed throughout the procedure. They should have access to all stages of the procedure, from the design of the tender procedure, to the announcement, receipt of offers, opening and evaluation of bids and announcement of the results, and to check the final version of the contract before it is signed. These points are part of the Order 4/05.01.2017 of the Ministry of Economy for electricity purchases, which sets up a Group of Observers in January 2017.

- ANRE and the Competition Council must investigate suspicions of collusion between participants in the tender for electricity imports. The very similar prices should raise suspicions of anti-competitive behavior.

- As some of the intermediaries (Energokapital) are not energy producers and work with producers through "processing" contracts, one of the conditions to participate in the tender or obtaining the supplier license should be a proof that they pay in time for their gas and other supplies. This point, even though mentioned in the Guidelines prepared by the Energy Community, is missing from the Order 4/05.01.2017. Moreover, even the supply contract, if concluded with such intermediary, must contain clear clauses according to which electricity is paid only after the intermediary provides some adequate proof that they have paid in time their suppliers, particularly gas, where ANRE should have a direct say.

- Quantities and prices should be made public. Also, ANRE should publish an in-depth analysis of the market, examining the evolution of import contracts and compare with prices in European markets. This can put a "moral" pressure on suppliers to offer lower prices, as prices in Romania and in Europe are generally lower than prices in the wholesale market for electricity in Moldova. This was introduced in Order 4/05.01.2017.

- Once a transparent, credible procedure is put in place and tested for the electricity procurement in 2017, it must be formally introduced in a higher-level of legislation (above a Ministry's Order), to be binding for tenders in future years.

- ANRE in Moldova must regularly check the activities of suppliers involved in the purchase of electricity, including Energocom and Energokapital, to ensure that there are no risks to consumers with regard to their ability to fulfill their contracts.

The electricity interconnection with Romania: characteristics and significance

Moldova’s energy strategy until 2030\textsuperscript{26} and the Memorandum signed with the Government in 2014 mention the future physical interconnection with Romania’s energy system. The strategy sets 2020 as deadline for the construction and commissioning of the interconnections on electricity and gas. Even the Strategy states that these interconnectors only make sense with the development in parallel of a functional, liberalized energy market, with non-discriminatory third party access on the market, with transparent, predictable and independent sector regulation and trading instruments and market mechanisms. Romania has several institutions that could be used as a model for the energy market development in Moldova: for example, the commercial code of the wholesale electricity market and OPCOM’s platform for the power exchange.

Moldova is not part of the European system of energy transport operators (ENTSO-E), which includes Romania. Although the Republic of Moldova and Ukraine plan to join ENTSO-E\textsuperscript{27} and to interconnect synchronously with the European network, the process is extremely expensive and lengthy, which would take about 15 years of transition. In short, Moldova has two interconnection options: on the European system, synchronous connection, which would take 15 years; or asynchronous connection, maintaining the old ex-Soviet system, a solution that would require investment in special equipment - back-to-back stations - to connect with the European grid. Because of the close connection between the energy system in Moldova and Ukraine, Moldova has no choice but to follow Ukraine’s decision concerning the synchronous interconnection. It would make no sense to follow a different path from its Eastern neighbor and it would also be technically impossible because of the supplies from the Transnistrian region.

Currently, imports from Romania are technically possible\textsuperscript{28} only in "island mode", because of the different standards of frequency in the system and because there is no synchronous link. This connection could provide small volumes of energy and the "island" must be disconnected from the rest of the country, precluding the access of other energy suppliers from the East. In the medium term, 3-5 years, interconnections with Romania could be made asynchronously, with the construction of back-to-back stations, which essentially "convert" energy imported from Europe into energy that is usable in the Moldovan system, and allowing competition between suppliers of both areas on a perfectly fungible product. Even if the back-to-back stations are the most expensive component of the Romania-Moldova interconnections, these stations can be reused if Moldova would later connect synchronously with Europe (the stations can simply be moved to the East, e.g., at the Eastern border between Ukraine and countries remaining in the

\textsuperscript{26} Energy Strategy of the Republic of Moldova, HG nr. 102 of 05.02.2013, http://lex.justice.md/md/346670/

\textsuperscript{27} Moldova, Ukraine and Romania benefited the joint operational programme to finance the feasibility study on Moldova and Ukraine’s entry in ENTSO-E. At the same time, Moldelectrica and NEK Ukrenergo have signed the MoU according to which the two countries, with support from the Romanian Transelectrica, make efforts to join ENTSO-E.

\textsuperscript{28} The electricity infrastructure connecting Moldova and Romania consists of a 400 kV overhead line Vulcăneşti–Isaccea and three overhead lines of 110 kV.
old system). Moreover, the stations can be reused for future connection of solar or wind power in Moldova’s energy system.

Besides import diversification, the high voltage interconnection lines of 400 kV with Romania would allow electricity transit/exports from Ukraine and Transdnister to the European market, which would Increase Moldelectrica’s revenues from transport tariffs.

The strategy clearly mentioned two interconnections with Romania which must be completed by 2020: 1) OHL Suceava - Balti (North) and 2) OHL Iasi - Ungheni - Straseni (Center) (330 kV and 400 kV). At the time of the strategy, the interconnection Isaccea-Vulcănești-Chisinau (South) was not a priority, and is virtually absent in the document. However, in subsequent years it became apparent that this connection is most feasible in all respects (see below).

Between 2015-2016 the discussions on interconnections moved forward and became political priorities for Moldova, Romania and EU and the Energy Community. In parallel, since 2011, international and European financial institutions have financed the first feasibility studies on electricity interconnections (EBRD, World Bank).

Romania and Moldova signed a Memorandum of Understanding in May 2015, which set up a working group on energy issues within the intergovernmental committee for economic cooperation. The working group is in charge with the technical assessment of infrastructure interconnection projects and with finding financial resources for investments.

The full entry into force of the Association Agreement in July 2016 and the mandatory transposition of EU energy Directives following membership in the Energy Community pushed up the energy interconnections on the agenda, especially after the Energy Community’s decision in October 2016. According to this decision, the Isaccea-Vulcănești-Chisinau interconnection obtained the status of "project of mutual interest" (PMI) within the Energy Community. This status is insufficient to attract major support from the Energy Community, which usually focuses on "projects of common interest for the Energy Community" (PECI). For this reason, the funding of interconnection projects can be secured for the moment through loans from European financial institutions (EBRD), international donors (World Bank) and public and / or

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29 Very briefly and profanely, the European and Russian systems are different as their frequencies are a bit out of phase and they require a special equipment to become compatible. Back-to-back stations convert alternative current from one frequency (e.g., European) in continuous current and then back to alternative current (on the Moldovan or Russian frequency). Solar panes produce continuous current, which is then converted in alternative current through a station which is basically half a back-to-back station.

30 MoU between the governments of Romania and Moldova on interconnection projects for gas and electricity.

31 Recommendation of the Ministerial Council of the Energy Community on projects of mutual interest between Contracting Parties and Member States of the EU, [https://www.energy-community.org/portal/page/portal/ENC_HOME/DOCS/4364459/3F10145B34697000E053C92FA8C08EFF.pdf](https://www.energy-community.org/portal/page/portal/ENC_HOME/DOCS/4364459/3F10145B34697000E053C92FA8C08EFF.pdf)

32 EU and Energy Community can support the energy projects on the list of "projects of interest for the Energy Community" (PECI), after these have been endorsed as "projects of common interest within the EU" (PCI). Thus, Isaccea-Vulcănești-Chișinău interconnector is ranked below the two project categories mentioned. Though the line is being considered by the Energy Community, its construction depends on the voluntary decision of the member state of the Energy Community (Moldova) and the EU member state (Romania). This means that the interconnection is below other priorities (of the Energy Community or the EU), which also means it is less likely that it could be financed from financing instruments such as the Instrument for Preaccession Assistance (IPA) or Neighborhood Investment Fund (NIF). [http://www.justiceandenvironment.org/files/file/2013/CC%20Legal%20Analysis%202013.pdf](http://www.justiceandenvironment.org/files/file/2013/CC%20Legal%20Analysis%202013.pdf)
private investment from Romania (Transelectrica, the Romanian Government). In principle, energy producers in Romania might be interested in contributing to the investment, provided that there is no contradiction with the unbundling requirement to separate the interests of producers and suppliers from the network.

Three scenarios

There are three possible interconnections between Romania and Moldova: North, Central and South. The three options are analyzed now in Moldova at feasibility study stage (See Figure 2). It must be noted that in Transelectrica’s development plan none of the projects appears as “planned future development”, and priorities would be determined after joint studies and after "ENTSO-E analyzes the feasibility of a synchronous connection of Moldova and Ukraine to Europe”.

1. **North Interconnection, Suceava-Balti OHL (cost - about 132-140 mln. Euro) - 200 MW.** However, in the North, Romania has a problem with the existing network, which needs reinforcing, and plans to strengthen the network in Northern Romania have been postponed for years. The Gădălin-Suceava line, for example, which closes Transelectrica’s “400 kV ring” and is critical for system stability as it ensures the connection between Romanian Moldova and Transylvania regions, has been delayed until 2023. The interconnection costs for the North (400 kV) option are estimated at about EUR 66.4 million, of which Moldova should bear half (36.8 million), plus the cost of the back-to-back station (about 70 mil. Euro). The interconnection involves the construction in Moldova of a power line (for 440kV) and transformers. For this project, the feasibility study should be updated, and a pre-feasibility study dates back over a decade.

2. **Central Interconnection - Iasi-Ungheni-Straseni OHL (preliminary cost - 257 mln. Euro, of which 120 million in Romania and 137 million in Moldova) - 200 MW.** This high voltage line would allow a connection between Straseni and Chisinau and includes a conversion station (back-to-back) at Ungheni. In Romania this would mean the construction of a 400 kV power line to Iasi or to take into consideration another connection with the Romanian network, for example in Roman North and Bacau South stations. The Central interconnection involves several works in Romania and here there is no local production of electricity to support direct exports, unlike in the South. The project is generally viewed as a very long-term possibility.

3. **South Interconnection - Isaccea (Smârdan)-Vulcăneşti-Chisinau (costs - initially estimated at about 140 mln. Euro, now at about 194 million euros, the whole investment should take place in Moldova) - 600 MW.** In Southern Romania there is overproduction of renewable energy. This interconnection builds on the existing and functional cross-border line Isaccea - Vulcăneşti and would use the electrical substation Vulcănești where a back-to-back station should be installed (either one back-to-back

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33 Development plan, 2016-2025, Transelectrica. http://www.transelectrica.ro/documents/10179/25146/Planul+de+dezvoltare+a+RET+perioada+2016-2025.pdf/3dd99934-3661-401f-9816-84359593153f. Transelectrica has however contracted a study in 2014 with Tractebel to identify the necessary works in Romania and the existing export capacity from Romania. The ENTSO-E study was finalized, but it considers only the technical aspects of synchronous coupling, not the financial ones. There have been many studies and surveys to see which option is best; if an asynchronous connection makes sense; what would be the implications of connecting Moldova with the region through back-to-back stations.
station of 600 MW or two of 300 MW each) and a high-voltage line from Vulcănești to Chisinau (330 kV or, more likely, 400 kV). The recommended option is to build a back-to-back station with cutting-edge technology, at higher costs. This interconnection could become operational at the earliest in 2021 if the technical design starts in 2017 and actual construction begins in 2018. However, the project is feasible and likely to be finalized. It only requires works and investments in Moldova. For Romania, it would relieve the oversupply in Dobrogea where there is excess supply from the many renewables and nuclear reactors 1 and 2 at Cernavoda. The capacity of the line would cover about 70-80% of Moldova’s imports, while the capacity of the other lines are just a third of this. Of all the projects, the Southern interconnection is in the most advanced stage, with a feasibility study already completed in October 2016 by a consortium lead by the Romanian ISPE. It is also the only project that could ensure the recovery of investments, as the price difference between the energy market in Romania and Republic of Moldova can ensure recovery within a few years. The feasibility study, with two back-to-back stations of 300 MW each and a 400kV power line Vulcănești - Chisinau is estimated at 194 mil. Euro.

Figure 2. Interconnections North, Center and South

The idea is to build two of the three interconnections in the medium run, one line operating as a backup for the other. The World Bank, for example, believes that the security of electricity supply could be guaranteed only if the interconnection with Romania is done both in the South and North34. However:

- It is obviously better even with only one additional interconnection than with none, so one should start with one project, the most (or the only) feasible, and see later what to do about the other.

34 Interviews in September 2016
Some technical concerns related to the Southern interconnection are relatively easy to deal with. For example, the energy purchased from the South from renewables in Dobrogea would not cause additional problems for balancing, as the back-to-back station can physically deal with the balancing (it could even manage energy flows from Romania and ensure better management of the imbalances caused by other market participants). Experts also consider that the theoretical risks of overloading the interconnection lines with Ukraine could be reduced.

The Southern line would use an existing connection of Moldelectrica in Ukraine (power line Isaccea-Vulcăneşti), which was de facto nationalized by the Ukrainians in early 2014 and the matter is still subject to hefty discussions between the authorities in Chisinau and Kiev. In theory, Ukraine is also required to apply the European rules (e.g., non-discriminatory third party access) and relies heavily on the EU for the supply of gas as an alternative to Gazprom, and the Southern electricity interconnection would allow Ukrainian energy exports to the European market. Also, given that Ukraine could be interested in having access to energy in Romania in a crisis, it’s unlikely that there will be opposition from Ukraine to the construction of the project or that Ukraine would not allow full access to third parties to the power line in question.

Fig 3. Romania: electricity grid in 2015 and plans for 2016-2025

Priorities among each of the three interconnections shifted in recent years and currently the major focus is on the Southern interconnection (the high voltage line Isaccea-Vulcăneşti-Chisinau with back-to-back station in Vulcăneşti). It is on the EU’s list of priorities, with the support of EBRD and Romania (Transelectrica). The Working Group on energy issues analyzed several solutions to enhance the visibility of the project for Romanian investors, including by setting up a new network operator, as a limited liability company, with diversified ownership.

Another important matter is the idea that Transelectrica and Transgaz could invest as shareholders in Moldova’s transport operators. This can be a sensitive issue for the public.

35 Fears of Ukraine’s unilateral actions arise from the decisions adopted in November 2014 by the Government of Arseniy Yatsenyuk, which adopted a decision to nationalize the entire electrical infrastructure on Ukrainian territory, including those electric lines which are national property of the Republic of Moldova.
opinion, especially in the case of Moldova, which is highly dependent on energy imports and with suppliers that frequently abuse their dominant position. Gazprom owns 50% in Moldovagaz, following a handover of responsibilities for gas supplies to the Russians in the late ’90s, with much-deplored consequences these days.

It must therefore be emphasized that we do not recommend replacing one dependence with another, from the suppliers in the East to the suppliers in the West, but the goal is to diversify supplies in the benefit of the consumer. If Transelectrica and Transgaz plan to become shareholders in the electricity and gas interconnectors, Moldova must negotiate options for the shareholders to recover investments without guaranteeing exclusive access to imports from the West.

To create an attractive environment for private investments in interconnections, the new Moldovan laws for electricity (107/2016) and gas (108/2016) allow to set up more transport operators for electricity or gas on Moldovan territory, with only one of them being a system operator. Thus, it is possible to attract private investments in an interconnection owned by a different transport operator than Moldelectrica or Moldovatransgaz. The laws go further, allowing for the possibility to partially exempt such investment in new interconnections from the application of the rules on third party access. Exceptionally, there could be a regulated tariff applied for a limited time and for only a share of the capacity of the new interconnector. All these elements could be clarified so that the investment is safe and fully recovered, including a profit. The three elements: the regulated tariff, the time of implementation and the capacity on which it should be implemented would be proposed by ANRE and finally approved by the Energy Community Secretariat.

As a result, these provisions would help introduce new stakeholders in the slightly dodgy landscape of the Moldovan energy sector, and newcomers would have an interest to change the faulty rules of the game.

**Lessons learned from the Ungheni-Chisinau gas pipeline project**

An equally urgent project for the energy security of Moldova is the completion of the gas interconnector with Romania. The project moves ahead very slowly, which discourages international partners who co-finance the project or have any interest in it, such as Romania. The major problems arisen in the process derive from issues that have not been clarified in advance and are listed below:

- **Investment recovery.** It is uncertain whether the investment would be recovered from tariffs or government guarantees or state-guaranteed purchases of gas. It is not clear in advance whether the tariffs on the interconnector would be identical to those of Moldovagaz or different (higher). These uncertainties affect the willingness of Romanian suppliers to conclude contracts.

- **Property rights issues.** Vestmoldtransgaz, the project company will remain in state ownership or the government would seek investors to contribute as shareholders (like Transgaz).

- **Downstream connections.** The extension to Chisinau requires to connect the pipeline to the distribution network or to the transport ring around Chisinau, which belongs to Moldovagaz. Gazprom owns 50% of the shares in Moldovagaz and also controls the shares of the Transdniestrian region, and Moldova obtained a derogation from the European unbundling requirements, under Russian pressures.
- **Responsibilities of the various actors involved.** It is uncertain what is regulated by ANRE Moldova vs ANRE Romania and how to establish cross-border regulations on the interconnector. The obligations and rights of the company that owns the pipeline in relation to governmental actors, regulator, shareholders, operators, consumers, etc. are also unclear.

- **The further development of the energy market.** The commercial rules for balancing, entry-exit, trading on a liquid market are not in place.

- **The independence of the pipeline.** This depends on the influence of the suppliers and on the independence of the regulator ANRE in Moldova.

- **Reform of ANRE.** ANRE’s activity should shift from tariff-setting to market monitoring and to ensuring fair, transparent competition between suppliers in Eastern Europe (Gazprom, Cuciurgan - directly or through intermediaries) and Western suppliers.

All these issues (property of the infrastructure, real competition between suppliers and fair, clear regulations, a clear assignment of rights and responsibilities, guarantee of level play) are essential for the feasibility of this project, beyond the mere technical matters. These must be dealt with also for the construction of interconnectors on electricity, especially because in these projects (or at least of the Southern connection) funding would be available under more commercial terms, using loans from international financial institutions or commercial banks, or through private investment.

**Conclusions**

The feasibility of electricity interconnections should be viewed very pragmatically. First, there are little financial resources for regional projects from the EU or Romania, and Moldova is not, realistically speaking, a priority for either of them. Moldova’s energy sector and particularly the interconnection projects can be regarded as a priority by international partners only if they also concern Ukraine and contribute to the diversification of sources and routes in both countries. Unlike the Iasi-Ungheni pipeline, commissioned in 2015, which was built for rather political reasons and due to a wave of enthusiasm for a government viewed at the time as reformist, the context is completely different today. The confidence in the government’s will to reform is seriously shaken by the difference between discourse and practices. The electricity interconnection still has a chance because the project makes economic sense and it could attract private investment or loans with less public intervention. But for this to happen, funders and investors must have confidence in the rules and institutions in Moldova.

The functioning of the sector depends on good rules and a regulator capable to enforce them correctly. It is essential to ensure the independence and transparency of the National Agency for Energy Regulation (ANRE)\(^{36}\), diminished drastically in 2012-2015. In particular, this refers to independence on decisions, such as tariff setting, a problem that must be resolved as agreed with the IMF\(^{37}\). In 2015-2016, under pressure from public authorities and the public opinion, ANRE’s tariff policy was inconsistent, causing major losses for operators (eg - Gas Union Fenosa). Apart from calculating tariffs, ANRE must become a powerful regulator that builds and

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develops the electricity and gas market, ensures fair, transparent tenders for energy to avoid market distortions, equal access of suppliers to networks to compete in the market.

Finally, public tenders organized by the Ministry of Economy and by the state owned commercial operator Energocom (electricity supplier at regulated tariffs) must be organized properly, and regulators - ANRE, the Competition Council – must examine whether there are suspicions of market manipulation. The Spanish investors from Union Fenosa and other actors faced high uncertainties in 2013-2016 on tariffs set by ANRE and on non-transparent selection of winners in government-organized tenders.

**Recommendations**

**Republic of Moldova**

- **Implement effectively the newly-introduced, transparent mechanism for tenders** for electricity in the wholesale market for regulated suppliers and network operators (with sound selection criteria, bid opening, transparency etc.), adopted in January 2017. This should be already in place by February 2017 and applicable before the end of the current contract with the Transdniestrian supplier Energokapital, valid until 31 March 2017. The procedure must be announced in advance, consulted with stakeholders in the market, observed internationally and applied consistently; once it is finalized, it should be introduced in legislation to be applied at the tender in 2017 and at subsequent tenders. The Ministry of Economy must amend the Order 4/2017 to add the missing point from the Guidelines (requirement that tender participants do not have debts to suppliers). ANRE should enforce its implementation because the tender procedure becomes a market rule which must be monitored by the regulator. If the procedure works, it must become permanent through legislation at a higher level than a Ministry's Order, to be applicable in future years, including when Romanian suppliers would enter the market.

- **Speed up completion, adoption and implementation of the draft law to strengthen the regulator of the energy sector** by guaranteeing maximum independence and transparency of the regulator (new energy / ANRE Law)\(^{38}\). The law should provide for (only) financial auditing from the Court of Accounts; internal and external audits organized under the Agency's internal decisions, active involvement of the civil society. The application of the law will be strictly monitored by the international partners and the civil society. They will also follow the procedure for appointments of vacant positions in ANRE's management and the operation of the regulator in the near future, including its ability to take difficult decisions (market analysis, monitoring tenders for energy, penalizing companies that breach the rules, licensing transparently and only suppliers who meet the legal requirements etc).

- **Strengthen the institutional capacity and independence of the ANRE by provisions in the new law on energy** that would cover the issues below. The recommendations below are in line with the experience of the Romanian ANRE (see Annex 1):
  - The budget should be reviewed and approved by ANRE’s board of administrators and not by Parliament. However, ANRE's budget and accounts should be public and audited, and the audit report should also be published. If the Parliament approves the budget, this mechanism can be abused as a brutal instrument of

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political control; but ANRE’s total discretion of the institution’s resources could be an incentive for clientelistic appointments at the top, a recipe for zero accountability and the deterioration of the regulator. It requires external supervision of the functioning of ANRE and how resources are used, even if the decisions and resource use remain the responsibility of the Board of administrators.

- The budget should be substantial enough to allow ANRE to contract foreign consultancies, regulatory impact studies, external audits, to participate in international regulators’ meetings, training for staff etc. All these reports should be published; they must also be planned for in advance in the procurement plan and for the preparation of the budget and the need for these services must be reviewed by the Consultative Council (below).

- A Consultative Council should be set up to ensure proper representation of civil society and stakeholders in the regulated sectors and to monitor the regulator. This would also require to revise the Regulation on the Board of Experts adopted by ANRE in December 2016. The Consultative Council should balance the interests of all stakeholders and draw attention when regulations favor some actors disproportionately compared to the others. The Consultative Council has no decision-making power, decisions must be taken by the leadership of ANRE.

- Competence-based hiring within ANRE in a transparent process, with clear criteria announced in time, with a clear, predictable calendar and interviews. The appointment of directors should be done through a public competition based on skills and experience in regulated sectors.

- Creating a system of annual performance audit provided by an international auditor under the coordination of the Energy Community Secretariat.

- **Clarify the institutional aspects on the electricity interconnection** as an essential part of the "feasibility of the project", to avoid errors and difficulties observed with the Iasi-Chisinau-Ungheni gas interconnection project. These include property rights, relations between the company owning the infrastructure and other stakeholders (customers, suppliers, government, financiers, shareholders); regulations and cross-border sharing responsibilities between ANRE Moldova - ANRE Romania; and clarify how the investment is recovered, tariff setting.

- **Prohibit by law dealings with intermediaries with “offshore” shareholders:**
  - In strategic sectors of the economy (banks, energy etc.), which would also require ANRE to stop licensing such companies;
  - In transactions involving companies with state ownership (including minority shareholding e.g. Moldovagaz where the state owns 25%);
  - There must be a clear separation of the types of contracts between intermediaries and owners of power plants. Thus, energy supply companies purchasing from intermediaries should pay for energy only when intermediaries prove they have paid for their gas / other suppliers.

- **Implement the new legislation on electricity, adopted in May 2016,** including secondary legislation on access to transmission networks (ANRE regulations). Among other things, ANRE must monitor investments made by distributors, needed to modernize infrastructure and reduce losses and indirect costs for consumers. ANRE must also monitor the activity of licensed suppliers, including how they have purchased / paid electricity or natural gas used.

- **Negotiate and sign an agreement with Ukraine on the Moldovan energy infrastructure (including power lines) located on Ukrainian territory and ensure non-discriminatory access of all suppliers to this infrastructure (including to Ukrainians).**
• Increase transparency of the working group on energy from the Moldovan-Romanian Intergovernmental Committee (starting with the official website of the Ministry of Economy). The public must be informed about what this group does to move ahead the construction of interconnectors.

• Develop the necessary institutional wholesale electricity market - create the commercial market operator, preferably a subsidiary of the Romanian OPCOM, which would ensure a transfer of know-how and the future possibility of day-ahead market coupling with the European Union.

• Develop Market Rules for electricity and natural gas, including solutions to ensure balancing (availability, market-based prices).

• Develop metering required to ensure functioning of the wholesale electricity market, particularly the hourly measurement of traded energy.

• Review energy strategy taking into account the new targets set at European level for 2030, ensuring balancing and the development of interconnections.

• Promote renewable energy sources by proper, market-compatible regulations

• Set up and adopt legal provisions for mechanisms to recover investments in energy infrastructure that increases security of supply. At present, there is no decision on this for the gas interconnection (either through a supply security fee or by a mechanism of tariff equalization / cross subsidy among operators).

Romania

• Coordinate financial assistance with EU conditionality.

• Properly allocate the financial assistance (grants). Analyze the possibility to use the remaining unspent funds (about 50 million EUR) from the 100 million EUR grant approved in 2010 and extended to 2021 to fund technical design interconnections, as done already for the design of the Ungheni-Chisinau gas pipeline. Currently, Moldova applied for an amount of 1.8 million to design the first interconnection in electricity.

• Synchronize investments in Romania (first of all, speed up the implementation of the Onesti-Gheraiesti-Letcani gas pipeline and compressor stations, for which EU funds 50% in the Large Infrastructure Operational Programme. As Moldova’s government signed in December 2016 the financing agreement with EIB and EBRD for the investments in Moldova, Romania seems to lag behind and sends the wrong signal). Provide possibilities to set up public-private consortia or investments as a minority shareholder with no right of control and no exclusive access for the transmission of electricity and gas.

• Examine the option to set up in Chisinau a subsidiary of Romania’s Electricity Market Operator (OPCOM)39, operational in Romania since 2000, as the electricity market liberalizes in Moldova; adopt good practices.

• Strengthen collaboration between ANRE Moldova and ANRE Romania to clarify regulations on the interconnection projects and market mechanisms to ensure compatibility between the two markets.

European Union and Energy Community

• Condition the direct budget support (about 50 million EUR) on reforms in the energy sector, in particular, transparency and independence of the regulator, the

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39 OPCOM is a model of power exchange, functional and massively contributed to the transparency of the energy sector by providing a platform competitive and price information real competitive market that could compare with contracts under preferential conditions in Romania, http://www.opcom.ro/compania/compania.php?lang=ro&id=87
implementation of new rules for tenders on energy imports procurement; observe the
tender, monitor the implementation of the new laws. Coordinate with the Romanian
government to ensure the budgetary support from Romania has similar conditionality. It
should be emphasized that the **implementation** is even more important than the
adoption of good legislation and that real political will for reform in the energy sector is
shown by concrete decisions such as **appointments** of competent people; **credible and
transparent energy procurement** and **elimination of controversial deals with offshore companies**.

- **Undertake an evaluation and communicate publicly and regularly about the state of reforms in energy**, based on monitoring the Energy Community and the European Commission (DG Energy). Support the European actors interested whether European transparent, competitive rules are implemented in the energy market in Moldova (Romania suppliers, energy producers, TSO etc).

- **Transparent technical coordination between European financial institutions (EBRD) and international (World Bank)** for financial support for interconnectors, eliminating discrepancies between their strategic priorities to connect the Romanian energy system (electricity).

- **Reassess, jointly with the Energy Community, the interconnection projects between Romania and Moldova in order to raise their status to "projects of interest within the EU"** which may benefit from increased assistance, including under the Instrument for Pre-Accession (IPA) and the Neighbourhood investment Facility (NIF) and providing grants through these instruments. Lastly, EC should consider the possibility to finance with a grant of at least 10% (20 million EUR), like in the case of the gas interconnection.

- **Provide direct support for regulation** through programs of the Energy Community Secretariat (EU4Energy) and the European Union Delegation and monitor the progress of reforms in energy.

In brief, creating a robust, predictable and fully liberalized energy sector will generate additional incentives to maximize the benefits deriving from economic integration into the European Union. The successful completion of interconnections in electricity, as well as those on gas, will strengthen the energy security of the country.

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40 This review considers that Moldova’s energy sector is extremely vulnerable (because of energy poverty, non-transparent tenders, dependence on suppliers indirectly controlled by the Russian Federation), while its possible collapse may represent a major risk to security at the external border the EU. Also, Moldova and Ukraine should be supported jointly, as both countries are essential for energy security of the EU’s Eastern border. Moldova is a country that can provide additional routes for electricity and natural gas to Ukraine and the EU and vice versa.
Annex 1. Romania’s experience with the energy regulator ANRE

Romania’s experience on the evolution of its energy regulator in recent years is interesting and informative for Moldova. Set up in the late ‘90s initially for electricity only, ANRE was a model of good practice to more developed countries (Germany, France etc). It performed well for several years because originally it was a small, elite institution, with highly qualified staff. The regulations issued at the time (for example, the wholesale electricity market code, regulations on OPCOM and on trading instruments, market opening, deregulation, network access and so on) are still considered at par with Western regulations and boosted the development of the electricity market faster than in the old Member States in the early 2000s.

ANRE enjoyed a special status and the power sector reforms moved rapidly as long as Romania had to demonstrate its willingness to adopt European rules and to meet the criteria of a functioning market economy. These were conditions to join the EU in 2007 (energy had even a dedicated chapter in the negotiations for accession, Chapter XIV - Energy). Before signing the accession agreement in 2005, Romania privatized, liberalized, introduced instruments and mechanisms for a functioning energy market. After 2005, once negotiations were completed and EU attention became focused more on anti-corruption efforts, the appetite for further reforms of energy declined, and after 2007, it disappeared altogether. The implementation of the energy strategy agreed with the EU during accession negotiations, which provided for liberalization and privatization, stalled; particularly after 2007, reforms were even reversed. Liberalization and the development of the electricity and gas markets, (particularly gas which lagged behind), were resumed only in 2011-2012, solely due to external conditionalities in an IMF-EU-World Bank standby agreement which included structural reforms.

ANRE Romania followed the general sector trend. After 2005, because wages were relatively high and ANRE had real budgetary autonomy (and no accountability to anyone else on the use of its own resources), the institution became tempting for clientelism despite the fact that the legislation ensured autonomy. Appointments at the top were political and without considering technical skills; despite legal provisions under which the president has a fixed term mandate, there were several political changes; ANRE’s high wages were a real attraction for sinecures for the ruling parties. With the deterioration of the institution and its prestige, most of the qualified personnel moved to the private sector. In 2009, because of the crisis, the Government decided to eliminate legal and budgetary autonomy of the ANRE, who lost their sources of income, and staff salaries were cut across the entire government and subordinated agencies. Thus, competent staff continued to leave. ANRE got to the point when it could simply not meet its functions as a regulator, for instance, all regulated tariffs remained unchanged between 2009-2011, not even adjusted for inflation, partly because remaining staff did not want to take responsibility or did not know to apply more sophisticated pricing regulations, and partly because of political pressures, as a weaker ANRE was less able to resist pressures from the government to keep tariffs low. What is worse, ANRE’s employees maintained informal links with former co-workers, which had moved to the regulated industry, relying on them informally for advice on the regulations because the pool of competencies in the regulator had been depleted. This affects the impartiality and credibility of the regulator.

The European Commission issued some warnings, but it did not have any powerful instruments to put pressures to correct these problems, apart from threats with infringement proceedings. This proved insufficient to change the status quo. Only in 2011-2012, with the second standby agreement with the IMF, donors coordinated on strong structural conditionality. In the summer-autumn of 2012, under conditionality in the stand-by agreement, Romania finally transposed Directives of the Third Energy Package. ANRE then regained its independent status and it now
Budgetary autonomy is essential for the independence of the regulator, but could only operate if a regulatory council was supposed to implement this vision through concrete regulations. This governance structure was taken into consideration in Moldova as well, where the choice was either to build a regulatory committee of this type, or to build a Consultative council composed of independent experts. In the case of a regulatory committee composed of independent experts, Romania’s experience shows that the Parliament could immediately appoint formally a fully politicized board, while the technical directors continue to do everything related to regulation. In Romania, for instance, because of the excessive politicization and some scandals involving some members of the regulatory committee this committee currently functions with only 4 people in 7 and 3 vacant positions, while the decisions are “negotiated”, as each of the 4 people knows only one of the regulatory areas of ANRE and votes rather blindly for the others’ decisions. In other words, the only thing that matters is the political will to make ANRE fully functional and the political will is in the appointments. ANRE in Romania or Moldova could do just fine with either a regulatory committee of independent experts or a board composed of directors, as long as these persons are competent and act in good faith.

- **ANRE Romania was supposed to have a regulatory committee composed of independent experts, not subordinated to ANRE’s president or executive director and not dependent on the president for their salaries.** This board was supposed be composed of credible experts with a vision of how the market should develop, the international trends and willing to shape the direction of the regulation based on transparent consultations with the public and stakeholders. The technical directors from ANRE were supposed to implement this vision through concrete regulations. This governance structure was taken into consideration in Moldova as well, where the choice was either to build a regulatory committee of this type, or to build a Consultative council composed of independent experts. In the case of a regulatory committee composed of independent experts, Romania’s experience shows that the Parliament could immediately appoint formally a fully politicized board, while the technical directors continue to do everything related to regulation. In Romania, for instance, because of the excessive politicization and some scandals involving some members of the regulatory committee this committee currently functions with only 4 people in 7 and 3 vacant positions, while the decisions are “negotiated”, as each of the 4 people knows only one of the regulatory areas of ANRE and votes rather blindly for the others’ decisions. In other words, the only thing that matters is the political will to make ANRE fully functional and the political will is in the appointments. ANRE in Romania or Moldova could do just fine with either a regulatory committee of independent experts or a board composed of directors, as long as these persons are competent and act in good faith.

- **Setting up a Consultative council is a good idea, provided that it operates properly.** It is more important that the Council really balances the interests of actors who all have a say and keep a close watch on ANRE’s operations, than that the Council provides a form of consultation with independent experts. For ANRE in Moldova it would make more sense that the directors are credible experts and that the consultative council provides relevant feedback from stakeholders affected by regulation, which the directors may or may not take into account in the final regulations. The operation of the consultative council depends again on real political will. For example, in Romania ANRE’s consultative council functioned only on paper for many years, as they virtually never met. Then, after 2012, the new consultative council meets, but most of the time weaker stakeholders such as household consumers, for example, are less present or active than the regulated industry. It is critical to find that fine balance in the functioning of the Consultative Council to make sure the proposals and ideas take into account the necessary compromise between the interests of all stakeholders, instead of becoming a formalized lobby for one strong actor, such as the regulated industry. Obviously, the work of the Consultative Council, minutes and recommendations should be published, in order to avoid such possible imbalances.

- **The budgetary autonomy is essential for the independence of the regulator, but only if it is matched by proper accountability.** In Romania, fiscal austerity coupled
with ANRE’s poor reputation compelled the government to brutally overstep the regulator’s budgetary autonomy in 2009, cutting its resources, despite some signals from the European Commission (written threats with infringement). Moldova faces the same risk, also because of fiscal austerity. On the other hand, there must be an external monitoring on ANRE’s use of resources, otherwise ANRE would quickly become a target for sinecures, and risks total de-professionalization, as the Romanian experience shows. The regulator’s resources and activities must be audited by a credible external auditor (international audit firm, selected competitively) and there must be full transparency on how money is spent or how other material and human resources are used. "Performance based" pay, for example, may be abused to artificially inflate wages for sinecures and by arbitrary decision of higher rank staff; before implementing performance pay, one must ensure there is as clear, transparent and externally monitored “performance” of the regulator and that one can demonstrate the actual contribution of the employee in question to achieve that level of performance, to eliminate subjectivity and abuse.

Finally, there is no perfect governance framework to ensure smooth functioning of the regulator, its independence, accountability, transparency etc. For example, a stronger subordination to Parliament through a mechanism of accountability (eg, Parliament investigations, approval of some reports etc., as in the case of Romania) may lead either to better accountability, or may become an apparently legitimate tool to put political pressures with various pretexts. Similarly, expanding the powers of the Court of Accounts to more than a financial audit, e.g. to check the operations of the regulator (as it happened in Romania on privatization contracts and distribution tariffs) can lead to violations of the independence of ANRE by another institution which is not competent or has political motivations. In short, the law could be perfect, what matters is its implementation in good faith and the actual decisions of the regulator, which must be as transparent as possible, so that it can be continuously monitored by the civil society and international partners, because only these indicate the will to reform.