Undue distortions of competition and state aid involved in the free allocation to electricity producers in the Czech Republic

Analysis by the Environmental Law Service and the Centre for Transport and Energy

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1. Executive summary

This paper explains Czech NGOs' concerns about the Application for the transitional free allocation to the electricity sector (Article 10c of Directive 2003/ 87/ EC[1], hereinafter referred to as EU ETS Directive) and the accompanying National Investment Plan (hereinafter referred to as NIP) as notified to the European Commission by the Czech government[2]. The main focus is given on the impact of free allowances on competition in the Czech Republic and the analysis of the main flaws of the Czech NIP with regard to the State aid rules is provided.

Throughout our assessment of the Czech application and the NIP we have come to the following conclusions:

1. The Czech authorities have not assessed the impact of the free allowances on the market, neither they have provided the Commission with an independent and expert information showing that no undue distortion of competition will be created by the allocations.

2. According to our analysis, investments listed in the NIP would have the effect of increasing the market concentration and would lead to strengthening of the dominant position of the ČEZ, a.s.

3. The Czech authorities have chosen the allocation method that favours the biggest producer ČEZ, a.s., thus ignoring the potential impact of the allocation method on competition.

4. The NIP does not provide with sufficient information about the proposed investments, therefore does not allow for their thorough assessment under the State aid rules.

5. The NIP includes at least 25 investments that are not eligible under the Article 10c due to the commencement of the investment process before 25 June 2009 and that do not comply with the State aid rules.

In this context, it is important to note that the Czech electricity market is extremely concentrated and the risk that the undue distortion of competition might occur is high. ČEZ, a.s.,[3] is the dominant producer of electricity in the market, with 63,6 % of installed capacity and 74 % of electricity produced in 2010. This majority state-owned power company, is supposed to receive 74.9 million[4] out of a total of 108.2 million, raising serious concerns about distortions in competition and the prospective further strengthening of the company's dominant position in the market.
Market concentration in the Czech Republic is comparable to that in France or Belgium. With the Herfindahl-Hirschman Index (HHI) based on production of electricity of 5,680, Czech market is one of the most concentrated in Europe. Measuring market concentration using the Residual Supply Index (RSI) shows that ČEZ, a.s., is at all times the pivotal supplier for Czech demand for electricity. The calculations and methodology are provided in separate annexes.

As the European Commission's decision about the Czech application and the National Plan will have a crucial impact on the competition within the Czech energy market, we respectfully ask for a thorough review and assessment of the Czech application and the National Investments Plan. As shown in this report, in many aspects it is necessary to ask the Czech government for sufficient information and explanation with regard to the adequacy, quality and the extent of claimed facts.

[1] DIRECTIVE 2003/87/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC.
[2] In Czech "Národní plán investic do modernizace infrastruktury a do čistých technologií v energetice" http://mzp.cz/cz/news_110922_derogace.
[3] ČEZ, a.s., http://www.cez.cz/en/home.html.
[4] The calculation includes also the allocation for the Power Plant Chvaletice in which the sole shareholder is ČEZ, a.s.

To comply with the EU ETS Directive's provisions, the guidance given by the Commission and the relevant State aid rules, it is not possible to accept the investments listed in Annex 3 of this document due to their ineligibility and these investments should be dismissed.

2. Undue distortions of competition and state aid involved in the free allocation to electricity producers

The EU Emissions Trading System established by the EU ETS Directive is the cornerstone of the EU's strategy for fighting climate change. Its aim, as laid down in Article 1[5], is to help EU member states achieve their commitments to limit or reduce greenhouse gas emissions in a cost-effective way.

The EU ETS Directive amended by the Directive 2009/29/EC[6] provides for the special and temporary measures for specific undertakings, among other optional transitional free allocation in the electricity sector in some Member States, the Czech Republic included.

This measure involves State aid within the meaning of Article 107(1) of the Treaty on the Functioning of the European Union. Pursuant Article 108 TFEU, State aid must be notified by Member States to the Commission and may not be put into effect until it is approved by the Commission („standstill-principle").

In accordance with the balancing test[7], "the primary objective of State aid control in the context of implementation of the EU ETS is to ensure that State aid measures will result in a higher overall level of environmental protection (reduction of greenhouse gas emissions) than would occur without the aid and to ensure that the positive effects of the aid outweigh its negative effects in terms of distortions of competition in the internal market. State aid must be necessary to achieve the environmental objective of the EU ETS (necessity of the aid) and shall be limited to the minimum needed to achieve the environmental protection sought (proportionality of the aid) without creating undue distortions of competition and trade in the internal market".[8]

Pursuant Article 10c, para.5 the Member State concerned shall submit to the Commission an application containing the proposed allocation methodology and individual allocations. Among other, an application shall contain information showing that the allocations do not create undue distortions of competition. Further, Article 10c, para.6 establishes that the Commission has a duty to assess the application taking into account the elements set out in para.5, i.e. information showing that the allocations do not create undue distortions of competition.

Moreover, para.3 of the Article 10c states: "The Commission shall,…, provide guidance to ensure that the allocation methodology avoids undue distortions of competition and minimises negative impacts on the incentives to reduce emissions".

The necessity to give thorough consideration to the possible distortion of competition due to the free allowances is also stressed in the Guidance document on the optional application of Article 10c of Directive 2003/87/EC (2011/C 99/03), hereinafter referred to as the Guidance document.[9] In part 4, Requirements for the national plan, Principle 3 specifies that the investments must neither reinforce dominant positions neither unduly distort competition and trade in the internal market. The principle

[5] Article 1: This Directive establishes a scheme for greenhouse gas emission allowance trading within the Community in order to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner.

[6] Directive 2009/29/EC brings substantial changes in the EU Emissions Trading System. A new provision sets the obligatory auctioning of the allowances for the power sector within the revised community scheme from 2013[6]. Auctioning as a default method of allocating emission allowances is anticipated to be the simplest, and generally is considered to be the most economically efficient system of allocation, and it should operate with the highest possible degree of economic efficiency

[7] Formulated in the 2005 State Aid Action Plan, State Aid Action Plan — Less and better targeted State aid: a roadmap for State aid reform 2005 to 2009, COM(2005) 107 final, 7.6.2005.

[8] Consultation document, Draft Commission Guidelines for State aid in the context of the amended EU Emissions Trading Scheme post 2012, available at: http://ec.europa.eu/competition/consultations/2012_emissions_trading/index_en.html.

[9] Communication from the Commission, Guidance document on the optional application of Article 10c of Directive 2003/87/EC (2011/C 99/03), hereinafter referred to as the Guidance document.

goes even further stating that where possible, the investments should strengthen competition on the internal market for electricity.[10]

A question of compatibility of the State aid in form of free allowances has also to be checked and thoroughly assessed because "the derogation from the principle of full auctioning involves State aid within the meaning of Article 107(1) TFEU, because Member States forego revenues by granting free allowances and give a selective advantage to power generators that may compete with power generators in other Member States, and which may, as a result, distort or threaten to distort competition and affect trade in the internal market. State aid is also involved at the level of investments that recipients of free allowances will undertake at a reduced cost."[11]

It is obvious that the Commission has a duty to give adequate attention to the assessment of the possible distortion of the competition and related issues concerning the applications under Article 10c and accompanying National Investment Plans (hereinafter referred to as NIP) submitted by the member states concerned.

The Commission in its position[12] can and should reject the application as a whole or in part within six months of receiving the relevant information, if it deems that it does not conform with the rules set out in the Directive and the relevant provisions of the *acquis communautaire*.

In order that the Commission makes a well-founded assessment of the application submitted by the Czech authorities, and to be able to consider information and views from other sources[13], we would like to provide the following comments and information concerning the Czech application.

2.1. Duty of the Member State to provide information showing that no undue distortions will occur

Article 10c(5), letter (e), of the EU ETS Directive establishes that those member states that intend to allocate free allowances on the basis of this Article shall submit to the Commission an application containing information showing that the allocations do not create undue distortions of competition. Further, Principle 3 from the Guidance document states that investments must neither reinforce dominant positions nor unduly distort competition and trade in the internal market and, where possible, should strengthen competition on the internal market for electricity.

The Ministry of Environment of the Czech Republic performed an Analysis of the Czech Electricity Market[14] in order to determine the impact of the state aid involved in the transitional free allocation of emission allowances on the market.

It is worth noting that the conclusions of the Analysis could not inform the choice of method of allocation and the appropriateness of the investment plan because this Analysis was conducted after both the method and the plan were already determined by the Ministry in August 2011. To our knowledge, no other prior analysis or consultation was conducted by the ministry to assess the competition aspect of the application for transitional free allowances.

The document concludes that no distortions of competition are probable and that the allocation of free allowances will not have any negative impact. However, as the properties of the MS Word

[10] Guidance document, para.23.
[11] Consultation document, Draft Commission Guidelines for State aid in the context of the amended EU Emissions Trading Scheme post 2012, para. 17.
[12] Directive, 2009/29, Article 10c, para.6, further: Questions and Answers: Rules and guidance on allocation of free allowances to the power sector, http://ec.europa.eu/clima/policies/ets/auctioning/derogation/faq_en.htm.
[13] As stated in the Guidance document, para.25 and 60.
[14] Document „Analýza trhu" attached to the Czech application as Annex III.

version of the Analysis show, the document was prepared by ČEZData, s.r.o.[15], which is a part of the ČEZ Group. This fact alone raises reasonable concerns about the independence and expertness of the study.

The analysis describes the structure of the Czech electricity generation market, which it implicitly considers to be the relevant market for competition analysis. Subsequently, it aims to determine the future market shares of electricity generators. The underlying assumptions on which the analysis is built are

1) an increase of renewable capacity by independent producers, thus growth of the market as a whole, and
2) stagnation or decrease of installed capacities by EU ETS producers.

Ad 1. According to the analysis, the largest future increase in generated volumes will be contributed by independent producers, mainly renewable installations (5 811 GWh) and a gas-fired installation (such as PPC Mochov with a capacity of 1000 MWe by RWE). However, it is uncertain whether these investments will ever be realized. In fact, the PPC Mochov project was suspended by RWE already in September 2011.[16]

An unstable regulatory framework for renewable energy sources (RES) also sheds doubt on the assumption about the high contribution of RES. While the National Action Plan for Renewable Energy provides for a steady growth of renewable capacity, it also acts as a cap on the allowed installed capacity, which, in addition, changes every two years. Uncertainty about future caps and other regulatory threats, such as the recent announcement by the regulator to suspend support for RES from 2013,[17] or the limited connection capacity for new RES on the part of electricity distributors and the transmission operator CEPS,[18] make investment into RES risky. Moreover, the analysis omits the fact that any increase in renewable capacity may be realized by ČEZ, a.s., as well as by independent producers. Lastly, a methodological note- as renewable energy sources do not participate on the free market because of subsidies, any competition analysis should treat this aspect of the market conservatively or omit it entirely.

Ad 2. The Analysis asserts that the capacities of EU ETS power generation installations contained in the National Investment Plan (NIP) will stagnate or decrease in the future. However, it does not contain any tangible evidence of this other than an unsubstantiated declaration about the expected decrease of coal-fired installed capacity from 10 227 MWe to 9 300 MWe.[19] Moreover, the Analysis has several problems in regards to the investments contained in the NIP:

a. The NIP counts with the construction of a 860 MW CCGT in Melnik[20] and the shutdown of 500 MW in Melnik 3 power plant. Thus, the installed capacity in 2020 is likely to be 220 (Melnik 2)+ 860 (new CCGT)=1080 MW, not 220MW as asserted in the Analysis.

b. The NIP counts with the construction of a new source in Chvaletice of 800 MW, which is not reflected in the Analysis.

c. Energotrans power plant, which was owned jointly by EPH and ČEZ, a.s. in 2010, was spun off and sold to ČEZ, a.s. in August 2011, while EPH retained Prazska teplarenska.[21] The transaction is still

[15] Check the properties of the document, noting that ČEZData, s.r.o., is part of the ČEZ Group, see: http://www.cez.cz/cs/pro-investory/informacni-povinnost/1158.html.
[16] E15, 13/9/2011, http://zpravy.e15.cz/byznys/prumysl-a-energetika/rwe-setri-omezuje-aktivity-v-cesku-699368.
[17] ERU, 22/2/2012, http://eru.cz/user_data/files/tiskove%20zpravy/2012/TZ%20NAP%20final%2022022012.pdf.
[18] CEPS, 22/12/2012, http://www.ceps.cz/CZE/Media/Tiskove-zpravy/Stranky/CEPS_posoudila_vliv_na_el_soustavu.aspx.
[19] Analysis of the power generation market, p. 8.
[20] http://www.cez.cz/en/power-plants-and-environment/coal-fired-power-plants/cr/melnik.html.

pending competition authority clearance. This transaction has not been reflected in the analysis in any way.

Table 3. Net electricity production from installations included in NIP. Divided by producers in 2010. Installations for electricity production	**Installed capacity [MWe]**	**Delivered energy [GWh/year]**	**Table 4. Anticipated net electricity production from installations in NIP. Divided by producers in 2020. Installations for electricity production**	**Installed capacity [MWe]**	**Delivered energy [GWh/year]**
Elektrárna Poříčí	165	524	Elektrárna Poříčí	110	300
Elektrárna Hodonín	105	375	Elektrárna Hodonín	105	200
Energetika Vítkovice	79	189	Energetika Vítkovice	0	0
Elektrárna Tisová	284	1 346	Elektrárna Tisová	168	500
Elektrárna Ledvice	330	1 839	Elektrárna Ledvice	770	4 900
Elektrárna Počerady	1 000	6 478	Elektrárna Počerady	1 000	4 500
			Elektrárna Počerady - CCGT	841	3 200
Elektrárna Tušimice 2	800	1 760	Elektrárna Tušimice 2	800	5 500
Elektrárna Prunéřov 2	1 050	5 671	Elektrárna Prunéřov 2	750	4 000
Elektrárna Prunéřov 1	440	2 529	Elektrárna Prunéřov 1	0	0
Elektrárna Mělník	720	3 425	Elektrárna Mělník	220	1 100
Elektrárna Dětmarovice	800	2 489	Elektrárna Dětmarovice	400	2 000
Elektrárna Chvaletice, a.s.	800	2 871	Elektrárna Chvaletice, a.s.	0	0
Total group ČEZ	**6 573**	**29 506**	**Total group ČEZ**	**5 164**	**26 200**
Elektrárna Opatovice	363	1 815	Elektrárna Opatovice	363	1 815
Teplárna Komořany (United Energy, a.s.)	239	462	Teplárna Komořany (United Energy, a.s.)	239	462
Plzeňská energetika	90	216	Plzeňská energetika	90	216
Pražská teplárenská (72,3 % share)	95	105	Pražská teplárenská (72,3 % share)	95	105
Energotrans (72,3 % share)	255	876			
Total group EPH	**1 042**	**3 474**	**Total group EPH**	**787**	**2 598**

[21] E15, 2/8/2011, http://zpravy.e15.cz/byznys/prumysl-a-energetika/cez-rozhazuje-za-energotrans-zaplati-14-5-miliardy-686931

Elektrárna Třebovice	174	807	Elektrárna Třebovice	174	935
Teplárna Přívoz	13	54	Teplárna Přívoz	13	71
Výtopna Mariánské Hory	1	3	Výtopna Mariánské Hory	1	0
Teplárna Krnov	5	25	Teplárna Krnov	5	25
Teplárna Karviná	55	254	Teplárna Karviná	55	141
Teplárna Československé armády	24	59	Teplárna Československé armády	24	62
Teplárna Frýdek-Místek	3	9	Teplárna Frýdek-Místek	3	6
Teplárna Přerov	46	208	Teplárna Přerov	46	229
Teplárna Olomouc	49	148	Teplárna Olomouc	49	146
Elektrárna Kolín, Zálabí	19	44	Elektrárna Kolín, Zálabí	19	32
Total group Dalkia	**389**	**1 614**	**Total group Dalkia**	**389**	**1 650**
Total OTHER	**2 262**	**13 624**	**Total OTHER**	**2 788**	**17 041**
TOTAL	**10 266**	**46 604**	**TOTAL**	**9 128**	**44 891**

Combined tables 3 and 4 of the Analysis of power generation market.

Based on the above assumptions, that is, an increase in RES, non-ČEZ CCGT, and an unsubstantiated decrease of coal-fired electricity production, the analysis concludes that "*the shares of the three largest power generators on the relevant market will most likely remain approximately the same or decrease.*" However, we have shown that the assumptions on which the analysis was built lack support or are incomplete. The conclusion of the Analysis of the Czech Electricity Market submitted by the Ministry of environment is thus at best unconvincing.

In light of the above, we believe that the Analysis of power generation market could not be perceived as sufficient evidence for making a reasonable assessment of the impact on the energy market. We deem it necessary that the Commission ask the Czech Republic to sufficiently assess and explain the potential impact of free allowances on the energy market in the Czech Republic, how fair competition will be ensured and support its position through independent documents and expert materials.

2.2. Impact of investments contained in the National Investment Plan on competition

Guidance document on the optional application of Article 10c of Directive 2003/87/EC states that the investments "must neither reinforce dominant positions nor unduly distort competition and trade in the internal market and, where possible, should strengthen competition on the internal market for electricity."

According to the Community Guidelines on State Aid for Environmental Protection[22] (hereinafter Environmental Guidelines), the Commission balances the positive effect of a State aid measure against its potentially negative side effects, such as distortion of trade and competition. Under the balancing test, distortions of competition and effect on trade must be limited to allow for the overall positive balance.

[22] Community Guidelines on State Aid for Environmental Protection, 2008/C 82/1.

To determine the impact of investments undertaken based on the NIP on competition, we first determine the relevant market and the current market structure. Then we move on to assess how the investments contained in NIP change that market structure.

2.2.1. Relevant market

Defining the relevant market is a simple task from a product view as electricity is a homogenous good. The NIP specifically concerns investments into electricity generation. The identification of the geographic relevant market is more difficult. Although the NIP only concerns investments in the Czech Republic, the interconnected nature of European electricity market may lead one to the conclusion that there is a single European electricity market.[23]

Relevant literature addressing the question of the relevant market for Czech electricity producers is sparse as the local competition authority is only now conducting a market inquiry into the sector.[24]

Recent rulings of the competition authority concerning mergers in the power sector have not dealt with the issue of geographic relevant market definition and they merely referred to the common practice of market definition in the power sector as national, i.e. the Czech Republic.[25]

The correct definition of Czech relevant market is a matter of dispute, with some arguing that the relevant market is the Czech Republic and others that it is the Czech-Slovak wholesale market at the very least because of market coupling between Czech Republic and Slovakia. Candole Partners in their study titled Power2Abuse[26] demonstrate that the relevant market for the purpose of competition analysis is the Czech market. The study shows that, in a situation where the marginal costs of production differ significantly between market areas, as is the case with the Czech and Slovak markets, the market area with the lower production costs (i.e. the Czech market) should be treated for competition purposes as a separate relevant market regardless of market coupling. This is especially the case when the area with lower production costs represents its own bidding area.

2.2.2. Market structure

As the market analysis submitted by the Ministry of Environment implicitly admits, the Czech power generation market is rather concentrated with the three largest groups holding more than 70% share of all installed capacity (2010).

The Power Abuse study by Candole Partners used two indicators, the Herfindahl-Hirschman Index (HHI) and Residual Supply Index (RSI), to measure concentration of the Czech generation market.

HHI concentration levels in the Czech electricity generation sector in 2009		
HHI	**Based on Production**	**Based on Installed Capacity**
Czech Republic	5,680	4,713

Candole Partners, 2011

A market is considered highly concentrated with HHI above 2,000 (EU) or 2,500 (USA). The Czech market is thus one of the most concentrated in the EU, second only to France and Belgium.

[23] ČEZ, a.s., http://www.cez.cz/cs/pro-media/otazky-odpovedi/4.html.
[24] E15, 11/11/2010, http://zpravy.e15.cz/domaci/udalosti/uohs-provede-sektorove-setreni-v-oblasti-energetiky.
[25] UOHS, 5/11/2009.
[26] Candole Partners, 2012.

The RSI is a measure that shows to what extent the market is dependent upon the largest supplier (pivotal supplier).

Residual Supply Index for the Czech electricity generation sector in 2010				
	ČEZ Pivotal	**Median**	**Peak**	**Low**
Czech Republic	100%	0.4495	0.7140	0.3235

Candole Partners, 2011

The RSI shows that ČEZ's competitors are not able to cover the demand for electricity at any given time of the year. Thus, ČEZ, a.s., holds not only the dominant position in the electricity generation market but also has the possibility of abusing this dominant position. In fact, the European Commission has opened formal proceedings to investigate whether ČEZ, a.s., may have abused its dominant position on the Czech electricity market, in particular by hindering the entry of competitors.[27]

2.2.3. Impact of planned investments on market structure

We use a standard measure of market concentration, the Herfindahl-Hirschman Index, to determine the impact of NIP investments on competition in the market. The HHI is well suited to show whether the new investments will strengthen dominant positions in the market because it takes into account both the relative size and distribution of the firms in a market.

Our analysis is limited to the impact of the investments on competition. While we acknowledge that the future market in 2020 may look substantially different from today owing to known trends, such as the increase and achieving grid parity of RES, and yet unforeseen events, we believe that the building of such model would complicate rather than enhance this analysis. Therefore, we based our prediction of future installed capacities on 2010 data by the Energy Regulatory Office, which we then adjusted them for

1. Investments contained in the NIP. The task is complicated by the lack of relevant information about the investments. Some of these investments, though clearly described as a new power generation source (for example CZ $ 0267, Elektrarny Opatovice), were not described in sufficient detail to allow the identification of the size of the project and thus the inclusion of the investment in the analysis. However, we have included those investment projects, which we were able to identify based on publicly available information (media, EIA database). In total, we included 12 investment projects in the analysis:

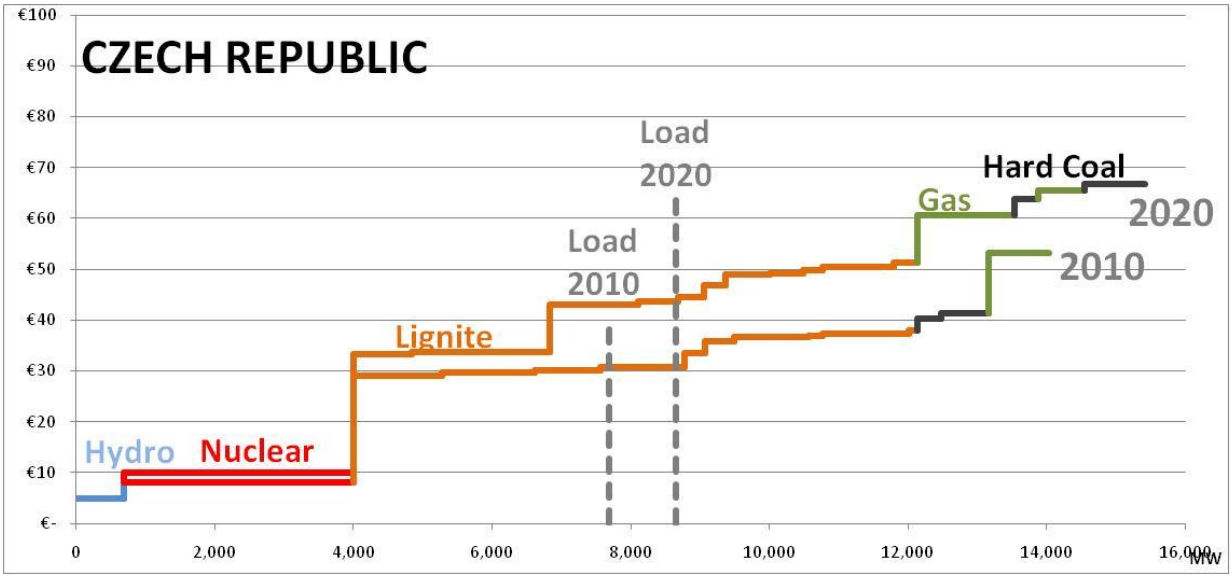
[27] European Commission, 15/7/2011, http://europa.eu/rapid/pressReleasesAction.do?reference=IP/11/891&type=HTML.

1	**EPH**	United Energy	Investment CZ $ 0048	Unspecified new energy bloc	Waste-to-energy plant in Komorany total capacity 43 MW power generation 85520[28]
2	**EPH**	Elektrarny Opatovice	Investment CZ $ 0266	Unspecified new biomass bloc	100 MW biomass bloc in Opatovice[29]
3	**ČEZ**	ČEZ	Investment CZ $ 0001	50 MW in small cogeneration sources	
4	**ČEZ**	ČEZ	Investment CZ $ 0002	CCGT with total installed capacity 841 MW	
5	**ČEZ**	ČEZ	Investment CZ $ 0003	CCGT and corresponding shut-down of EME3, 860 MW	
6	**ČEZ**	ČEZ	Investment CZ $ 0004	New heating bloc 660 MW	
7	**ČEZ**	Chvaletice	Investment CZ $ 0015	New gas-fired source 800 MW	
8	**Dalkia CR**	Dalkia	Investment CZ $ 0353	New boiler to replace existing one	New biomass boiler, 36000 MWh electricity production[30]
9	**Alpiq**	Alpiq Generation	Investment CZ $ 0063	New energy bloc replacing the existing one.	New bloc 135 MWe[31]
10	**Alpiq**	Alpiq Generation	Investment CZ $ 0070	2.5MW of wind power	
11	**ArcelorMittal**	ArcelorMittal Energy Ostrava	Investment CZ $ 0182	Installation of new boiler with higher efficiency	New boiler, 1 MW[32]
12	**KA Contracting CR**	KA Contracting CR	Investment CZ $ 0255	CHP from renewable sources to replace existing boiler	New boiler, about 8 MW[33]

2. Known events, such as the transaction between EPH and ČEZ on the sale of Energotrans and the planned shut-down of Prunerov I power plant.[34] While it may be argued that the transaction between EPH and ČEZ regarding Energotrans is a separate competition issue, we have decided to take into account in our calculations because it is the first step towards the construction of the CCGT in Melnik, contained in the NIP.[35]
3. Projected lifetime of existing coal fired power generation sources.[36]

To calculate power generation from the new sources in the NIP, we used approximated base-load and peak-load factors derived from a model of the Czech merit order curve, and country specific load factors for renewable energy sources by the International Energy Agency.[37]

[28] United Energy, February 2011.
[29] ČTK, 2/1/2010.
[30] Ekolist, 22/2/2012.
[31] E15, 2/5/2011.
[32] Modernizace teplárny ArcelorMittal Frýdek-Místek - snížení emisí NOx, SO2 a TZL, 20/9/2011.
[33] Nové zařízení KVET pro spalování biomasy v Teplárně Náchod, 22/6/2009.
[34] Prunerov I shut-down is part of compensation measures imposed on ČEZ by the Ministry of Environment. Ministerstvo životního prostředí, 12/10/2010.
[35] ČEZ, 28/7/2011.
[36] VSBO, 2011, p. 42.
[37] IEA, 2010.



Candole Partners, 2012, own calculations

Candole Partners

A merit-order curve depicts all power plants in a country listed by their marginal costs. Marginal costs are the extra costs of production a producer has to pay when he wants to produce one extra MWh of electricity. In our marginal costs, we include fuel costs, fuel transportation costs and emission fees. We calculate the national merit-order curve on a power plant basis, and focus on representative plants of larger installed capacity (>100MW). To identify the marginal power plant, the merit-order curve must be representative of the whole power plant fleet of the country. And because the sum of all power plants we used (>100MW) did not total the entire installed capacity of the country, we multiplied the installed capacity of each plant by a factor (total installed capacity of the country/total installed capacity of selected plants), taking into account fuel-mix of the country, and so reached the actual installed capacity of the country. This way we obtain an average annual merit-order curve which is representative for the country's entire fleet. Additionally, in our merit-order curve the capacity of each power plant is multiplied by the load factor typical for this type of power plant, as we want to estimate the average availability of this plant –plants have differing availabilities due to planned and unplanned outages. And in this way we derive an average yearly merit-order curve for the Czech Republic. Since renewable sources, such as solar and wind plants, do not participate on the free market, we disregard them. Renewable sources enjoy preferential grid access through feed-in tariffs, and since they are always 'in-the-merit', they are irrelevant for the estimation of the merit-order curve. Lastly, we do not take into account pump-storage hydro power plants due to their limited availability, as they are mostly used for grid balancing and ancillary services. Fuel and carbon dioxide emission (CO2) costs were obtained from market participants and publicly available data. Load curves were calculated from data obtained from ENTSO-E, which provided hourly data for 2011.

To forecast the merit order curve we had to forecast the costs of fuel and CO2. The standard scenario forecasts from International Energy Agency were taken for this. We forecasted load through a linear regression, where load is dependent on temperature, economic growth. Lignite costs were indexed to an expected inflation rate and so were the costs of nuclear production.[38]

We assume power plants in the merit order curve to the left of the average load of the given year to operate in baseload (85% load factor), and that power plants to the right to operate in peak load (50%).

[38] Candole Partners, 30-31/1/2012.

2010		
Plant	**Marginal cost (EUR)**	
Hydro	5	**base**
Dukovany	8	
Temelin	8	
Prunerov 2	29.03	
Tisova 1	29.68	
Tisova 2	29.68	
Tusimice 2	29.75	
Prunerov 1	30.22	
Ledvice	30.22	
Pocerady	30.65	**peak**
Komorany	33.5	
Melnik 1	35.79	
Melnik 3	36.65	
Opatovice	36.69	
Porici	37	
Melnik 2	37.23	
Chvaletice	37.35	
Hodonin	37.96	
Other	40.36	
Detmarovice	41.42	
Vřesová	53.11	

2020		
Plant	**Marginal cost (EUR)**	
Hydro	5	**base**
Dukovany	10.04	
Temelin	10.04	
Ledvice	33.25	
Prunerov 2	33.65	
Tusimice 2	33.65	
Pocerady	43.07	
Prunerov 1	43.75	
Tisova 1	44.45	**peak**
Tisova 2	44.45	
Komorany	46.82	
Melnik 3	49.07	
Opatovice	49.11	
Melnik 2	49.84	
Chvaletice	50.46	
Porici	51.2	
Hodonin	51.2	
Melnik	60.65	
Pocerady	60.65	
Other	63.87	
Detmarovice	65.55	
Vřesová	66.77	

It should be noted that the merit order curve only takes into account installations that are large (>100 MW) and representative of the generating fleet in the Czech Republic. It does not take into account small power sources or renewable sources. Nonetheless, it is useful for estimating the generation output of the largest generators, such as ČEZ and EPH, which is the key concern of this study.

Although many of the smaller power plants produce electricity only for part of the year or to provide ancillary services (such as district heating plants), for simplicity we assumed that small generating sources outside RES operate in base-load.

However, as their individual output is relatively small, this simplification makes little difference for the calculation of the HHI index. If anything, this simplification would increase the share of small operators in the market, which makes our estimated effects of the National Investment Plan on the HHI of the Czech electricity generation market rather conservative.

Our assumptions about load factors for all the capacities can be summed up as follows:

Nuclear	85%
Onshore wind	25%
Large hydro	60%
Small hydro	60%
Pumped storage hydro	10%
Solar PV	20%
Coal/lignite	85% for small installations below 100MW and installations listed in merit-order curve operating in baseload 50% for sources listed in merit order curve operating in peak load
CCGT	50% for installations listed in merit order curve operating in peak load 85% for small gas-fired installations not listed in merit order curve

Load factor of operators with a mixed portfolio is calculated as a weighted average of capacities and respective load factors. The same methodology of calculating generation output was used to calculate generation in 2010 and after the NIP (2020).

Our findings confirm that the investments, if carried out in accordance with the NIP, would increase market concentration and thus strengthen the dominant position of ČEZ in the electricity generation market. After the realization of investments listed in the NIP, ČEZ's market share would increase from 62.9% to 68.1% based on installed capacity and from 66.62% to 71.97% based on electricity production.

HHI concentration levels in the Czech electricity generation market prior and post NIP		
HHI	**Based on installed capacity**	**Based on production**
HHI concentration levels in the Czech electricity generation sector in 2010	4,019	4,515
HHI concentration levels in the Czech electricity generation sector after NIP (2020)	4,677	5,234
Change	659	719

Market shares of four largest generators in the Czech electricity generation market prior and post NIP				
Group	**Capacity**		**Production**	
	2010	**2020**	**2010**	**2020**
EPH	5.93%	4.16%	5.34%	3.99%
ČEZ	62.90%	68.10%	66.62%	71.97%
Dalkia	1.96%	1.77%	2.65%	2.30%
Alpiq	2.42%	2.65%	3.27%	3.44%

We have shown earlier that the Czech electricity market is one of the most concentrated in Europe. European Commission merger control guidelines state that in concentrated markets, an increase in HHI of more than 150 is a matter of competition concern.[39]

[39] EU Competition Law: Rules applicable to merger control, 2010.

Investments listed in the NIP would have the effect of increasing concentration measures as HHI even if not all of them are realized. For example, the failure of ČEZ, a.s., to undertake the 800 MW investment project in Chvaletice (Investment CZ $ 0015) and 860 MW in Melnik (Investment CZ $ 0003) would increase the HHI based on installed capacity by more than the double of concern level-326. The removing of the effect of ČEZ's takeover of EPH's Energotrans, would still increase the HHI based on installed capacity by 453.

The strengthening of dominant position of the incumbent electricity champion may have especially one adverse effect on competition in the Czech electricity market-barrier to entry to the market. The merit order curve depicted above shows that lignite power plants are key to keeping the potential competitors out of the market. ČEZ's ownership of lignite mines (Severoceske doly[40], 49% of Czech lignite production) guarantees that it can supply its generation fleet at comparatively advantageous prices. As the remaining lignite production is already contracted with district heating plants and declining, it is almost impossible for competitors to secure stable supplies at a competitive price.[41]

As a result, potential competitors focus on electricity production from other fuels, such as renewable and gas. However, as we have shown above, a cap applied on supported RES capacity and regulatory uncertainty prevents significant growth of this segment.

In the gas segment, potential competitors are also disadvantaged as there is limited capacity for new gas-fired electricity production. The Czech Energy Act requires that authorizations for the building of new electricity generation sources from 1 MW capacity are in line with the energy policy document.[42] Czech energy policy, though currently being redrafted, has traditionally placed emphasis on the security of energy supply and the minimization of energy imports, including natural gas. As a result, the latest available draft energy policy update counts with only a doubling of electricity production from natural gas, from the current 5.1% to about 10% in electricity mix of 2030.[43] This would correspond to roughly 2,100 – 2,500 MW installed capacity, which is actually less than the combined investments of ČEZ in CCGTs (Chvaletice, Pocerady, Melnik). ČEZ, a.s. may thus exploit not only the fact that it would receive state aid for the building of its new gas-fired installations but also the fact that such investment would make the entry of new market participants difficult because of existing regulatory hurdles.

We have demonstrated that aid provided for the investments in the NIP would strengthen the dominant position of the incumbent in the Czech power generation market- ČEZ, a.s. This situation is in violation of Article 10c(3) of EU ETS Directive and the Guidance document. Also, the Draft Guidelines on certain state aid measures in the context of the greenhouse gas emission allowance trading scheme post 2012 stipulate that the aid should not "unduly distort competition where such aid is likely to reinforce the beneficiaries' position of strength on the market (at company group level)."

In order to avoid a distortion of the Czech electricity generation market, it would be necessary to either reject ČEZ's investment projects, which lead to the strengthening of its dominant market position (CCGTs Chvaletice, Pocerady, Melnik, and lignite-fired Ledvice), or to require binding commitments on the part of ČEZ that any increase of installed capacity or generation resulting from the NIP be compensated by a decrease of respective capacity. However, the Czech Republic has not yet put in place norms that would ensure the latter. Although the proposal for a Bill on emission trading[44] would require such compensation, it also allows for a two years transitional period and only

[40] See: http://www.cez.cz/cs/o-spolecnosti/skupina-cez/spolecnosti-skupiny-cez-v-cr/severoceske-doly.html.
[41] Candole Partners, 2011.
[42] § 30a of Act 480/2000 "Energy Act".
[43] Ministry of industry and trade, 10/5/2010 .
[44] Návrh zákona o podmínkách obchodování s povolenkami na emise skleníkových plynů, published 19/1/2012, submission number 1546/ENV/12, available at http://eklep.vlada.cz/eklep/page.jsf.

a low sanction for non-compliance, amounting to the value of allowances allocated for free. Given the competition concerns, we believe that a more appropriate way to ensure that the scheme does not lead to market distortion is to reject the investments proposed by ČEZ, a.s.

2.3. Choice of the allocation method for the Czech National Investments Plan

Pursuant Article 10c, para.3, it is a duty of the Commission to provide guidance to ensure that the allocation methodology avoids undue distortions of competition and minimises negative impacts on the incentives to reduce emissions.

While Member States are free to choose the allocation method, in order to comply with the state aid guidelines, they should ensure that the state aid will not be used to reinforce the dominant position of the beneficiaries and should take these concerns into consideration when deciding on the allocation method.

The Ministry of Environment of the Czech Republic started its work on the application for the allocation of the transitional free allowances in 2010. In December 2010, there was a first round of scrutiny of the allocation of the transitional free allowances and the investment plan. The initial method of allocation was benchmarking.[45] In the application from November 2010 the Czech Ministry of Environment reasoned that benchmarking has the following advantages[46]:

1) Benchmarking favours electricity generators producing electricity with lower CO2 emissions, and those who have previously invested in advanced/low carbon technologies. On the contrary, grandfathering favours operators, who have not in the past invested in upgrading facilities and thus have higher CO2 emissions.
2) Benchmarking maintains the incentive to reduce CO2 emissions.
3) Producers of electricity produce a homogeneous product. Thus the determined benchmark does not disadvantage certain groups of manufacturers because of the product.
4) Benchmarking ensures equal treatment for existing and new facilities. If the Czech Republic did apply grandfathering, existing facilities would receive allowances based on historical emissions. The new installations, however, would be allocated using an alternative method of allocation, which would be a disadvantage.

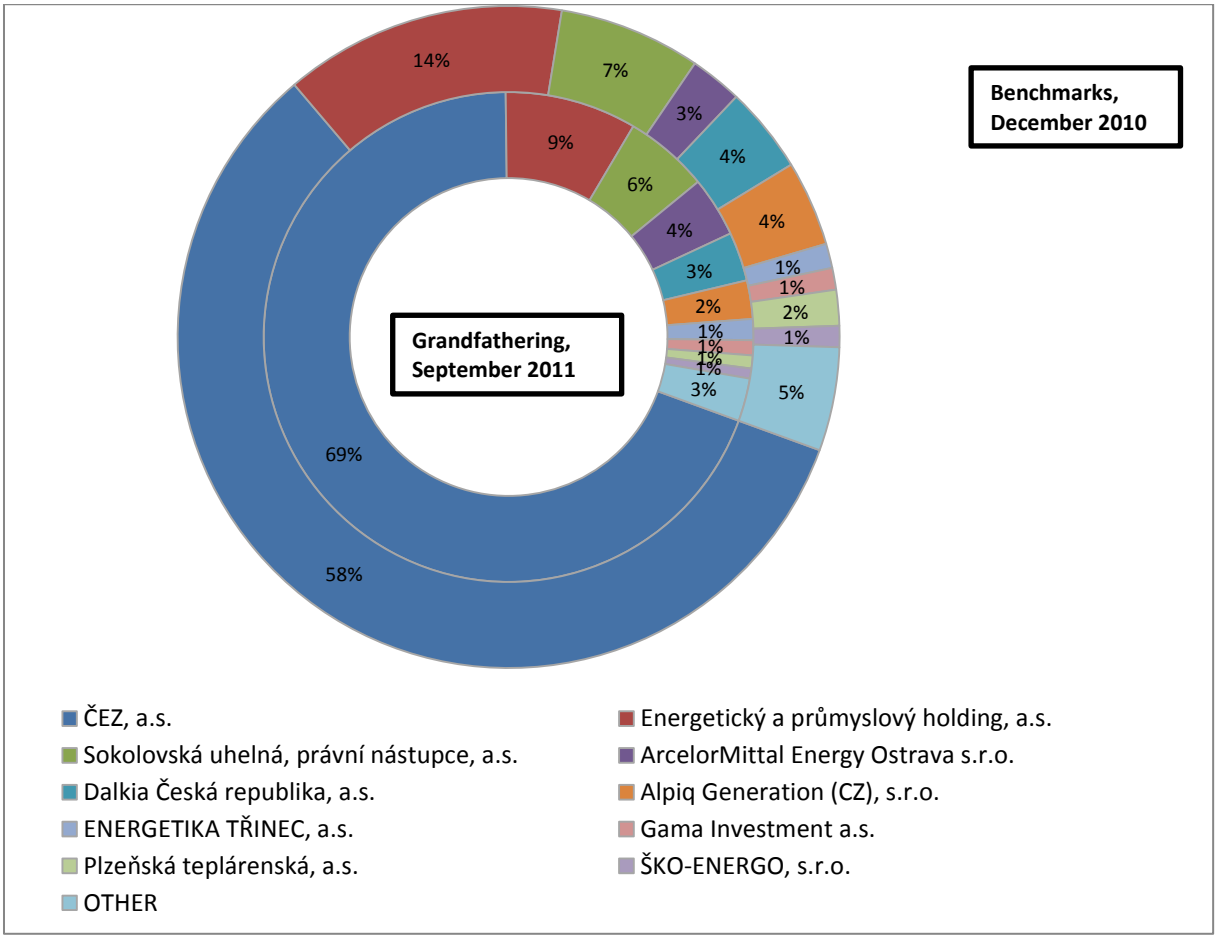
The scrutiny was undertaken before the release of the Guidance document by the European Commission. Therefore, the Ministry of Environment had to invite investors to supplement their documents with regard to the principles set out in the Guidance document. Subsequently, the Ministry of Environment rewrote the draft application and published a new version for public consultation in August 2011. This version of application allocated 108 243 104 free allowances to 51 operators, who are supposed to realize investments of EUR 6.3 billion. The allocation method was changed to grandfathering. The ministry has not presented reasons for the change of the allocation method, neither has it explained why several installations are allocated allowances based on benchmarks even in the reworked application, and on what basis these benchmarks have been set. The final application was submitted to the Commission in September 2011.

Having concerns about the impact of the allocation method on the final allocations we have made a comparison of the initial, "benchmark", application and a newer, final, application based on the

[45] The first version of the application included 44 operators who were supposed to receive 102 750 269 free allowances. Companies obliged themselves to realize investments of EUR 7.2 billion.
[46] Document „Žádost o přidělení bezplatných povolenek pro využití k investicím do vybavení a modernizace infrastruktury do čistých technologií a národní plán investic“, November 2010, p.9.

historical emissions (grandfathering). The results of a comparison show that the change in methodology has caused a profound change in the redistribution of free allowances to applicants. While in the "benchmark" scenario, company group ČEZ, a.s., received about 58 % of free allowances, an allocation based on historical emissions increased its share to 69 %. Out of 42 operators/groups, the change in methodology meant a decrease of expected allocation for 30 of them. The main “winners” from the change of methodology are ČEZ, a.s., ArcelorMittal, and heating plant in Varnsdorf.

The comparison of the “benchmarks scenario” and the “grandfathering scenario”.



The methodology and calculations used are in the Annex 1.

In the application, the Ministry of Environment explains that the allocation of free allowances will not distort competition because the allocation methodology does not favour any operator and it is applied equally to all eligible installations. However, this justification cannot be considered sufficient. A distinction should be made between the fairness of the allocation method and its impact on competition. Clearly, both benchmarking and grandfathering allocations methods can be justified as fair. However, their impact on competition may be different, which was not a-priori assessed by the Ministry.

Draft guidelines on certain state aid measures in the context of the greenhouse gas emission allowance trading scheme post 2012 state that “Member States shall also demonstrate that the aid

will not unduly distort competition where such aid is likely to reinforce the beneficiaries' position of strength on the market (at company group level) beyond what is strictly necessary."[47]

We have demonstrated that different methods used for the allocation of transitional free allowances result in different shares for the eligible electricity producers. Of two possible methods for allocation, the Czech Ministry of Environment has chosen the one that will allocate a higher proportion of state aid to the dominant producer of electricity in an already highly concentrated market.

This also means that out of the two allocation methods, the chosen method, grandfathering, provides for a higher amount of state aid to the dominant market player, which allows the company group to realize more or higher value investments, implying a larger potential that these may lead to the distortion of competition in the market.

	Allowances	**Value**	**Difference**
ČEZ, a.s. GRANDFATHERING	74,962,217	€ 1,307,822,877	€ 269,597,026
ČEZ, a.s. BENCHMARKS	59,509,367	€ 1,038,225,851	
Total	108,243,110	€ 1,888,455,560	

Furthermore, under Environmental Guidelines, para.140, for State aid to be declared compatible with the internal market, the following requirement is included under letter (c): "the allocation methodology shall not favour certain undertakings or certain sectors, unless this is justified by the environmental logic of the system itself or where such rules are necessary for consistency with other environmental policies".

At first sight, the allocation methodology based on grandfathering favours the biggest producer ČEZ, a.s., together with other big company ArcelorMittal (see the reference table in Annex 1).

There are no reasonable grounds for claim that the choice of grandfathering is justified by the environmental logic of the system itself or that these rules are necessary for consistency with other environmental policies. According to a report prepared for the European Commission, Environment Directorate-General[48] by Ecofys Netherlands and The Fraunhofer Institute for Systems and Innovation research[49] the allocation based on benchmarking is often preferred over grandfathering because of the possibility to improve the environmental integrity of the system, reward early action, and, under the proper conditions increase the transparency of allocation. Moreover the study concludes that the experiences during Phase I of the EU ETS and also in the design of the national allocation plans in Phase II have shown that use of grandfathering can undermine the given objective of the EU ETS in a number of areas such as rewarding high historic emissions, rather than early action; the impossibility to use grandfathering for new entrants; Competitive distortion across Member States; Windfall profits due to passing on the opportunity cost of the free allowances to clients.

With regard to the requirements established by the EU ETS Directive and the Guidance document, the particular attention should be given to the possible distortion of the competition and also to the risk of strengthening the position of the dominant on the market. The Czech authorities are aware of the actual situation of the energy sector in the Czech Republic, therefore should have taken into

[47] Draft guidelines on certain state aid measures in the context of the greenhouse gas emission allowance trading scheme post 2012, para. 36e.

[48] Service contract ENV.C.4/SER/2007/0059.

[49] Ecofys Netherlands and The Fraunhofer Institute for Systems and Innovation research. 2009. DEVELOPING BENCHMARKING CRITERIA FOR CO2 EMISSIONS. Available at http://ec.europa.eu/clima/policies/ets/benchmarking/docs/benchm_co2emiss_en.pdf.

account the duty to ensure that by the choice of the allocation method, the risk of the strengthening the ČEZ's position will be limited to the minimum. However, in reality they have chosen the method that favours the dominant force on the market and they have ignored their own former argumentation explaining benefits of the benchmarking method.

In accordance with the requirements of Article 10c and the State aid rules, we call for change of the allocation method based on the benchmarks instead of the grandfathering with aim to limit the risk of the undue distortion of the competition and limiting the risk of strengthening the dominant force to the highest possible extent.

3. State aid rules applicable to the National Investment Plan

As already indicated, the free allowances granted under the derogation established in Article 10c of EU ETS Directive will constitute a State aid measure in the meaning of Article 107(1) of the TFUE[50]. As a general rule, State aid is incompatible with the internal market and thus prohibited. In our opinion, the only basis for the consideration of free of charge emission allowances being compatible with the internal market can be Article 107 (3)(c) of the TFEU[51]. Therefore, it is necessary to examine the Czech application and the NIP in the light of the relevant provisions of the State aid rules and examine whether this form of State aid might be compatible.

In para. 140 of the Environmental Guidelines, the Commission established general conditions of compatibility of State aid involved in tradable permit schemes. These conditions are as follows:

- (a) the tradable permit schemes must be set up in such a way as to achieve environmental objectives beyond those intended to be achieved on the basis of Community standards that are mandatory for the undertakings concerned;

- (b) the allocation must be carried out in a transparent way, based on objective criteria and on data sources of the highest quality available, and the total amount of tradable permits or allowances granted to each undertaking for a price below their market value must not be higher than its expected needs as estimated for the situation in absence of the trading scheme;

- (c) the allocation methodology must not favour certain undertakings or certain sectors, unless this is justified by the environmental logic of the scheme itself or where such rules are necessary for consistency with other environmental policies;

- (d) in particular, new entrants shall not in principle receive permits or allowances on more favourable conditions than existing undertakings operating on the same markets. Granting higher allocations to existing installations compared to new entrants should not result in creating undue barriers to entry."

In the upcoming weeks new EC guidelines on the state aid involved in the free allowances granted under Article 10c are expected. In our opinion it is necessary to ensure the consistency of the new guidelines, and more importantly, the decision making about the NIP, with the general rules established in the Environmental Guidelines.[52] These guidelines are the most appropriate to assess the compatibility of aid to electricity undertakings in the form of free of charge emission allowances under Article 10c of EU ETS Directive, as they are one of the climate protection measures which were adopted as part of the Climate and Energy package among which Directive 2009/29/EC is also included.

The primary objective of a State aid control in the field of environmental protection is to ensure that State aid measures will result in a higher level of environmental protection than would occur without the aid and to ensure that the positive effects of aid outweigh its negative effects in terms of distortions of competition, taking account of the polluter pays principle established in the Treaty[53]. With regard to the State Aid Action Plan[54] the aid shall be better targeted and the

[50] See: http://ec.europa.eu/competition/consultations/2012_emissions_trading/index_en.html. Draft Commission Guidelines for State aid in the context of the amended EU Emissions Trading Scheme post 2012.
[51] TFEU, Article 107, para.3: The following may be considered to be compatible with the internal market: (c) aid to facilitate the development of certain economic activities or of certain economic areas, where such aid does not adversely affect trading conditions to an extent contrary to the common interest.
[52] Community Guidelines on State Aid for Environmental Protection, 2008/C 82/1.
[53] TFEU Article 191 (ex Article 174 TEC).

balancing test shall be used for the assessment of aid. During the assessment whether aid measure can be deemed compatible with the internal market, the Commission balances its positive impact in reaching an objective of common interest against its potentially negative side effects, such as distortion of competition.[55] The balancing test allows the Commission to guarantee that State aid does has an incentive effect, is well targeted and proportional, and has a limited negative effect on competition and trade.[56]

Unfortunately, the Czech application and the NIP provide with very limited information and in general do not allow for the thorough assessment under the State aid rules. In the section below, we have attempted to point out few issues related to the Czech plan.

3.1. Assessment of the Czech National Investment Plan in light of the State Aid rules

3.1.1. Insufficient information provided in the National Investment Plan

Pursuant the Environmental Guidelines, para.140, the State aid involved in tradable permit schemes may be declared compatible with the common market provided the conditions set in para.140 and 141 are fulfilled, among other also that *„the allocation must be carried out in a transparent way, based on objective criteria and on data sources of the highest quality available*,…[57]

The Czech NIP provides with very limited information on the proposed investments listed thereof and in many cases it is not possible to assess their connection with Article 10c or the objective of the EU ETS Directive in general. It is also very difficult to find out in what way the investments contribute to the modernisation of the electricity system in the Czech Republic, thus leading to the aim of the derogation. The public does not have access to information on what basis or criteria the listed investments were chosen.

Furthermore, the already mentioned document "Analysis of the market" does neither address the impact of the particular investments listed in the NIP on competition, nor does it precisely cover the overall impact of free allowances on the market. The Analysis cannot be accepted as a "*data sources of the highest quality available"* as its conclusions are unsubstantiated (see above), moreover, it was prepared by the company that is part of the ČEZ group – the operator who is going to receive the highest number of free allowances and who is dominant on the Czech market.

The NIP also contains imprecise information on the Chvaletice power plant. In the NIP, sheet B.1.b. "Operators", Chvaletice is referred to as the Operator under the ČEZ company group. In B.1.c sheet "Installations", Chvaletice is referred to as the Operator, however as a company group Gama investment is presented. Gama investment is listed in other sheets as well as a company group within which Chvaletice is included (sheet B.3.1. Allocation based on VE, C.1. Investments). We find this information misleading as it could result in a conclusion that the Chvaletice has no connection to the ČEZ, a.s. In reality, in Chvaletice the sole shareholder is ČEZ, a.s.[58]

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[54] http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2005:0107:FIN:EN:PDF
[55] Para 16 of the Environmental Guidelines, 2008.
[56] http://europa.eu/legislation_summaries/competition/state_aid/ev0003_en.htm.
[57] Para 140 (b) of the Environmental Guidelines, 2008.
[58] See: http://www.cez.cz/en/investors/inside-information/1291.html, further: http://www.cez.cz/en/power-plants-and-environment/coal-fired-power-plants/cr/chvaletice.html.

3.1.2. Greening

One of the possible criteria for the assessment allowing for a transparent and objective review of the proposed investments could be the "greening" (i.e. the investment costs of the reduction of one ton of CO2 per year) as the indicator of the cost-effectiveness[59] of the proposed investment. With regard to the cost-effectiveness of the proposed investments in the Czech Republic, the Czech Ministry of Environment had required that applicants provide information about the greening of the investments. However, the Czech Ministry of Environment did not set up any explicit greening threshold for the investments in the application, and the final version of the NIP does not even contain any information about greening at all. In the application it is only mentioned that operators had to calculate the greening of the projects.

In the draft of the "Methodical guidance for applications for free allocation for electricity production" prepared by the Ministry of Environment in spring 2010, the ministry proposed that only investments with greening below 400 EUR/ton CO2 p.a. would be eligible for the full amount of free allowances, while in the draft from May 2011, the greening level was lifted to 4000 EUR/ton CO2 p.a. In the "report on methodology" that accompanied the application and the NIP prepared for the government's approval, the ministry again stated that only investments with greening below 4000 EUR/ton CO2 p.a. were eligible for the full amount of free allowances, while the allocation of free allowances for those investments above the 4000 EUR threshold was reduced accordingly. Since neither the application nor the NIP provides details on the meeting of this criterion, it is not possible to assess if and how it was imposed on the investments.

The draft application and NIP from May 2011 contain information about the emissions reductions that would be achieved by the proposed investments. This information was provided to the Ministry of Environment by the applicants. Therefore, it was possible to calculate the greening of 291 investments and find out that the greening ranges from 12 EUR/ton CO2 p.a. to an unbelievable 232 000 EUR/ton p.a.[60]

Czech authorities had an opportunity to require and assess the information about the greening and the related "cost-effectiveness" of the proposed investments, however according to available information they did not take it into consideration.

As it is not clear on what basis the Czech Ministry examined the proposed investments, further, on what grounds some of them have not qualified for the support within NIP, why the firstly required "greening thresholds" were not applied and because the Ministry used the analysis of the market that raises serious doubts about its independence and the quality of information, it can be argued that the allocations in the Czech Republic were not carried out in a transparent way based on the objective criteria and on data sources of the highest quality available. Therefore, the Commission should ask for additional information and explanation from the Czech authorities before the approval of the NIP. Additionally, with aim to secure reasonable use of sources, the Commission could ask for the assessment of the "cost - effectiveness" of the proposed investments and in case of the most expensive and least effective investments, these should be rejected for the support.

[59] Article 1 of the EU ETS Directive states: "This Directive establishes a scheme for greenhouse gas emissions allowance trading within the Community in order to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner." Principle 1 of the Guidance document states: "The national plan should identify investments, which directly or indirectly contribute to decreasing greenhouse gas emissions in a cost effective manner."
From these provisions it is evident that a Member State is obliged to ensure that the investments listed in the National Plan will be cost-effective. Greening is probably the simplest way to determine the cost effectiveness of the intended investments.

[60] The greening of 38 investments is higher than the former requirement of 4000 EUR/ton. However, it was not possible to obtain data on the remaining 79 investments, among others including four large projects of ČEZ, a.s. with a total value of over CZK 36 billion.

3.1.3. Missing incentive effect

According to Environmental Guidelines, para.142, *State aid must have an incentive effect. State aid for environmental protection must result in the aid recipient changing its behaviour so that the level of environmental protection is increased.* Further, the Commission presumes that *aid does not present an incentive effect for the beneficiary in all cases in which the project has already started prior to the aid application by the beneficiary to the national authorities.*[61]

In case of the Czech NIP, there is evidence that several major investments have been started before their application for the state aid in the form of free allowances. As the indicator we have used the data in the Czech EIA database that provides information on the formal announcement of the planned investments. As the cutting date we refer to 25 June 2009 that is the date of entry into force of the revised EU ETS Directive and also the reference date from which the investments can be counted for the NIP.

Our analysis of the National Plan has shown that several large investment projects were started between 1 and 4 years before 25 June 2009. The list of ineligible investments together with background information about them is given in Annex 3 of this document.

In relation to the incentive effect, the beneficiary should, „…as a result of the aid, engage in activities that it would (i) not carry out without the aid at all or (ii) carry out only in a restricted or different manner. The aim is to avoid State aid for an activity which the company would undertake in any case, even without the aid, in the same extent".[62] Pursuant para.27 of the Environmental Guidelines, it needs to be verified that the investment concerned would not have been undertaken without any State aid.

With regard to this requirement, together with the investments listed in Annex 3, the following projects from the Czech NIP cannot demonstrate the necessary incentive effect as they will most probably be realised without existence of free allocation of allowances as they aim to the replacement of obsolete and/or dysfunctional equipment which the companies will undertake in any case. These investments - CZ-$-0069[63], CZ-$-0101[64] and CZ-$-0112[65] planned by Alpiq and CZ-$-0289[66] by Teplárna Tábor, will be most probably carried out regardless of existence Article 10c and its objective.

The questionable incentive effect is also in case of planned investments of operator Teplárny Brno, in total value of CZK 25 830 000 (Investments CZ-$-0194, CZ-$-0195, CZ-$-0196, CZ-$-0197, CZ-$-0205, CZ-$-0206, CZ-$-0207). The description of these investments states "exchange of *uneconomical* equipment" ("náhrada neekonomického"…). It is obvious that the main motivation for these investments is not the modernisation of electricity production and/or an increased environmental protection but the prospect of the economical profits. Therefore, these investments do not fulfil the requirement of the incentive effect as laid down in the State aid rules and do not qualify for the support in form of free allowances.

[61] Environmental Guidelines, para. 143.
[62] Vademecum "Community Law on state aid", European Commission, Directorate General for Competition, 30 September 2008, p.12.
[63] Anticipated year of the investment is indicated as 2011, „Exchange of transformers. Exchange of overburdened transmission lines for the new ones".
[64] Anticipated year of the investment is indicated as 2012, „ Exchange of outdated transformers".
[65] Anticipated year of the investment is indicated as 2013, „Reconstruction of outdated power distribution".
[66] Anticipated year of the investment is indicated as 2011, „Forced change of fuel in Teplárna Tábor".

Furthermore, it is important to note that during the period for which the derogation can be authorised (from 1 January 2013 to 31 December 2019) the new Industrial Emissions Directive[67] (IED) will have to be transposed by the Member States and will apply from January 2014 onwards (however for some activities and installations the application of the Directive is postponed until 2016). The new Directive will have far-reaching impact on installations participating in the EU ETS system as it establishes new limits on emissions and it is highly probable that the operators plan to use free allowances under Article 10c for fulfilment of the Directive' s requirements.

In case the operators will use free allowances to finance investments that the companies would have to undertake in order to comply with other requirements accruing from the EU law to allow their further operation, there will not be the incentive effect and this reimbursement will cause additional profits for these companies. This would without any doubt cause undue distortion of competition incompatible with Article 10c (5) of the EU ETS Directive[68].

With regard to the demonstration of the incentive effect during the assessment of the compatibility of a state aid measure, the attention should be given to examination whether these investments are necessary in order to meet mandatory Community standards/to comply with the EU law. Since the companies would have to comply with those standards in any event, State aid to meet mandatory Community standards that are already in force cannot be justified[69].

Therefore, we call for Commission to ensure that the investments listed in the Czech NIP are not planned with aim to fulfil the new emission limits set up by the Industrial Emissions Directive. Currently, it is not possible to verify the underlying objective of majority of investments that are planned for the period between year 2014 till 2020 due to lack of information. In current form it is also unclear how much information the Czech authorities have requested from the operators and there are doubts how thoroughly they have assessed the proposed investments.

Investment	**Planned year for the investment**	**Operator**	**Value / CZK**	**Description from the NIP**
CZ-$-0006	2019	Chvaletice	3 445 000 000	"Retrofit of a boiler room, efficiency increase, energy savings "
CZ-$-0017	2019	Chvaletice	770 000 000	"Reconstruction of a boiler and a chemical water treatment plant"
CZ-$-0094	2017	Alpiq Zlín	30 000 000	"Retrofit of TG6, efficiency increase"
CZ-$-0121	2019	TERMO Děčín	27 000 000	"Emissions savings due to modernization"
CZ-$-0126	2015	Plzeňská energetika	584 000 000	"Modernization, efficiency increase, desulphurisation"
CZ-$-0127	2014	Plzeňská energetika	532 000 000	"Modernization, efficiency increase, desulphurisation"
CZ-$-0129	2018	Plzeňská energetika	844 000 000	"Modernization, efficiency increase, desulphurisation"
CZ-$-0160	2015	Sokolovská uhelná	70 000 000	"Exchange of ventilator, desulphurisation"
CZ-$-0198	2014	Teplárny Brno	120 000 000	"Exchange of boiler, efficiency increase"
CZ-$-0228	2015	Carthamus	135 850 000	"New emission filter"
CZ-$-0240	2018	Výroba a prodej tepla Příbram	200 000 000	"New biomass boiler with aim to substitute part of a lignite for biomass"
CZ-$-0244	2019	Dalkia Kolín	30 000 000	"CO2 savings due to substitute of lignite for biomass "
CZ-$-0248	2018	Teplárna Strakonice	180 000 000	"Installation of an equipment with low-emissions burners"

[67] Directive 2010/75/EU of the European Parliament and of the Council of 24 November 2010 on industrial emissions (integrated pollution prevention and control), OJ L 334, 17.12.2010.

[68] Guidance document, para.41.

[69] Environmental Guidelines, para.29.

CZ-$-0271	2019	Teplárna Trmice	900 000 000	"CO2 savings due to substitute of lignite for biomass "
CZ-$-0368	2015	Centropol	800 000	"Investments in decrease of solid substances polluting the air"

From the brief description in the NIP, at least the following investments could be examined and requested to provide evidence about their motivation for the investments as there is overlap in the period and the description of the investments indicates that it aims at the reduction of emissions falling also under the IED Directive.

3.1.4. Investments receiving funds under other public sources

According to the Guidance document for investments receiving funds under other EU sources and/or other public and private sources, the share of each EU funding source and other public and private funds in the total investment project should be given.

In 2011 applications of Energetika Trinec and ArcelorMittal Ostrava for funding from the Operational Program Environment were approved.[70] Energetika Trinec received EUR 15.2 million in order to reduce emissions from its power plant. This company at the same time proposed an investment of over EUR 75 million for the NIP. ArcelorMittal Ostrava received EUR 129 million from the OP Environment and simultaneously suggested investment plans in the NIP.

In the last call of OP Environment, projects of ČEZ, a.s., and its daughter companies Severočeské doly and Teplárna Trmice received ca. EUR 50 million from the EU Funds and further EUR 9 million from the Czech State Budget. ČEZ group received most of the distributed ca. EUR 60 billion.[71]

All these projects aim to emission reduction (i.e. nitrogen oxides, sulphur dioxide). Unfortunately, it is not possible to find out whether the above mentioned projects coincide with projects in the Czech NIP, because of lack of information in both cases. Further investigation of possible violation of rules for public support for identical projects is therefore needed and the Czech Republic shall provide Commission with the overall information about the financial support to some operators under various funding schemes.

[70] State environmental fund. List of all projects approved. https://www.sfzp.cz/soubor-ke-stazeni/42/12648-seznam_schvalenych_projektu_opzp_k_14_11_2011.xls.

71 State environmental fund. Decided on January 30, 2012. http://www.opzp.cz/clanek/254/1802/podpora-na-projekty-prioritni-osy-2.

4. Annex 3 - List of ineligible investments

• Investment CZ-$-0002, New CCGT plant in Počerady, Operator ČEZ, Value: CZK 19 455 700 000

Documentation for the Environmental Impact Assessment was prepared by SCES-Group in December 2008 and published on the website of the Regional Office on 15 January 2009. According to available data, the Czech company Energoprůzkum Praha compiled the final report on the engineering-geological and hydrogeological survey (EIA documentation, p. 25) for the investment project already in June 2008.
More information is available at: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_cr&id=MZP247.

• Investments CZ-$-0004 and CZ-$-0005, New 660 MW source in coal-fired power plant Ledvice, Operator ČEZ, Value: CZK 18 892 000 000

The EIA process for this new source in Ledvice was finished in 2007.
See: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_cr&id=MZP135.

The IPPC permit for the source was issued in April 2008.
See information on the IPPC website: http://www.mzp.cz/ippc, code: MZPXXFMA0V3S.

• Investment CZ-$-0017, Development of a heating plant Holešovice, Operator Chvaletice, Value: CZK 770 000 000

One part of this investment is the reconstruction of chemical water treatment plant, for which the EIA was completed in 2005.
See: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_cr&id=PHA153.

• Investment CZ-$-048, Construction of new power unit, Operator: United Energy, Value: CZK 8 356 800 000

The description of this investment in the National Plan of Investments is very vague. It does not even provide an intended type of fuel for the new power unit (coal, gas, biomass). The company announced a plan to build a new coal power unit in Komořany – K3; the plan was announced in 2007. However, after the publication of the conclusions of the screening process by the Ministry of Environment, the operator withdrew the announcement of its plan.
See: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_cr&id=OV4054.

Today, the company is planning the construction of incinerators.
See: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_cr&id=ULK627.

We consider it necessary to supplement the information on this investment for assessment of its eligibility. The available data does not clearly show whether the investment is an above-mentioned new coal-fired power unit, waste-to-energy plant or a totally different project.

• Investment CZ-$-0063, New power unit in Kladno, Operator: Alpiq Generation, Value: CZK 7 500 000 000

The EIA for this project was finished in March 2009.
See: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_cr&id=OV1084.

• Investment CZ-$-0139, New technology – turbine TG 11, Operator: Plzeňská energetika, Value: CZK 1 200 000 000

Plzeňská energetika announced a tender for the supply and installation of a turbine approximately at a cost of CZK 600 million in October 2008.
See:http://www.b2bpoptavka.cz/vystavba-turbosoustroji-tg-11-v-plzenske-energetice-as/verejna-zakazka-84173/.
Call for tenders for the building works was also announced on TED in February 2009.
See:http://ted.europa.eu/udl?uri=TED:NOTICE:61718-2009:TEXT:CS:HTML.

• Investment CZ-$-0140, "Točivé redukce a modernizace rozvoden na VS II", Operator: Sokolovská uhelná, Value: CZK 120 000 000

From the available information, it can be assumed that the investment (according to NIP it was planned for the year 2011) was realised in years 2008 – 2009. We draw this conclusion from the reference list on the: http://www.montazecakovice.cz/cs/reference/, where the description of the investment is given and the name/identification of the works realised is identical to that in the NIP.

Description in the NIP: "Točivé redukce a modernizace rozvoden na na VS II"
Description given by Montáže Čakovice, a.s.: "Točivé redukce a modernizace rozvoden na VSII". (2008-9), client/investor – Sokolovská uhelná.

• Investment CZ-$-0141, Reconstruction of the heat supply for N.Sedlo, Operator Sokolovská uhelná, Value: CZK 8 950 000

According to the NIP ("Rekonstrukce zásobování N. Sedla teplem"), an anticipated date of this investment was 2009. However, the official newsletter of Sokolovská uhelná from the January 2008 describes this investment on page 2: http://www.suas.cz/uploads/Zpravodaj_1_2008.pdf. "The biggest works include exchange of ca. 800 meters of heat duct from Vřesová to Nové Sedlo".

In addition, during the city council of Nové Sedlo held on 30.12.2008 the council has approved the planned works of Sokolovská uhelná "Rekonstrukce zásobování Nového Sedla teplem"(the report from the city council is available on the internet as a Microsoft Word document).

• Investment CZ-$-0146, "Rekonstrukce chladicích radu ČS 4", Operator Sokolovská uhelná, Value: CZK 50 000 000

According to the NIP, an anticipated date of this investment was 2011. However from the reference list on the SES BOHEMIA ENGINEERING website, it was realised in 2008 already.
See: „2008 Sokolovská uhelná, a.s. - rekonstrukce chladících řádů ČS IV".
http://sesbohemia.cz/Reference.aspx.

• Investment CZ-$-0149, "Modernizace technologie generátorovny II", Operator Sokolovská uhelná, Value: CZK 145 000 000

According to the NIP, an anticipated date of this investment was 2010. However from the reference list on the ZPA-RP, a.s. website, it was realised in 2008 already.

See: ZPA-RP, a.s.: "Modernizace technologie Generátorovny II, CZK 143 000 000, Modernizace technologie Generátorovny II, CZK 29 849 000, Investor Sokolovská uhelná, http://www.zpa-rp.cz/suas.html.

• Investment CZ-$-0150, "Modernizace technologie generátorovny I", Operator Sokolovská uhelná, Value: CZK 147 000 000

According to the NIP, an anticipated date of this investment is 2012. However, the official newsletter of Sokolovská uhelná from summer 2008 announces this investment (together with Investment CZ-$-0149, see above): http://www.suas.cz/uploads/205075056848f30bbcdf700_SU_2008-07-08_8stran.pdf.

• Investment CZ-$-0153, Intensification of Rectisol, Operator Sokolovská uhelná, Value: CZK 125 000 000

According to the NIP ("Intenzifikace Rectisolu"), an anticipated date of this investment was 2011. However, from the Annual report from 2006 available at: http://www.suas.cz/uploads/194826013447b5627468f07_Vyrocni_zprava_06_CJ.pdf, page 47: „Works have started on "Inovation of gas cooling" (Inovace chlazení plynu) and on "Intensification of Rectisol" (Intenzifikace Rectisolu), these will be finished in 2009."

From the annual report from 2008, available at: http://www.suas.cz/uploads/8146396854a31285fc7c73_SU_zprava_o_hospodareni_2008.pdf, page 32, the additional information about the second phase of intensification of Rectisol is given that it was realised in 2008 and the last phase will end in 2010.

• Investment CZ-$-0154, "Inovace chlazení plynu, RS Tankovište vc.prípravy paliv pro VVKP, Destilace HGD", Operator Sokolovská uhelná, Value: CZK 866 000 000

According to the NIP, an anticipated date of this investment (or at least its part "Inovace chlazení plynu") was 2010. However, from the Annual report from 2006 available at: http://www.suas.cz/uploads/194826013447b5627468f07_Vyrocni_zprava_06_CJ.pdf, page 47: „Works have started on "Inovation of gas cooling" (Inovace chlazení plynu) and on "Intensification of Rectisol" (Intenzifikace Rectisolu), these will be finished in 2009."

From the reference list on website of ZPA-RP, it was realised in 2009. See: http://www.zpa-rp.cz/suas.html "Inovace chlazení plynu, 2009". Further, similar information is stated on the reference list on FNTC Group, http://www.fntc.cz/reference: "2008-2009 Inovace chlazení plynu - V. stavba Sokolovská uhelná, Vřesová"

• Investment CZ-$-0160, "Náhrada ventilátoru K 231 C, D na odsírení sekce Rectisol, Napojení rozvodny biologie 6 a a 10 kV na RS", Operator Sokolovská uhelná, Value: CZK 70 000 000

According to the NIP, an anticipated date of this investment was 2015, however from the reference list on FNTC Group website, it was already realised in 2009. See: http://www.fntc.cz/reference: „2009 Náhrada ventilátorů K 231 C,D na odsíření sekce Rectisol Sokolovská uhelná, Vřesová".

• Investment CZ-$-0166, "Modernizace rozvodny Lipnice", Operator Sokolovská uhelná, Value: CZK 12 500 000, Investment CZ-$-0180, "Modernizace rozvodny Lipnice 22kV a 6kV včetně ŘS", Operator Sokolovská uhelná, Value: CZK 12 500 000

From the NIP it is not clear whether these two investments are identical (anticipated year 2010 is same for both and the estimated cost as well). However, from the reference list on SOMA – ES website, the modernisation was realised in 2008, see: http://www.soma-es.cz/main.php?page=references&lng=eng: "Modernizace rozvodny Lipnice Reconstruction of substation 110 kV, during operation 2008, Sokolovská uhelná".

• Investment CZ-$-0167, "Modernizace elektrických ochran na rozvodně Pískovec a Marie", Operator Sokolovská uhelná, Value: CZK 11 200 000

According to the NIP this project was supposed to be realised in 2010, however from the references on the following websites it can be assumed that it was realised in 2009 (unfortunately no exact date is available, therefore more information is needed for conclusion whether this investment is eligible).

MC Projekt, s.r.o.:„Projekt modernizace elektro ochran na rozvodně Pískovec a Marie – 2009“ investor Sokolovská uhelná, http://www.mcprojekt.cz/reference.html.

Montáže Čakovice, a.s.: „Rozvodny Pískovec a Marie Modernizace elektro ochran na rozvodnách Pískovec a Marie, stavba č. K80”, 2009, Investor Sokolovská uhelná http://www.montazecakovice.cz/cs/reference/.

- **Investment CZ-$-0202, Installation of a peak load power plant in Brno, Operator: Teplárny Brno, Value: CZK 1 550 000 000**

Teplárny Brno announced this investment in December 2008.
The EIA process started in February 2009.
See: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_cr&id=OV7080.

- **Investment CZ-$-0226, Conversion of coal boiler to biomass boiler in heating plant Domoradice, Operator: Carthamus, Value: CZK 498 700 000**

Carthamus announced this investment in December 2007. The EIA was started in February 2009.
See: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_cr&id=JHC338.

- **Investment CZ-$-0255, “KVET z obnovitelných zdrojů jako náhrada stávajícího kotle”, Operator: KA Contracting ČR, Value: CZK 498 000 000**

Operator announced this investment on 11 June 2009.
See: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_podlimitni&id=HKK250P.

- **Investment CZ-$-0266, Construction of new power unit for biomass combustion, Operator: Elektrárny Opatovice, Value: CZK 1 400 000 000**

The EIA for this project was completed in April 2007.
See: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_cr&id=MZP139.

- **Investment CZ-$-0283, CZ-$-0284, CZ-$-0360, Operator: ENERGY Ústí nad Labem, Value: CZK 864 000 000**

These plans were announced by the operator in June 2008, material presented as the basis for the announcement dates from May 2008.
See: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_cr&id=MZP222.

- **Investment CZ-$-0289, “Dokončení výstavby vynucené změny palivové základny a uhrazení pohledávek z investiční výstavby”, Operator: Teplárna Tábor, Value: CZK 86 400 000**

This plan was announced by the operator in 2005.
See: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_cr&id=OV2006

- **Investment CZ-$-0361, “Samostatné soustrojí spalovací turbíny spojené s generátorem k výrobě elektrické energie”, CZ-$-0362, “Dvojice plynových spalovacích turbín se spalinovými kotli a jedna parní turbína pro celoroční KVET”, Teplárna Prostějov, Operator: Gama Investment, Value: CZK 2 650 000 000**

These plans were announced by the operator on 16 June 2009, material presented as the basis for the announcement dates from May 2009.
See: http://tomcat.cenia.cz/eia/detail.jsp?view=eia_cr&id=OV8099.

Questionable investments for which the data from the official EIA database are not available

• Investment CZ-$-0330, "Financial resources used from 25.6.2009 to 31.3.2010", Operator: Plzeňská teplárenská, Value: CZK 652 049 229

The description of this investment is rather limited and does not allow for an identification of the real works that were carried out. Wording in the czech language: „Proinvestované prostředky od 25.6.2009 do 31.3.2010". The exact date 25 June 2009 raises doubts about the potential eligibility of this investment and raises a question whether these resources were not used for the construction of a new block that started in 2008 and finished in spring 2010.

In this time, Plzeňská teplárenská has realised the important investment of the new „green" block - http://www.pltep.cz/index.php?goto=text&sekce=en_Ar5bXRIQ&tid=en_V8TSTGNc&lng=en.
According to information on the website: „The construction of the ecological source was initiated in autumn of 2008 and the operation initiation is planned for spring 2010."

From the annual report from 2010, „as of April 2010, the new "green" production unit with the K7 boiler for biomass and turbine generator is in operation, see: http://www.pltep.cz/upload/File/VZ_2010/VZ2010%20zprava%20o%20cinnosti.pdf, page 42.

The decision about this investment was taken in 2005 and it is without any doubt one of the most important investments realised in the period set in the description given in the NIP. Therefore, we conclude that it is necessary to verify for what investments these resources were used and in case the costs of the new „green" block are included, they have to be banned as it is clear that this investment started prior to 25.6.2009 thus is not eligible under Article 10c.

• Investment CZ-$-0003, a new power plant in Mělník, Operator ČEZ, Value: CZK 16 458 000 000

This project was planned before 25 June 2009 and the first publicly available information is dated from 29 April 2009: "ČEZ is preparing a CCGT in Mělník, which will ensure the delivery of heat for Prague in the future."[72] The second information is dated from 25 June 2009: "ČEZ will build its first large CCGT in the Czech Republic." In a press release from 25 June 2009 issued by ČEZ, it is stated: "At the end of April, ČEZ management approved the business plan for a new 800 MW CCGT plant in the Mělník location."[73]

[72] Press release: http://www.cez.cz/en/cez-group/media/press-releases/2412.html.
[73] See the last sentence of the tenth paragraph: http://www.cez.cz/cs/pro-media/tiskove-zpravy/2516.html.

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