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National Discussion paper

Czech Republic

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This document was created in the framework of the European project R&Dialogue. It is the result of the work conducted by and with the Czech Republic National Council. It contains all the issues discussed, conflicting perspectives and open issues that still remain and there is need for further and wider discussion.





National Discussion Paper – Czech Republic

Contents

Process of Discussion Paper Creation	3
Discussion Paper for Czech National Dialogue on Transition to Low-Carbon Economy	4
Introductory remarks	4
1. Common ground: Environmental limits	4
2. Economic and Social Dimension	5
3. Political Level – National and European	6
Questions for discussion:	7
4. Technologies.....	7
Questions for discussion:	8
5. Communication and dialogue.....	8
Questions for discussion:	9
Members of the Czech National Low-Carbon Council	10
Annex I	11
National Low-Carbon Inventory of the Czech Republic – Summary	11
Introductory notes	11
1. Official and public documents	11
2. Progress and ambitions.....	11
3. Economic aspects.....	12
4. Innovation and solutions.....	13
5. Exchange and Dialogue	13

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Process of Discussion Paper Creation

The Czech Low-Carbon Discussion Paper was defined as one of the priorities of the work of the Czech National Low-Carbon Council (see Deliverable D2.1) at its first meeting on 14 February 2014. The first step towards its creation was an update of the National Low-Carbon Inventory, a document originally created in the early stage of the project. This initial inventory (finalised in January 2013) was updated by the country team members, and after that it was presented to the Council for revision and comments.

Council members worked with the document during April and May 2014, and the Inventory was then discussed thoroughly at the 3rd and 4th Council meetings on 28 May 2014 and 30 June 2016, when the wording of the document was approved. Minor additions were included later on, during the finalisation of the Discussion Paper. The Low-Carbon inventory formed a basis and starting point for the creation of the Discussion Paper itself, also due to the fact that during the discussions on its wording many topics of disagreement among Council members were identified. These were then used as topics for the Discussion Paper. The Inventory is attached to the Discussion Paper as its annex.

The real work on the Discussion Paper started at the 5th Council meeting on 10 October 2014. A “mental map” of topics and ideas, prepared by the country team, was presented to the Council. The proposed topics and ideas resulted from Council discussions so far, including those on the National Inventory, as well as from the content analysis of the interviews with stakeholders. After a discussion, Council members agreed upon the structure of the Discussion Paper and the procedure of its creation. It was very positive that the members accepted the proposal that they will create the document themselves, which meant it will become a real ownership of the Council.

To prepare the first draft of the Discussion Paper, Council members split into 5 mini-teams formed of 2-3 persons. Each of the teams was in charge of preparing one chapter of the document (1 – 1.5 pages) + approximately 5 questions for the prepared dialogue. The draft chapters prepared by the mini-teams were then subject of e-mail exchange among Council members to collect comments and change suggestions. The first part of the document was discussed at the 6th Council meeting on 10 November 2014, followed by another round of e-mail comments.

The finalisation of the Discussion Paper took almost the full time of two Council meetings. At the 7th meeting on 12 December 2014, the 2nd draft of the document was discussed in detail, literally word by word. During the 4-hours meeting, the Council members present at the meeting were able to produce a final draft that was then distributed to the whole Council for approval. Unfortunately, the members' participation at the 7th meeting was not complete, and several Council members who were absent raised significant comments and change suggestions that were impossible to handle without another face-to-face meeting. Due to this, the 8th Council meeting was called for 29 January 2015. Here, again, the controversial parts of the document were discussed thoroughly, and after a heavy debate, the final version of the Discussion Paper was agreed.

The Discussion Paper forms a basis for the National dialogue in Task 2.6. It will be used at the prepared seminars with a broader circle of stakeholders, and the question formulated in the document will be used in the prepared online questionnaire.

The fact that the Discussion Paper was directly prepared by the National Low-Carbon Council members (and not by the country team) can be regarded very positive because this reflects an “ownership” position of the Council, with respect to not only the document itself, but also the national dialogue process as a whole. On the other hand, the process of preparation and approval of the Discussion Paper using this arrangement was very time consuming because an absolute consensus of all Council member had to be sought for. As a consequence, a few additional months of delay were encountered in the process of the national low-carbon dialogue development.

R&Dialogue

Discussion Paper for Czech National Dialogue on Transition to Low-Carbon Economy

Introductory remarks

This document was created as part of the R&Dialogue project (Research and Civil Society Dialogue towards a Low-Carbon Society)¹. Co-financed by the European Union within the 7th Framework Programme for Research, Technological Development and Demonstration Activities, the Project aims at promoting and encouraging dialogue between research institutions, civil society organisations and other stakeholders in the area of the transition to low-carbon energy and, in a broader context, a low-carbon economy (LCE).

The document was written by members of the National Low-Carbon Council (NLCC), established within the Czech part of the Project to lay the groundwork for and steer the dialogue on the low-carbon future of the Czech Republic. NLCC comprises the following members: Antonín Fejfar, Jan Habart, Vít Hladík, Pavel Kavina, Martin Mikeska, Bedřich Moldan, Radek Němec, Eva van de Rakt, Ivan Rynda, Pavel Řežábek, Barbora Urbanová, Max Wandler and Pavel Záměslycký.

The purpose of this document is to provide a concise overview of the main issues and challenges related to the necessary transition to the low-carbon future and use them as a stepping stone to a follow-up dialogue among stakeholders. This debate is expected to take place in early 2015. In view of this, the document contains also a set of questions to encourage the planned dialogue.

1. Common ground: Environmental limits

The purpose of low-carbon technologies is, by definition, to decrease the amount of greenhouse gas (GHG) emissions. They can also be used to reduce the dependence on imported fuels, mitigate local environmental damage or, in certain cases, to decrease energy cost. Nevertheless, the first and most logical goal for the deployment of low-carbon technologies seems to be fairly obvious: reduction of GHG emissions. The fundamental question in this context is: To what extent do we want or have to decrease GHG emissions over a given period of time?

The United Nations Framework Convention on Climate Change (UNFCCC), adopted in 1992 during the so-called Earth Summit² in Rio de Janeiro, set the objective to “*stabilize greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system [...] within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner*”³. However, a more specific definition of this objective was provided only in 1997 by the Kyoto Protocol to the UNFCCC, which required Annex I Parties to decrease their aggregate GHG emissions by 5.2 per cent by the end of 2012 (i.e. the end of the first commitment period 2008–2012) in comparison with the reference year 1990.

During the fifteenth session of the Conference of the Parties (COP 15) held in Copenhagen in 2009, the Parties proposed a joint commitment to hold the increase in global average temperature below 2 degrees Celsius by 2100 in comparison with temperatures in the pre-industrial era, and to reduce global GHG emissions by 2050 at least by 50 per cent (or 80 per cent in case of developed economies)⁴. This goal was approved a year later during the sixteenth session of the Conference of the Parties (COP 16) in Cancun, Mexico. The threshold of 2 degrees Celsius has found the widest acceptance; it does, however, not work as the basis for emission reduction commitments⁵.

¹ http://www.rndialogue.eu/nat_dial.php?country=ch

² Formally known as the United Nations Conference on Environment and Development (UNCED)

³ UNFCCC (Rio de Janeiro 1992), Article 2. Available in various languages at: http://unfccc.int/key_documents/the_convention/items/2853.php

⁴ The treaty also allowed for a potential revision of this objective and a more ambitious goal of 1.5 degrees Celsius.

⁵ The objective of a global temperature increase of less than 2 degrees Celsius first appeared in 1989 in the reports of the UNEP Advisory Group and has been further elaborated in many scientific reports, for instance:

— WBGU (1995): Scenario for the derivation of global CO₂ reduction targets and implementation strategies. Statement on the

R&Dialogue

The Intergovernmental Panel on Climate Change (IPCC)⁶ works with what it calls the carbon budget – the amount of carbon dioxide emissions we can emit while still having a likely chance of limiting global temperature rise to 2 degrees Celsius above pre-industrial levels.

IPCC data suggests that this objective cannot be attained unless the total amount of carbon released into the atmosphere is held under 840 Gt, or, in other words, unless the concentration of GHG in the atmosphere is kept at or below 450 parts per million (ppm) of carbon dioxide (CO₂) equivalents. More than a half of this budget, namely 531 Gt, has already been “used” since the start of the industrial era. Unless the pace of “spending” changes in the coming years, all “funds” remaining in the carbon budget will be used up within 30 years.

The European Union has been a strong supporter of the global efforts to reduce GHG emissions, including the commitment of developed countries to reduce their GHG emissions by 80 to 95 per cent compared to year 1990 levels.⁷ So far, the EU has approved internal European reduction objectives for the commitment periods ending in 2020 and 2030. As for 2020 goals, the Climate and Energy Package⁸, adopted in 2009, set three key objectives for 2020, known as the “20-20- 20 targets”⁹ and containing specific goals for all member states including the Czech Republic¹⁰. In October 2014, the European Council approved the framework targets for the commitment period ending in 2030¹¹ – reduction of GHG emissions at least by 40 % compared with 1990 levels, at least 27% share of renewables in EU energy consumption; and an indicative target of 27% increase in energy efficiency compared to projections of future energy consumption based on the current criteria.

2. Economic and Social Dimension

One of the key elements in the transition to a low-carbon economy (LCE) is the need to create an environment suitable for further development of zero-emission energy sources¹² and increase in energy efficiency while retaining cost effectiveness. The importance and value of security of supply, so far taken for granted, will gradually increase. Middle-class citizens should be able to take part in these changes and the subsidy programmes currently on offer (insulation of houses or roof-mounted photovoltaic panels); lower classes, however, might be unable to make use of these opportunities. In Western Europe, scholars and, to a limited extent, public authorities have been scrutinizing the phenomenon of energy poverty for some time. Today, there are indications that energy poverty might gradually become relevant also in the Czech Republic and should therefore not be disregarded. The key element of all energy poverty discussions is the definition and quantification of the concept itself. Given that all countries have their unique price and wage conditions as well as different standards of living (and thus different poverty thresholds), one cannot simply take over definitions from abroad.

So far, Czech regulators have done little to set clear-cut rules, including legal and regulatory framework, to contribute to the development of citizen- or municipality-owned wind turbines or photovoltaic facilities. This issue is of crucial importance, as participation in the benefits of such projects can significantly weaken the impacts of the NIMBY (“Not In MY Back Yard”) effect.

occasion of the First Conference of the Parties to the Framework Convention on Climate Change in Berlin

- WBGU (1997): Targets for Climate Protection, 1997. A Study for the Third Conference of the Parties to the Framework Convention on Climate Change in Kyoto
- WBGU (2003): Climate Protection Strategies for the 21st Century. Kyoto and Beyond
- 2007 Bali Climate Declaration by Scientists (<http://www.climate.unsw.edu.au/news/2007-bali-climate-declaration-scientists>)

⁶ <http://www.ipcc.ch/>

⁷ Conclusions of the European Council of 8 February 2011 [Doc A] and Communication from the Commission COM(2011) 112 of March 8 2011: “A Roadmap for Moving to a Competitive Low-Carbon Economy in 2050” of 8 March 2011 [Doc B]

[Doc A] http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/119175.pdf

[Doc B] http://eur-lex.europa.eu/resource.html?uri=cellar:5db26ecc-ba4e-4de2-ae08-dba649109d18.0002.03/DOC_2&format=PDF

⁸ http://ec.europa.eu/clima/policies/package/index_en.htm

⁹ Specifically, a 20 per cent reduction in EU greenhouse gas emissions from 1990 levels; raising the share of renewables in EU energy consumption to 20 per cent; and a 20 per cent improvement in the EU’s energy efficiency.

¹⁰ See the National Low-Carbon Inventory, p. 10.

¹¹ http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/145397.pdf

¹² Stakeholders are, however, not at one as to which technologies should be further developed in low-carbon economy.

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In Nordic countries, cooperative funding is used on a fairly large scale; in fact, (co-) owners from a project's neighbourhood are often entitled to more benefits according to the regulations currently in place. This approach leads to higher citizen participation and reduces excessive concentration of renewable energy source (RES) facilities in the hands of a few institutional investors. Moreover, with public participation RES planning decisions are not understood as something benefitting only a small group of backstage lobbyists but rather a matter of the public involved.

So far, Czech citizens have been uniting forces only to fight against “third-party” projects; however, this potential could well be used in a constructive manner if civic associations started to plan and implement their “own” community projects. In this context, experience from abroad may prove to be an invaluable source of inspiration.

On the other hand, highly innovative large projects (such as the geothermal heating plant in Litoměřice) often have to face funding difficulties as investors often consider them too risky. On the whole, the prospects and development of highly innovative projects have been rather unsatisfactory in the Czech Republic and future growth can be expected rather in the area of tried-and-tested solutions. Currently, it is not certain whether highly innovative but “risky” projects are too expensive for the Czech Republic and whether satisfactory returns in the form of new know-how can be achieved.

Questions for discussion:

- To what extent, in what scope and in what form should low-carbon technologies be supported and financially subsidised?
- Is energy poverty a justified concern and, if so, what can be done to forestall it?
- Do cooperatives or other forms of collective ownership/investment have a sufficiently strong position (legal, etc.) to enable or encourage public participation in the emerging decentralized energy sector?
- Should the Czech Republic support highly innovative yet expensive and risky projects which can bring new and valuable know-how? What does the innovation aspect play in decision making on these projects?
- How can the efforts to increase energy effectivity and self-sufficiency be aligned with the need of stability of energy supply? How should energy pricing be structured?

3. Political Level – National and European

In Europe, the Czech Republic is one of the “richer poor countries”, its GDP per capita amounting to 55 per cent of the EU-28 average (although a purchasing power parity comparison would undoubtedly be slightly more optimistic).

Since 1990, GHG emissions have decreased by almost 33 per cent, mainly as a result of a widespread decline in many inefficient industry sectors, increased energy efficiency, and introduction of new zero-carbon energy sources. However, specific emissions per capita and per GDP unit are still significantly above the EU average. This is a result of the structure of the Czech economy, the Czech Republic's energy mix and a still existing energy saving potential. This begs the question of what can be done in the Czech Republic to support new policies and technological solutions contributing to the transition to an LCE.

One option is active engagement alongside countries who decided to develop low-carbon technologies. However, waiting for the right moment to use the latest technological advances may turn out to be less costly. The efforts of low-carbon pioneers may bring them some benefits, but their technological head start alone may not be enough and they have to work hard to retain the lead long enough to be able to capitalize on their initial investments. In the long term, decarbonisation is considered beneficial to the economy; at the same time, however, it is also connected with rather high short-term and mid-term costs. At any rate, a part of decarbonisation investments should be earmarked for research and development activities to kick-start a wave of progressive innovations.

Most developed countries are prepared to work on the development of an LCE, including a new energy sector model which gradually starts to prevail on a global scale. However, our politicians and the public seem not to fully understand this transition, as the voice of the scientific community cannot be heard loud enough. Compared with Western countries, the situation in the Czech Republic is apparently rather different, with most believing that there are no or only small anthropogenic impacts on the climate.¹³ Nobody seems to know “where the truth really is” – not in terms of scientific point of view but rather as regards the media and general public. The public debate seems to suffer from a fundamental lack of wider scientific expertise and an ensuing lack of qualified agreement; this rather unfortunate

¹³ However, the situation has been changing recently according to the latest polls.

R&Dialogue

situation is further exacerbated by the fact that because of the numerous government changes in recent years, updates and developments of many key strategic documents (such as the Czech Republic's National Energy Policy) are delayed.

The Czech Republic has a number of diverse discussion platforms; however, many of them seem to be dedicated to an “inner circle of initiates”, people with clear-cut opinions who are unlikely to change their entrenched positions.

In addition, not everyone seems to agree as to whether the outputs of such public debates have any significant impacts on general awareness levels and the subsequent decision making processes. Do we see in this context any progress in terms of the quality of and mutual links between purely local, Czech topics and European or worldwide topics?

Questions for discussion:

- What level of energy sector transformation engagement is economically realistic in the Czech Republic? Should the Czech Republic be proactive (in terms of European and global transformation efforts) or rather wait, react to the changing conditions and take advantage of new trends and technological advancements? Is the Czech Republic a “fare dodger” as things stand today?
- Is there a sufficient/balanced/effective debate in the Czech Republic about the future economic and technological development of the energy sector, industry, and other areas, with respect to effective mitigation or adaptation? What impacts does this debate have on subsequent key decisions? What are the roles of the different key players (public authorities, industry and industrial associations, NGOs/CSOs, researchers and scientists, the media, the public, etc.) in the society-wide debate? What is or should be the role of science and scientists in this debate and/or in the formulation of a long-term strategy for the transition to low-carbon energy sector / low-carbon economy?
- Should an energy strategy (including security of supply) be formulated at European level or rather at national level and with respect to a relative self-sufficiency of the different Member States?

4. Technologies

When searching for the best path to an LCE, different future GHG (in particular CO₂) emission scenarios can be used as reliable signposts. Typically based and building on the current situation and previous development, these scenarios outline the options (essentially different combinations of measures and new technologies) of achieving the required emission reduction targets. The scenarios can be prepared at global (worldwide) level¹⁴, European level¹⁵, or national level¹⁶, the differences between the variants resulting mainly from the extent to which the different measures and technologies contribute to the required emission reduction. Needless to say, the financial cost and technical complexity of the different variants are different based on the exact measures and technology mix.

Energy savings and increased energy efficiency play a significant role in most scenarios and roadmaps¹⁷. Moreover, given that savings and higher efficiency can yield positive results and financial benefits in the short and middle term, this area of the LCE transition debate seems to be the least controversial one.

However, other low-carbon technologies clearly do not enjoy across-the-board acceptance, their benefits and drawbacks being subjects of heated debates. Typically, these discussions revolve around the following topics:

- cost of the different low-carbon technologies;

¹⁴ Such as IEA Energy Technology Perspectives 2014 (<http://www.iea.org/etp/>)

¹⁵ Such as the Impact Assessment to the Communication from the Commission No. 288/2011 “Roadmap for Moving to a Competitive Low-Carbon Economy in 2050”

(<http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011SC0288&from=EN>)

¹⁶ Environmental NGOs have some scenarios elaborated – the “Smart Energy” (Chytrá energie:

http://chytraenergie.info/images/stories/chytra_energie.pdf) or the “Energy [R]evolution” (Energetická [r]evoluce:

<http://www.greenpeace.org/czech/Global/czech/P3/publikace/Energeticka-revoluce-pro-CR/ER%20pro%20%4%8cR-2012.pdf>). The update of the State Energy Policy has not been finalized yet.

¹⁷ For instance, EU 2030 framework for climate and energy policies (approved by the European Council) assumes an energy efficiency increase of at least 27 per cent compared to today's levels.

R&Dialogue

- intermittency of some renewable energy sources (RES), in particular photovoltaic and wind-turbine facilities, and the resulting impacts on grid stability, requirements on new transmission lines and the need of standby power sources;
- safety of nuclear power plants and solution of the spent fuel storage issue;
- sustainability of large-scale biomass production and its possible negative impacts on the countryside and food production;
- NIMBY effect related to certain technologies (wind turbines, nuclear waste repositories, underground CO₂ storages, new power lines, etc.)

It is also discussed whether some technologies ought to be preferred at EU or national level (thus receiving preferential support) and, if so, what the selection criteria should be.

As for the EU, the main pillar of the LCE transition efforts is the Strategic Energy Technology Plan (a.k.a. the SET-Plan¹⁸), defining 19 strategic technologies¹⁹ to achieve the required GHG emission reduction in the energy segment. Not all of these technologies have been developed to the same degree and not all of them are suitable for all Member States. In fact, the issue of “national specifics” as regards the suitability of the different low-carbon technologies has been in the limelight of public attention in the Czech Republic just like in other countries. The topics discussed include (limited) suitability of some technologies for certain climatic conditions, prevailing public opinion, or different starting situations in different countries (e.g. compared with Poland).

When speaking about new technologies, science, research and technological development play an important part, being capable of speeding up the development and introduction of new technologies to a considerable extent. In recent years, the importance of new demand management methods has been quickly growing. It is therefore necessary to set up the right European and national objectives and priorities in this area to create a fertile environment for research, development and innovations, including the prerequisites for their commercial use.

Questions for discussion:

- What benefits can be expected in the area of energy savings? What will be the decisive factor – financial subsidies, technological advances or rather a change of citizens' behaviour and priorities? How can market principles be used in the area of energy savings?
- Should the transition to an LCE be technologically neutral (that is to say, should all low-carbon technologies have the same conditions, including financing, market access, etc.), or should some technologies be selected (at national or EU level), and subsequently preferred, including subsidies or other support? Are there any areas or technologies with particular significance in the context of the Czech Republic? How can the market be involved in the promotion and growth of low-carbon technologies?
- If some technologies should be preferred, what criteria should be used to select them?
- What role should science and technological R&D play in the transition to an LCE? What research directions should be preferred?
- What potential do the different RES have in the context of the Czech Republic?
- Is it necessary to build new nuclear power plant blocks?

5. Communication and dialogue

Global climate change is a typical example of a global issue caused by mankind as a whole – all people and all countries (albeit to a different extent). However, some are reluctant to accept their share of joint responsibility, arguing that they are not the only ones to do that and that the share of a small country or an individual has only negligible impacts anyway. Therefore, we first have to convince the public as a whole and the different stakeholder groups in society that we really are facing a significant issue, that the efforts to find a suitable solution have been growing stronger in all cultured countries (irrespective of their standard of living in many cases, in fact) and that even relatively small shares – such as those of a small country like the Czech Republic, a stakeholder or an individual – can make a real difference.

There are several key prerequisites: a sufficient level of understanding, confidence in society and its endeavours, and stakeholder motivation. The issues at hand, their solutions and the aspects of the related social debate can be

¹⁸ <http://setis.ec.europa.eu/>

¹⁹ <http://setis.ec.europa.eu/technologies>

R&Dialogue

examined for instance using the SWOT analysis – a critical look on the strengths, weaknesses, opportunities and threats in the area of climate change both at European and global (world) level.

The most serious bones of contention (both in factual terms and in terms of the dialogue) and communication blockades identified in Czech society can be summarised in the form of the following “quotes”:

- “they will come up with something totally different tomorrow anyway” (about climate and environmental hazards);
- “why me, why not the neighbour” (applies at municipal, European and worldwide level);
- “what’s in it for me” (benefits for individuals, municipalities, entrepreneurs, the Czech Republic);
- “who’s gonna pay for it” (at least co-funding, participation of other stakeholders in activities requiring citizens or citizen groups to use their own money);
- “how can I be sure” (at least mid-term stability of applicable legislation, rules, conditions and funding terms);
- “all talk and no action” (there is a significant gap in Czech society between declared endorsement of lofty goals on the one hand and a rather low willingness to pay when it comes to the crunch on the other).

The public has to be involved in discussion about climate change and the resulting negative impacts on different areas and social groups, such as floods, draughts, plant, animal and human diseases resulting from climatic zone shifts, crop failures, severe windstorms, or cross-border migration. At the same time, climate change mitigation measures have to be seen as economic and technological opportunities. This, however, is not possible without suitable education and awareness-raising activities in the different stakeholder groups.

Questions for discussion:

- What measures are available to increase the appeal of low-carbon technologies and/or make them mandatory? (a “carrot-and-stick approach” – setting up of market rules, such as EU ETS²⁰, subsidies, reliefs, economic benefits as opposed to bans and commands; public education, awareness-raising activities)
- Should carbon emission costs be reflected in prices of goods and services so that they can influence stakeholders’ decision-making processes of the public and the society?
- What can be done to motivate different population groups to embrace energy savings?
- What can be done to allow low-income groups to take part in energy-saving programmes?
- What can YOU do to mitigate the climate change (you as a societal group, stakeholder, individual, etc.)?
- What can be done to convince decision makers (politicians, economists, entrepreneurs, etc.) to support low-carbon technologies?
- What measures, actions, etc. have helped you most when explaining the climate change and persuading your audience that every single person can make a difference and should try to contribute to the mitigation efforts?
- What are your best practices in promoting low-carbon technologies?
- When talking about climate change, should we focus particularly on their negative aspects?

²⁰ The Emission Trading Scheme of the EU

R&Dialogue

Members of the Czech National Low-Carbon Council

Antonín Fejfar - senior researcher at Institute of Physics of the Czech Academy of Science, vice-chair of Scientific Council of the Academy;

Jan Habart – president of CZ Biom – Czech Biomass Association, Board member of AEBIOM (European Biomass Association), vice-chair of the Chamber of Renewable Resources of the Czech Republic;

Vít Hladík – research coordinator for Environmental and Geo-Energy Technologies at Czech Geological Survey, leader of the Czech national workpackage in R&Dialogue;

Pavel Kavina – Director of the Department of Raw Materials and Energy Security at the Ministry of Industry and Trade of the Czech Republic;

Vojtěch Kotecký (Council member till October 2014) – former Programme Director of Hnutí DUHA (Friends of the Earth Czech Republic), at present researcher at the Glopolis analytic centre;

Martin Mikeska (Council member from October 2014) – energy expert of Hnutí DUHA (Friends of the Earth Czech Republic);

Bedřich Moldan – professor at Charles University in Prague, former Minister of Environment of the Czech Republic, member of the Governmental Council for Sustainable Development;

Radek Němec – Director of Trade and Marketing at Nano Energies – market leader in “green energy” sales in the Czech Republic;

Eva van de Rakt – Director of the Heinrich-Böll-Stiftung representation in Prague;

Ivan Rynda – founder and head of the Social and Cultural Ecology Department at Charles University in Prague, former Member of Parliament, Chair of the Czech National Committee of the UNESCO programme Man and Biosphere;

Pavel Řežábek – Director of the Department of Market Analyses and Prognoses and Chief Economist of ČEZ, a.s. – the Czech leading power utility;

Max Wandler – leader of the Energy Competence Centre at Česká spořitelna / Erste Corporate Banking;

Pavel Zámyslický – Director of the Department of Energy and Climate Change at the Ministry of Environment of the Czech Republic, Czech Republic negotiator for international affairs related to environment at EU and UN level.

Facilitators:

Júlia Sokolovičová (until November 2014) – former director of the Green Circle (Zelený kruh) – association of Czech environmental NGOs, at present independent consultant on environmental policy in Central & Eastern Europe;

Marta Kotecká Misíková (from November 2014) - director of the Green Circle (Zelený kruh) – association of Czech environmental NGOs – from October 2014, former programme manager at Hnutí DUHA (Friends of the Earth Czech Republic).

R&Dialogue

Annex I

National Low-Carbon Inventory of the Czech Republic – Summary

Introductory notes

The document was prepared in May – June 2014 within the EU-FP7 R&Dialogue project. The Czech R&Dialogue country team partners – Czech Geological Survey and Green Circle – are responsible for its base text; the final version is a result of discussions and work of the Czech National Low-Carbon Council. The Inventory was used as a starting point for the national low-carbon dialogue in the Czech Republic and is an Annex to the national Low-Carbon Discussion paper.

1. Official and public documents

The initial part of the inventory provides an overview of existing legislation related to low-carbon technologies on both national and EU levels, including a brief description of their impact. International obligations like the UNFCCC and the Kyoto Protocol are also mentioned.

The next part is devoted to public surveys and its results, especially the EUROBAROMETERS on climate change and the CCS technology. An important information derived from these surveys is that the only a minor part of the society (11 %) perceives climate change as a serious problem. Another specific feature is the relatively high societal support of the nuclear energy. The Council, however, also stated that the public opinions expressed in the surveys are usually rather inconsistent, e.g. when comparing support to a certain technology with the readiness to pay the costs of its deployment or to accept this technology in the neighbourhood.

Final part of Chapter 1 focuses on strategic documents and vision documents oriented towards low-carbon future. Even though there are several documents of this type in place, the most important ones – a national strategy for sustainable development and an up-to-date national energy and raw materials policy - are missing.

2. Progress and ambitions

The Czech Republic overtook significantly its Kyoto Protocol commitment to reduce GHG emissions (8 % target) by reducing its emissions by 33 % in 2012 compared to 1990.

Further binding goals are connected with the EU 20-20-20 policies. These are reflected in the State Environmental Policy for 2012-2020. Comparing the goals set in this document with the latest data, the following statements can be made:

- GHG emissions in the EU ETS sector should be reduced by 21 % in 2020 compared to 2005 level. In 2012, the reduction was 16 %. In the non-ETS sector, the Czech Republic is allowed to increase its GHG emissions by 9 % compared to 2005; a reduction of 7 % was achieved by 2012.
- The share of renewable energy sources (RES) in the gross final energy consumption should reach 13 % in 2020. In 2012, this share was 11.2 %, which is more than the 7.5 % milestone set for 2011/2012.

At the moment, there is no complex decarbonisation strategy available for the Czech Republic that would be compliant with goals of the EU 2050 Roadmap. The update of the State Energy Policy (still in progress) works with 2040 as the most distant time horizon.

In general, the ability to effectively implement, update and, consequently, adhere to strategic documents on national level has been significantly limited by the low degree of political agreement, by the limited courageousness of political elites to take substantial decisions and by the disproportionate length of the approving procedures.

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The insufficient social dialogue is part of the issues described above. There is a general consensus in the society that the country needs to decrease its dependency on import of fuels and increase the security of supply. A consensus regarding the climate change issue and its causes is, however, generally lacking.

There is a general agreement about the fact that the main instrument aiming at decarbonisation of the Czech economy (together with all other EU countries) – the EU Emission Trading System – does not meet the expectations and does not fulfil its role. The low allowance price does not motivate emitters to investment in low-carbon measures and technologies. This situation needs to be changed.

In addition to the measures and technologies described above, the Czech government supports several other possibilities of GHG emissions reduction. The nuclear energy has represented an important component of the national energy strategy for many years, and the update of the National Energy Policy foresees further development of this part of the energy sector. High attention is paid to energy savings in buildings, and the government has been supporting this activity by several, generally very successful programmes.

3. Economic aspects

There are only few studies dealing with economic aspects of transition to the low-carbon economy in Czech conditions, and their outcomes are ambiguous. Positive effects on GDP and employment can be expected, e.g., from governmental support of energy-saving measures for buildings. On the other hand, support of RES causes increase of electricity prices both for households and industry, and has also impact on the national budget. A complex study analysing the economic impact of decarbonisation on the Czech economy is, unfortunately, missing.

There has been a rapid increase in the share of renewables in the total gross energy consumption of the country from 5.9 % in 2005 to 11.2 % in 2012. This represents a good progress towards the 14% national target set for 2020 by the National Action Plan for Renewable Energy (amended in 2012). There are, however, some discrepancies in the statistical data provided by various information sources (incl. Eurostat and the Czech Statistical Bureau), which are probably caused by differences in the methodology used. It is obvious that exact calculations of the total gross energy consumption on national level is technically difficult, which makes a reliable determination of the share of renewables slightly problematic. In any case, the achieved level brought the lawmakers and regulators to the decision to (in principle) stop providing operating costs support to any new renewable energy sources in future.

Biomass, biogas and liquid biofuels provided the highest share of renewable energy production, while for electricity, hydropower, biogas, and solar photovoltaics were the most important resources. The share of renewables in gross domestic electricity consumption reached almost 14 % in the first half of 2013. There has been rapid increase in the amount of installed capacity of solar photovoltaic power plants (from 465 MW in 2009 to 2132 MW in 2013), supported by munificent subsidies (more than 24.7 bill. CZK in 2013).

The share of renewables in the gross domestic heat production was estimated at around 8 % in 2012, with biomass as the main renewable resource. There has been a notable growth of heat production from biogas plants (subsidised by the government) and heat pumps between 2008 and 2012.

From January 2014, all subsidies to support new renewable energy sources installations were stopped, except a few minor exceptions. This was substantiated by economic reasons; the support was considered to be beyond the limits of the economic capacities of the country. The per-capita subsidies to RES counted among the highest ones worldwide.

Coal (mainly lignite) still remains the main primary energy source in the Czech Republic with 46 % share in 2012. The power generation is also mainly dependent on fossil-fuelled power plants (57 % in 2013) and nuclear power plants (35 % in 2013). For power generation, the country is relatively self-sufficient. Only import of nuclear fuel is necessary, while the Czech coal production - 40 million metric tons of lignite and 10 million metric tons of hard coal in 2013 – is sufficient for power and heat production.

The situation regarding hydrocarbon fuels (oil and gas) is completely different; here the Czech Republic relies on import. The indigenous production of both oil and gas represents only 2 % of domestic consumption.

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The Czech Republic is a major electricity exporter. In 2013, the net export amounted to 16.9 TWh, which was 19.4 % of total domestic electricity production.

4. Innovation and solutions

The first part of this chapter provides information on selected innovative low-carbon technology projects and plans in Czechia, e.g. the “Efficient energy region of South Bohemia - Lower Bavaria” (improving the general awareness of the potential of renewable energy sources, sharing the norms and standards of the Region and Lower Bavaria) or the “Litoměřice geothermal power plant” (construction of geothermal heat & power plant utilizing the “hot dry rock” technology, not realised).

Several partial solutions were proposed to support the decarbonisation of the Czech economy: The *Green Savings Programme* of the Ministry of Environment aims at improved insulation of houses, replacement of environmentally unfriendly heating by low-emission biomass-fired boilers and efficient heat pumps, construction of low-energy buildings and new houses in the passive energy standard. In the industry sector, the main solutions commonly proposed are savings and increase of efficiency – especially in industrial processes and new technologies.

Final part of Chapter 4 is devoted to technical barriers of low-carbon technologies deployment. The main barrier for future development of renewable energy sources is the grid connection procedure. ČEPS, the national Transmission System Operator, argues that the grid capacity is not sufficient for additional RES installations. The development of the electricity transmission grid counts among the priorities of the national energy policy. Other barriers include the unproven capacity of potential CO₂ storage sites for the CCS technology, the yet unsolved issue of final radioactive waste storage or the co-existence and parallel operation of classical (big) energy sources with intermittent RES.

5. Exchange and Dialogue

A good example of an existing dialogue initiative in Czechia is the public dialogue according to the Environment Impact Assessment Act, which also includes public hearings. In some of them, hundreds of people actively take part – e.g. in the dialogue on the project of dangerous waste incineration plan in Eastern Bohemia. There were also some local referenda – e.g. about the sites for nuclear waste storage; majority of them are local. There is almost no experience with broader public dialogue on national level.

Some policies and measures are discussed with stakeholders based on initiative of governmental institutions. Round tables on the EU ETS reform, consultations on the Czech general position on the 2030 climate and energy targets or the public consultation of the State Energy Policy update (within the Strategic Environmental Assessment process) can be mentioned as examples. There is, however, no consensus whether these procedures are sufficient or not, or what their practical impact is.

The main topics expected to be subject of discussions / dialogue in near future are (another) update of the State Energy Policy and the related update of the State Raw Materials Policy.

There is some experience in cooperation between CSOs and RDOs in the past. E.g., all alternative energy scenarios prepared by environmental NGOs were prepared in cooperation with researchers, and there is also ongoing cooperation related to selected topics like climate protection, RES development, etc.

The process of preparation of the State Energy Policy of 2004 (still valid) can be mentioned as an example of a successful dialogue initiative. The Policy was adopted after a broad public debate about several scenarios. Collecting of public comments and public hearings were organized by the Ministry of Environment (MoE), according to the law. The Ministry of Industry and Trade (MoIT) submitted several scenarios, MoE prepared an alternative “green” scenario, and environmental CSOs prepared their one. The public could discuss concrete supporting documents. As a result of the public debate, MoE and MoIT have created a joint proposal of the Policy and the government adopted it.

Concerning public concerns related to transition to low-carbon economy, several main topics can be identified, including energy prices, security of supply, grid stability or safety of individual technologies. There is local resistance to any big construction projects (NIMBY effect), including LCTs.

R&Dialogue

Conflicting situations related to development and deployment of low-carbon technologies appear very often. Some politicians and high state administration officials express principal reservations about RES, especially solar photovoltaics and wind power, and actively fight against the support of these technologies. They are supported by representatives of “traditional” energy business, mining industry and part of energy experts and engineers. RES supporters, on the other hand, strive to renew the RES support stopped in 2014.

Environmental NGOs, supported by part of the public, refuse nuclear energy. On the contrary, supporters of this technology ask for its equality with RES as a full-value low-carbon technology.

Local communities are often against LCT projects in their neighbourhoods, like wind parks, biogas stations, radioactive waste repository