Wuppertal Institute
for Climate, Environment and Energy

Comments on the Proposal of the National Energy Programme of the Republic of Slovenia

Contribution to the Stakeholder Consultation

On Behalf of Greenpeace Slovenia

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DiscussionPaper

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1 Background and Summary of the Discussion Paper

The Republic of Slovenia is conducting a public consultation of the draft version of its National Energy Programme (NEP). The NEP aims to represent a sustainable energy strategy based on the objectives of energy security, environmental sustainability, economic viability and social acceptance.

As a contribution to this consultation Greenpeace Slovenia has asked the Wuppertal Institute to briefly analyse the key elements of the NEP and prepare a general statement. The Slovenian Energy Strategy needs to be embedded in the long-term energy strategy of the European Union. Therefore our brief analysis takes into account the European context of pursuing a sustainable energy sector development. The overall aim of the EU's Long-Term Low Carbon Development efforts is to achieve a highly energy efficient and mainly renewable energy supply on a European scale.

Therefore Slovenia needs to prepare for a full transformation of its energy sector by about 2050. Electricity generation has a crucial role in this process as a pioneering sector, because energy from renewable sources is mostly harvested as primary product in the form of electricty. A long-term 100 % renewable target for electricity generation is consequently in line with the EU's Low Carbon effort.

In our discussion paper we express strong doubts whether building a second nuclear block at the existing power plant site Krško would in fact be a preferable option for Slovenia. In our view there are significant risks associated with the planned reactor regarding its economic viability, as well as its suitability for a future sustainable energy system[1]. We highlight alternative options to building a new nuclear power block and prolonging the lifetime of the existing Krško block. A higher level of ambition in renewable energy deployment as well as more strategic and comprehensive energy efficiency measures would make it possible for Slovenia to do without nuclear power by the time the originally intended lifetime of the existing Krško nuclear power plant expires. This strategy would also allow the country to successively reduce its CO_2 emissions towards the intended low carbon future.

The emerging dominance of electricity supply from volatile renewable sources imposes strict requirements to be met by the remaining power plants using chemically stored energy ('fuel') in the system. It is very questionable if a large nuclear plant is capable of balancing and load following operations as would be necessary at all stages of an electricity system dominated by renewables.

Further, however, an alternative energy strategy would require abandoning current plans to build a new lignite fired power block as such a block would lead to a considerable increase in CO_2 emissions in Slovenia. Its emissions alone would account for about 70 % of the per capita CO_2 emissions that by the middle of the century are believed to still be compatible globally with the internationally agreed upon goal to limit global warming to a maximum of 2 °C above pre-industrial levels. Allowing this new lignite power block to operate would thus

[1] In this statement we do not cover additional risks associated with a nuclear pathway, such as operational risks and lack of social acceptance.

seriously jeopardise any future Slovenian efforts to considerably reduce its CO_2 emissions and fulfil possible future international obligations.

2 Brief Review of Selected Policies

The following comments by the Wuppertal Institute focus on three fields: policy for energy efficiency, potentials of electricity from renewable sources and medium to long-term development of the country's electricity system. The aim of our brief analysis of the Slovenian NEP is to highlight alternative options for the long-term transition to a low-carbon society. Furthermore the paper aims to draw attention to the high and multiple risks associated with a nuclear development pathway.

2.1 Policy for Energy Efficiency

Theses

- It is a real option to increase the goal for improving overall energy efficiency by 2030 to 35 % instead of only 27 %.
- For allowing that, two measures are recommended:
  - The NEP should be more comprehensive regarding implementation, monitoring and evaluation of the various energy efficiency measures it describes.
  - The strategic approach towards energy efficiency should be more prominently highlighted in the NEP and strengthened by a strong coordinating public authority.

It is a real option to increase the goal for improving overall energy efficiency by 2030 to 35 % instead of only 27 %.

The efficient use of energy is addressed by a sub-programme within the NEP. Its objective is to improve the overall energy efficiency by 20 % by 2020 and by 27 % by 2030. Furthermore, the sub-programme aims to reduce total energy consumption by 7 % by 2020 compared to 2008 and to keep energy consumption stable between 2020 and 2030.

- The objective by 2020 is roughly in accordance with the national obligation for the EU-Energy Service Directive (ESD, European Union 2006). The objective by 2030, however, to improve energy efficiency only by a further 7 percentage points within the ten years from 2020 to 2030 does not seem to be very ambitious. Some countries which have carried out successful efficiency policies in the past, have shown annual efficiency gains of up to 3.6 % (see Fig. 1). In Slovenia "the energy efficiency index ODEX has improved in the period from 1997 to 2007 by 15.5% or 1.9%/year" (Jošef Stefan Institute 2009). Even if annual efficiency improvements of only 1.6 % would be achieved in Slovenia from 2020 to 2030, this would already lead to an improvement in energy efficiency by 2030 of 35 % instead of 27 %.

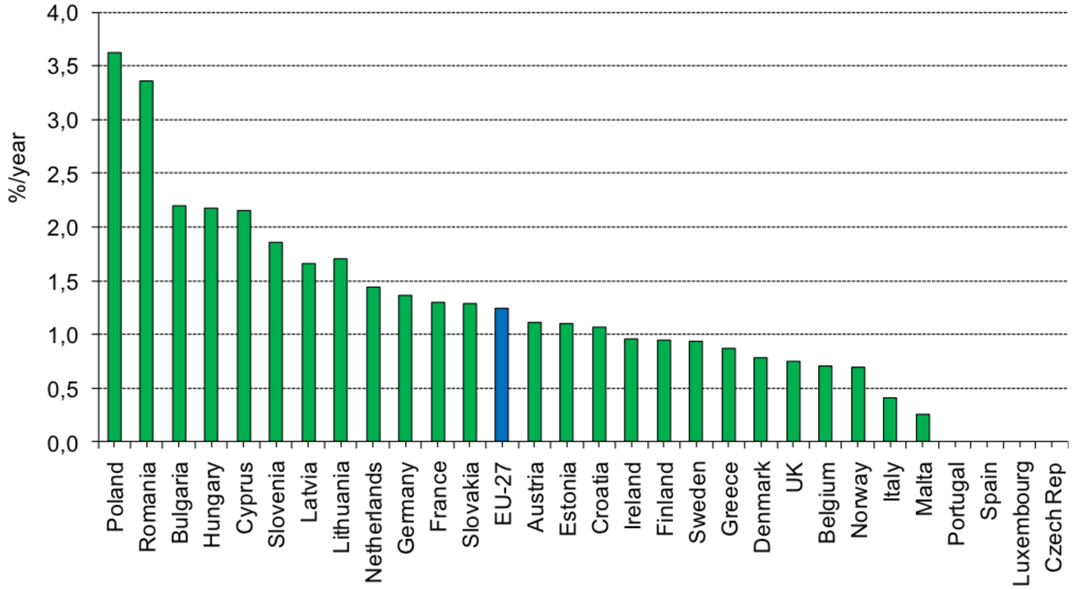

Fig. 1: Average annual increase in energy efficiency by country, 1996-2007 (Ademe 2009)

The NEP should be more comprehensive regarding implementation, monitoring and evaluation of the various energy efficiency measures it describes.

To achieve these objectives, different instruments (sector-specific, multi-sectorial and horizontal measures) in all energy-using sectors (households, commercial and pubic sector, industry and transport) are foreseen. The planned measures also include financial incentives for investments in efficient energy use and for energy advice and education, information and training for energy users and other target groups.

- The list of efficiency measures within the NEP is impressive but the measures seem to stand-alone, i.e. no comprehensive strategy is visible in the programme.
- Furthermore, specific targets are provided only for very few measures. If the NEP wants to be successful on energy efficiency it should be more elaborated for each measure; regarding specific targets, implementation steps as well as transparent monitoring and evaluation of the targets.

The strategic approach towards energy efficiency should be more prominently highlighted and strengthened by a strong coordinating public authority.

The key actors for formal setup for the development and implementation of end-use efficiency policies are the Slovenian Government coordinating the Ministries of Economy (ME), of Finance (MF), of the Environment and Spatial Planning (MESP), of Education and Sports (MES), of Public Administration (MPA), of Higher Education, Science and Technology (MHEST), for Foreign Affairs (MFA), for Labour, Family and Social Affairs (MLFSA), the Government Offices for Climate Change (GOCC), for Development and European Affairs (GODEA), the Environmental Fund (Eco Fund), municipalities and the Public Agency of the RS for Entrepreneurship and Foreign Investments (PAEFFI).

- This means that many actors are involved in the process. While on the one hand it is important for successful implementation to involve many actors, the NEP does not develop a consistent strategy on how the actors should work together and how successful cooperation can be ensured.

- Thus the strategic approach should be more prominently highlighted and strengthened by a strong coordinating public authority. Successful examples for such strong authorities in other countries are the Energy Saving Trust in the UK or Elsparefonden in Denmark.

2.2 Potentials of Electricity from Renewable Sources

Theses

- It is a real option to provide significantly more electricity from renewable sources than projected in the NEP.
- The higher future share of electricity from fluctuating renewable sources requires a 'smart' electricity grid, in contrast to the one proposed in the NEP.
- Slovenia should take into account that the EU is going to set targets to further increase the share of electricity from renewable sources after 2020.

It is a real option to provide significantly more electricity from renewable sources than projected in the NEP.

The following figure (Fig. 2) compares the current renewable electricity production in Slovenia with the amount of renewable electricity estimated in the NEP for 2020 as well as with the realisable potential by 2020 as identified by the OPTRES (2006) study. The comparison shows that the potentials for hydro, wind and biomass by 2020 seem to be significantly higher than the expansion envisaged in the Slovenian NEP.

While the NEP expects a little more than 5 TWh of electricity from hydro power plants in 2020, OPTRES estimates that 9.5 TWh could be generated annually from small and large hydro power plants by 2020.

Besides hydro power, wind energy is a further important renewable energy source in Slovenia. The NEP regards the Slovenian wind potential to be rather low[2]. This stands in strong contrast to the available potential studies. The OPTRES study estimates the achievable wind energy potential to be 0.3 TWh/a by 2020. EBRD (2010) estimates the wind energy potential at approximately 600 MW, which would be equal to 1.2 TWh/a assuming 2,000 equivalent full-load hours. Beyond that, the European Environment Agency (2009) considers 2 TWh/a of electricity production from wind power plants "competitive" and a further 17 TWh/a of electricity production as "most likely competitive" in Slovenia by 2030[3].

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2 http://www.ukom.gov.si/en/media_room/newsletter_slovenia_news/news/article/391/2377/058926437b/?tx_ttnews[newsletter]=95

3 The EEA evaluation excludes both the Natura 2000 and the Common Database on Designated Areas (CDDA) sites.

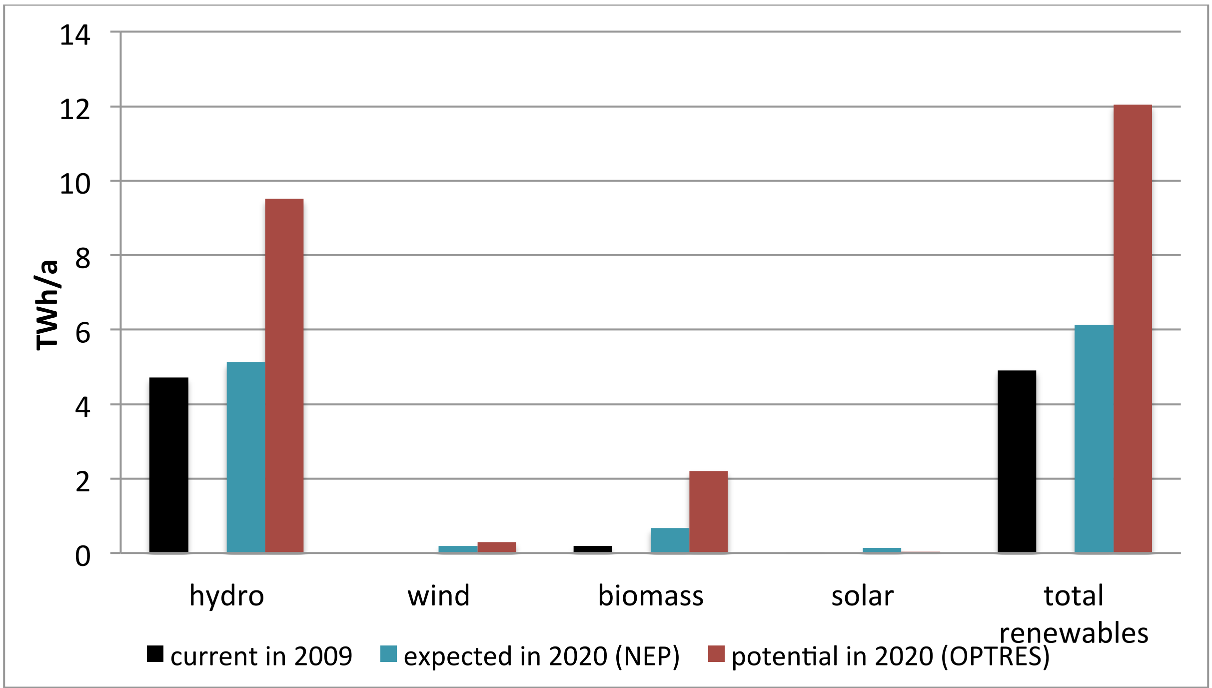

Fig. 2: Current production of renewable electricity, expected production in NEP by 2020 and realizable potential in the OPTRES study by 2020

The NEP expects electricity production from biomass sources to generate 676 GWh/a by 2020. The OPTRES study (2006) sees a realisable potential of 1,080 GWh/a of electricity available from solid biomass sources, 380 GWh/a from bio-waste and 740 GWh/a from biogas by 2020.

Also PV systems could have a strong potential in Slovenia (EBRD 2010; EEA 2011). The technology costs are still high, but PV module prices have fallen by 38 % in 2009 and by a further 14 % in 2010 and are now in a 1.30 to 1.80 USD/W_{peak} range (REN21 2011). It is likely that these solar PV industry trends continue in the future, and the technology will become more and more competitive. The development of installed PV capacity in the German state of Saxony-Anhalt can provide a good example for how PV could play a meaningful role in the Slovenian electricity supply within a few years. The installed PV capacity in Saxony-Anhalt grew from 26 MW_p in 2006 to 435 MW_p in 2010 (AEE 2011). This corresponds to a typical production of 0.38 TWh/a, assuming a capacity factor of 10 %. Besides this, Saxony-Anhalt has become an important location for the PV manufacturing industry (SolarValley 2011).

The higher future share of electricity from fluctuating renewable sources requires a ‘smart’ electricity grid, in contrast to the one proposed in the NEP.

Higher shares of solar and wind electricity generation raise different challenges in terms of grid requirements. The increased share of fluctuating renewable energy sources demands a more flexible structure of electricity generation. The traditional, vertically integrated structure of electricity production needs to be replaced by new concepts, like virtual power plants and smart grids. Such a virtually combined power plant consists of various renewable power plants like wind parks, solar and biogas power plants and pump storage systems that balance and back up each other. Pilot projects show that renewable energy sources can supply sufficiently reliable electricity and can be balanced out across the grid (Solarserver 2008). However, it is necessary to keep various kinds of renewable energy sources available for these new concepts. If the share of nuclear and coal power plants will further increase in the Slovenian electricity system, the introduction of virtual power plants will be more difficult or even impossible because of a high share of base load electricity in the system, the low flexibility of these generation technologies and the need for a centralised grid structure in order to transport the centrally generated electricity to consumers.

Slovenia should take into account that the EU is going to set targets to further increase the share of electricity from renewable sources after 2020.

The long-term EU climate targets require radical structural changes in the European energy system, which must start now. The climate and energy targets set for 2020 are essential milestones on the way to a radical reduction of GHG emissions by 2050. Therefore the energy system development that has been set in place in Europe will have to continue beyond 2020. It is highly likely that the EU will pass new mandatory targets for a post-2020 period, requiring member states to further increase their share of renewable energy sources in final energy demand. Initiating structural changes in the energy system in due time is essential in this process. As investment decisions in the energy sector have long lifetime, risks of technological lock-in need to be considered. The energy strategy of the member states should be developed in line with the long-term EU strategy, otherwise the countries will miss opportunities to keep up with the European development. If Slovenia disregards its wind and PV potentials, it could miss opportunities to keep up with the expected future European development.

Furthermore, Slovenia can benefit from the increased use of renewable energy sources. Green energy development has positive effects on the entire economy. Renewable energy sources lower dependence on energy imports and have less harmful impacts on the environment. In addition, the renewable energy sector can give a significant boost to employment and the economy as a whole (EmployRES 2009).

The EU directive 2009/28/EC introduced flexibility mechanisms for the EU countries in form of statistical transfers, joint projects between EU member states and joint support schemes. If Slovenia were able to produce more renewable electricity than prescribed by the directive, it could sell this electricity to other EU member states using these flexibility mechanisms.

2.3 Development of the Electricity System

Theses

- Meeting future domestic electricity demand in Slovenia requires neither additional nuclear capacity nor additional large-scale fossil fuel plants.
- The Profitability of building and operating a second nuclear power block is uncertain and investing in such a block is a high-risk strategy for the Slovenian economy.
- Gradual (smaller-scale) investments are more suited to deal with uncertainties about the long-term evolution of the power system of Slovenia and its neighbouring countries.

Meeting future domestic electricity demand in Slovenia requires neither additional nuclear capacity nor additional large-scale fossil fuel plants.

Between 2005 and 2008 the average annual electricity demand increase in Slovenia has slowed considerably compared to previous years, averaging only 0.2 %, despite an average annual GDP growth rate of 5.4 % during the same period (Statistical Office of the Republic of Slovenia 2011)[4]. The NEP is aiming to limit electricity demand to a maximum increase of 7 % between 2008 and 2030, which corresponds to a maximum average annual increase of 0.3 % and an absolute demand in 2030 of around 14 TWh. Accounting for another 1 TWh/a for network losses, this would require Slovenia to realize a net electricity generation of about 15 TWh in 2030 so as not to rely on net electricity imports. However, by 2030 at least 7.5 TWh/a will likely be supplied by renewable energies, as in the NEP Slovenia is aiming for a 53 % share of renewables in gross electricity consumption by 2030 – which could be even higher given the available potentials for electricity generation from renewables (see section 2.2). Assuming that the existing nuclear power block (NPPK) will be decommissioned before 2025, at the end of its originally planned operating time of 40 years, this would mean that in 2030 all fossil fuel plants and any new nuclear block would face a remaining domestic electricity demand of less than 7.5 TWh. Today, fossil fuel plants generate about 5.8 TWh/a in Slovenia (gross generation, Eurostat 2010).

These numbers indicate that an additional nuclear power reactor (NPPK2), which would generate at least 7.5 TWh of electricity annually[5], would be significantly oversized to cover the remaining domestic electricity demand by 2030, as some contribution from fossil fuel plants is to be expected. Table 12 in the NEP shows that in scenario NS INT, which is one of

4 Electricity demand in 2010 was actually 6.1 % lower than in 2005, but this decrease can be partly explained by the economic recession of 2009. While the recession already started in the last quarter of 2008, a slowdown in electricity demand growth has been apparent even before: Average annual growth in electricity demand was 2.0 % between 2005 and 2007, while it was 3.8 % between 2000 and 2005. This slowdown in demand growth is likely to at least in part be due to efficiency measures in recent years. Continuing efforts to increase efficiency are likely in the coming years, not the least because of existing EU targets (European Union 2006).

5 Assuming the smaller proposed block with a net capacity of 1.000 MW and a capacity factor of 85%.

two scenarios favoured within the NEP and which includes the construction of NPPK2, net electricity exports in 2030 reach 10.2 TWh or around 70 % of domestic gross consumption. Even assuming – contrary to the NEP scenarios, which assume a lifetime extension – that NPPK will be decommissioned well before 2030, operating NPPK2 would lead to significant excess electricity that would have to be sold to neighbouring countries. A part of this excess electricity by 2030 might be avoided if the operation of NPPK2 were shared with a neighbouring country and if fossil fuel power generation was reduced considerably compared to today. However, looking at Slovenia's potential for renewable energy, of which much more will be economically exploitable by 2030 than today (see section 2.2), this would likely also require the utilisation of renewable energy sources to be restricted for decades to come. Furthermore, the construction of the new 550 MW block at the Sostanj lignite power plant would not be needed to cover domestic electricity demand if renewable energy sources are exploited as planned and some small-scale natural gas power plants were constructed to replace some of the ageing fossil fuel power plant capacity and to provide balancing power.

Profitability of building and operating a second nuclear power block is uncertain and investing in such a block is a high-risk strategy for the Slovenian economy.

The two scenarios that assume NPPK2 to be built assume electricity exports of 8.3 to 10.2 TWh in 2030. That would equal around 55 to 70 % of that year's expected domestic gross electricity consumption. Even in the basic scenario, which does not assume NPPK2 to be in operation by 2030, net electricity exports of 2.6 TWh are expected for that year. It is, however, not clear why the Slovenian government is aiming for such significant net exports of electricity.[6] Due to their very high ratio of investment costs to operational costs, nuclear power plants need to realize high annual full load hours and depend on stable minimum base load electricity prices over several decades to ensure profitability. In that respect, relying to a large extent on electricity exports is a long-term high-risk strategy as it requires very high investments to be covered by the Slovenian economy over the period of the plant's construction and as these investments need stable conditions for decades to be profitable.

This should be even more of a concern as the electricity supply of Slovenia's neighbouring countries can be expected to be increasingly characterized by renewable energy sources, as technology costs for exploiting these sources will continue to decrease (IPCC 2011) and further ambitious European Union renewables targets are likely to be set sooner or later for the post-2020 period. As fluctuating renewables like wind and solar energy can be expected to constitute a major share in total renewable electricity supply in many countries, including Croatia, Austria and Italy[7], this change in the supply structure will tend to increase the value of flexible, dispatchable electricity and will tend to decrease the value of base load electricity. These developments are likely to negatively affect the revenues of any new nuclear power

[6] It is also not clear whether the additional infrastructure costs associated with this kind of strategy, like additional high voltage grid infrastructure costs, have been taken into account in the calculations presented in the NEP.

[7] See for the expected growth of fluctuating renewables until 2020 in these three countries: Croatian Ministry of Economy, Labour and Entrepreneurship 2009, bmwfj 2010, Italian Ministry for Economic Development 2010.

block in 2030 and beyond.[8] Furthermore, Austria is aiming to prevent imports of electricity generated by nuclear power plants from 2015 on (New Europe Online 2011). While it is unclear at the moment how such a ban could technically and legally be enforced, these plans add additional concerns over any export strategy relying on nuclear power plants, especially as other countries might follow the Austrian example in the future.

Apart from uncertainties about the long-term profitability of any future nuclear power block, possible construction problems or major accidents during construction or operation of NPPK2 pose major risks to the country (as well as to neighbouring countries) that should not be neglected. While these risks exist for any nuclear power project, the fact that the required investments for NPPK2 would constitute a non-negligible share of Slovenian economic activity[9] aggravates these risks for the Slovenian economy.

Gradual (smaller-scale) investments are more suited to deal with uncertainties about the long-term evolution of the power system of Slovenia and its neighbouring countries.

Long-term investment decisions in the electricity market will always have to be made in an environment of uncertainties. In the coming years and decades an increase in (cross-border) competition, further international energy and climate policy obligations, radical changes in the electricity supply systems of (neighbouring) European countries and volatile fossil fuel and CO_2 prices are to be expected and need to be taken into account. Faced with such a situation of high uncertainty about future market developments, it is generally not an economically preferable option to bet a major share of overall investments into one single technology. This is especially true when that technology – as in the case of nuclear power – exhibits very high capital costs and requires a long lifetime and long-term stable electricity demand at a certain minimum price level to pay off.

Similarly, the construction of a new 550 MW lignite power block, which would likely have to operate beyond 2050 to pay off, might also severely limit future energy policy options: This block alone would lead to annual CO_2 emissions of about 0.7 ton/CO_2 per capita[10], meaning that it emits almost the amount of CO_2 per capita (1 ton) that by the middle of the century is believed to still be compatible on a global scale with the internationally agreed upon goal to limit global warming to no more than 2 °C above the pre-industrial level (WBGU 2009).

Gradual investments into various smaller scale power generation facilities would leave open the option to continually adjust strategies to changing market conditions and international obligations. A sustainable energy strategy that is committed to ambitious climate protection

[8] The expectation of somewhat lower specific costs of generating electricity in the two scenarios which include NPPK2, as given in Table 12 of the NEP, should be revised by taking into account the increasingly uncertain market demand for base load electricity.

[9] Recent estimates by the International Energy Agency (IEA 2010) arrive at a central value for the (overnight) investment costs of new nuclear power stations of 4,100 US$/kW. Even for a smaller 1,000 MW reactor in Slovenia this would translate into investments of around 3 billion Euro at the current (end of September 2011) exchange rate of 1.36 US$ per Euro. This is equal to 8 to 9 % of current annual GDP of Slovenia. However, recent experiences with the construction of new nuclear power reactors show a considerable risk of cost overruns and construction delays (The New York Times 2009). The upper boundary cost estimate by the IEA is 5,900 US$/kW, which would correspond to a price tag of over 4.3 billion Euro for a 1.000 MW plant.

[10] Assuming a capacity factor of 80% and the IPCC standard emission factor for lignite of 0.364 t CO_2/MWh.

should anticipate new targets from the EU to increase the use of renewables in the post-2020 period. Focusing on the deployment of renewable energy technologies would also increase long-term price stability and decrease import dependency. Compared to a strategy relying on nuclear power, focusing on renewables would also reduce or completely abandon the risks of a large unprofitable investment, a major nuclear accident or future problems with nuclear waste. The overall potential for renewables, mainly for hydro, biomass, wind and solar energy appears to be sufficient in Slovenia to fully or nearly fully supply the country with renewable electricity (see section 2.2). However, plans to build a second nuclear reactor are likely to slow down or even block investments into renewable generating technologies and the corresponding grid infrastructure.

3 Sources

Ademe (2009): Overall Energy and Efficiency Trends and Policies in the EU 27, http://www.odyssee-indicators.org/publications/PDF/brochures/macro.pdf, accessed October 10, 2011.

AEE (2011): förder erneuerbar, Bundesländer mit neuer Energie, Landesinfo Sachsen-Anhalt, Installierte Leistung Photovoltaik, http://www.foederal-erneuerbar.de/landesinfo/kategorie/solar/bundesland/ST/auswahl/183-installierte_leistun/sicht/diagramm/#goto_183, accessed October 7, 2011.

bmwfj – Federal Ministry of Economy, Family and Youth (2010): National Renewable Energy Action Plan 2010 for Austria (NREAP-AT), http://ec.europa.eu/energy/renewables/transparency_platform/doc/national_renewable_energy_action_plan_austria_en.pdf, accessed September 22, 2011.

Croatian Ministry of Economy, Labour and Entrepreneurship (2009): Energy strategy of the Republic of Croatia**,** http://www.mingorp.hr/UserDocsImages/ENERGY%20STRATEGY%20OF%20THE%20REPUBLIC%20OF%20CROATIA.doc, accessed October 7, 2011.

EmployRES (2009): The impact of renewable energy policy on economic growth and employment in the European Union; http://ec.europa.eu/energy/renewables/studies/doc/renewables/2009_employ_res_report.pdf, accessed October 7, 2011.

European Environment Agency (2011): Slovenia country profile; 2011 Survey of resource efficiency policies in EEA member and cooperating countries; May 2011; http://www.eea.europa.eu/themes/economy/resource-efficiency/slovenia-2014-resource-efficiency-policies, accessed September 22, 2011.

European Environment Agency (2009): Europe's onshore and offshore wind energy potential; EEA Technical Report; http://www.energy.eu/publications/a07.pdf, accessed September 22, 2011

European Union (2006): Directive 2006/32/EC of the European Parliament and of the Council 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC, http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:114:0064:0064:en:pdf, accessed October 7, 2011.

Eurostat (2010): Energy – Yearly statistics 2008, http://epp.eurostat.ec.europa.eu/cache/ITY_OFFPUB/KS-PC-10-001/EN/KS-PC-10-001-EN.PDF, accessed September 22, 2011.

IEA – International Energy Agency (2010): - The Projected Costs of Generating Electricity: 2010 Edition, Paris.

IPCC – Intergovernmental Panel on Climate Change (2011): Special Report on Renewable Energy Sources and Climate Change Mitigation, http://srren.ipcc-wg3.de/report/srren-full-report, accessed September 22, 2011.

Italian Ministry for Economic Development (2010): Italian National Renewable Energy Action Plan, http://ec.europa.eu/energy/renewables/transparency_platform/doc/national_renewable_energy_action_plan_italy_en.pdf, accessed September 22, 2011.

Jošef Stefan Institute (2009): Energy Efficiency Policies and Measures in Slovenia, www.odyssee-indicators.org/publications/PDF/slovenia_nr.pdf, accessed October 10, 2011.

Ministry of the Economy of the Republic of Slovenia (2011): Proposal of the National Energy Programme of the Republic of Slovenia for the 2010–2030 Period: "Active Energy Management" – draft, Ljubljana.

New Europe Online (2011): Austria to halt imports of nuclear energy by 2015, http://www.neurope.eu/article/austria-halt-imports-nuclear-energy-2015, accessed October 7, 2011.

SolarValley (2010): Image brochure SolarValley, http://www.solarvalley.org/media/Image_Broschure_english.pdf, accessed October 7, 2011

Solarserver (2008): The Combined Power Plant: the first stage in providing 100% power from renewable energy; http://www.solarserver.com/solarmagazin/anlagejanuar2008_e.html, accessed October 7, 2011.

Statistical Office of the Republic of Slovenia (2011): SI-STAT Data Portal, http://pxweb.stat.si/pxweb/Database/Environment/Environment.asp, accessed September 22, 2011.

The New York Times (2009): In Finland, Nuclear Renaissance Runs Into Trouble, http://www.nytimes.com/2009/05/29/business/energy-environment/29nuke.html?pagewanted=all, accessed October 7, 2011.

WBGU – German Advisory Council on Global Change (2009): Solving the climate dilemma: The budget approach, http://www.wbgu.de/fileadmin/templates/dateien/veroeffentlichungen/sondergutachten/sn2009/wbgu_sn2009_en.pdf, accessed September 22, 2011.