Audit conclusion from audit no.

14/06

Finances Earmarked for the Support of Energy Production from Renewable Energy Resources

The audit was included in the audit plan of the Supreme Audit Office ("SAO") under number 14/06. The audit was managed and the audit conclusion drawn up by SAO member RNDr. Petr Neuvirt.

The aim of the audit was to scrutinise the provision of finances to promote the production of energy from renewables, including assessing the results achieved compared to the goals set and the funds used.

The audit was conducted from February to August 2014.

The audited period was 2011 to 2013; where relevant, the preceding and following periods were also scrutinised.

Audited entities:
Ministry of Industry and Trade; Business and Investment Development Agency CzechInvest, Prague; Ministry of the Environment; State Environmental Fund of the Czech Republic, Prague; Ministry of Agriculture; State Agricultural Intervention Fund, Prague; Energy Regulatory Office, Jihlava.

Objections lodged against the audit protocols by the Ministry of Agriculture and the State Agricultural Intervention Fund were dealt with by the head of the audit team by means of decisions on objections.

At its 18th session held on 10.11.2014 the *SAO Board*
issued resolution no. 11/XVIII/2014 *approving*
the *audit conclusion* worded as follows:

I. Introduction

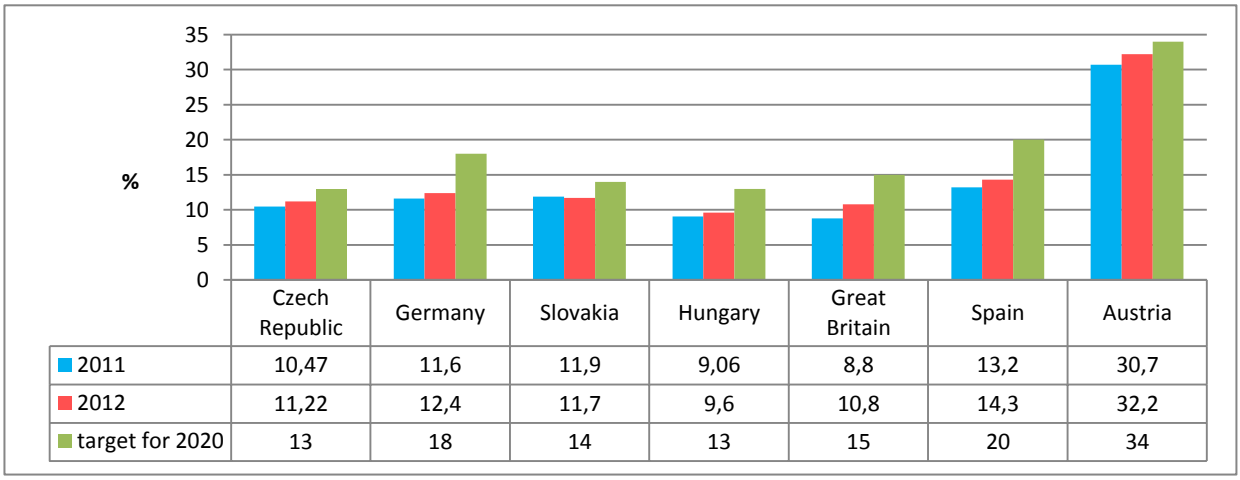
Renewable sources of energy are moving into the foreground of worldwide interest because of climate change, rising energy prices and dependency on fossil fuels. Section 2 (1) (b) of Act

No. 406/2000[1] provides that renewable sources of energy means: "... *renewable non-fossil natural sources of energy, which are wind energy, solar energy, geothermal energy, water energy, soil energy, air energy, biomass energy, landfill gas energy, wastewater treatment plant sludge gas energy and biogas energy.*"

Directive 2001/77/EC[2] of the European Parliament ("EP") and of the Council set an indicative target[3] for the Czech Republic of 8% of electricity production from renewables out of the country's gross consumption in 2010. This target has been achieved. The mandatory target defined by Directive 2009/28/EC[4] of the EP and of the Council for the Czech Republic is at least 13% of gross final consumption of energy generated from renewables by 2020. Increasing the share of renewables is also part of the strategic objectives of the Czech Republic. According to the *State Energy Concept of the Czech Republic*, the goal is a gradual increase in the share of renewables to levels signifying the full use of the economically effective potential of renewable energy sources in the Czech Republic.

In 2012 the share of gross final consumption of energy generated from renewables in the Czech Republic was 11.2% (see Graph 1 and table). To achieve the 13% target in 2020 this share needs to be increased by 1.8 percentage points, the same as in Austria. Compared to neighbouring countries like Germany, Slovakia or Hungary, the Czech Republic and Austria are the closest to achieving the 2020 target.

Graph 1: Total share of renewables in gross final consumption of energy in selected EU states (%)



	Czech Republic	Germany	Slovakia	Hungary	Great Britain	Spain	Austria
2011	10,47	11,6	11,9	9,06	8,8	13,2	30,7
2012	11,22	12,4	11,7	9,6	10,8	14,3	32,2
target for 2020	13	18	14	13	15	20	34

Source: reports on progress in the promotion and use of renewables under Article 22 of Directive 2009/28/EC of the European Parliament and of the Council on the promotion of the use of energy from renewable sources for 2011 and 2012; *Energy Challenges and Policy* (European Commission).

1 Act No. 406/2000, on energy management.

2 Directive 2001/77/EC of the European Parliament and of the Council on the promotion of electricity produced from renewable energy sources.

3 The state's commitment is political and cannot be enforced.

4 Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources.

The most important renewables used in the Czech Republic are listed below. Output can usually be expressed in watts (W), or multiples thereof[5]; electricity is expressed in multiples of watt-hours (Wh); heat, or total energy, is usually expressed in multiples of joules (J).

Biomass energy

Wood waste or purpose-grown plants are used for energy purposes. Biomass does not have a high energy yield - just around 1–2% of the solar radiation falling on it is used. Using biomass has many advantages, though. For example, it can be used to make both heat and electricity, whereby production can be flexibly adapted to energy consumption in time and place; another advantage is that waste material can be put to use. Biomass is typified by a certain universality of use (as a central, local or seasonal source) and by the ready availability of biomass combustion technologies. These properties have made biomass the most significant renewable (electricity and heat) in the Czech Republic at present, a status that will continue into the future.

Wind energy

As a landlocked country, the Czech Republic does not have particularly suitable conditions for making use of wind. The building of wind turbines also has to respect the restrictions linked to nature and landscape conservation. A wind turbine with a capacity of 1 MW will save around 2,200 tonnes of CO_2 a year and will generate electricity for roughly a thousand households.

Water energy

Water is the energy source that has been used for the longest time in the Czech Republic. The EU regards installations with a capacity of up to 10 MW as small hydropower plants ("SHPs"). The installed capacity of SHPs in 2012 was 311 MW, i.e. approximately 30% of the total installed capacity of hydropower stations in the Czech Republic. The potential for large hydropower plants in the Czech Republic has practically been exhausted.

Solar energy

Photovoltaic power stations ("photovoltaics")	**Solar collectors**
Photovoltaic power stations are used to generate electricity. The price of this technology is falling constantly. A photovoltaic power station with a peak capacity of 1kW can supply 800 to 1000 kWh of electricity per year in the Czech Republic.	Solar collectors are used to generate heat and hot water. Solar systems with collectors can be integrated into the majority of both new and existing buildings, in which the energy is subsequently used.

Biogas power plants

Wet biomass (manure, slurry, food waste and agricultural crops) is not suitable for combustion but can be put to good use in biogas power plants ("BPPs"). The electricity is usually sold into the grid. Roughly half of the generated heat is consumed by operation of

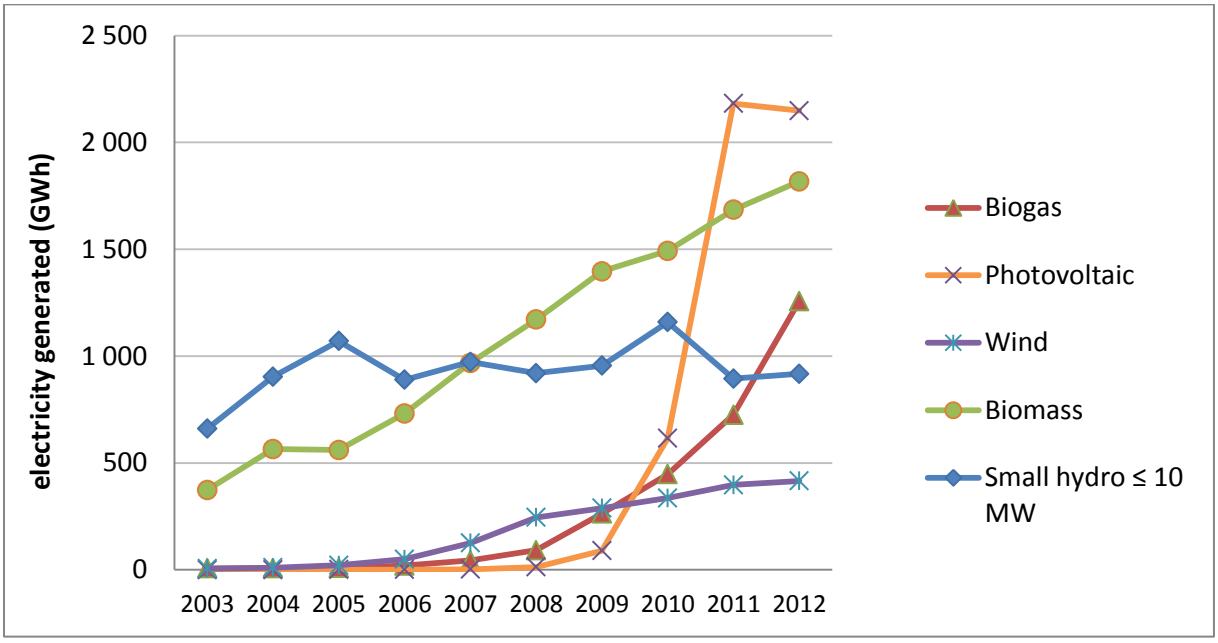
[5] Kilo (K)= 10^3, mega (M) = 10^6, giga (G)= 10^9, tera (T)= 10^{12}, peta (P)= 10^{15}.

the BPP; the rest is commercially exploitable. Today, mainly agricultural products are used in BPPs.

Trends in the use of various types of renewables for electricity production in the Czech Republic

Chart 2 shows clearly that between 2003 and 2012 the production of electricity grew at varying rates for all types of renewables, with the exception of water sources dependent on rainfall fluctuation. The growth potential for the installed capacity of hydropower plants is limited. The biggest growth was registered in photovoltaic power plants and biogas power plants.

Graph 2: Gross electricity production in the Czech Republic in selected types of renewables

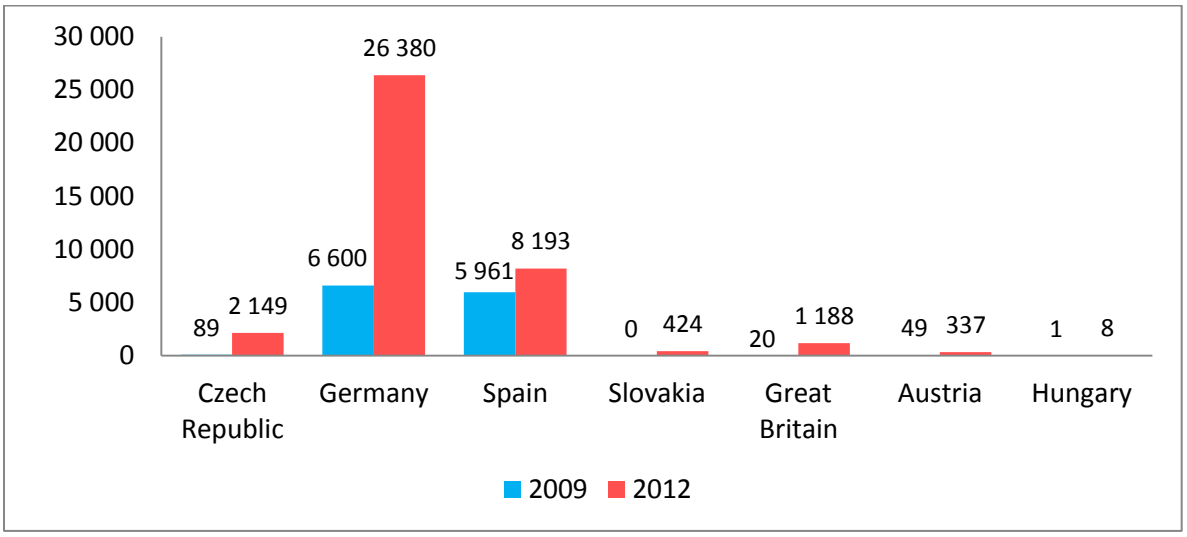


Source: *Renewable Energy Sources 2012*, MoIT, November 2013.

Comparison with selected neighbouring and other EU states

Graph 3 shows the difference between the levels of electricity production from solar radiation in 2009 and in 2012. The graph reveals that the Czech Republic is the third biggest producer of electricity from solar radiation among the featured EU states.

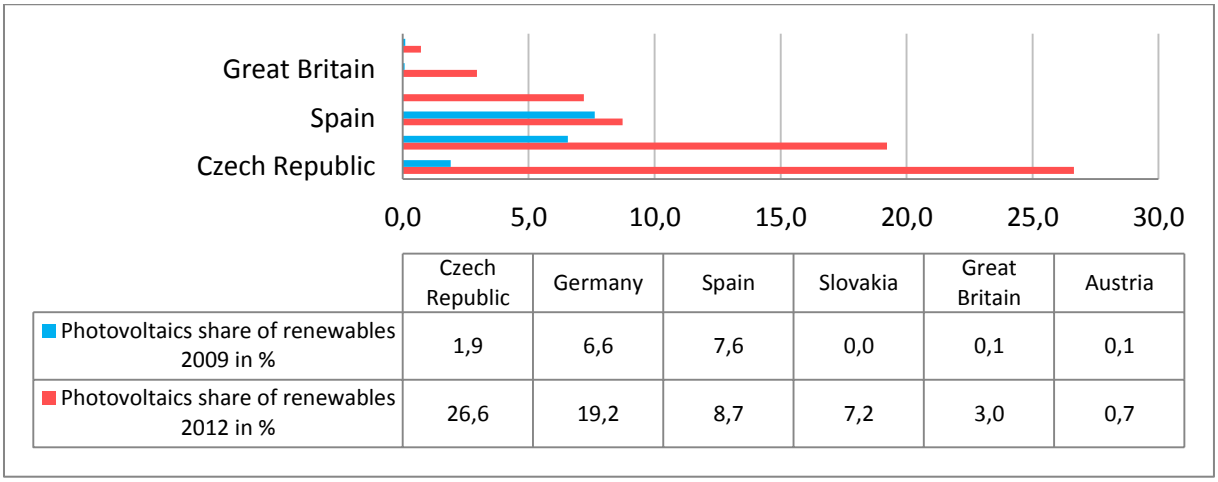
Graph 3: Electricity production in photovoltaic power stations between 2009 and 2012 in selected countries (GWh)



Source: reports on progress in the promotion and use of renewables under Article 22 of Directive 2009/28/EC of the European Parliament and of the Council on the promotion of the use of energy from renewable sources for 2011 and 2012; *Energy Challenges and Policy* (European Commission); *Annual Report on the Operation of the Electricity Supply System of the Czech Republic for 2009*.

Graph 4 shows that the Czech Republic registered a huge increase in the share of total gross energy production from renewables accounted for by solar electricity between 2009 and 2012. In 2009 the share was 1.9%, but by 2012 it had reached 26.6%. Of the selected EU states in the graph, the Czech Republic had the greatest growth in photovoltaic power plants.

Graph 4 - Total gross electricity production from renewables accounted for by photovoltaic power stations, 2009 and 2012 (%)



	Czech Republic	Germany	Spain	Slovakia	Great Britain	Austria
Photovoltaics share of renewables 2009 in %	1,9	6,6	7,6	0,0	0,1	0,1
Photovoltaics share of renewables 2012 in %	26,6	19,2	8,7	7,2	3,0	0,7

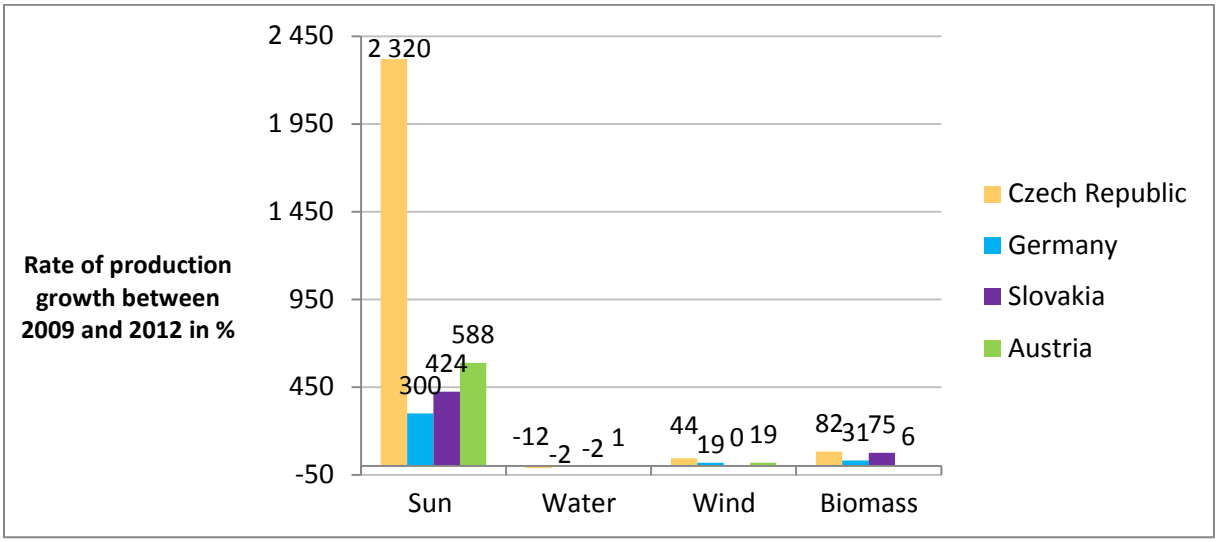
Source: reports on progress in the promotion and use of renewables under Article 22 of Directive 2009/28/EC of the European Parliament and of the Council on the promotion of the use of energy from renewable sources for 2011 and 2012; *Energy Challenges and Policy* (European Commission); *Annual Report on the Operation of the Electricity Supply System of the Czech Republic for 2009*.

NB: For Hungary the share cannot be shown in the graph due to the negligible production levels (see Graph 3).

Graph 5 depicts the rate of growth in electricity production using selected types of renewables between 2009 and 2012 measured as a percentage. Apart from water energy,

production in the Czech Republic grew more than in the featured neighbouring countries. The greatest growth, i.e. 2,320%, was registered in electricity generated by photovoltaic power stations.

Graph 5 Rate of growth in electricity production using selected renewables from 2009 to 2012



Source: reports on progress in the promotion and use of renewables under Article 22 of Directive 2009/28/EC of the European Parliament and of the Council on the promotion of the use of energy from renewable sources for 2011 and 2012; *Energy Challenges and Policy* (European Commission); *Annual Report on the Operation of the Electricity Supply System of the Czech Republic for 2009*.

Status of the audited entities

Under Act No. 2/1969[6] the **Ministry of Industry and Trade** ("MoIT") is the central organ of state administration for, inter alia, industrial policy and the energy, heat production and gas sectors. As part of its authority it coordinates the preparation of legislation and the implementation of European law. The MoIT is the managing authority of the Operational Programme *Enterprise and Innovation* ("OPEI"). Under Section 3 (2) of Act No. 406/2000 it drafts the state energy concept and assesses its implementation; where necessary it draws up proposals for changes. It was also tasked with drawing up the *National Renewable Energy Action Plan of the Czech Republic for Renewable Energy Sources* ("NREAP") under Commission Decision 2009/548/EC[7].

Under Act No. 2/1969 the **Ministry of the Environment** ("MoE") is the organ of supreme state oversight in environmental matters. It is the managing authority of the Operational Programme *Environment* ("OPE"). The MoE issues implementing regulations for acts governing the use of supported energy sources and proposes acts of parliament.

Under Act No. 2/1969 the **Ministry of Agriculture** ("MoA") is the central organ of state administration for agriculture and water management, inter alia. The MoA is the managing authority of the *Rural Development Programme of the Czech Republic for 2007–2013* ("RDP").

[6] Act No. 2/1969, on the establishment of ministries and other central organs of the state administration of the Czech Republic.

[7] Commission Decision 2009/548/EC establishing a template for National Renewable Energy Action Plans under Directive 2009/28/EC of the European Parliament and of the Council.

The **Energy Regulatory Office** ("ERO") was established as of 1.1.2001 by Act No. 458/2000[8] as the administrative authority for regulation of the energy industry. Section 17 (4) of that act provides that the ERO's powers include regulating prices in energy sectors, including energy from renewables, and promoting the use of renewables and secondary sources of energy. In exercising its powers the ERO acts independently and is governed solely by the law. In exercising its powers it may not accept or request instructions from the president, parliament, government or any other organ of executive power. It issues implementing regulations for acts governing the use of supported energy sources, inter alia.

The MoIT, MoE, MoA and ERO take part in legislative and conceptual work by participating in the interdepartmental consulting process, inter alia.

The **Business and Investment Development Agency CzechInvest** is an organisation part-funded by the MoIT. It is the mediating entity which has been tasked by the MoIT to perform certain activities linked to the provision of support from various parts of the OPEI.

The **State Environmental Fund of the Czech Republic** was established by Act No. 388/1991[9] as another state organisation. It is the mediating entity which has been tasked by the MoE to perform certain activities linked to the provision of grants from various parts of the OPE.

The **State Agricultural Intervention Fund** was established by Act No. 256/2000[10]. It is an accredited paying agency and a mediator of financial subsidies from the EU and national sources.

The development of renewables in the Czech Republic is promoted mainly through economic support. This consists of **operating aid** [11]for the produced energy (especially electricity), **investment aid** [12]and **tax support**[13]. The most important of these is operating aid provided under the acts governing the use of supported energy sources and implementing regulations accompanying these acts. The principal source of support is contributions paid by electricity consumers. The state budget has helped cover the costs since 2011. Investment aid is provided out of programmes financed by EU funds.

Strengthening the role of renewables in the Czech Republic has also had undesirable impacts. A considerable amount of money is spent on supporting renewables. The audit was meant to check whether the work of the responsible authorities is effective and whether the finances are used efficiently and economically.

8 Act No. 458/2000, on the conditions of doing business and on the performance of state administration in energy sectors and amending certain acts (the Energy Act), as amended.

9 Act No. 388/1991, on the State Environmental Fund of the Czech Republic.

10 Act No. 256/2000, on the State Agricultural Intervention Fund and amending certain acts (the Act on the State Agricultural Intervention Fund).

11 Operating aid is provided in the form of feed-in tariffs and green bonuses (surcharges on the price of electricity that a generator does not supply into the network but consumes), which the ERO defines by means of price decisions for new installations put into operation in the next calendar year, with the value of the support remaining unchanged throughout the pay-out period.

12 Investment aid for building installations using renewables is provided mostly out of the OPEI, OPE and RDP grant programmes funded mainly by the European Union.

13 Tax support primarily consists in the release from income tax and real estate tax that applies to installations using renewables in the cases specified by the relevant regulations.

II. Conceptual documents

State Energy Concept of the Czech Republic

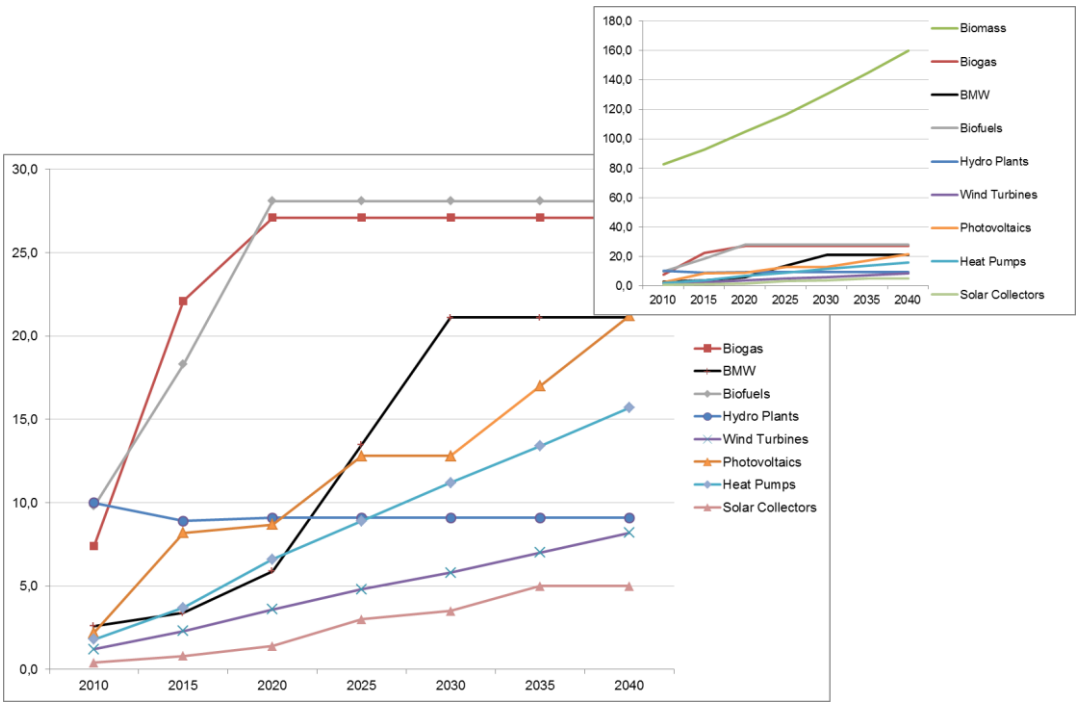
The *State Energy Concept of the Czech Republic* ("the Concept") is a long-term vision of energy in the Czech Republic drawn up by the MoIT. The currently applicable Concept was approved in 2004. The MoIT has drawn up several draft updates of the Concept since 2014. The updated version from 2012 in the wording of August 2014 ("the updated Concept") is currently under discussion. The government council for the energy and raw materials strategy of the Czech Republic participates in creating the updated Concept. The government council monitors links with other related documents, such as the *Raw Materials Policy of the Czech Republic* or *Biomass Action Plan for the Czech Republic*.

The updated Concept respects the Czech Republic's commitments to international organisations and the EU. According to the updated Concept, the commitments cannot be fulfilled without support, which should be low, flexible, gradually wound down and targeted at sources with good economical and technological prospects. Between 2015 and 2040 the updated Concept envisages the application of an energy savings policy that should lead to final consumption of energy stagnation.

The existing support for renewables will continue to be an extreme burden on the country's economy for many years to come (see Part V – Summary). For that reason, frameworks for subsequent support for renewables need to be better specified, quantified and defined.

Photovoltaic power plants should be the leading renewable energy source in the gross production of electricity in 2040 (almost 30% share of electricity generated from renewables), followed by biomass and then biogas. The renewed growth of photovoltaic power is pronounced - between 2015 and 2040 the total quantity of electricity generated from photovoltaic sources is to increase to two and a half times the current level. The updated Concept, however, envisages the thus proposed growth in photovoltaic power only when it becomes fully competitive - i.e. without operating aid and contributions from consumers.

Graph 6 Development of renewables in primary energy sources in the Czech Republic from 2010 to 2040 according to the optimised scenario of the updated Concept



Source: updated Concept, August 2014, MoIT.
NB: The smaller chart shows biomass with the biggest share, which is outside range of the larger chart.

In general terms, the updated Concept envisages economic instruments assisting the development of renewables. It reckons with investment aid, top-up payments to investors in renewables and tax relief. The support should be paid for out of fees and taxes in the energy industry or payments for externalities[14].

Approximately in the years 2009–2012 the development of the individual types of renewables in the Czech Republic deviated markedly from any medium-term concepts and forecasts. This state of affairs was the result of a poorly designed support system (see Part III of this audit conclusion). For that very reason maximum attention should be paid to the support instruments without which renewables development has not been possible to date and evidently will not be possible even when the updated Concept is in effect.

National Renewable Energy Action Plan of the Czech Republic

The NREAP was drawn up by the MoIT in line with Commission Decision 2009/548/EC. It targets the achievement of the mandatory target of 13% laid down in Directive 2009/28/EC of the EP and of the Council.

The MoIT has so far created two versions of the NREAP. The first version from 2010 envisaged achieving a 13.5% of renewables in gross final consumption of energy in 2020. The next version was drawn up in 2012 under Act No. 165/2012[15]; this version envisages

[14] A secondary external effect is defined as an effect that brings benefit or harm.
[15] Act No. 165/2012, on supported sources of energy and amending certain acts.

achieving a 14% share of renewables in gross final consumption of energy in 2020. The ERO did not agree with the increased figure, but the draft was nevertheless approved by the government in 2012.

Achieving a 14% share of renewables in gross final consumption of energy, i.e. 1% more than agreed at EU level, will necessitate both rationalisation of consumption and a not inconsiderable increase in energy production from renewables. The MoIT envisages that 92% of this will be accounted for by energy production not eligible for operating aid, e.g. heat pumps and solar collectors.

The NREAP forecasts that the 13% target will be achieved in 2018 - at that time operating aid for production in all **new renewables** should be stopped.

In the case of biogas power plants a doubling of electricity production is expected between 2012 and 2020, even though operating aid for new sources ends on 1.1.2014. The same applies to photovoltaic power stations.

According to the documents audited, achieving the EU's mandatory target of 13% appears realistic. Raising the target to 14% does not establish any right to operating aid for new renewables.

The MoIT expects it to be possible to draw down investment aid from EU funds until this raised target is achieved.

State Environmental Policy of the Czech Republic

The principle of the *State Environmental Policy of the Czech Republic* ("the Policy") is the integration of policies, which requires cooperation at all levels of public administration, where a number of strategies and concepts are prepared with central, sectoral and regional scope. The Policy for 2004–2010 was approved by the government in 2004. The sustainable use of natural resources is one of the priority areas; one subchapter focuses on the use of renewables. One of the goals was to achieve an 8% share of electricity from renewables in gross consumption of electricity by 2010, which was an indicative target set by the EU for the Czech Republic. The MoE assessed the implementation of the Policy in the years 2004–2010 and denoted the renewables-related goals as having been largely achieved.

In 2013 the government approved an updated Policy for the years 2012 to 2020. The principal objective is to contribute significantly towards the efficient use of all sources (energy efficiency). One of the fundamental goals of the updated Policy in the field of renewables is achieving a 13% share of energy from renewables in gross final consumption of energy by 2020, i.e. the mandatory target set by the EU.

Progress in achieving the Policy's goals is described in the Czech Republic's environmental reports, inter alia. The last published report for 2012 contains the information that the Czech Republic's mandatory target for 2020, i.e. a 13% share from renewables in gross final consumption of energy, was achieved in 2012. This information is not consistent with the NREAP document approved by the government in 2012.

Biomass Action Plan for the Czech Republic

The elaboration of the action plan for 2009–2011 was recommended by the European Commission ("the Commission") with a view to fulfilling both national and European targets in the energy use of biomass. The action plan was approved by the government. Other reasons for creating the action plan were the need to weigh up the possibilities for using biomass in the Czech Republic for energy purposes and the need to define basic rules and resources for effective use of biomass.

The first action plan has been followed up by the *Biomass Action Plan for the Czech Republic 2012–2020*. This action plan analyses the use of biomass in the Czech Republic for energy purposes and assesses the first action plan. Most measures were insufficiently dealt with or not dealt with at all. In addition, the achieved results were not assessed in terms of achieving the defined indicators.

The *Biomass Action Plan for the Czech Republic 2012–2020* describes the current system of support for the production of energy from biomass as uncoordinated and environmentally counterproductive because it is focused mainly on electricity production. It enables support for sources with low efficiency that do not make use of the generated heat. The fundamental recommendations of the action plan consequently focus on preferential support for the use of biomass for combined production of electricity and heat, designing the support to motivate investors to achieve greater energy efficiency, supporting projects in areas without a gas supply and removing duplications or overlaps in the provided support.

III. Legislation on support for energy production using renewables

Draft act on the promotion of renewable forms of energy (Act No. 180/2005[16])

In 2003 the MoIT and MoE drafted an act on the promotion of the production of electricity and heat from renewables which referenced Directive 2001/77/EC of the EP and of the Council. Under the **draft act** the support system was based on the following principles:

- the setting of feed-in tariffs for electricity generated from renewables and green bonuses which must achieve a 15-year payback period; the support period is also set at 15 years;
- obligatory buy-up by distribution systems operators of all electricity generated from renewables;
- retaining the right of generators of electricity from renewables to preferential connection of their electricity source to the transmission system or distribution systems;
- the feed-in tariff must not fall by more than 10% from year to year;

[16] Act No. 180/2005, on the promotion of the production of electricity from renewables and amending certain acts (the Act on the Promotion of the Use of Renewables), effective partly until 31.1.2012 and partly until 1.1.2013.

- increased costs brought about by higher feed-in tariffs and green bonuses to be factored into electricity prices for end customers.

The upshot of the legislative process was Act No. 180/2005, approved on 31.3.2005 and targeted solely at support for electricity production from renewables. The act laid down blanket operating aid for all sources in the sense that all types of renewable sources, including the most expensive, must be supported so that the use of every type is profitable.

Unlike the proposed 10% limit, under the approved wording of the act it was not possible to reduce feed-in tariffs by more than 5%; this made it impossible to flexibly define support levels, especially when feed-in tariffs from photovoltaic power plants were being applied.

Amendment of Act No. 180/2005

In the area of photovoltaic power plants, the impossibility of changing the feed-in tariff by more than 5% and the impact of the fall in the cost of acquiring photovoltaic power plants resulted in a problematic situation. The feed-in tariffs did not reflect the cost of building photovoltaic installations.

The presentation report accompanying the draft amendment of Act No. 180/2005 reveals that the reduction in the investment costs of photovoltaic power plants by as much as 40% was not a one-off phenomenon and the MoIT was aware of this trend. There is a great deal of publicly known information that the sharp fall in the price of solar panels began at the start of 2009, or even in the last quarter of 2008, and came as no surprise. The outcome was a fall in the payback period of photovoltaic plants far below the legally guaranteed 15 years, because the 5% limit for the fall of feed-in tariffs prevented the application of realistic feed-in tariff values.

As early as July 2009 correspondence took place between the ERO, MoIT and other departments regarding the scrapping of the 5% limit.

The MoIT drafted an amendment of Act No. 180/2005, which the government approved on 16.11.2009 and put before the Chamber of Deputies of Parliament of the Czech Republic on 18.11.2009. The amendment's proposed effective date was not immediately at the start of the next year, partly because of concerns about legal action by investors on the grounds of compromised investments. No analysis or assessment of the risk of legal action and no estimate of the possible damages were performed, however. Parliament did not pass the amendment[17] of Act No. 180/2005 until April 2010.

In 2009 the MoIT demonstrated, with reference to an ERO calculation, that the average rate of return is not 15 years for any of the types of renewables. The calculated rate of return for photovoltaic installations was the shortest at 7 years, regardless of the size of the installation. The disproportionately high guaranteed prices brought about a sharp increase in installed capacity, reflected in the size of the back-up capacity for connecting photovoltaic

[17] Act No. 137/2010, amending Act No. 180/2005, on the promotion of the production of electricity from renewables and amending certain acts (the Act on the Promotion of the Use of Renewables).

power stations, among other things. The MoIT warned of a dramatic increase in the impact on electricity prices for all customers and the negative influence the large number of photovoltaic installations would have on the management of the electricity supply system.

Given that the amendment did not enter into force until 2010, the ERO could not issue a price decision fixing feed-in tariffs for 2010 without being bound by the condition of the maximum 5% reduction in the feed-in tariff. Consequently, investors had from April to December 2010 to complete photovoltaic power plants to attain "disproportionately high feed-in tariffs"[18]. Graph 2 illustrates the sharp increase in photovoltaic production after 2009, and particularly in 2010.

The subsequent development confirmed that photovoltaic power plants completed in 2010 posed the greatest burden on the national economy out of all the renewables implemented by that time. In 2010 74% of the installed capacity of the photovoltaic installations operating today was completed; by the end of 2010 the figure was 90% of the capacity of today's photovoltaic installations.
The same conditions that were defined at the time of completion, i.e. the duration of the support, the feed-in tariff etc., still apply for every source, not just photovoltaic power plants.

Other legislative changes seeking to stop the rising cost of promoting renewables

In 2010 the amendment of Act No. 180/2005 introduced the following measures:
- From 2011 Act No. 330/2010[19] permitted support for photovoltaic electricity production solely for installations with a capacity of up to 30 kW and installed on a building.
- Act No. 402/2010[20] introduced the following:
  - multi-source financing of operating aid for renewables, provided by state budget appropriations (see Table 2) as well as contributions from electricity consumers;
  - a duty was imposed on electricity generators with photovoltaic installations with a capacity over 30 kW and put into operation in 2009 and 2010 to pay a levy on electricity from solar radiation for a limited period (2011–2013) amounting to 26% of the feed-in tariff or 28% of the green bonus.

In 2012 a new act governing the use of promoted sources of energy was adopted (Act No. 165/2012[15]). The new act:
- made it possible to use the *National Renewable Energy Action Plan,* defining further real developments in the sector, including priorities, as a tool for regulating further developments in renewables;

[18] This expression was used by MoIT in materials for the government when the Act on the Promotion of the Use of Renewables (Act No. 137/2010, amending Act No. 180/2005, on the promotion of the production of electricity from renewables and amending certain acts (the Act on the Promotion of the Use of Renewables)) was being amended.

[19] Act No. 330/2010, amending Act No. 180/2005, on the promotion of the production of electricity from renewables and amending certain acts (the Act on the Promotion of the Use of Renewables), as amended.

[20] Act No. 402/2010, amending Act No. 180/2005, on the promotion of the production of electricity from renewables and amending certain acts (the Act on the Promotion of the Use of Renewables), as amended, and certain other acts.

- expressly defined the basic parameter for setting support levels as "the simple rate of return"[26]; this did away with the uncertainty in Act No. 180/2005 as to the type of rate of return;
- defined the support pay-out period as the entire lifetime of the source as specified by decrees; the ERO set the lifetime, mostly at 20 or 30 years, according to the type of renewable energy, but that exceeds the limit for the payback period defined by this act (15 years).

In 2013 Act No. 310/2013[21] introduced the following measures:
- operating aid for electricity production by installation put into operation after 31.12.2013 was stopped, with the exception of small hydropower stations; installations for which a building permit or construction authorisation was issued before this act took effect, with the exception of photovoltaic plants, could be completed by 31.12.2015;
- a maximum price level for costs associated with support for electricity was introduced for all customers. The maximum level was CZK 495/MWh. This, however, increases the share of the cost of supporting renewables covered out of the state budget, as shown in Table 2;
- new rules were set governing the obligation to pay a levy on solar radiation up to the time when the given generating plant claims operating aid; this levy was reduced to 10% and the set of payers was narrowed. The impact of this change from 2014 is also visible in Table 2.

Decision of the European Commission in the matter of the promotion of electricity production from renewable sources

Under Article 108 (3) of the *Treaty on the Functioning of the EU* the Czech Republic is obliged to notify the Commission in good time of any plans to grant or alter aid. It is authorised to put its proposed measures into effect once a final decision has been taken by the Commission. On 8.1.2013 the Czech Republic announced its intention to support the production of electricity and heat from renewables and the combined production of electricity and heat. This involved an assessment of operating aid for renewables stemming from Act No. 165/2012. Not only did the Czech Republic therefore put the planned measures into effect before the Commission decision was issued; it also performed the notification almost a year the said act had partially entered into force.

The Commission issued a decision in the matter of the promotion of electricity production from renewable sources on 11.6.2014. The Commission expressed regret that the Czech Republic had already put the aid scheme under assessment into effect, in breach of Article 108 (3) of the *Treaty on the Functioning of the EU*, which provides that measures may only be put into effect after final approval by the Commission. As a condition for the subsequent approval of the aid the Commission specified measures the Czech Republic is obliged to introduce. The measures will only apply to sources put into operation from 2013 on.

[21] Act No. 310/2013, amending Act No. 165/2012, on supported sources of energy and amending certain acts, as amended by Act No. 407/2012, and other related acts.

The Commission paid close attention to the question of possible overcompensation for renewables operators. With a view to preventing overcompensation, the Czech Republic undertook to introduce a review mechanism, with reviews to be carried after 10 years from the start of operation. If the payback period is found to be shorter than 15 years, the ERO will accordingly reduce the period of further payments to the given operator. The Commission also demands that operating aid be reduced in accordance with the investment aid amount, if awarded to the beneficiary.

The Commission also stated that aid in the form of feed-in tariffs and green bonuses amount to an economic advantage which generators in the Czech Republic would not obtain under normal market conditions. The level of necessary reimbursement for importers of electricity from the EU will apply to 2013–2015; the level for 2014 was set at approx. CZK 2.5 billion.

Opinions and comments on the ERO's legislative proposals

Under its statutory powers the ERO issued decrees relating to the guaranteed duration of feed-in tariffs. The MoIT and other departments could give their opinion on the drafts of these implementing regulations as part of the consulting process.

The ERO thus issued Decree No. 475/2005, laying down the calculation method for feed-in tariffs and green bonuses in a way guaranteeing a 15-year payback period. The annex to the decree fixed the lifetime of installations, e.g. 15 years for photovoltaics. An amendment adjusted the lifetime to 20 years for all types of renewables, with the exception of small hydropower stations, for which the ERO set a lifetime of 30 years; those lifetimes of 20 and 30 years apply to this day. The actual payback period of photovoltaics and other renewables turned out to be much shorter than these lifetimes (see e.g. the section entitled *Amendment of Act No. 180/2005* in Chapter III of this audit conclusion).

The ERO issued other regulations defining the fixed period of support, e.g. Decree No. 150/2007[22]: "*Feed-in tariffs and green bonuses shall be applied for the duration of the electricity generating plants' lifetime*." This formulation was later altered: "*Feed-in tariffs and green bonuses defined under the act on the promotion of the use of renewables shall be applied throughout the expected lifetime of the electricity generating plants as laid down by decree... (475/2005).*" In addition, feed-in tariffs increase by 2–4% year-on-year, linked the index of industrial producers' prices, with the exception of plants burning biomass and biogas.

Through this combination of decrees the ERO determined that for example photovoltaic plants completed in 2010 (accounting for three quarters of the installed capacity of the photovoltaic plants operating today) have these prices guaranteed for a period of 20 years. The "disproportionately high feed-in tariffs"[16] for photovoltaics are thus being paid out for a long time after the actual attainment of payback, partly because the decrees did not reflect the actual state of 2010, when the calculated price could not be used because of the 5% limit on reductions in support. Similarly, small hydropower stations completed in 2013, for example, for which the applicants for investment aid specified a simple rate of return

[22] Decree No. 150/2007, on the manner of regulating prices in energy sectors and procedures for regulating prices.

significantly shorter than 15 years, will sell electricity at the index-linked original tariffs until 2043.

Under Act No. 165/2012, in November 2012 the ERO published information about the actual payback periods, e.g.:

- for photovoltaic power plants with a capacity of 5–30 kW the attained simple rate of return is 6–7 years;
- for biogas plants the attained simple rate of return is 7–10 years for installations over 550 kW.

The MoIT also possessed other information on the significantly shorter payback period in actual projects (see Chapter IV of this audit conclusion). Feed-in tariffs and bonuses were not defined in a way ensuring that the support was as low as possible when the legal payback period of 15 years was achieved.

In the consulting process on the ERO decrees neither the MoIT nor any other department lodged comments concerning the way regulated prices are calculated and support is paid out for a period of more than 15 years.

Legislation and level of tax support for renewables

- **Act No. 586/1992**[23]

Act No. 586/1992 was amended on 12 November 2010, scrapping, with effect from 1.1.2011, the exemption from income tax for a period of five years after an installation is put into operation. The exemption had applied to all types of renewables. If, therefore, an installation was put into operation by the end of 2010, the exemption from income tax can be used until the end of 2015. It was in 2010 that the greatest photovoltaic capacity was installed.

The MoIT does not monitor (not even in collaboration with the Ministry of Finance) or does not have available data on the level of exemptions applied by the operators of these installations.

- **Act No. 338/1992**[24]

Section 9 (1) of Act No. 338/1992 exempts from real estate tax buildings used solely for the operation of renewables with the exception of solar energy. According to the MoIT, the level of these exemptions is not specifically monitored. In addition, buildings are exempted from real estate tax for a period of five years after their heating system is switched from solid fuel to a system using renewables - according to the MoIT, the level of this relief fell from CZK 51.5 million to CZK 28.9 million in the years 2010 to 2012.

[23] Act No. 586/1992, on income tax.
[24] Act No. 338/1992, on real estate tax.

IV. Investment grant programmes

Investment aid for the development of renewables is provided out of programmes using EU funds.

MoIT department

The Operational Programme *Enterprise and Innovation* is intended to support business, targeting small and medium-sized enterprises in particular. Investment aid is provided to renewables projects primarily from the following programmes:

Priority axis 3 - *Efficient energy*, **support area 3.1** *Energy savings and renewable energy sources* (*Eco-energy* **programme**) - this programme is the only part of the OPEI that is categorically and exclusively targeted at energy savings and the use of renewable and secondary sources of energy. Regarding renewables, the following indicators are monitored: the number of renewables projects, the increase in installed capacity and the target value of annual production of electricity and heat from renewables.

The MoIT issued three calls, in which conditions were clearly defined. The number of supported types of renewables was gradually reduced (in the last call only small hydropower station were supported). The MoIT never enabled support for wind turbines, and photovoltaic power plants never received any grants either. Under all calls, 171 renewables projects were approved, entailing a total grant of CZK 2,850 million. Most projects, 119 in total, concerned small hydropower plants; 37 biogas projects, 14 biomass combustion projects and one heat pump project were approved.

The MoIT outsourced the assessment role. The external assessor also drew up an expert study assessing the individual calls and an overall ex-ante assessment of the *Eco-energy* programme. Among other things, the expected installed electrical capacity under the projects was calculated at 115.95 MW and heat capacity at 143.51 MW; annual electricity production was 683.9 GWh and annual heat production was 2,349.7 TJ.

The vast majority of renewables projects receiving investment aid under the *Eco-energy* programme were also entitled to operating aid, which was greater than investment aid over an installation's lifetime. The investment aid itself therefore need not have been the decisive motivation for building a renewables plant. The reporting of indicators (installed capacity, annual electricity production) as the result of investment aid alone is distorted if it does not take into consideration the operating aid provided.

Table 1 shows that in the case of three selected hydropower stations with investment aid ranging from CZK 99.09 million to 250.00 million the grant applicants specified the real rate of return at 10.8–17.1 years. According to their calculations, with the grant the shortest real rate of return falls to 8.4 years. The operators will collect the feed-in tariffs used for the calculation for a period of 30 years with regular annual increases.

For three selected biogas plants with grants ranging from CZK 8.25 to 17.50 million the grant applicants calculated the real rate of return at 7.4–8.3 years. According to their calculations,

with a grant the shortest real rate of return falls to 5 years. The operators will collect the feed-in tariffs used for the calculation for 20 years.

For example, a small hydropower plant with an installed capacity of 4,000 kW will receive CZK 1,907 million in feed-in tariffs without index-linking over 30 years, according to the data specified in the application. The hydropower plant was put into operation in 2013 and the 2% index-linking means that its revenues will be almost double after 30 years at the same level of production.

Table 1 Payback period in selected projects receiving investment aid

Type of source	Installed capacity (kW)	Eligible costs (CZK)	Grant paid out (CZK)	Rate of return[25] (in years)			
				Simple		Real	
				Without grant	With grant	Without grant	With grant
Small hydropower plant	5,200.	850,000,000	250,000,000	13.5		17.1	
	2,800.	296,000,000	136,084,253	9.1		12.5	
	4,000.	403,127,000	99,089,112	8.6	7.0	10.8	8.4
Biogas plant	500	59,820,000	17,500,000			8.3	6.7
	526	55,000,000	9,900,000	6.5	4.6	7.4	5.0
	536	27,450,000	8,250,000	4.9	3.6		

Source: feasibility study regarding complete applications of individual projects. The empty table cells mean that these items were not stated in the materials. Information about the size of the grants paid out was provided by the MoIT.

Priority axis 2 - *Development of firms*, **support area 2.1** *Bank instruments for the support of small and medium-sized enterprises* (the *Progress* and *Guarantee* **programmes**) - projects under these programmes may include actions designed to save energy or to generate energy from renewables.

The priority axis 2 indicators are not substantive. Similarly, the calls under this axis feature no requirements linked to technical parameters or results in the sense of generating energy from renewables and energy savings.

The *Guarantee* programme mainly supported the construction of photovoltaic power stations (232 out of 244 renewables projects). All applications for photovoltaics were received in 2009 and 2010. Most projects were completed in 2010, which corresponds to the photovoltaics boom brought about by the exceptionally advantageous feed-in tariffs applicable to actions completed by the end of 2010. Guarantees worth CZK 4,085 million were issued for photovoltaic power stations.

Renewables were also supported in the form of credit under the *Progress* programme, mainly going towards photovoltaic installations (55 out of 62 renewables projects). Most photovoltaic installations were completed in 2010. The last application was received on 15.9.2010. Credit worth CZK 456.7 million was approved for photovoltaics projects, with drawdown at 97%.

[25] The calculation of the simple rate of return is based on the value of the investment and fixed prices over time. By contrast, the real rate of return makes allowance for the time value of money (inflation), sources of finances (interest on credit) etc.

While photovoltaics were excluded from the *Eco-energy* programme, no restrictions applied to the *Progress* and *Guarantee* programmes. The MoIT clearly focused this investment aid on photovoltaics and approved it at a time when it was preparing restrictions on the disproportionately high operating aid to photovoltaics. Given that investment in renewables were supported through guarantees and cheap credit and subsequently gained the advantage of regulated feed-in tariffs, investment and operating aid, including tax support, were cumulated for all photovoltaic power stations and other renewables.

MoE department

The aim of the Operational Programme *Environment* is the protection and improvement of the quality of the environment as a basic principle of sustainability. Investment aid targeted at renewables is provided out of the following parts of OPE:

Priority axis 3 - *Sustainable use of energy sources*, **support area 3.1** *Construction of new installations and reconstruction of existing installations* - the aim is to increase the use of renewables for heat and electricity production. The aid was intended for non-business entities, e.g. schools, old people's homes. One of the indicators was the increase of the capacity of renewables for electricity production.

In the period from 2010 to 2013, 426 projects were supported under priority axis 3; newly installed heat capacity amounted to 44.9 MW and newly installed electrical capacity amounted to 2.5 MW. The grants approved for these projects totalled CZK 2,158 million. This installed capacity makes it possible to generate 17.8 GWh of electricity and 306.0 TJ of heat. The grants were mainly intended to cover the replacement of traditional heat sources.

In the MoE department this in many cases involved combined projects where the grant also covers heat insulation work on buildings. It is therefore not possible to compare how much it cost in grants to install capacity or generate energy from renewables in projects funded out of priority axis 3 of the OPE and, for example, in projects under priority axis 3 of the OPEI.

Under the MoIT and MoA grant programmes it is mainly electricity receiving operating aid that is generated. By contrast, in the MoE department most of the generated energy was heat that did not receive operating aid.

Priority axis 2 - *Improving air quality and reducing emissions* may cover projects involving renewables. One of the ways to fulfil the objectives of this priority axis is to use innovative environmentally friendly energy production methods, including energy savings.

Priority axis 4 - *Improving waste management and eliminating old environmental hotspots* may also comprise supported energy sources. One of the specific objectives is: "making maximum use of waste as a replacement for primary natural sources".

Although renewables are mentioned in priority axes 2 and 4, the primary goal of projects under these axes is not support for renewables. Consequently, no assessment of the production of energy from renewables is performed for these priority axes.

MoA department

The aim of the *Rural Development Programme of the Czech Republic for 2007–2013* is to contribute to rural development in the Czech Republic on the basis of sustainable development, to improve the state of the environment and to reduce the negative impacts of intensive farming. Some parts of the RDP target investment aid for the construction of installations generating energy from renewables.

These are measures **III.1.1** *Diversification of non-agricultural activities* and **III.1.2** *Support for business creation and development*. Both measures comprise two objectives related to the construction and modernisation of biogas plants and the construction and modernisation of biomass boiler rooms and heating stations, including the combined production of electricity and heat. Under both measures projects with grants totalling approx. CZK 3,171 million were approved in the years 2007–2013.

In connection with renewables, the following two indicators were defined under the objectives: "*number of projects for biomass stations*" and "*total volume of generated electricity*". Certain indicators were significantly altered during the implementation of the RDP, e.g. the number of new jobs was reduced from 6,000 to 380. There was no major change to the indicators linked to renewables from the original version from 2007 to the final version from 2013. The target for the 2007–2013 period for both measures were set at 169 supported biogas station projects and 674 GWh in total volume of electricity generated (without any defined time limit).

In reality, investment aid was given to the construction and modernisation of 172 biogas stations in total from 2007 to 2013. As of 31.12.2013, these biogas stations had produced 2,298 GWh of electricity – this is therefore not annual production as a parameter for comparing with other grant programmes. At the same time, an installed electrical capacity of approx. 99 MW was achieved and an installed heat capacity of approx. 120 MW. Electricity production in these biogas stations will receive operating aid of the same amount for 20 years if the actions were completed by the end of 2013.

43% of the supported biogas stations only generated electricity, making no use of the heat. When submitting an application for renewable energy, the applicant has to present data on installed electrical or heat capacity and information about the project's future use. Once the project has been completed, however, no information and documents proving that the purpose and conditions of the use of the installation have been upheld or data about the actual production and use of electricity and heat are demanded.

V. Summary

The *State Energy Concept* has applied since 2004. The MoIT regularly updates it, but the Czech government has not approved any change to this Concept.

The **legislative rules on support for renewables** are set out clearly in the timeline in Annex 1 to this audit conclusion.

The financial summary of economic support for renewables is composed of the following parts:

- **Operating aid for electricity production and its economic consequences**

Table 2 enumerates operating aid provided in the form of feed-in tariffs and green bonuses, which the ERO sets in price decisions. The support comes from levies on consumers and state budget subsidies. There is also a solar radiation levy that is a state budget revenue. The table does not include among costs a sum of CZK 2.5 billion that may be spent in 2014 in reimbursements to importers of electricity generated from renewables (see the info-box in the section *Decision of the European Commission in the Matter of Support for Electricity Production* in Chapter III).

Table 2 – Financial data for calculating the feed-in tariff for electricity from renewables and the levy on electricity from solar radiation

	2011	2012	2013	2014
Costs factored into the calculation of the tariff for supported sources (CZK	**32.15**	**35.71**	**44.44**	**44.42**
Subsidies for covering costs associated with support for electricity from	11.70	11.70	11.60	16.46
Price for supported sources - levy on consumers (in CZK/MWh)	370	419	583	495
Sums collected in solar radiation levy	5.94	6.40	5.82	1.12*

Source: data provided by the ERO (table: "Planned costs factored into the calculation of the price for supported sources"), report on the work of the tax and customs administration of the Czech Republic, Ministry of Finance.

* Sum collected up to 31.7.2014; this is 53.5% of the approved budget.

In the subsequent years costs will not follow a falling trend - until the year 2030 at least most entities will continue to collect the same level of operating aid per generated unit of electricity as in 2013 and 2014. The nominal level of costs will grow, partly because of index-linking, which has been set at 2% per year since February 2012. Total costs will be reduced by the solar radiation levy, which currently amounts to approx. CZK 2 billion per year. Based on these assumptions it is a reasonable estimate that the total costs of the supported sources of electricity will exceed a trillion Czech koruna by 2030. The total of these costs was almost CZK 157 billion in the 2011–2014 period.

Table 3 shows how feed-in tariffs for selected types of renewables developed. The feed-in tariff bracket for some sources is the result of its structuring in categories, e.g. by generating plant capacity. The feed-in tariffs will be paid out at the same level to operators throughout the installation's lifetime.

Table 3 – Feed-in tariffs for installations that received building approval in the years 2010–2014 (CZK/MWh)

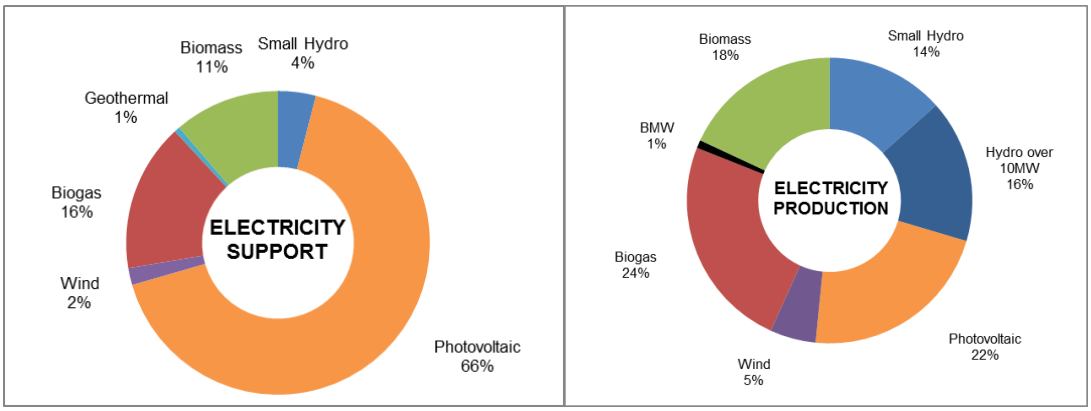
Feed-in tariffs according to ERO price decision					
Year of building	**Photovoltaic**	**Small hydro**	**Biomass**	**Biogas**	**Wind**
2010	13,161 – 13,265	3,257	2,630 – 4,580	–	2,425
2011	5,837 – 7,959	3,184	2,630 – 4,581	4,120.	2,373
2012	6 410	3,319	2,630 – 4,582	3,550.	2,321
2013	2,479 – 3,478	3,295	2,060 – 3,730	3,550 – 3,040	2,162
2014	–	3,230	1,310 – 3,335	–	2,014

Source: ERO price decisions, available at: http://www.eru.cz/user_data/files/ERV/2013/ERV7_2013titul_konec_fi.pdf.

NB: From 2012 there was a reduction in capacities that could receive operating aid, especially in the case of photovoltaic installations.

Graph 7 shows that the operating aid for electricity production from renewables is not proportionate to the generated quantity of electricity. This disproportion is most pronounced in the case of photovoltaics.

Graph 7 – Support for and production of electricity from renewables in 2013



Source: data provided by the ERO (table: "Planned costs factored into the calculation of the price for supported sources"), *Annual Report on the Operation of the Electricity Supply System of the Czech Republic* for 2013.

- **Investment aid for the construction of renewables installations**

The audited operational programmes financed mainly out of EU funds were designed for the 2007–2013 period; finances can be drawn down until the end of 2015. The MoIT, MoE and MoA departments supported projects involving renewables under these programmes as well. In total, investment aid worth CZK 7,971 million was approved by these departments for projects involving renewables. In addition, renewables were supported by loans amounting to CZK 457 million and guarantees worth CZK 4,315 million for commercial loans were assumed.

These amounts should be seen as indicative in relation to renewables, partly because the grant programmes and individual projects often combined support for renewables with energy savings. On top of that, renewables were also supported out of grant programmes with a broader focus, e.g. supporting the founding of businesses, supporting small and medium-sized enterprise and improving waste management. Under such circumstances,

constantly monitoring the amount of approved and drawn down finances specifically for renewables is not a priority for the departments.

In the MoIT and MoE departments in particular, investment aid is intended for the construction of installations whose operators will subsequently claim operating aid for the produced energy.

- **Tax support for renewables**

The exemption from tax on incomes linked to renewables can be applied up to the end of 2015 at the latest. There is no central monitoring of the exemption amounts claimed by the operators of the installations in question. The value of the exemption can be neither enumerated nor estimated, according to the MoIT.

Buildings used solely for the operation of selected renewables are exempted from real estate tax. In this case too, the amount of money involved in this tax relief is not specifically monitored. In addition, buildings where the heating system has been switched from solid fuels to renewables are also exempted from real estate tax. Unlike the others, this tax relief is monitored, but it is relatively insignificant in the context of the total support provided to renewables (amounting to less than 1‰ of operating aid).

VI. Assessment

1. Why and how are renewables supported in the Czech Republic?

The EU set renewables targets for member states. The 2010 indicative target for the Czech Republic was 8% of electricity consumption to be accounted for by renewables. Another target, defined as mandatory, was set: 13% of energy consumption to be accounted for by renewables in 2020. Increasing the share of renewables is also part of the government energy strategies of the Czech Republic.

Support for renewables in the Czech Republic consists of operating aid for the produced energy (levies on consumers and state budget subsidies), investment aid (programmes using EU funds) and tax support.

2. Was the set target achieved, and was it achieved economically?

The indicative target for 2010 was achieved. The provision of support for renewables was uneconomical – the defined tasks were not performed at the lowest possible cost. The target was achieved at the cost of a disproportionate burden on the economy – the majority of the operating aid is paid for by electricity consumers.

3. What was the basic reason for the lack of economy?

The basic reason was the application of the principle of blanket support – even the most expensive renewables were supported. For example, in 2013 photovoltaics, one of the most

expensive sources, accounted for approximately 66% of the cost of operating aid provided to all renewables. Photovoltaic power stations produced just approx. 22% of the electricity generated from renewables in that year, however. This can also be qualified as inefficient. The blanket support for renewables was already criticised in audit no. 08/38 completed in 2009.

4. Did the development correspond to the elaborated concepts?

The undesirable development was caused by the disproportionately high operating aid provided to photovoltaic power stations completed up to 2010. It was the consequence of ill-judged conditions defined in the act on the promotion of the production of electricity from renewable sources of energy[16], which resulted in photovoltaic installations having a payback period of around 7 years – the shortest of all renewables types.

5. Were the appropriate steps taken right away?

The responsible authorities did not move quickly enough to amend the act on the promotion of the production of electricity from renewable sources of energy[16], even though the negative impact of the provision of the original wording of the act making it impossible to reduce the feed-in tariff by more than 5% from year to year had already been registered. This led to serious and long-term impacts on the country's economy.

The energy sector has undergone significant changes since 2004, yet the *State Energy Concept* approved by the government in 2004 still applies.

6. Do any other causes of the high cost of supporting renewables persist?

Regulated feed-in tariffs for electricity from renewables will be paid out at the same level for 20 or even 30 years irrespective of the fact that the actually achieved rate of return on investments is substantially lower than the 15-year limit specified by law. This state of affairs is the result of the implementing regulations issued by the ERO under authority granted by law.

7. What is the total cost of supporting energy produced from renewables?

In the years from 2007 to 2013 the MoIT, MoE and MoA departments approved investment aid in the form of grants for projects involving renewables amounting to CZK 7,971 million and investments were supported with loans (CZK 457 million) and guarantees (CZK 4,315 million).

The ERO put the cost of operating aid for the production of electricity from renewables in 2013 at more than CZK 44 billion. This amount will grow every year, partly because of regular annual index-linking, and will be paid out for a period of 20 or 30 years depending on the type of renewable energy source. Consequently, the total cost of operating aid for renewables should be expected to exceed a trillion Czech koruna. Most of that is paid by consumers in the form of a surcharge on consumed electricity; in 2013, for example, that amounted to CZK 32.84 billion. A smaller share is borne by the state budget; the amount

budgeted in the same year was CZK 11.60 billion. The amount of tax support provided to renewables is not monitored; the total support for renewables can therefore be neither enumerated nor estimated, according to the MoIT.

8. Were measures taken to reduce the cost of promoting renewables?

After 2010, operating support for photovoltaic power stations was gradually wound down and then completely stopped for installations completed after 2013. Operating aid for other renewables is being limited in an equivalent manner. However, the conditions applying to the supported installations remain the same throughout the support period. The exemption from income tax on renewables operations has been abolished since 2011, but the exemption scheme still has to run its course for installations completed in 2009 and 2010.

To offset part of the cost of supporting photovoltaics, a levy on solar sources of electricity production was introduced by law from 2011. From 2011 to 2013, this levy brought in around CZK 6 billion per year; the planned yield from 2014 on amounts to approx. CZK 2 billion.

9. Does the reduction in support endanger the achievement of the set target?

According to policy documents, achieving and exceeding the mandatory target for 2020 of 13% of consumption of energy being accounted for by renewables is realistic, even under the conditions of a legal restriction of support for new installations.

10. Was investment aid, which remains a motivational tool for the construction of new renewables installations, used effectively and efficiently?

In some cases the cumulation of investment aid and operating aid significantly shortened an already short payback period. Investment aid was not provided efficiently in the MoIT department – investment aid was provided to photovoltaics even when attempts were being made to limit the growth in the photovoltaics segment. In a large proportion of biogas plants within the MoA department the installations' energy is not used efficiently – the produced heat is not put to commercial use.

11. Were suitable indicators defined for investment aid?

Indicators focusing on installed capacity and produced energy were defined in programmes which are financed mainly out of EU funds and under which investment aid is provided. The development of these indicators is monitored in individual projects and for programmes as a whole. Comparing the results of the grant programmes is made difficult by their different focuses.

If the defined indicators like increasing installed capacity or generating electricity from renewables are reported solely as a consequence of investment aid, they do not tell the whole story because electricity production can also claim much higher operating aid. Under these circumstances, the used performance indicators and the undertaken assessment of

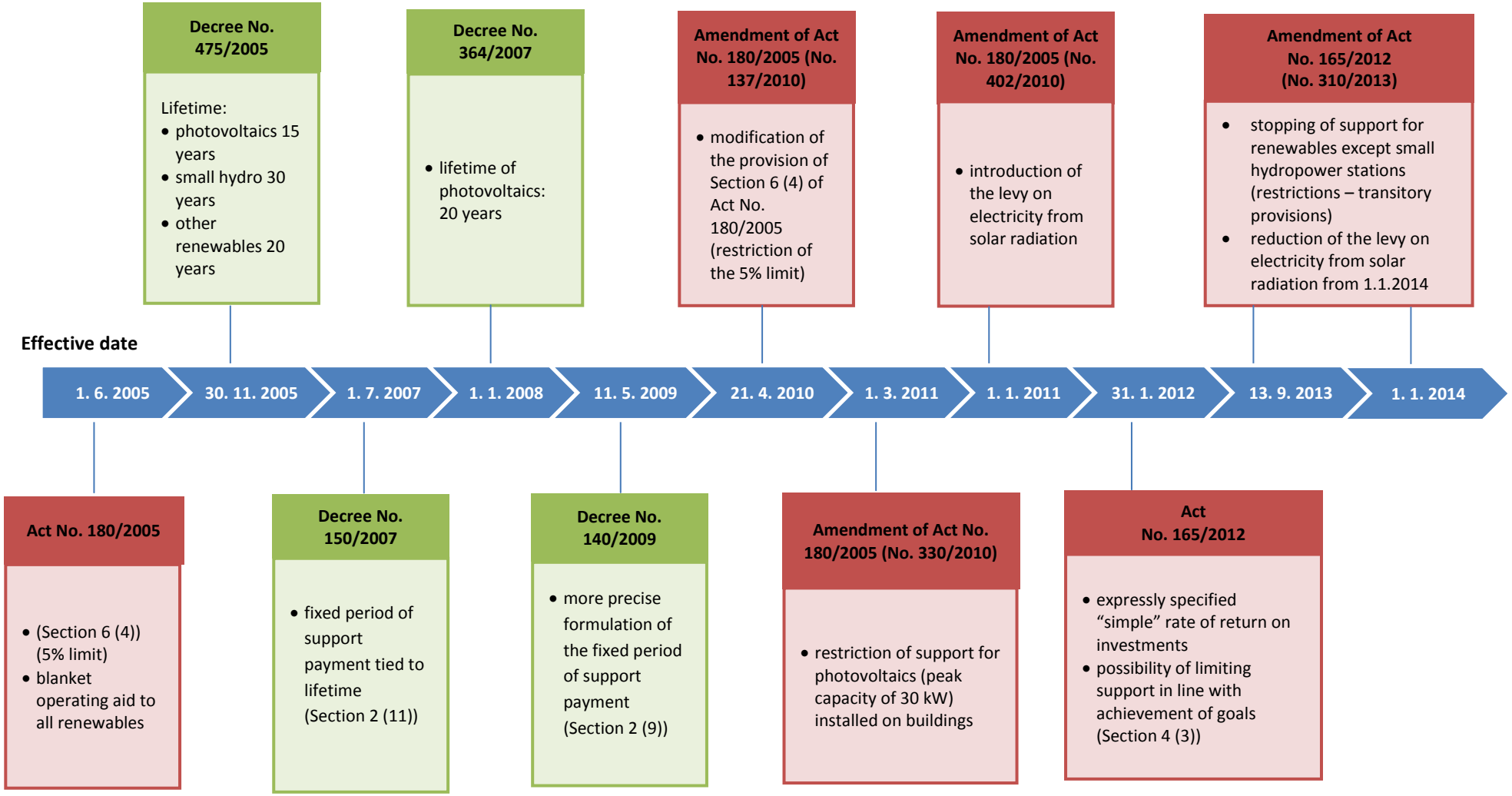
cost effectiveness do not make it possible to make an objective assessment of the extent to which EU finances contribute to achieving the set renewables targets.

12. How does the Czech Republic compare to other EU member states?

Like other European countries, the Czech Republic increased its production of electricity from renewables between 2009 and 2012. Extreme growth is evident in photovoltaics: while 89 GWh of electricity was generated from renewables in 2009, in 2012 the figure was 2,149 GWh, an increase of 2,320%. Such growth is inordinate compared to other EU member states.

Annex 1

Timeline showing the development of the legislation linked to renewables support



Annex 2

List of abbreviations

BGP	Biogas plant
BMW	Biodegradable municipal waste
EP	European Parliament
ERO	Energy Regulatory Office
EU	European Union
MoA	Ministry of Agriculture
MoE	Ministry of the Environment
MoIT	Ministry of Industry and Trade
OPE	Operational Programme Environment
OPEI	Operational Programme Enterprise and Innovation
SAO	Supreme Audit Office