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Warsaw, June 2013

Response of the Polish Electricity Association (PKEE) concerning a public consultation on the EC Green Paper – A 2030 framework for climate and energy policies

The Polish Electricity Association welcomes the European Commission's Green Paper on the 2030 framework for climate and energy policies. The Polish power sector is deeply committed to contributing its share in reaching the targets set out by the EU. Our electricity mix is currently under transformation towards low-carbon energy sources. The share of conventional thermal units in electricity production is steadily decreasing, alongside rapid development of renewable energy sources (RES). Currently, installed capacity of RES in the system approaches 5 GW, which is a significant increase when compared to only 350 MW in 2008, when the Climate-Energy Package was adopted. The share of RES in installed capacity increased from ca. 1% in 2008 to 12% currently and Poland is above the trajectory to meet its 2020 RES target.

The Green paper correctly identifies the importance of clarifying policy objectives for 2030 – the significance of providing investors with a predictable long-term regulatory perspective. We also appreciate that the Green Paper mentions the inevitable trade-offs between the competitiveness, security of supply, and sustainability objectives, though we believe this problem could be elaborated further.

The document also rightfully calls for the need to improve cost-efficiency of RES support schemes. It is of utmost importance to rationalize the cost of RES development in the EU and support the right technologies in appropriate locations. However, further development of RES is mentioned in the Green Paper as a “no regret” option alongside energy efficiency. While energy efficiency is a “no brainer”, the development of RES is arguably a “no regret” option considering high capital costs, as well as the necessity to import biomass and to a large extent also technologies (mainly wind turbines and PV panels) from China, which deteriorates the European trade balance. In accordance with recent MIT data, an average cost of 1 ton of CO₂ avoided in Germany during the 2006-2010 period by using PVs has been ca. 537 EUR¹!

Furthermore, we welcome the fact that the Green Paper takes note of the current economic and technological background against which this legal framework must be looked at. The following preconditions are of particular importance: a) economic crisis and associated difficulties with investment financing, b) affordability of electricity in Europe for industry and households as compared to the EU's partners worldwide – interlinked competitiveness issues,

¹ MIT, *The Cost of Abating CO₂ Emissions by Renewable Energy Incentives in Germany*, February 2013.

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c) sluggish progress on achieving the global GHG agreement on the UNFCCC forum, d) global developments in terms of RES technology development (particularly the rise of China as a key player on the market), e) unconventional gas development in the United States f) nuclear developments in Europe, g) lack of progress on key decarbonisation technologies, namely CCS and electricity storage.

In terms of the energy mix, it should be looked at from the pan-European perspective. In order to provide energy security for the EU, we need to keep the technology-neutral approach and ensure a fair and balanced share for each of the main technologies – hard coal, lignite, gas, renewables, and nuclear.

With regard, to the UNFCCC process, the Green Paper shows continuation of the negotiating strategy which so far has not provided satisfactory results in terms of achieving a global emission reductions agreement. The strategy based on setting binding targets and waiting for others to follow suit already proved unsuccessful with a failure to achieve a comprehensive post-2012 global emissions reduction framework prior to expiration of the Kyoto Protocol. Yet, the Commission is currently suggesting exactly the same strategy which raises a concern.

Above all, the future EU climate and energy policy should contain clearly defined and stable principles which will help precisely define what needs to be achieved. These principles should be followed by measurable goals which are not subject to change depending on macroeconomic circumstances at a given time.

A clear example of current shortcomings of the climate-energy policy is the recent discussion on increasing carbon prices due to a surplus of permits in the ETS. Despite the fact that emissions reductions are being achieved in line with set targets, carbon prices are perceived to be a problem. This raises a concern because the GHG target was meant to focus on emissions reductions which are now taking place according to plan, and not permit prices. We should embrace the fact that GHG targets are being realized cost-efficiently – with low carbon prices – and not perceive this situation as a negative occurrence.

7 Key messages:

1. **Wait with further CO₂ and RES targets until ratification of the global GHG agreement.** One of key principles of the EU climate-energy policy is the fact that Europe is not able to stop climate change alone. We need other developed economies as well as major developing ones to step up their efforts in order to obtain the necessary environmental results. Therefore, setting of the 2030 CO₂ and RES targets and beyond should be conditional – based on a ratified global UNFCCC agreement. This principle of conditionality of EU 2050 targets is not underlined enough in the Green Paper, despite the fact that it is part of the current Climate-Energy package², as

² Directive 2009/29/EC of the European Parliament and of the Council of 23 April 2009 amending Directive 2003/87/EC so as to improve and extend the greenhouse gas emission allowance trading scheme of the Community – Preamble (3): “The European Council of March 2007 made a firm commitment to reduce the overall greenhouse gas


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well as 2050 decarbonisation declarations by the European Council³. Given the fact that the EU's emissions are only 11% of the global total and this share is steadily decreasing, in our opinion it makes sense from the environmental as well as economic perspective to wait for legally binding commitments by our partners worldwide.

2. **Align climate targets with availability of key technologies.** In order to achieve low-carbon targets cost-efficiently we need commercial availability particularly of CCS (or other clean fossil-fuel technology which might emerge) and energy storage. Until these technologies are available, achieving decarbonisation targets will not be affordable for the European Union. If these technologies are unavailable commercially, the targets should be adjusted accordingly.
3. **Even out priorities between III pillars of EU climate and energy policy** – focus more on security of supply and affordability. The current policy focuses too much on climate, which impacts negatively priorities in the other pillars. Energy prices for end users are going up fast and intermittent generation is pushing out stable conventional units out of the merit order endangering security of supply. Apart from slowing down ambitions in terms of low-carbon technologies and aligning them more with the global GHG process, we **should consider setting numerical (in %) target for energy independence**. This goal should be aligned with the idea of keeping all technology options open in the EU, including fossil fuels coming from domestic resources.
4. **Reflect national fuel and economic circumstances – go back to national CO2 targets.** To even out the chances for all Member States in terms of starting points, fuel structures and economic potentials, we propose to consider going back to national emissions reduction targets as in the case of the Kyoto Protocol. These targets should take into account the “ability to pay” of particular Member States as well as their present fuel mixes, historically shaped by the abundance of indigenous fuel resources. The trade of EUAs could take place between entities subject to the ETS and different countries like in the case of AAUs. After all, The ETS was originally set up to help Member States meet their Kyoto obligations.

The current ETS scheme based on the “one size fits all” approach is flawed as it does not take into account significant differences between Member States in terms of energy mix and wealth. These national targets should be legally binding and take into

emissions of the Community by at least 20 % below 1990 levels by 2020, and by 30 % **provided that other developed countries commit themselves to comparable emission reductions and economically more advanced developing countries contribute adequately according to their responsibilities and respective capabilities**”.

³ Presidency Conclusions, European Council 29th-30th October 2009 (7): “The European Council calls upon all Parties to embrace the 2°C objective and to agree to global emission reductions of at least 50%, and aggregate developed country emission reductions of at least 80-95%, **as part of such global emission reductions**, by 2050 compared to 1990 levels; such objectives should provide both the aspiration and the yardstick to establish mid-term goals, subject to regular scientific review. It supports an EU objective, **in the context of necessary reductions according to the IPCC by developed countries as a group**, to reduce emissions by 80-95% by 2050 compared to 1990 levels”.

account fuel mixes of different Member States as well as their ability to afford further emissions reductions.

Another way of reflecting different national circumstances would be by allocation of allowances based on fuel-specific benchmarks. Free allocation of allowances based on this methodology up to the level of most efficient technologies in a given fuel – separately for hard coal, lignite, gas and oil – would ensure development of most-efficient technologies while preserving the right of Member States to maintain their choice of energy mix.

5. **Let's develop renewables in Europe cost-efficiently.** In the long-term, RES should be subject more to market conditions and available natural resources – we should move away from national targets and develop respective technologies in areas of Europe where particular technologies could operate at relatively high load factors because of local windiness, insolation or hydro resources.

There are also important questions regarding the ability to realize the “green growth” ambitions due to rising technological competition from other parts of the world where costs are lower. In the area of photovoltaic and wind energy, China is already taking over the global market. Therefore, **we need to reassess the impact of the EU's climate-energy policy on jobs and growth in Europe based on most recent global trends.**

6. **Refrain from political intervention on the carbon market.** It will make the problem worse. Solutions such as backloading will demonstrate that the ETS is subject to frequent political intervention and therefore it will work counter to intentions in the long-term, i.e. it will provide less regulatory certainty for investors. The predictability of climate legislation is there – the investment uncertainty problem is overestimated. The EU emissions cap is set to steadily decline every year also after 2020. We believe the system provides the necessary long-term vision for investors to continue their low-carbon projects. National support schemes for low-carbon technologies may provide additional certainty for investors until the international conditions are right to increase the targets and gradually move away from national support measures
7. **Prior to further targets, we need impact assessments at national levels.** We fully support and underline the notion in the Green Paper that Member State-specific impact assessment is absolutely necessary in designing the 2030 framework. As it is correctly stated, climate and energy targets impact each Member State differently. Only with a fair distribution of efforts between Member States and the recognition of international competitiveness issues will we be able to ensure that the EU climate and energy policy will deliver the desired socio-economic and environmental benefits.

Annex 1. Answers to questions in the Green Paper:

- *Which lessons from the 2020 framework and the present state of the EU energy system are most important when designing policies for 2030?*

First of all, we need to reassess the goals of the EU climate and energy policy in terms of benefits for the environment and economy. Only after an analysis whether the fundamental reasons for pursuing this policy are still realistic – in terms of climate benefits while acting unilaterally, green growth and jobs – should we start analyzing the costs and benefits as well as tools for its implementation.

We need to focus more evenly on all three pillars of EU climate policy and find the way for them to complement each other. Currently, the EU climate-energy policy is being implemented counter to its fundamental principles and intentions. The three pillars of this policy – climate protection, energy security and affordability were meant to interact productively and be compatible with each other. Meanwhile, putting an emphasis on one of them – namely climate with binding numerical targets – resulted in decreased ability to realize the goals under the remaining two – security of supply and affordability of energy through competition of different generation technologies on the internal market.

Security of supply, defined predominantly as reducing energy import dependence, has not improved over the years since the energy policy was first introduced in 2007. Energy dependence rate at that time stood at around 54%. Recent Eurostat news release reports that number to remain unchanged in 2011 while energy consumption went down by 6% between 2008 and 2011. On the more local level, the security of electricity supply looks to be very fragile in the midterm due to complete deterioration of the investment climate with regard to stable power sources across Europe. Falling power prices coupled with less working hours for conventional power plants due to unbalanced and in many cases excessive RES support undermine investor confidence and cause investment projects to be delayed or outright cancelled.

Therefore, we need a concrete EU target in terms of energy independence and use of domestic sources for the post-2020 framework. This could be done by establishing an EU-wide percentage target of energy independence to be achieved by 2030. It should not be limited to RES development but we should also tap into Europe's fossil fuel reserves including coal, lignite and unconventional gas. This approach focusing on indigenous fossil fuel reserves is being successfully pursued by the United States and has been recently announced by the Indian Minister for Petroleum and Natural Gas.

Turning to competitiveness, which the Commission described as job creation, promoting innovation and the knowledge-based economy in the EU thanks to investment in particular in energy efficiency and renewable energy, this also proves to be difficult to confirm. European companies have already lost the lead to a large extent in solar PV manufacturing to Chinese competitors. Since 2008, installed capacity of PVs in the EU increased more than sixfold, and


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European producers lost more than 8 percentage points of their global market share (13% in 2012). There has been a wave of insolvencies, shutdowns and takeovers by foreign investors among the European PV industry and the same trend is being observed in wind energy. Vestas, the leading producer of wind turbines, has been closing factories in Denmark and opening them in China while struggling to remain profitable. Unsustainable renewables support schemes have a negative impact on European trade balance.

At the same time, the social dimension of the energy policy – affordability of energy for consumers – has also suffered. Between 2008 and 2012 average household electricity prices in the EU increased by ca.15% and are rising at an even higher rate right now with increased penetration of expensive solar PVs, with Germany being the most notorious example. Meanwhile EU energy intensive industry is reallocating to countries with less restrictive climate policies due to rising production and energy costs. This process, if continued, will have profound negative socio-economic effects for the EU and will lead to the rise of overall emissions worldwide.

Targets

- *Which targets for 2030 would be most effective in driving the objectives of climate and energy policy? At what level should they apply (EU, Member States, or sectoral), and to what extent should they be legally binding?*

As mentioned above, PKEE believes that we should open the debate on the 2030 targets following ratification of the global UNFCCC agreement on greenhouse gas emissions in 2020. Until then, we should preserve the current rate of the annual ETS cap decline and refrain from setting further RES targets.

We should consider going back to national emissions reduction targets as in the case of the Kyoto Protocol or the RES Directive 2009/28/EC. These national targets should be legally binding and take into account fuel mixes of different Member States as well as their ability to afford further emissions reductions. They could be based on national ETS caps which would be decreasing in time in accordance with the respective trajectory aligned with the national target. Member States should steadily include additional non-ETS sectors in the scheme – mainly transport and buildings.

With regard to renewables, RES ought to be subjected more to market conditions. We should move away from national targets and develop respective technologies in areas of Europe where particular technologies could operate at relatively high load factors because of local windiness, insolation or hydro resources. In case of large commercial RES investment projects, a sustainable incentive scheme should be introduced, e.g. site tenders/licensing with a guaranteed power purchase price.

In terms of energy efficiency, we should wait for results of the review under the new EED Directive prior to deciding whether the targets should be binding or indicative.


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Furthermore, as stated earlier, we should consider an EU-wide energy security target in terms of energy independence and use of indigenous energy sources in order to even out the realization of EU energy policy goals in all of its pillars.

- *Have there been inconsistencies in the current 2020 targets and if so, how can the coherence of potential 2030 targets be better ensured?*

We do not believe that the 2020 targets are inconsistent. Notably, we are of the opinion that the supposed contradiction of 3x20% targets claimed by some stakeholders is an inflated problem stemming from particular business interests. The ETS was never meant to promote certain emerging technologies, but is a **market-based mechanism designed to find cheapest ways to meet the emissions reduction targets**. We see energy efficiency, renewables schemes and the ETS as complementary tools to achieve the EU targets. Even if there is a tendency for renewables and efficiency to decrease demand for CO₂ on the market and therefore drive carbon prices down, we do not see it as a negative result since all policy goals are being achieved at the same time and cost-efficiently. A temporary surplus of allowances due to economic slowdown should not be treated as an alarming sign as long as the long-term supply shortage signal is there, and this is precisely the case.

- *How can targets reflect better the economic viability and the changing degree of maturity of technologies in the 2030 framework?*

The targets should be aligned more with the pace of development of emerging technologies. In this context, waiting until 2020 before setting new 2030 targets will allow us time to work on key technologies crucial for cost-effective and more ambitious emissions reductions in the European economy – namely Carbon Capture and Storage and energy storage. We can also drive the costs of some key technologies down during this time, and therefore decrease the cost of overall support needed, e.g. for PV and off-shore wind.

EC should also consider using a relative measure as an emission reductions target, e.g. CO₂ emission per GDP (or another economic measure). A numerical (20, 30 or 40%) CO₂ reduction combined with long-term economic stagnation could not be defined as a success.

- *How should progress be assessed for other aspects of EU energy policy, such as security of supply, which may not be captured by the headline targets?*

As mentioned earlier, PKEE believes **it is possible and necessary to set an EU-wide security of supply minimum target** in terms of indigenous fuel use (in %). This could be done e.g. by providing special treatment for energy from indigenous fuels – in a direction of an existing provision in the Electricity Directive 2009/72/EC, which allows Member States to provide priority dispatch for generating installations using indigenous sources for 15% of the overall primary energy consumed in the Member States in a given year.

There are other possible mechanisms to promote domestic fuels, such as cooperation between EIB and investors in conventional as well as unconventional gas extraction with regard to



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financing these important projects. More should be done in the area of cost-effective extraction of fossil fuel reserves in the EU, including unconventional gas, which should be fully explored as a feasible option increasing the security of supply.

Also, regarding biomass, we should develop sustainability criteria which should take into account the carbon footprint of imported biomass.

Instruments

- *How should specific measures at the EU and national level best be defined to optimise cost-efficiency of meeting climate and energy objectives?*

Climate and energy targets, no matter whether EU or national, have to be realistic and take economic efficiency to utmost account. Therefore, we should align the targets with available technological tools. Currently we do not have the tools ready to agree on decarbonisation targets for the EU, given the stagnation of CCS and energy storage development, as well as inability to compete on the market in case of most RES technologies.

Until these key technologies become commercialised, we need to focus on cheapest ways to reduce emissions particularly ones with a net income/ton CO₂ avoided i.e. energy efficiency, as well as reduction of emissions in transport, or buildings.

- *How can fragmentation of the internal energy market best be avoided particularly in relation to the need to encourage and mobilise investment?*

The European Commission should coordinate the approach of different Member States to enforcement of capacity adequacy mechanisms through publication of non-binding guidance. Member States' sovereignty in the area of ensuring security of supply should be respected in this process to the extent in which the proposed capacity measures do not directly influence other countries.

- *How can EU research and innovation policies best support the achievement of the 2030 framework?*

Particularly during these times of economic austerity and cutting of national support for development of emerging energy technologies by many governments, we need more EU funding to fill the void. Further significant emissions reductions in the EU will necessitate commercialisation of CCS and energy storage in order not to endanger the security of supply and keep energy prices affordable.

Competitiveness and security of supply

- *Which elements of the framework for climate and energy policies could be strengthened to better promote job creation, growth and competitiveness?*


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Obviously, we should focus on domestic technologies which are, or may become competitive worldwide including some RES technologies, nuclear, and efficient fossil-fired units. In order to optimize job creation, we should analyze prior to enforcement of further targets the net impact of the “green revolution” on employment in Europe. This should be done by estimating also the amount of jobs which will be lost in respective EU economies (not only the amount gained). Furthermore we should develop mechanisms to preserve the competitiveness of the energy intensive industry.

- *What evidence is there for carbon leakage under the current framework and can this be quantified? How could this problem be addressed in the 2030 framework?*

There is definitely a shortage of reliable data with this regard. More research should be done to obtain detailed information to what extent the actual carbon leakage is taking place or will happen in the near future. The recent initiative by the UK government with this regard is a valuable one, but should be followed by the European Commission at EU level.

Crude steel production both in India and China increased by c.a. 45% by 2012 as compared to 2007. In the same period, German steel production fell by as much as 12% and Italy was replaced by Turkey on the top 10 steel producers list. A global emissions benchmark is c.a. 1,8 ton CO₂ per 1 ton of crude steel produced. However, in India this factor is about 2,8 – 3,0 ton CO₂. **Since 2008, China increased its emissions solely from steel production about twice the amount of EU verified emissions reductions within EU ETS. Furthermore, entire EU emission reductions to be achieved by 2020 are comparable to China's emissions in the period of two weeks.**

One thing, however, remains certain. No matter what the level of actual carbon leakage, the competitiveness of EU industry due to rising energy costs is definitely deteriorating rapidly as compared to e.g. the United States. We should not stop on the issue of carbon leakage itself which may or may not be happening in a variety of branches due to sunk investment costs, transport costs, product differentiation, various shares of energy costs etc. We should look at the problem more broadly what is happening in terms of competitiveness of the European energy intensive industry due to implementation of current climate-energy policy.

- *What are the specific drivers in observed trends in energy costs and to what extent can the EU influence them?*

Energy costs for final consumers are steadily increasing in the EU due to different factors, among which are mostly costs of RES support schemes, CO₂ as well as levies, taxes. These cost components are absent or much less severe in energy prices in other parts of the world. The situation in the United States has notably changed in terms of energy costs due to extraction of cheap unconventional gas. This phenomenon has significantly contributed to increased competitiveness of the US industry and the whole economy.

The EU cannot significantly influence oil or coal prices, because its demand is too low to become a driving force on global markets. However, speaking to suppliers of natural gas to the EU with one voice may result in more affordable prices.

The EU can however minimize the impact of electricity price increases internally by e.g. optimizing the cost-efficiency of RES support schemes, and rationalizing the rate of investment in low-carbon technologies while keeping CO2 prices affordable.

- *How should uncertainty about efforts and the level of commitments that other developed countries and economically important developing nations will make in the on-going international negotiations be taken into account?*

As mentioned earlier, the only way to take this into account accurately and responsibly is to wait for the ratification of the global UNFCCC climate agreement prior to setting post-2020 EU climate targets, while working with our partners vigorously during the upcoming years to achieve progress in negotiations.

- *How to increase regulatory certainty for business while building in flexibility to adapt to changing circumstances (e.g. progress in international climate negotiations and changes in energy markets)?*

Stability and predictability of the regulatory framework are key to ensure investment certainty. In terms of development of low-carbon technologies, national support schemes if designed properly, may give this long-term certainty of returns from investments, e.g. feed-in tariffs or certificate schemes. The ETS system may also give this certainty in the case of both EU-wide and national targets (if applied) by setting the pace of declining emissions caps and therefore assuring a predictable supply shortage. In this respect, it makes more sense to go back to national targets and develop national emissions caps which seem less likely to be tampered with by political intervention than the EU-wide cap. The current structure also gives a fair amount of certainty with a declining (by 1.74% p/a) cap also post-2020 if the ETS Directive remains in place without amendments.

What we do not need is more political intervention on the market. The current backloading discussion is a good example – current carbon prices are changing rapidly after each political announcement or even a hint by respective EU governments where they stand on the issue. Backloading will be economically ineffective because it does not change the supply/demand dynamics up to 2020 – it is therefore considered as a “political placebo”. Moreover, enforcing backloading will demonstrate that the ETS is subject to political control and therefore it will work counter to intentions in the long-term, i.e. it will provide less regulatory certainty for investors.

- *How can the EU increase the innovation capacity of manufacturing industry? Is there a role for the revenues from the auctioning of allowances?*

Innovation should be a much higher priority in the process of forming the EU budget than today. Our global competitors are spending significantly higher shares of their budgets in this field and the EU is lagging behind. Auctioning revenues could be used by national governments to help stimulate research and innovation activity in respective Member States.

- *How can the EU best exploit the development of indigenous conventional and unconventional energy sources within the EU to contribute to reduced energy prices and import dependency?*

As discussed above, one way of going about it is to set a quantified EU-wide target (in %) to reach and maintain a certain level of energy independence. Another way discussed previously would be to provide priority dispatch to electricity produced from indigenous fuels for a given share of overall demand (in %).

Also, as stated previously, the EU and EIB should assist investors in unconventional gas extraction e.g. in the form of preferential financing opportunities, to assess whether this is a feasible energy option for the future. The U.S. case definitely proved that it is worth the effort.

But the most important thing which can be done is to allow for true competition between different technologies by avoiding artificial measures which are aimed at making fossil fuels uncompetitive – such as withholding CO₂ permits from the market, introduction of Emissions Performance Standards, CCS certificates etc.

Capacity and distributional aspects

- *How should the new framework ensure an equitable distribution of effort among Member States? What concrete steps can be taken to reflect their different abilities to implement climate and energy measures?*

As mentioned earlier, we should go back to national CO₂ targets reflecting the technical and economic potential for emissions reductions in a given Member State. This is one way of achieving a more balanced burden sharing in the EU. Additionally, fuel-specific benchmarks may be an option – allocation of free allowance up to the level of best available technologies in a given fuel, separately for lignite, hard coal, gas and oil. Another way of burden sharing is a financial transfer from wealthier to poorer Member States, for example in the form of additional allowances to be auctioned, or indirectly through EU funding. All of the above mechanisms are compatible with each other and may be implemented together.

- *Are new financing instruments or arrangements required to support the new 2030 framework?*

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We need additional mechanisms to promote particularly the development of CCS and other clean coal technologies. The measures taken so far by the EU – the EEPR and NER 300 initiatives – though notable, were not enough to push CCS forward. We need more involvement at EU level as national governments are currently hesitant to provide significant funding for uneconomic and technically unproven technologies.

It is important to remember that only by finding an economically viable way to decrease the impact of coal-fired generation on climate, can we succeed in significant emission reductions in the EU and even more so worldwide, considering China's and India's plans in terms of the future of coal in their economies. One thing is for sure – coal will for decades to come remain the primary fuel for power generation in the world.

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