

# THE POSITION OF THE POLISH CONFEDERATION LEWIATAN ON THE EUROPEAN UNION'S 2030 ENERGY AND CLIMATE POLICY

## 2

SUPPORT FOR A LOW-EMISSION  
TRANSFORMATION OF THE POWER AND  
ENERGY SECTOR AND THE HEATING SECTOR

**Report prepared for Polish Confederation Lewiatan**

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## SUMMARY

- / The ETS will remain a central element of the European Union's climate and energy policy and the transformation of the Polish energy sector will have to be achieved within its framework. It is then useful to grasp the opportunity to re-establish the mechanism of allowance redistribution in order to equalise transformation costs between the EU Member States on the basis of revenues from the allowance auctions.
- / It is necessary to strive at allocating the biggest part of the ETS revenues to the development of a low-emission economy, including the modernisation of the energy sector. The EU New Member States (NMS) should be given an additional allocation of emission allowances as a form of compensation for higher emissions reduction costs than those incurred by the EU 15. Funds obtained in this manner should be allocated in whole for the purpose of emissions reduction.
- / It is proposed to create national Funds of Low-Emission Investments in the NMS countries, financed by the ETS revenues generated by those countries within the national envelope of allowance allocation, which will include a fair burden sharing compensation. These funds would aim at supporting the modernisation of the power and energy sector. They would indirectly support new projects through subsidising national support instruments for investments reducing CO<sub>2</sub> in this sector. Hence, the burden of financing a low-emission transformation shouldered by consumers would be lightened and the necessary modernisation would not be postponed.
- / An alternative is to establish a modified derogation mechanism, setting in advance clear conditions for support (for example, emission standards for installations in a new National Investment Plan) as well as transparent procedures eliminating a so far discretionary, to a large extent, character of the decision.
- / National regulations are as essential as the negotiation results in Brussels. A defective legal framework may jeopardise a chance to modernise the Polish energy infrastructure. It is necessary to set in advance key rules of support for the energy sector. The developed mechanisms must be consistent with the principles of state aid (modified, if necessary) and a predictable model of functioning of the energy market in Europe.
- / The energy transformation must be addressed in a comprehensive manner, taking into account not only the electric energy production but also the heating sector and such problems related to it as the energy efficiency of buildings and harmful smog. The cogeneration, as a method for emissions reduction at the European level of an equal status, deserves an active support and Poland should fight for it so that this method will not be discriminated against. However, a coherent national strategy of development of this segment of the energy sector is also necessary. It should consist in extending district heating networks in cities and investing in high-efficiency CHP installations based on gas, local waste and biomass.
- / The debate on the climate and energy policy for 2030 is a good opportunity to put additional emphasis on the actions that improve the energy security of the EU, in particular in terms of stable access to the cost-competitive natural gas. At the European level, it is useful to seek the strengthening of efforts on the research on new low-emission exploitation methods of the European reserves of fossil fuels, including shale gas.

## CHALLENGE

In our opinion the current direction of the European Union's climate policy will probably be maintained at least until 2030. **This means that for a dozen or so years Poland and other Central European countries will function within the period of a low-emission transformation in the production sectors of electric energy and heating in Europe.**

The emissions reduction in its energy sector is for Poland a **triple challenge**:

1. **the scale of necessary adjustments in the NMS countries, especially in Poland, is particularly large** due to a dominant position of coal in the energy mix and a considerable degree of amortization of assets in this sector
2. the most economically attractive investment options, such as nuclear, wind and water power plants or high efficiency combined heat-and-power plants with a necessary transmission infrastructure, are capital intensive and, thus, they require a **significant investment effort**. It would enable to decrease future expenses on the purchase of fossil fuels but it would require a mobilisation of a huge capital on a relatively short notice, which for Central European societies is a greater challenge than for more affluent Western European societies.
3. **the Polish energy producers have especially small amount of low-emission generation capacity**. For this reason, they practically do not benefit from a rise in allowance prices as it is the case for their European competitors who have considerable assets in the nuclear and water energy sector. Thus, the possible funding of low-emission investments from own funds of the Polish energy sector in case of a rise in allowance prices will be smaller.

Despite a relatively high economic growth and a quickly diminishing developmental gap between Poland and the Western Europe, the economies of the EU New Member States are characterised by a lower capacity **of covering the costs of a low-emission transformation. This discrepancy will not be reduced in the nearest future**. Within the negotiations related to the European Union's energy and climate policy for 2030, it would be justified to establish mechanisms supporting the modernisation of the energy sector, equalising the burden of the emissions reduction between particular European societies.

However, the form of these solutions and effective national instruments complementing them require a critical reflection on the past experience.

**In the case of Poland, a point of departure of such a reflection should be a critical assessment of the currently applied instrument that aims at supporting the modernisation of the power and energy sector, i.e. free allowances issued on the basis of the National Investment Plan.** The diversification of energy mix was possible mainly due to the green certificate scheme. On the other hand, the derogation that supports the improvement of efficiency and prolongs the exploitation period of existing power units has turned out to be an insufficient incentive for the construction of new, lower-emission plants.

The development of appropriate instruments supporting the transformation of the Polish energy sector and, at the same time, solving the problem of excessive costs of the climate policy demands that not only practices already in use be refined but also that the new and earlier not applied instruments be established and the negotiation efforts be channelled into convincing European partners to these solutions.

## CONCLUSIONS FROM THE PAST EXPERIENCE

Mechanisms that support the NMS in their pursuit of the climate and energy policy goals should be formulated and evaluated with reference to the past experience with the implementation of this policy. In particular, it should be noted that:

1. The economic crisis has placed a heavy emphasis on the **cost-efficiency of climate policy instruments**. The costs are minimised due to the maintenance of equal incentives for the emissions reduction in the entire EU.
2. **The conditions of negotiations on the redistribution** of EU-ETS allowances between the EU Member States are **less favourable for Poland than they were in 2008**. This results from budgetary problems of the Western Europe and a rise in affluence of the central and eastern European countries, Poland in particular.
3. **Low allowance prices have weakened the meaning of the agreed instruments that compensate the climate policy costs to the Central European countries, including Poland**. This concerns both the budget (lower revenues from the redistribution of allowances) and the energy sector (a low value of allowances allocated free of charge within the derogation). Compensation mechanisms based on the amount instead of the value of emission allowances pose a risk of decreasing the scale and effectiveness of the support.
4. **The derogation mechanism for the power and energy sector, which was so hard for the Polish government to negotiate, has not delivered the expected results to the full extent**. A key problem is that it was impossible to establish detailed and clear rules of functioning of this mechanism when the '3x20 objectives' were being set. Broadly speaking, the European Commission, the Polish government and energy companies did not have a common vision of the purpose of this mechanism. As a result, Poland has proposed mainly projects of more efficient conventional coal-fired power units as candidates for the support. In that manner, it aimed at fulfilling its current reduction obligations. On the other hand, the European Commission has perceived those actions as inconsistent with long-term targets of the European Union's climate policy and has stated that they do not guarantee a sufficiently far-reaching emissions reduction in the 2030-2050 perspective. Instead of effective support for the energy sector transformation, there is a dragging bureaucratic dispute between the Polish government and the European Commission. This has led to increased investment uncertainty and slowed down modernisation processes in this sector.
5. **The promotion of the RES as well as liberalisation and electric energy market coupling have changed operation conditions of energy producers and the environment for new investments**. In Europe, there is a growing recognition that the support for RES development in the conditions of a competitive energy market does not give sufficient price incentives for companies to become interested in the construction of available resources of electric energy. It makes more real the occurrence of the so-called power markets or other instruments rewarding readiness to provide energy on demand of the system operator. Potential future regulatory and financial mechanisms supporting the transformation of the Polish energy sector will have to take into account these factors. In particular, just like in the case of subsidies for the RES, they will have to be in line with new rules of public aid.
6. **The Ukrainian crisis confirmed the importance of energy security for the sovereignty of Europe**. In the medium term, it may be reinforced by actions related to fossil fuels (gas in particular): diversification of supplies from the outside of Europe, development of a transmission infrastructure, use of the potential of European resources and their conservation through the RES development and energy efficiency.

The presented determinants enable to draw the following conclusions:

- / **The transformation of the Polish energy sector will have to be achieved within the ETS.** At the same time, the pressure on unifying the emission taxation with the non-ETS sectors may increase.
- / The ETS will remain a central element of the European Union's climate and energy policy due to, *inter alia*, a direct relation with the climate target and ease in introducing new solutions limiting the total pool of allowances at the level of the entire European Union.
- / It should be expected that a mechanism enabling to equalise the costs for particular countries, based mainly on the **redistribution of allowances from the ETS scheme**, will be re-established.
- / It should be in the interest of the NMS, including Poland, **to negotiate a mechanism of allowance redistribution that would enable them to build up funds for financing the modernisation of the energy sector** and meeting the environmental regulations which are no less a challenge for the sector than the climate policy. For Poland, it would be one of the **key negotiation challenges**.
- / **National regulations are as essential as the negotiation results in Brussels.** A defective legal framework may jeopardise a chance to modernise the Polish energy infrastructure. It is necessary to adopt a long-term and comprehensive approach to the development of the power and energy sector and the heating sector. In Poland, it should be expressed in a new **Energy policy for 2050**.
- / It is necessary to strive at **allocating the biggest part of the ETS revenues to support for the low-emission transition**, including the modernisation of the energy sector and the heating sector, with a special focus on the cogeneration, including trigeneration. In particular, all funds obtained by Poland as a compensation for higher emissions reduction costs should be allocated to this goal.
- / Spending revenues from the allowance auctions for current needs may lead to a situation where, in the future, when allowance prices in the scheme are high, the Polish energy sector and, consequently the industry, will lose competitiveness.
- / It is necessary to **set in advance key rules of support for the energy sector**. The developed mechanisms should be consistent with the principles of public aid and a predictable model of functioning of the energy market in Europe.
- / Poland is obliged to address **the energy transformation in a comprehensive manner**, taking into account **not only the power and energy sector** but also **the heating sector** and such problems related to it as the energy efficiency of buildings and harmful smog.
- / The debate on the climate and energy policy for 2030 is a good opportunity to put additional emphasis on the performance of actions that improve the energy security of the EU, **in particular in the area of stable access to the cost-competitive natural gas**. However, striving for energy security should not become a pretext for a delay in the restructuring of the domestic hard coal mining.

## Unexploited potential of heating sector and cogeneration

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The Polish energy policy focuses on the power and energy sector while it neglects the problems and potential of the heating sector. This is all the more surprising as, in Poland, similarly to the power sector, the heating sector is also dependent on the coal and, for the same reasons, is faced with a replacement of a considerable part of its assets. The share of the heat in the final energy consumption is now comparable to the share of electric energy and the amount of heating expenses is a key factor determining the risk of energy poverty of households. The problem of smog in Polish cities, a subject of a heated debate, results from the popularity of an individual heating with a high-emission fuel and an inefficient development of urban district heating networks. A particular problem of the heating sector lies in the necessity to compete with individual heating, which is not brought to bear so much regulatory pressure on greenhouse gases and other emissions harmful for health and environment. It is worth noting that the European Union's regulations require Poland to take action aimed at resolving this problem (NEC 'ceilings' directive).

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## Preferred options

### USE OF ETS REVENUES TO SUPPORT ENERGY INVESTMENTS

The proposed solution combines the redistribution of allowances within the ETS with the creation of an additional pool of allowances aimed at supporting low-emission investments in the new Member States dependent on fossil fuels. **The funds redistributed within the ETS, including those from the additional pool of allowances, could be allocated to the creation of NATIONAL low-emission investment funds. They would aim at financing support programmes for capital intensive investments that reduce the emissions and energy consumption.**

Examples of the support scope could be as follows:

#### **Energy sector – generation capacity:**

- / the coverage of a part of costs of capacity market or other mechanisms supporting investments in non-intermittent low-emission generation capacity.
- / co-financing the RES support scheme for, *inter alia*, prosumers
- / co-financing the cogeneration support scheme

#### **Other low-emission investments worth supporting:**

- / the development of electricity grids
- / the development of district heating networks
- / the support for programmes developing the energy storage
- / the development of a low-emission transport infrastructure
- / the support for nationwide buildings energy renovation programmes
- / the support for investments implementing innovative energy technologies



## Preferred options

The Fund for Low-Emission Investments **would not directly finance investment projects but cover a part of costs of other support instruments** (for example, RES auctions, auctions on a hypothetical capacity markets, the National Fund for Environmental Protection and Water Management programmes etc.). This would decrease general costs of the energy purchase as energy consumers would not have to finance particular support programmes in their whole. These programmes would be necessary in any case: for the reconstruction of an available generation capacity, the modernisation of a network infrastructure, the development of cogeneration and the RES (especially prosumer/distributed generation). In other words, **additional revenues from emission allowances would be used to decrease the component of an energy price that covers the costs of necessary investment expenditure. It should be guaranteed that the new state aid rules, determined by the EC, would not collide with the opportunity to use the fund.**

A proposed form of support **does not diverge from the regulatory solutions in force** and its effective implementation **depends mainly on national activities** (the development and implementation of effective support instruments, a decision to cover part of their costs from the ETS revenues instead of consumers' bills). Even so, a clear signal during the negotiations announcing the intention of using additional ETS revenues to support lower-emission investments would increase the chances for a decision which would be favourable for Poland.

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**It is necessary to strive at establishing a minimum monetary value of the support within the redistribution of revenues from the ETS.** It could be achieved by setting a minimum value of surplus allowances allocated to Poland.

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## Preferred options

### MODIFIED DEROGATION MECHANISM

Taking into consideration a criterion of attractiveness for the new EU Member States, including Poland, another possible compensation mechanism for the energy sector could be a modified derogation mechanism in the ETS scheme. This solution could probably be permissible in the whole Union as well. The current mechanism, based on a free allocation of emission allowances in exchange for the realisation of much-needed investments in the energy sector could be extended to 2030, **provided that modifications resulting from the negative experience of the past years are included**. This means, in particular, a necessity to **adopt in advance clear rules of support for new investments** (for example, in the form of the establishment of a minimum emission standard). Their realisation could be a prerequisite for the use of the derogation. It seems that there are two possibilities that enable to avoid further conflicts between the Polish government and the European Commission:

1. **shifting a full control over the derogation mechanism implementation to the national level**. It seems, however, **unlikely**, taking into account the emphasis put by the European institutions on both a far-reaching and long-term emissions reduction and enforcing compliance with the public aid rules, together with the integration of national energy markets.
2. **adopting the rule stating that support would be offered only to the investments that considerably decarbonise the energy sector** (for example, the establishment of a minimum emission standard of supported projects), which would minimise the risk of blocking the projects covered by the support mechanism. Thus, derogations would probably make it easier to carry out a nuclear programme, build the most effective coal-fired cogeneration power units or build the RES power plants (for example, dedicated biomass power plants). They would also support the modernisation of a grid infrastructure and limit a rise in energy prices, which is necessary to cover the investment expenditure for the energy sector by 2030.

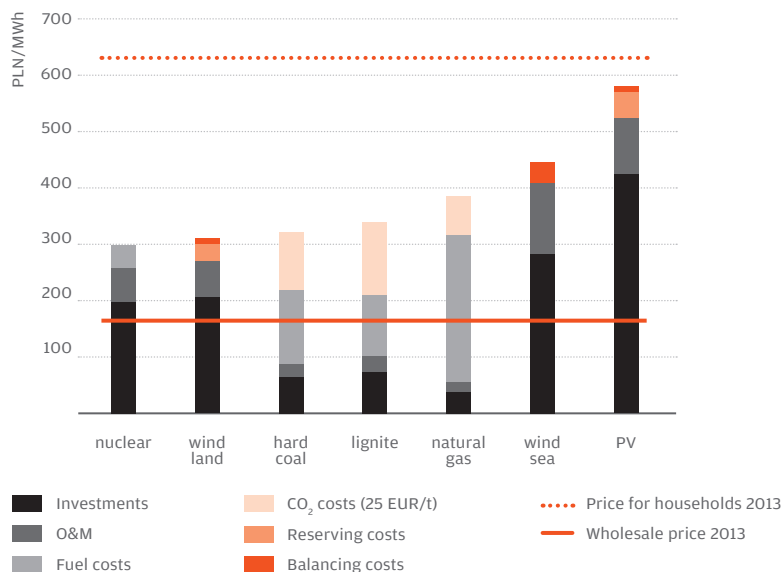
A drawback of the derogation mechanism is its **low flexibility** and **a risk of wasting the support when investors withdraw** from the supported projects due to changing market conditions (e.g. due to turbulences on the energy market and in the ETS).

## Preferred options

### Energy price, operational and capital costs and compensation mechanisms

A long- and short-term wholesale price of electric energy is a reflection of operational costs of the energy production, expenses on the fossil fuel purchase, costs of the repayment of the capital invested in an installation used to produce energy and other burdens, such as charges for the CO<sub>2</sub> emissions or costs of reserves. Different production technologies vary considerably in terms of the components of the energy production total cost. In general, low-emission solutions are very capital intensive but, simultaneously, relatively cheap in the operational use due to a low or even zero cost of the fossil fuel purchase. If the modernisation of the Polish energy sector could, at least in a part, be financed by the redistribution of allowances in the EU-ETS scheme with revenues from auctions covering part of investment costs in a low-emission generation capacity, a future energy price could also be proportionally lower. The proposed Fund for Low-Emission Investments is a solution that brings a two-fold benefits for Poland.

Energy production cost in 2025



## Necessary additional measures

Apart from the enumerated support options for a low-emission transformation of the professional energy sector, it is essential to take additional measures addressing the problems of the development of the heating sector and energy security of Poland.

### / **Creation of stable conditions for development of heating sector**

Investment challenges that the heating sector is faced with include a transformation of exploited local coal-fired boiler plants into high-efficiency CHP units as well as a modernisation and development of district heating networks in Polish cities. These challenges could be partly addressed by the proposed Fund for Low Emission Investments (the support for the development of cogeneration and heating networks). It would not solve, however, **the problem of the asymmetry of the costs and regulatory requirements between the heating power plants and energy and power plants covered by the ETS system, and smaller installations, heated individually**. A possible solution would be to compensate emission costs by linking the fuel taxation (for example, an excise duty on coal) with the current price of allowances so as to minimise the risk of a steep rise in an energy price for poor consumers. The problem of energy poverty should be attacked by the allocation of a part of the ETS revenues to increase the social aid (a short-term solution) and subsidise energy renovation programmes for the most sensitive energy consumers (a long-term solution). The introduction of such a solution at the European level, in accordance with the EC proposals, would be an additional argument for the higher support for Poland within the redistribution of revenues from the ETS scheme.

### / **Incentives for cogeneration development**

Poland should actively support the cogeneration as a method for emissions reduction at the European level. Poland should insist that this method is not discriminated against. However, a coherent national strategy of development of this segment of the energy sector is also necessary. It should consist of extending district heating networks in cities and investing in high-efficiency CHP installations based on gas, local waste and biomass.

## Necessary additional measures

### / **Support for sustainable and efficient use technologies of European fossil fuel resources**

A cost-efficient increase in the European fossil fuel extraction, aiming at reinforcing the energy independence of the European Union requires technological progress. On the EU level, it is appropriate to increase the support for the research, development and presentation of modern extraction technologies, in particular **methods of extraction of shale gas reserves, adapted to the European geological conditions**. This could be achieved through **the extension of a thematic scope of the SET Plan, Horizon 2020 and of the possibility of obtaining a subsidy within the NER 300**.

### / **Considering possibility of extending EU-ETS scheme to include non-ETS sectors**

Including non-ETS sectors, especially transport and buildings, into the EU-ETS scheme would create an opportunity for a rise in total revenues from this scheme and, consequently, in the funds supporting a low-emission modernisation of the energy sector in NMS countries, including Poland. It would increase contributions to the redistribution mechanism from countries in which the energy sector is already characterised by low-emissions. This would better balance the climate policy burden for all Member States.

## **Competitiveness of mining sector and subsidies for investments in coal-fired power generation**

The national extraction capacity for hard coal and lignite has been determined by the Mining Chamber of Industry and Commerce (2013). It distinguishes the resources that are possible to extract with the use of the present extraction infrastructure and the resources whose exploitation is conditioned by considerable investments. It follows from the estimates that even if significant investments were made in the new generation capacity in the mining of hard bituminous coal and lignite in the 2030 perspective, it is only possible to maintain the current national production volume of these two resources. What is more is that due to a low level of the competitiveness of the Polish mining, this scenario will only be possible on condition that a far-reaching restructuring of the sector takes place, together with its privatisation adjusting the industry to the market environment. Potential support for the coal-fired power generation within the climate and energy package should be conditioned by taking a remedial action in the Polish mining.

## SUMMARY

The overview of the past experience and possible options for modification of the European Union's energy and climate policy indicate that in the current situation, the most advantageous and realistic variant would be **for Poland to accept the necessity to lower emission intensity of the national energy sector, provided that Poland receives relevant support for the indispensable investments that considerably decarbonise the electric energy and heating production in Poland**. This approach is reflected in the option of creating **low-emission investment funds combined with the redistribution of revenues from auctioning of emission allowances**. This option favours a long-term solution to the problem of the high emission potential of the Polish energy sector and effectively reduces a rise in energy prices for consumers. It is also coherent with the European Union-wide direction of the energy and climate policy and, at the same time, leaves Poland the freedom of choice of such a set of supported low-emission investments, which would be best suited for its national specificity and could be an incentive to develop national low-emission technologies.

The second acceptable option, although not so appealing for Poland, would be to **prolong the derogation mechanism in force**. However, it would have to be modified in such a manner that the conditions under which support for given investments is to be granted will be made clear in advance. It means that **emission standards for the installations in a new National Investment Plan** will probably be introduced.



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