

Czech Green Investment Scheme Project (GIS)

Environmental Management Framework

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1 Project Context

Background. Under the Kyoto Protocol, industrialized countries have committed to reduce their greenhouse gas (GHG) emissions during 2008–12. Emission reduction commitments are defined as a cap on the volume of GHGs that can be emitted, and are quantified by Assigned Amount Units (AAUs)¹ allocated to each participating industrial country and economies in transition (EIT). While many of the EU-15, Japan and other industrialized countries are facing challenges in meeting their Kyoto commitments, a number of EITs, including the Czech Republic, are expected to be left with significant surplus AAUs after meeting their Kyoto commitments. This presents trading opportunities under Article 17 of the Kyoto Protocol (Emissions Trading).

Some countries (e.g., Italy, Spain, Japan) have confirmed their interest in acquiring AAUs. These potential buyers have also indicated that support from their domestic constituencies for buying surplus AAUs could be secured only if the proceeds from AAU transactions are used for projects or programs that reduce GHG emissions or have other tangible environmental benefits. Some EITs have proposed establishing a 'Green Investment Scheme' (GIS) to satisfy potential buyers' concerns that AAU proceeds be channeled to prior-identified projects and programs that yield environmental benefits.

Under the Kyoto Protocol, the Czech Republic is entitled to emit a total of 900 million tons of GHG during the period 2008-2012. The country could sell around 100 million Assigned Amount Units (AAUs). The GIS developed by the Czech Ministry of the Environment in cooperation with the State Environment Fund will link AAUs with specific programs/projects. The GIS program reflects government priorities, relating primarily to energy savings in the residential housing sector. The proposed measures that will be supported by the GIS will cover those national priorities in increased energy efficiency and environmental protection for which applicants cannot presently obtain support from the EU Structural Funds and that presently cannot be sufficiently funded from national resources.

The World Bank Carbon Fund as a trustee of several buyers intends to buy a portion of these AAUs from the Czech Republic. This document outlines environmental due diligence aspects that will be applied to the GIS transaction between the Czech Republic and the World Bank.

GIS objective. The main objectives of the proposed Project are to reduce CO₂ emissions and emissions of air pollutants, to increase the use of renewable energy sources and to improve energy efficiency in the residential sector of the Czech Republic.

Relevant project activities. The proposed areas of support primarily include energy saving and energy efficiency investments in the country's housing sector. Subsidies would be provided to owners for the implementation of the following activities.

- a) Heat insulation of family and apartment buildings;
- b) Improving energy efficiency by replacing existing heating equipment with more efficient equipment;
- c) Switch to more environmentally friendly fuels (e.g. switch from coal to renewable sources);
- d) Support for reconstruction of family houses and apartment buildings to meet new passive (high thermal insulation) building standards;
- e) Installation of low-emission biomass furnaces; and,
- f) Installation of solar thermal collectors in family houses and apartment buildings.

¹ One AAU equals one ton of CO₂ equivalent.

It should be pointed out that the main **relevant project activities** will include routine construction works in the housing sector, generally on a small scale, which take place in CZ at any given time in large numbers. The project activities will not change, influence or deviate from established sector practice, except in supporting measures resulting in better quality, more sustainable and climate-smart buildings.

Location. The project will be implemented countrywide in the Czech Republic based on demand for proposed activities, both in urban and rural areas.

Project category. According to the World Bank's OP/BP/GP 4.01 *Environmental Assessment*, the CZ GIS is classified as "FI" Category, which applies to all proposed projects that involve investment of Bank funds through a financial intermediary (FI). Commonly the specific environmental impacts of the subprojects cannot be determined before appraisal of the project. Thus the Bank requires that each proposed subproject is screened for its environmental impacts and that the appropriate environmental assessment and management instruments are produced and implemented. The overall due diligence process in an FI project is usually governed by an environmental management framework (EMF), which sets out environmental screening and eligibility criteria, and clearly defines the environmental (and social) due diligence process to be followed. It specifies which studies and reports need to be produced during the preparation of a given subproject, and which environmental management measures must be followed during implementation.

Czech Regulatory and World Bank frameworks for EA. As an EU member, Czech Republic has diligent regulations for environmental assessment and management in place, which may be considered international good practice. Clear and comprehensive environmental legal instruments and technical standards are available which will be applied for the GIS implementation. There are discrepancies between EU and WB approach to EA, however: the threshold for potential environmental impacts requiring environmental investigations, assessments and management plans is distinctly higher under EU legislation than under World Bank safeguards policies. For instance for simple residential construction projects², such as family homes or even multi-party residential buildings, or reconstructions Czech legislation does not require a freestanding EA or a separate project EMP.

Under the Czech, EU-aligned legislation, nevertheless, environmental due diligence is still sufficiently mainstreamed into the project. A description of the general Czech environmental assessment (EA) procedure is summarized as Annex 1.

During the design process the project developer is obliged to consult with neighbours and other affected people and submit the proof of their consent together with the application for the construction permit (CP). The CP will also contains references to legislation on basic quality and due diligence provisions which, under a project conducted according to Bank procedures, would be included in the EMP: noise and emissions, waste management incl. asbestos, workplace health and safety, traffic and pedestrian safety, water and groundwater protection as well as the protection of fauna, flora and soil. If warranted the CP also contains provisions for the protection of PCR (physical cultural heritage). Information on chance find procedures and in case of detection of valuable natural resources (incl. rare or protected species) is included in the CP if warranted by the project location. Before the CP is issued the investor has to obtain a location permit (LP) which ascertains the suitability of the construction site and planned construction for the specific site, under the particular type of zone of the respective spatial plan. Once the LP is issued the investor usually produces the detailed design, which is the basis for CP application or notification.

Although the CP is in principle not an environmental instrument as its purpose is to enforce Czech construction law. Its provisions address construction quality and sustainability, as well as environmental

² There will be no new constructions projects financed under the project

good practice, but do not contain specific guidance to the Contractor. The circulation of the CP for approval of all relevant regulatory authorities, including environmental protection agencies, ensures that specific environmental issues beyond routine practice are detected and included in the CP as specific conditions and obligations. With accepting the construction contract the Contractor accepts to comply with all relevant Czech legislation governing construction implementation, including workplace health and safety, waste and wastewater management and emission control etc, as well with any annexed special provisions. The same principles apply to Location Permits (LP) and for minor works by the project owner, which are announced to the authorities via a notification by the project owner. The contents of a typical Czech CP as well as the notification (which's contents are largely overlapping) are provided in Annex 2.

One practical difference to a project conducted under WB operational standards is that not all of the above listed provisions need to be specifically listed in the CP, but many are contained in laws, regulations and implementation guidelines for construction conduct, water and waste, which routinely apply to all construction activities (see Annex 5). These issues usually are specifically addressed in CPs if a project has known issues of contaminations or the presence of hazardous materials (e.g. due to its location on a brownfield site).

Potential environmental impacts. Investments in energy efficiency in the country's housing sector are not expected to cause significant adverse environmental and social impacts. They are expected to have a net positive effect due to the incremental reduction of greenhouse gas emissions. Less energy-efficient houses will be replaced with more efficient ones and part of the new housing construction in CZ will be more energy efficient than the baseline. As the investments would decrease consumption of fossil fuels (brown coal and natural gas), there will be reduction of emissions of other pollutants like PM10, SOx and NOx from small combustion sources as permanent and cumulative positive impact. Local ambient air quality becomes a serious problem in many municipalities and areas and the GIS Program will contribute to the better local air quality. Potential adverse environmental impacts are summarized as follows:

- a) Dust and noise due to construction;
- b) Generation of construction wastes, accidental spillage of machine oil, lubricants, etc;
- c) Pollution and/or changes of hydrological regime of the ground waters due to the impacts of heat pumps operating within deep strata of ground water (see Annex 5);
- d) Biomass installations might cause local pressures on biomass sources as the markets with fuel wood are partially local.

These impacts are minor and easily manageable during project implementation.

Environmental Due Diligence Process. Based on the Bank OP 4.01, the project's operational principles for environmental due diligence are laid out in the EMF (environmental management framework). This document defines the general nature of project impacts, how sub-projects are screened and classified according to their potential environmental and social impacts, which mitigation measures are generally available, and how environmental and social management procedures will practically be mainstreamed into each individual subproject. Due to the large overlap between the practical due diligence activities prescribed by CZ legislation and the World Bank's environmental safeguards policies, it was advocated to proceed with EMF implementation by means of the established Czech systems and instruments in lieu of specific World Bank instruments. The proposed scheme is outlined below:

A Baseline Information: Environment Management Framework. This document outlines environmental and social assessment procedures and mitigation requirements for the subprojects which will be supported by the GIS. It provides details on procedures, criteria and responsibilities for subproject

screening, preparing, implementing and monitoring of subproject specific EIAs. The document also includes Environmental Guidelines for proposed subprojects, containing an assessment of potential impacts and generic mitigation measures to be undertaken for identified subprojects in all stages - from identification and selection, through the design and implementation phase, to the monitoring and evaluation of results.

B: Identification of Required Action: Screening: All of the subprojects applying for support by CZ GIS will be screened by SEF with selected review by the Bank team (focusing on investment types with more significant environmental impacts, e.g. drillings or large apartment buildings) to identify subproject specific (i) environmental/social baseline situation, (ii) severity impacts, (iii) availability and required effort for mitigation measures. The expected applicable World Bank safeguards categories and typical subproject examples are described here:

Category C: Subprojects involving simple reconstruction activities, such as thermo-insulation, solar panels, installing new boilers, replacement of windows, doors, etc, will in most cases be qualified as Category C. All of these subproject types would include generic avoidance instructions mostly related to good construction and reconstruction practices, which are commonly covered by the respective construction permit (CP) or notification document by references to the applicable standards and regulations. Any new construction involving the conversion of “green” land will be excluded from financing under GIS.

Category B would be attributed mostly to larger scale reconstruction, renovation and upgradingsubprojects of more significant scale (e.g. up to multi-apartment complexes) in which construction waste, potentially including hazardous construction waste (e.g. asbestos) may be generated, as well as any construction activities in fringe zones of or near protected areas (low protection level of PA). This category would be covered under CZ regulatory framework by a standard set of environmental procedures and requirements which have been reviewed by the Bank team and found acceptable in lieu of an EMP (see Table in Annex 3 for detailed explanation). Category B would also include the execution of boreholes for installation of thermal pumps (which could have impacts on aquifers) as well as the installation of biomass boilers (for which the sourcing of fuel could cause relevant environmental impacts).

Category A type projects will not be included in the GIS portfolio (examples could be large scale housing estates or constructions in nature protection zones). In the range of project types none has the potential for significant adverse environmental impacts that are sensitive, diverse, or unprecedented. Also the impacts are very unlikely to affect an area broader than the sites or facilities subject to physical works.

C: Project Specific Environmental Assessment Process. The purpose of the Environmental Assessment (EA) is to identify the specific environmental impacts of individual subprojects (both positive and negative) and design measures to prevent, minimize, mitigate or offset adverse impacts.

- a) For Category C subprojects no specific environmental documentation is required. Environmental compliance is governed by appropriate provisions under CZ legislation which is mainstreamed into the approval process (mostly by simple notification for these Cat C type projects).
- b) The safeguards documentation for Category B subprojects will be covered by the location and construction permits. These are issued upon an application or notification to the Construction Office³ after being reviewed, commented and approved by all relevant authorities and regulators (e.g. water authority, fire dept, environmental authority, public utilities, waste

³ In case of construction of family house, with ground floor area of less than 150 m²; and with less than one underground floor up to 3 m depth; and not more than 2 above ground floors plus attic, it is not necessary to apply for construction permit. In such case it is however necessary to notify Construction Office. As with the application for a CP the notification should contain complete technical design and project documentation. The construction office upon receiving and processing a notification (within 30 days) issues the CP which essentially contains the same provisions as a CP issued upon an application.

authority etc.). The LP is issued before the detailed design process begins and confirms the suitability of the chosen site for the specific construction project. The CP is issued once the detailed design is completed and submitted with the application (or notification for small projects) and contains (i) site-specific information including environmental conditions and the foreseen environmental impacts and (ii) references to all relevant regulations as well as the technical standards for implementation. This approach is used throughout the EU and provides good operational practice for construction works, e.g. control of emissions (e.g. dust, noise, and exhaust fumes), wastewater discharge and solid waste management on the construction site, as well as measures to avoid adverse effects on biodiversity and ecosystems. These documents also provide guidance on avoiding the use of hazardous substances, such as toxic paints, solvents or cleaning agents.

D: Review, Monitoring, Evaluation . Under the monitoring procedures agreed for CZ GIS a general ex-post verification review of 5% of all project types is planned, which involves a compliance review with the technical conditions and parameters required by SEF and a verification of the project results on site. An environmental review will be added on for relevant project types which are (i) heat pumps with drillings, (ii) large apartment buildings (> 36 apartments). For these projects the environmental review will check that all required permits have been duly obtained and that project implementation followed the permitted parameters. The actual monitoring procedure is expected to be simple, mostly relying on visual information and routine construction site records. Aside from the physical aspects verified during site visits, it will be ascertained that the construction permits and / or water permits for the projects have been duly issued and followed. This will be facilitated by the CZ construction code which requires the issuance of a completion certificate, which is required to commence using the built structure. The certificate is only issued if all conditions of the LP and CP have been adequately fulfilled.

In addition to the described ex-post reviews, for sub-project types involving water to soil or water to water heat pumps, which require drilling works for installation, ex-ante reviews will be carried out for a sample of 20 projects. This ex-ante review will be executed on a running basis for applications received by SEF. The review will focus on the diligence of planning and proper permitting, in particular (i) construction permit for the drilling obtained, (ii) hydrogeological expertise produced and included in CP, (iii) water permit obtained for groundwater use.

E: Consultations are generally governed by various parts of Czech construction regulation and carried out on a routine basis for every construction project of significant scale. Where individual family homes are concerned a notification of the planned works to the neighbours is compulsory and proof of consent of affected neighbours must be attached to the CP application or notification. In further course the Construction Authority informs the neighbours of the planned project and solicits their opinion. The same applies to larger, e.g. apartment buildings.

2 Comparison of Czech Regulatory System and WB Environmental Safeguards Policies

The World Bank's environmental due diligence system under OP4.01 and the Czech environmental management system (which is harmonized with the relevant EU directives) are closely aligned, thus under the CZ GIS project the two systems will be treated as compatible and environmental due diligence instruments will be produced and applied following the Czech system. This section of the EMF analyzes the functionality of the Czech system and explains how environmental due diligence as required by OP4.01 will be implemented in the project using Czech instruments. The Czech Republic's relevant regulatory system can be examined with respect to World Bank Safeguard Policies and due diligence requirements in two dimensions:

1. The compatibility of the CZ legal and regulatory systems and institutional frameworks in their scope, structure and specificity, with the World Bank's respective OPs and deriving safeguards instruments
2. The proper application of the regulatory systems in an acceptably diligent manner, i.e. Government / administration are actually adhering to their laws and implementing them thoroughly, consistently and in the spirit of the underlying principle of protecting the environment as well as the interests of affected stakeholders.

This section deals with the first step, the **regulatory systems assessment**.

The Czech Republic has been a member of the EU since 2004 and its environmental laws are harmonized with EU Directives. However, the project context described in Section 1 and the systems comparison presented in Annexes 3 and 4 indicates that there are discrepancies between EU/CZ legislation and regulations, and the World Bank's environmental operational policies (especially OP 4.01). This applies in particular to new construction activities, which are small enough not to fall into either Annex 1 or 2 of the EU's environmental assessment directive (97/11/EC). In the project context the rehabilitation or reconstruction of houses and apartment building complexes would not necessarily require an EIA under CZ law (which is aligned with EU directives and resulting regulations and technical implementation guidelines), while under OP4.01 such projects would be assigned the environmental assessment category B and would hence require a partial EIA and an EMP.

The project team believes that the CZ regulatory systems effectively provide the same results in terms of environmental due diligence, even if through slightly different instruments. Thus the team supports relying on CZ country systems in case of the CZ GIS pointing out the following arguments:

- The theme and contents of the CZ GIS project are well defined as mostly small scale, routine reconstruction works which differs from the baseline only by enhanced energy efficiency of the resulting buildings.
- Expectable environmental impacts are expected to be consistently low.
- CZ and EU legislation are aligned with, and in some respects defining international good practice.

- Environmental site management and mitigation measures, for which the Bank would require an EMP to be produced for each individual site, is comprehensively covered by various legislation (construction code, waste, water, nature protection laws; see Annex 5) and formalized for each project in the location permit (LP)⁴ and construction permit (CP) (see example in Annex 2).
- The responsibility for compliance monitoring of the construction site and the correct implementation of the requirements set out in the location and use permits, is allocated to the Construction Office, which usually belongs to the municipal administration. In case environmental incidents are reported from the site or complaints received the Environmental Inspectorate checks the project site, as well as routinely in cases where there is a known potential for environmental problems, e.g. hazardous substances or contaminated soils⁵.
- *Drillings for the installation of thermal pumps*, which could interfere with sensitive aquifers, are regulated by the Water Act in addition to Construction Act, or alternatively by the Mining Law, if the drillings are labeled as “exploratory” boreholes. In any case, the operation of thermal pumps requires water use permits. During the permitting process the Water Authority determines if the drilling site is located in an area of enhanced groundwater sensitivity (e.g. aquifer used as drinking water or with ecological importance, e.g. by being connected to wetlands). Such areas are mapped and known to the water authorities in CZ. If warranted by the sensitivity of the location and the type and magnitude of the planned intervention (number, depth and diameter of boreholes, amount of extraction, if any) a hydrogeological expertise is required before any drilling may commence. In any case the drilling works for the installation of thermal pumps must be carried out under supervision of authorized hydro-geologist and only by accredited drilling Contractors.

A joint assessment was carried out by the Project Proponent and the World Bank’s project team of how environmental procedures under Czech law and those required by the Bank compare, particularly for activities involving civil works (see Annexes 3 and 4), the installation of wells for thermal pumps and of biomass boilers. The assessment shows that in terms of (i) identification of impacts, determination of safeguards category and instruments; (ii) development of safeguards instruments; and (iii) implementation and monitoring of safeguards instruments, environmental safeguards requirements as set out in Czech law incorporate all critical components and can therefore effectively substitute World Bank safeguards instruments in the context of the CZ GIS project.

A detailed, project specific assessment of the regulatory system can be found in Annex 4, where these factors have been tested for the specific project context for the operational principles under OP4.01. This assessment was carried out by a World Bank team during project preparation using OP4.00, Table 1, for Section A (Environmental Assessment) as a guiding principle. The results of this assessment are presented in Annex 4 for those operational principles which are applicable in the context of the CZ GIS project.

⁴ During the construction authorization process the construction authority verifies that the project is compatible with the municipality’s spatial plan (by now all Czech municipalities have produced and are implementing spatial plans). Issuing the LP confirms the compatibility of the project with the provisions of the specific zone of the municipal spatial plan.

⁵ The Environmental Inspectorates belong to the Ministry of the Environment and are independent from municipalities. They are normally and regularly inspecting large polluters (industry, landfills etc.), not e.g. minor construction of family houses. Such small-scale environment protection is fully under competence of municipalities. Only reported accidents (e.g. fuels spills, fish poisoning, illegal waste deposition etc.) are inspected by the Environmental Inspectorates.

3 Implementation of Mitigation Measures

The objective of this section is to provide information on how laws and regulations pertaining to environmental management in CZ are actually implemented to mitigate the environmental and social risks from the project, specifically if their effectiveness compares favorably to an environmental management system which would be governed by instruments developed under the World Bank's OP4.01, in the context of the CZ GIS project. The main methodological approach was to review and analyze the formal instruments used in CZ for licensing and supervising the activities expected under the project and find information on their implementation practice.

- One specific topic relates to diligent environmental management for small scale construction (relating to waste, wastewater, emissions, noise, landscape, soils and nature conservation), for drillings related to thermal pumps and for the installation of biomass-based heating systems. For these activities under GIS the CZ systems are tested in terms of resulting in acceptable environmental performance.
- The second specific topic covers the possibilities of affected stakeholders to participate in and influence decisions connected to the CZ GIS project, and the analysis and inclusion of interests of affected stakeholders.

The results of the assessment are as follows:

Topic 1: Diligent environmental management during construction activities, drilling for thermal pumps and installation of biomass boilers

Environmental management instruments: A joint assessment carried out by SEF and World Bank and supported by Czech experts showed that construction permit (CP) and location permit (LP) contain a clear set of rules and constraints regarding environmental management. The standard content of a CP as well as the link to the Czech website, where the document is downloadable, is provided in Annex 2.

Construction Permits (CP) and Location Permits (LP) produced under the CZ system for construction oversight contain information on environmental risks and mitigation measures which is very similar or analogous to the contents of an EMP for this type of project activity produced under World Bank guidelines. Thus, these permits are in the context of CZ GIS accepted in lieu of stand-alone EMPs for the purpose of compliance with the Bank's requirements. The main environmental management issues during construction are (i) noise and emissions, (ii) solid construction waste and wastewater, (iii) where required, protection of soil, flora and fauna, (iv) workplace health and safety.

Construction permits regulate the Contractor's behavior in these topics if serious environmental risks are identified during the application and approval process (e.g. if the site were in or near a protected area), else standard references are made to CZ legislation and implementing standards which have to be adhered to. Contractors in CZ commonly operate in a diligent manner and – due to strong oversight, public alertness and severe fines - usually closely conform to the stipulations of CPs. Additional inspections are only foreseen if there are special issues either known from the approval process, or arise during project implementation.

Evidence gathered to date, as well as testimonials by CZ experts gathered during project preparation indicate that in general construction practices in CZ are good; nevertheless a supervision team composed of SEF staff and World Bank specialists will monitor construction practice throughout implementation, including physical spot-checks of construction sites.

Installation of thermal pumps: Before any drilling may commence which may have effects of aquifers, a hydrogeological expertise is required and authorization for the works given by either water or mining authorities only after completion of the expertise. The drilling works for the installation of thermal pumps must be carried out under supervision of authorized hydro-geologist and only by accredited drilling Contractors. The above authorities both authorize and monitor all such drillings.

There is a potential risk of *putting strain on the market for biomass* (e.g. firewood) by creating excessive demand by installing multi-fuel burners under GIS, which theoretically could lead to negative environmental impacts, e.g. accelerated deforestation. While this risk cannot be entirely excluded a brief analysis suggests, that there are no constraints in the supply of firewood from sustainable sources. The following information was taken into consideration⁶:

Fuel wood supply: Although firewood has become increasingly more popular and prices have risen correspondingly over the past decade (also influenced by generally rising energy cost) there are no signs yet that firewood could be a determinant factor on the wood market. It has become a preferred fuel (as comparatively cheap and easily available) mainly in rural areas, while the disadvantages (transport, handling, storage) present an often dissuasive problem in urban areas. The total annual wood harvest in CZ is about 15 Mill tons/year. The amount of wood (usually low quality timber or waste wood) produced as fuel ranges from ca. 2 to 3 Mill tons/year. Firewood thus constitutes less than 20 % of the total market volume, and over the past decade this ratio has remained more or less constant. It is worth noting that both the total volume of wood stored in forests as well as the forested area have been increasing in CZ for the past decade, which is taken as indicator of a well implemented, sustainable forest management. 60-70% of forests in CZ are managed by a state owned company (Lesy České Republiky, s.p., LCR) and considered a carefully regulated national asset. LCR is certified under the Forestry Stewardship Council (FSC) under certificate code [SW-FM/COC-003312](#) and license number [FSC-C011928](#) (valid until 15 July 2013). Overall there are 54 certified companies in forestry and wood processing sectors in CZ, from state, communal and private sectors.

Fuel wood demand: Currently there are about 500,000 to 600,000 burners for solid fuel (mainly brown coal, fuel wood, other biomass) installed in private homes. From this total number, the wood and mixed fuel burners use a total of about 2-3 Mill tones of fuel wood annually. A typical household uses about 10 m³ (8 tons) of fuel wood per year. Under the GIS project a maximum of 40,000 subprojects involving biomass burners is expected, which would consume an annual total of about 0.4 Mill m³ (0.35 Mill tons) of wood, which would constitute about 10-15 % in addition to current consumption. From analysis of the GIS applications received so far, however, this number is like to be significantly lower. Wood fuel stems from various sources, mainly timber, logging waste (the branches left in the forests after the logs are removed), and sawmill waste. As example of the provenience mix, in 2003 2.9 Mill tons were burned, of which 1.0 Mill tons were purchased at market price as proper fuel wood, 0.9 Mill tons obtained free of charge (from various sources such as sawmill waste and chippings, dead wood collection) and 1.0 Mill tons obtained via paid self-collection (own transport and work in forest, permission/contract with owner).

Potential impact of GIS on fuel demand: In comparison to the total annual wood harvest, the total number of existing solid fuel burners, and the fuel wood market volume, the additional demands created by the GIS project are moderate. (in the range of 10-15 % of existing volumes). Thus deforestation is unlikely to be caused by the impact of the GIS project supports activities on the fuel market. In addition CZ has stringent forestry regulations which are, and have a long track record of being well enforced (see e.g. <http://www.fao.org/DOCREP/ARTICLE/WFC/XII/0715-C2.HTM>).

⁶ information sources include the www, the CZ Ministry for Industry and Trade, and the non-profit organization “The Energy Efficiency Center SEVEN”

Topic 2: Participation and influence of affected stakeholders

This section's objective is to assess in which manner civil society and NGOs in the Czech Republic have possibilities to participate, influence and take recourse against decisions made under the GIS project, and whether this is sufficient to meet the objectives and principles of public consultation and participation under OP 4.01. To assess the role and effectiveness of civil society and NGOs in influencing activities with environmental consequences a general assessment was carried out by SEF with assistance from the World Bank project team. The assessment was mainly based on web based searches, on contacts with selected NGOs / non-profit organizations (e.g. The Energy Efficiency Center – "SEVEN") and initial media feedback on SEF's program, which has been widely covered and dispersed by the media. The findings are summarized below:

- There is an active and involved civil society in CZ, which, often well organized and represented by NGOs, takes an active interest in environmental issues.
- Civil society and NGOs have identified and publicized a number of (sometimes high profile) cases of environmental noncompliance (where the CZ administration acted against domestic or EU legislation). All of the cases referred to more significant and sensitive environmental issues than those envisaged under the CZ GIS project, which are small scale, owner driven activities with intrinsically minor impacts. Nevertheless, these cases of noncompliance flagged by domestic NGOs are seen as evidence for the existence of a vocal, informed and unconstrained society with a functioning "watchdog" mechanism.
- There is no evidence that environmental noncompliance is of a systemic nature, consciously tolerated or even promoted by the Government and thus part of Czech normality. Given the amount of economic and associated physical development (transport, infrastructure, housing) after 1989 a number of problematic cases in terms of environmental due diligence appears nothing unusual⁷.
- There are several instances where the implementation of the Aarhus Convention in CZ appeared to be flawed and such deviations were flagged by NGOs⁸. Both Czech and international NGO networks are engaged in court cases on the implementation of the Aarhus convention in CZ, which is seen as a positive sign that civil society has full access to the judicial system to lodge claims against perceived wrongdoings by the administration.
- There are grievance mechanisms in place and documented to be well functioning. Annex 6 provides information on the CZ complaint and grievance mechanism as well as statistical data on its turnover for the last five years.

⁷ The Ministry of Regional Development is responsible for implementation of the Construction Code; complaints are submitted to the Ombudsman Office (for statistics see Annex 8).

⁸ One concrete example found in the web research was the definition of "affected stakeholders" in the context of an airport project.

It should also be mentioned that under the mechanism of GIS specific activities will be largely driven by individual households or persons applying for small grants to finance small scale activities. As the funding of large scale construction activities will be excluded, and no land acquisition is foreseen under the project, the expected potential for social impacts, grievances arising from project activities or undue impacts on vulnerable groups or people are expected to be both improbable and very small in their magnitude.

The initial version of the EMF was disclosed by the Ministry for Environment for information and consultation of the public, and a public hearing organized in the Ministry on 26 May 2009. The minutes of the hearing are attached to this EMF as Annex 7.

4 Conclusion

The overall conclusions regarding potential environmental impacts in the context of CZ GIS and their management are as follows:

- (i) The project is expected to have an overall positive environmental impact by reducing GHG emissions and increasing energy efficiency, which is expected to contribute to climate change mitigation and will also have positive effects on ambient air quality (by general emission reduction due to higher energy efficiency).
- (ii) The types of potential negative impacts include construction related issues (emissions, noise, waste), potential impacts on aquifers due to drillings for heat pump installation, and strains on the bio-fuel market potentially leading to deforestation. Due to the small scale nature of the expected single investments, the magnitude of associated potential negative environmental impacts is expected to be minor. This also applies to their cumulative impacts.
- (iii) The CZ institutional and regulatory framework, which has been harmonized with EU directives, was found to be modern, effective, consistently applied and of good quality. The licensing and regulating authorities operate with adequate level of diligence and efficiency.

For the project context the CZ country systems is considered sufficiently aligned with the World Bank's environmental safeguards policies to ensure effective safeguards implementation using CZ environmental regulations and instruments in lieu of the procedures and instruments called for in the Bank's operational policies,. The outcomes in terms of environmental and social due diligence mainstreamed into the project activities will be analogous. Minor remaining gaps have been closed by the use of additional environmental instruments (e.g. this EMF produced as framework and guidance for the project).

Further evidence to support this conclusion is given in the Annexes to this EMF.

ANNEX 1 Detailed Description of CZ EIA Regulations

1. Impact Assessment used in Czech Republic

Three types of impact assessment are used in Czech Republic:

- Assessment of impact of projects on environment – non-officially called „project EIA“,
- Assessment of impact of conceptual documents – non-officially called „SEA“, or „strategic EIA“,
- Impact assessment of spatial plans and related documentation – „sustainability assessment“ of spatial plans.

The Czech Parliament Act No. 100/2001 Coll. of 20 February 2001 on environmental impact assessment (EIA) as amended by Acts 93/2004, 163/2006, 216/2007, 124/2008, 223/2009 and 436/2009 Coll. (full wording issued as Act 49/2010 Coll.), requires environmental impact assessment for:

- I. Proposals of private and public investment projects that are likely to have significant effects on the environment (§§ 4-10),
- II. Conceptual documents prepared by central and regional authorities, e.g. strategies, policies, plans etc. including spatial planning conception documents (§§ 10a-10j).

The EIA procedure has been harmonized with Council Directive 85/337/EEC on the assessment of the effects of certain public and private projects on the environment, as amended by Council Directive 97/11/EC. The Act transposes Directive 2001/42/EC of 27 June 2001 on the assessment of the effects of certain plans and programs on the environment.

Act 100/2001 Coll. specifies which plans and programs are subject to environmental impact assessment. Act 100/2001 Coll., sets down the scope of the procedure, stipulates methodology of SEA related to drafts and final documents and lays down the contents of the environmental report. Procedural rules of public participation are set along with a time frame (§17). The qualification requirements for authorized persons preparing documentation and carrying out the assessment are described in §19.

Pursuant to the EIA Act No. 100/2001 Coll. of 20 February 2001, environmental impact assessments shall cover the effects of investment projects on human population, fauna and flora, ecosystems, soil, water, air, climate, landscape, resources, cultural monuments and property, determined by special legislation (§2). The projects which will be assessed are related to the project categories given in §4, Part 1 of Annex 1; other projects listed in Part II of Annex 1 shall pass through a screening procedure outlined in §7. The screening shall determine whether the project will have to go through the impact assessment procedure or not.

The EIA procedure, as described in §5, also includes proposals for measures to mitigate or eliminate negative effects on the environment. Any legal or natural person who intends to develop a project or draft a concept document (incl. spatial plan) is obliged to apply publicly to the competent authority - the Ministry of Environment or the relevant regional office - by using the format detailed in Annex 3. The criteria for the screening procedure are described in Annex 2. The authority has to consider mainly the scope of the impacts, the nature of the impacts with respect to transboundary impacts, size and complexity of the impacts, probability of the impacts and duration of the impacts. Act No. 163/2006 reduces the time limit for issuing the results of the initial screening to 30 days. The results of the initial screening have to contain a reasoning. The format of project documentation to be submitted to the competent authority is given in Annex 4.

The necessary time for the assessment should not be longer than 60 days, in accordance with Annex 5, which also specifies the contents of the assessment. The competent authority issues decisions on the application (§10). The rules for the involvement of the public in commenting on applications concerning environmental impact assessment are laid down in § 17. The qualification requirements for authorized persons preparing documentation and assessment are described in §19.

However, construction/reconstruction of residential building (residential complexes) is not covered by EIA Act (Annex 1) regardless of the size of the construction project. Only „parking places and garages with capacity over 100 parking slots“ (items 10.6, Annex 1, category II) are subject to notification and screening.

ANNEX 2 Contents of Construction Permit / Notification for Small Scale Buildings

Downloadable templates for CP application and Notifications are available at the server of Ministry for Regional Development (www.mmr.cz). The application form for a **Construction Permit** contains the following information, which is also reflected in the permit issued upon the application:

Part A

- Identification of the applicant (natural or legal person),
- Location of the construction planned (proposed lots, municipality, cadastral numbers, size),
- Identification of owners and other persons having other rights to lots (addresses and id numbers).
- Current utilization of lots and existing constructions,
- Basic information on construction intended,
- Environment impact assessment (applicability of Act 100/2001 Coll. on EIA, opinion of relevant authority, decision of nature protection authority related to likely impacts on protected areas, conclusions of screening procedure in case that Act 100/2001 Coll. is applicable)
- List of other stakeholders (neighbors, municipality etc.)

Part B (Annexed documentation)

- Proof of ownership issued by cadastral office
- Consent of other owners
- Copy of cadastral map and situation draft
- Technical documentation in extent set by Regulation 503/2006 Coll.
- Decision of the authorities on EIA or result of the screening process
- EIA documentation (if required) and opinion of the relevant authority
- Binding decisions of authorities related to protection of nature and landscape, water protection, air protection, protection of forest and agricultural land, waste management, accident prevention, public health protection, cultural heritage protection, road transport, utilities and communication networks, fire safety etc.

In addition the applicant has to submit information in addition to the previous form:

- Description and equipment of construction site
- Technical documentation (incl. maps) related to connection to the technical infrastructure (power, water, sewer, public road, phone etc.),
- Author of the project documentation incl. no of personal authorization
- Estimated construction costs.

The applicant is required to obtain the approval or opinions / conditions from all required authorities (which include environmental and water authorities) and submit their consent with the application. Currently there is no on stop shop system in CZ. Before the CP can be applied for the Investor must have a valid Location Permit (LP).

The **notification form** contains following information:

Part A

- Identification of developer (natural or private person)
- Purpose and characteristics of the Construction (use, build-up area, number of floors, depth of underground parts, elevation),
- Location and lots affected by the constructions (municipality, cadastral numbers, category, area),
- Neighboring lots and constructions,
- Details on construction (self-help or contracted, id of manager and supervisor, starting date and duration, use of neighbor lots incl. contracts with owners).

Part B (Annexes)

- Proof of ownership,
- Proxy in case of contracted construction office
- List of owners of neighbor lots (incl. id and addresses)
- Proof of informing of neighbors
- Copy of certificate of construction manager or inspector
- Technical documentation
- Spatial-planning documentation (maps)
- Location permit
- Binding opinions (if required by Construction office) of authorities responsible for protection of nature and landscape, water protection, air protection, protection of forest and agricultural land, waste management, accident prevention, public health protection, cultural heritage protection, road transport, communication networks, fire safety etc.
- Opinions of owners (service providers) of technical infrastructure (power, gas, water, heat, sewer, communication, transport etc.)

The applicant is required to obtain the approval or opinions / conditions from all required authorities (which include environmental and water authorities) and submit their consent with the application. Currently there is no on stop shop system in CZ.

ANNEX 3 Comparison of EU & World Bank Env. Standards

Project phase	CZ procedures for projects neither in Category I or II (minor impacts)	WB procedures for FI projects (assuming Cat B subprojects)
Identification of impacts, determination of safeguards category and instruments	Any new construction site may only be located in a zone dedicated for construction purposes according to an existing official land use plan. Land use plans exist on regional and municipal levels for the whole territory of CZ and are subject to an environmental assessment during their development. Thus sites designated as building land have been pre-screened using environmental criteria and determined to be suitable for construction without undue impacts.	Environmental screening determines / confirms the sub project's safeguards category and if the foreseen environmental impacts fall under the conditions identified in the environmental management framework (EMF).
Development of safeguards instruments	No specific environmental instrument is developed, but environmental management of the construction site is fully controlled by various CZ legislation, such as EA act, construction code, labor code, waste act etc. The relevant stipulations are compiled in the construction permit (CP) which is circulated among relevant authorities (incl. environment, water, waste) who include specific requirements and conditions.	The instrument most commonly developed is an EMP (environmental management plan) which may contain a brief environmental assessment of the specific construction site. Depending on the individual sub-project scale a simplified "checklist" EMP may be used (for activities with very minor impacts, e.g. the construction of single family homes).
Implementation and monitoring of safeguards instruments	The CP is enforced by the construction authority's inspectorate arm, which routinely checks the implementation of the CP both through site visits and by an audit upon works completion and before the issuance of the utilization permit. Environmental authorities are entitled to site inspections and participate in the completion audits as warranted by project circumstances. Issues commonly checked include the correct technical implementation as well as waste management (with special attention to Asbestos), water protection, workplace health and safety, traffic / pedestrian safety and nature protection (e.g. trees and vegetation).	The EMP is made part of the construction contract and the Contractor is responsible for implementation of environmental management, mitigation and part of the monitoring measures on site. The PMU (project management unit) usually is responsible for supervision of EMP implementation as well as part of the monitoring. These procedures may be in lieu of, complement or replace country-specific construction supervision, especially if institutional capacities are weak.

ANNEX 4 Compliance Analysis⁹

Objectives	Operational Principles	Compliance in CZ GIS context
To help ensure the environmental and social soundness and sustainability of investment projects.	1. Use a screening process for each proposed project, as early as possible, to determine the appropriate extent and type of environmental assessment (EA) so that appropriate studies are undertaken proportional to potential risks and to direct, and, as relevant, indirect, cumulative, and associated impacts. Use sectoral or regional environmental assessment when appropriate.	The screening of sup-projects is undertaken by the CZ GIS fund applying the funds eligibility criteria, which consist of a detailed list of activities and investments which can be funded. The all must relate to energy efficiency and conservation and the use of low carbon or carbon neutral technologies. The type and scale of investments and the associated construction activities is clearly regulated by the fund's guidelines.
To support integration of environmental and social aspects of projects into the decision making process.	2. Assess potential impacts of the proposed project on physical, biological, socio-economic and physical cultural resources, including transboundary and global concerns, and potential impacts on human health and safety.	While this is not prescribed by CZ country systems and would thus constitute a gap regarding OP4.01, this has been addressed by the project producing a comprehensive environmental management framework (EMF) which contains a detailed assessment of all potential project impacts and the provisions for their diligent management, including measures, responsibilities and monitoring arrangements.
	3. Assess the adequacy of the applicable legal and institutional framework, including applicable international environmental agreements, and confirm that they provide that the cooperating government does not finance project activities that would contravene such international obligations.	This has been accomplished in the context of an equivalency assessment which concludes that the CZ system in being aligned with EU directives may be considered to have an adequate legal and institutional framework.
	4. Provide for assessment of feasible investment, technical, and siting alternatives, including the "no action" alternative, potential impacts, feasibility of mitigating these impacts, their capital and recurrent costs, their suitability under local conditions, and their institutional, training and monitoring requirements associated with them.	The EMP provides detailed considerations on these issues and concludes that the overall project impact, being a green investment scheme aimed at GHG emission reductions, will be positive. The potential negative impacts will be minor and easily avoidable / mitigable with basic environmental management procedures. The siting of specific sub-project is determined by spatial zoning plans, which every municipality in CZ has been obliged to produce under the harmonization EU directives and which by now has been completed country-wide (according to information received from CZ counterparts).
	5. Where applicable to the type of project being supported, normally apply the Pollution Prevention and Abatement Handbook (PPAH). ⁴ Justify deviations when alternatives to measures set forth in the PPAH are selected.	Not applicable to the project.
	6. Prevent and, where not possible to prevent, at least minimize, or compensate for adverse project impacts and enhance positive	The implementation framework for this operational principle is provided for in the EMF. The mainstreaming into specific subprojects will be via CZ

⁹ Template for the table based on WB OP 4.00, Table A1

impacts through environmental management and planning that includes the proposed mitigation measures, monitoring, institutional capacity development and training measures, an implementation schedule, and cost estimates.

regulatory instruments, such as the location permit and the construction permit, which contain references to the specific environmental legislation (e.g. waste act, water protection act, construction code, air protection act etc.) and monitored by the CZ authorities, specifically construction inspectorate and environmental inspectorate.

7. Involve stakeholders, including project-affected groups and local nongovernmental organizations, as early as possible, in the preparation process and ensure that their views and concerns are made known to decision makers and taken into account. Continue consultations throughout project implementation as necessary to address EA-related issues that affect them.

The EMF will be disclosed once it is finalized and formally accepted by the World Bank, and will be consulted with the general public as well as NGOs. On the subproject level the CZ construction code requires that immediately affected stakeholders of any scale of construction project are notified in a timely manner of the project and consulted with. The consent of the immediate neighbors to a project is required.

8. Use independent expertise in the preparation of EA where appropriate. Use independent advisory panels during preparation and implementation of projects that are highly risky or contentious or that involve serious and multi-dimensional environmental and/or social concerns.

As this is a category B project with overall positive impacts and minor construction activities, this operational principle is not applicable.

9. Provide measures to link the environmental assessment process and findings with studies of economic, financial, institutional, social and technical analyses of a proposed project.

These links were analyzed in the context of the project's EMF.

10. Provide for application of the principles in this Table to subprojects under investment and financial intermediary activities.

The CZ GIS project has the structure and implementation arrangements of an FI project. Hence environmental due diligence is mainstreamed into the project via an overarching EMF. On the subproject level diligent environmental management is ensured (i) by the general principles laid out in the EMF; (ii) sub-project specific construction and location permits contain detailed instructions for environmental management, including waste and waste-water management, noise and emission control, workplace health and safety, landscape, soil and nature protection.

11. Disclose draft EA in a timely manner, before appraisal formally begins, in an accessible place and in a form and language understandable to key stakeholders.

The EMF will be disclosed in Czech language in accordance with the WB's OP4.01 and 17.50. Information on specific subprojects will be disclosed according to CZ legislation, which is in compliance with EU directives.

ANNEX 5 Relevance of other Czech regulations related to environmental aspects

Building Code

Land use, construction, reconstructions and removal of existing constructions are regulated by Act No. 183/2006 Coll., on land-use planning and building rules (Building Code and its specific implementation regulations). The major part of activities related to CZ GIS, and in particular new construction would require construction permits (CP). This would encompass e.g. the construction of new houses with a built-up area over 150 m², and reconstructions including structural components like walls, ceiling beams or roof trusses. Minor works require a notification submitted to the building office (e.g. reconstructions of buildings causing change of appearance incl. windows, outer doors, facade, roofing, roof collectors, fences etc.). The course of the above reconstructions would respect Building Code including inspection visits of building office, obligation to keep all documentation at the construction site, dispose construction waste properly, limit emissions and noise at the construction site etc. Building law regulates also construction of connections to sewer and water and gas distribution systems or construction of home waste water processing unit.

During the construction permitting process, to which several authorities contribute and which leads to CP issuance the requirements related to impact of construction works upon neighborhood, as well as protection of surface and groundwater, nature, traffic and pedestrian safety, as well as disposal of construction wastes are regulated. The permitting procedure according to the CZ Building Code thus ensures mainstreaming of environmental good practice (considering alignment with EU legislation which may be perceived as best international practice) into the construction activities under CZ GIS.

Act on Environment

The main piece of legislation in the area of environment, Act No. 17/1992 Coll., lays down basic definitions and principles of environmental protection and sustainable development, e.g. critical loads of pollutants, acceptable level of pollution, limit values, monitoring requirements and procedures, the precautionary principle and access to justice.

It defines obligations and responsibilities regarding environmental protection – including “polluter pays” principle, general principles of fees and penalties for environmental degradation etc. The general provisions of the Act are further detailed for implementation by specific legal documents (i.e. acts on protection of specific environmental components, procedures and instruments such as EIA, SEA, IPPC etc.).

Act on Nature and Landscape Protection

The legislative framework for nature conservation has been laid down with Act No. 114/1992 Coll. on Nature and Landscape Protection. The Act aims to maintain a natural balance in the country, protect the diversity of life forms, contribute to an efficient management of natural resources and establish the system of Natura 2000 in the Czech Republic. The Act stipulates that all kinds of plants and animals are protected against activities that could lead to their extinction, degeneration or to the disabling of their reproductive functions. If these conditions are not met, the state authority can prohibit or restrict such an activity.

Every person who intends to cause serious interference with nature as part of construction or other land use is obliged to carry out an assessment of potential impacts on the plants and animals living there (i.e. biological assessment), if the nature protection authority decides so. The land owners and tenants are responsible for improving the quality of the natural environment and landscape.

The Act also defines (para 45i) the requirements for assessment of potential impacts on Natura 2000 sites (i.e. special protection areas – SPA, and sites of community importance – SCI). Every concept (plan, program and policy) or project likely to have a significant effect on a designated site must be subject to assessment using SEA or EIA procedure (as stipulated by the EIA Act No. 100/2001 Coll.). The proponent of the concept or project developer has to inform the competent nature protection authorities about the intention to develop such concept or project – based on the information the authority issues the statement stipulating whether the appropriate assessment has to be carried out or not.

Water Code

According to Water Code No. 254/2001 Coll., in wording of later amendments, water authorities are entitled to issue three categories of decisions: permits (povolení), approvals (souhlas) and opinions (vyjádření). General usage of water is not subject to any decisions by the water authorities. General use must be for private needs and without the use of any special technological equipment. General use amounts to abstracting water, retaining water and other private uses. The water authorities can nevertheless decide that the general use of water will be subject to stricter regulations, if the general interest requires so.

The water permit on use of surface or groundwater is required, among others, for abstraction of surface or groundwater and their subsequent discharge into these waters in order to gain thermal energy.

The water permits are issued to legal or natural persons on their request. The permit is limited up to 10 years. It is necessary to apply at least 6 months before the expiry for a prolongation of the permit. The background for the decision is an opinion from a qualified person (hydrogeologist). The Water Code determines the procedure of change and abolition of water permits.

A building permit (stavební povolení) is issued for the construction of water wells or boreholes, for any changes made to them and for their removal. The owner of water well has to report the maintenance works to the water authority if they could adversely influence the environment or the stability of the water table. The water authority determines the duties and conditions of the permit and the purpose of the water project. The decision of the water authority is binding insofar as the building authorities cannot issue a building permit if they have received a negative decision from the water authorities.

Construction of drills for heat pumps (soil-water)¹⁰

In CZ all technical aspects relating to water (i.e. everything connected to water use and wastewater treatment) are regulated by the water authority under the Ministry for Agriculture. According to the recommendation no. 18996/2002-6020 (2 August, 2004) by the legal panel of Czech Ministry of Agriculture, drills for heat pumps are categorized and treated as hydro-technical construction (see Water Act 254/2001 Coll. § 55), requiring LP, CP and water permit. Alternatively, well construction may be carried out as an exploratory borehole under the Mining Act. In this case, the drilling must be carried out by a company certified by Czech Mining Office (ČBÚ). Such an exploratory drill may be used for the installation of heat pumps if a water permit is obtained from the Water Authorities. In both cases, a hydrological expertise issued by a certified hydrogeologist is required by law. If the drill is deeper than 30 m, it must be conducted in a manner preventing disturbance of the ground water regime (appropriate use of packers and sealing measures, which are standard good practice). All drilling and construction works must be carried out by accredited companies only, and supervised by a certified hydro-geologist.

Waste Act

¹⁰ Source: Association for utilization of heat pumps (www.avtc.cz), see document „Pravidla pro projekci a provádění vrtů pro tepelná čerpadla země-voda“.

The disposal and reuse of wastes generated during construction or reconstruction activities (construction wastes) are regulated by para 11 and 12, Act. No. 185/2001 Coll., on wastes in wording of later amendments. MoE issued a methodical guidance (October 2003) on manipulation and disposal of construction wastes used by building offices (see References). The guidance reviews legal requirements related to issuance of building permit incl. manipulation with waste asbestos and role of municipal office.

In the past century, asbestos has been frequently used in construction of building including residential ones. List of 16 construction materials containing asbestos is included as Annex 2 to the abovementioned methodical guidance. Specific conditions to assure health protection at work are set by para 21, Government Regulation No. 178/2001 Coll., on conditions of occupational health protection. The obligatory measures relevant to reconstructions reduce air emissions of fibers, packaging and labeling of wastes, use of protective equipment and record keeping and reporting to the hygienic authorities in accordance to para 41, Act No. 258/2000 Coll. on protection of public health. The hygienic authorities have to be notified 30 days prior to beginning of the manipulation with asbestos. Decree No. 41/2005 Coll. implementing para 35, Waste Act, specifies the conditions under which asbestos can be landfilled. These include the condition that asbestos is contained in sealed packages and that any human exposure to asbestos is avoided during the operation of the landfill as well as after the closure. These provisions can be considered equal to the recommended procedures which would normally be included in an EMP for asbestos waste management in a project funded by the World Bank.

Mining Act

As for heat pumps, all new wells and boreholes regardless of their depth require building permit and permit for water use. Boreholes with depth more than 30 m used for hydrothermal energy require hydro geological expertise and they can be drilled only by companies bearing concession for mining works accordingly para 3(h), Mining Act 61/1988 Coll., in wording of later amendments. The drilling works are regulated by Decree of Czech Mining Office No. 239/1998 Coll., on health and safety protection and safe operation during mining works. In specific cases, e.g. in hydrogeologically or environmentally sensitive areas the CZ environmental authorities will impose additional analyses and protective measures, to be elaborated in a hydro geological expertise such wells and boreholes may require EIA. All drilling activities will be subject to a permit containing a set of basic environmental procedures.

Environmental Liability Act

Decree No. 17/2009 Coll., on assessment and remedy of environmental damage of soil to implements §11, Act No. 167/2008 Coll., on prevention of ecological damage and its remedy (Environmental Liability Act). The regulation stipulates methodology of risk assessment and choice of the appropriate remedy technique related to direct and/or indirect contamination of soil and subsoil environment (bedrock) by substances, preparations, living organisms or micro organisms.

Occupational Health and Safety

The basic provisions on occupational health and safety can be found in Labor Code No. 262/2006 Coll. Other acts include Act No. 59/2006 Coll. on the prevention of major accidents and Act No. 133/1985 Coll. on fire prevention. Public health is dealt with in Act No. 258/2000 Coll. on the protection of public health.

The Labor Code outlines the provisions concerning the basic obligations of employers and employees with respect to health and safety at work, the provision of personal protective equipment, obligations of the employer in case of occupational accidents and participation of employees on decision-making concerning health and safety at work.

Secondary legislation determines in detail the technical requirements for specific devices such as lifts, lifting devices, hot-water boilers, and pressure equipment (Decree No. 21/2003 Coll., 22/2003 Coll., 23/2003 Coll., 163/2002 Coll.). Secondary legislation also specifies the rights and duties of employers and employees regarding occupational health and safety at work (Regulation No. 494/2001 Coll., 495/2001 Coll. and 288/2003 Coll.). Regulation No. 101/2005 Coll. features requirements on work equipment and machinery with respect to process and workplace safety.

The EU Directive 89/655/EC concerning the minimum safety and health requirements for the use of work equipment by workers at work has been transposed by Government Regulation No. 378/2001 Coll. The Regulation contains the following minimum requirements on the safe operation of the equipment, e.g.:

- work equipment made available to workers is suitable for the work to be carried out or properly adapted for that purpose and may be used by workers without impairment to their safety or health,
- no hazard is posed on the employee's health such as noise or vibrations generated by the work equipment,
- work equipment must bear the warnings and markings essential to ensure the safety of workers.

According to Regulation No. 378/2001 Coll. the work equipment is inspected before the start of the operation and then regularly at least once in 12 months.

Act No. 309/2006 Coll. stipulates that employees must be protected against fall or tumble. They must also be protected against falling or ejected objects or materials. Special design requirements on lifting equipment are enumerated in part 4 of Annex 1 to Government Regulation No. 27/2003 Coll. on lifts as amended by Regulation No. 142/2008 Coll. The design of the lifting equipment shall prevent the risk of instability and the equipment must be labeled with the identification data of the producer and a reference to a certificate.

Regulation No. 176/2008 Coll. on technical requirements on machinery transposes the EU Directive 2006/42/EC on machinery, and amending Directive 95/16/EC (recast). It is recommended that the company reviews the machinery currently used as to whether it has CE marking and EC declarations of conformity certifying that the machinery complies with the safety requirements of the EU and national legislation and the harmonized EU standards.

The requirements on health and safety on construction sites are detailed in the Act No. 309/2006 Coll., on assuring other conditions of safety and health protection at work and Decree No. 591/2006 Coll., on detailed minimum requirements on safety and health protection for work at construction sites. This Decree specifies the basic obligations of main contractors and subcontractors such as record-keeping, taking safety measures, providing personal protective equipment and others. The contractor is obliged to keep a record of the provided training and instructions.

The above overviewed national legislation forms a framework for environment protection and occupational health and safety provisions fully compliant with the EU legislation. Implementing regulations issued by ministries and state agencies, e.g. Mining Office (Báňský úřad), in combination with the current inspection activities of building offices (stavební úřad), Regional and municipal offices (Krajský úřad a úřad obce s rozšířenou působností), Administration of Protected Areas (Správa ChKO), Czech Environmental Inspectorate (ČIŽP) and Bodies of State Forest Administration (OSSL) form an effective enforcement structure.

Forest policy

Conception of forestry in the Czech Republic proceeds from the so-called Pan-European process initiated by the MCPFE (The Ministerial Conference on the Protection of Forests in Europe). The idea of sustainable development, as interpreted in Helsinki 1993, includes the principle of sustainable

forest management. Another source for the concept analysis is "The Basic Principles of the State Forest Policy", approved in May 1994. The amendment for "the pre-accession period to the EU" was adopted in 2000. Subsequent implementation of state forest policy targets is contained in the annual, state reports on Czech forestry.

Preservation of our forests for the future has become an ethical commitment of the present generation and the principal aim of current forest policy. The fact that forestry is a business activity and a part of an open, market oriented economy must also be recognized. To fulfill this commitment state forest policy must adhere to the following basic principles:

- completion of the restitution process,
- improvement of forest ecosystems,
- conservation and enhancement of forest biodiversity,
- development of non-timber functions of the forests,
- better utilisation of timber as a natural, renewable raw material,
- promotion of forestry institutions,
- pursuit of the economic aspects of the forestry policy, and
- utilisation of the national forest programme as a resource for carrying out forest policy.

Legal Framework

The Forest Act, in force since 1 January 1996, is the essential law of new legislation that addresses both the political changes after 1989 and the newly established social-economic relationships. Sustainable, sound forestry is mentioned in many documents including the Forest Act, which was prepared as a compromise between property rights versus public goods interests.

The purpose of the new Act is to determine conditions for the preservation, tending and regeneration of forests as part of the national wealth forming an essential part of the environment. All forest functions and support of forest management are taken into account. This act respects the elementary rights of forest landowners, concern of the state for the fulfillment of all forest functions and preservation of forests for future generations. It regulates conservation of forests and forestland, forest practices, general use of forests, forest management planning, sustainable forest management, forestry licensing, and subsidies for forest management and state administration.

The Act on Nature and Landscape Protection characterizes forests as a significant element of the landscape. It regulates, i. a. forest management in national parks, protected landscape areas, and nature reserves resulting from specific plans for relevant areas care. The plans and projects of Regional Systems of Ecological Stability are presented. They serve as the underlying documents for forest management plans and forest management programs.

National laws are gradually being harmonized with EU legislation and forestry sector representatives repeatedly negotiate with the EC on relevant technical issues.

Institutional Framework

The central body that controls state administration in forestry is the Ministry of Agriculture. It revises the decisions made by the District Authorities and inspects their state administration in forestry. Currently Regional Authorities are created as the first level of state administrative organization.

The Ministry of Environment is the central body of state forest administration, game management and fisheries in the area of four National Parks covering a total area of approximately 120 000 hectares, which accounts for 1,5 % of the total surface of the Czech Republic. In addition to its responsibilities concerning National Parks, the Ministry of Environment has been enjoined by Forest Act (Act No.289/1995) with supreme state supervision of forest management in entire Czech Republic. The Ministry supervises how bodies of state administration, jurist and natural persons observe provisions of the Forest Act and related regulations. Carrying out of the duties of state

supervision in forests, the Ministry co-operates with the Czech Environmental Inspection authority, which has a separate forest protection department, whose mission is to prevent and examine offences concerning the functioning of forests as an environmental component.

Forest Management Institute

Forest management began approximately 260 years ago and since that time offices of individual forest owners developed various management methods. The Forest Management Institute (FMI) was established in 1935. This institute refined forest management plans, executed real estates evaluation and land measuring and cartographic activities. Forest sites mapping started in 1941. Forest sites were characterized by forest communities, background for forest typology was established, and target species composition was defined for them. Forest management plans have been prepared and the systematic usage of computers was initiated in 1971. Thus, began the establishment of the information database. The institute was entrusted with creating a summary of forest management plans in five-year cycles. At the end of 1980s, employees of the institute developed a Czech GIS – TOPOL and mensurational program.

After 1989 the FMI has been involved in the forest restitution process. In 1997, these duties and preparation of Forest Management Plans were transferred to private entities created mostly by former institute experts.

Nowadays the institute is responsible for executing forest inventory in the country, and elaboration and administration of Regional Plans of Forest Development (RPF). Based on principles of sustainable forest management RPF tries to minimize potential conflicts between the public and private owners` interests. These include the administration of information and data centers of forest management, execution of forest typological system, providing information services for forest certification. The National Certification Centre also provides support to organizations dealing with forest certification, e. g. the national governing body: PEFC (Pan European Forest Certification) Czech Republic). The FMI elaborates analyses, methodologies, layouts and prognosis and also is involved in domestic and international research projects as well as working in consultation activities.

ANNEX 6 Number of complaints submitted to the Czech Office of Ombudsman

Statistical data on complains are taken from annual reports available at web of the Czech Office of Ombudsman, <http://www.ochrance.cz/en/>. Content of statistics has been discussed with Ms. E. Vávrová, head of the Department of constructions, nature protection and local administration, Czech Office of Ombudsman, Brno.

Table: Statistics of serious complains related to construction and use of buildings

Year	CP for family houses	Total Complaints	Construction and Housing	Valid Claims	% of total CPs as claims submitted	% of total CPs as valid claims
2005	17 579	359	22	5	0,13%	0,03%
2006	20 620	458	20	6	0,10%	0,03%
2007	20 990	400	31	5	0,15%	0,02%
2008	22 918	571	38	3	0,17%	0,01%
2009	18 750	656	35	7	0,19%	0,04%

Accordingly the Czech Statistical Office (http://www.czso.cz/csu/redakce.nsf/i/bvz_cr.) the number of new family houses, which construction has been annually is 15.5 to 23 thousands annually (see Table). Majority (ca 2/3) of complaints submitted relate to “neighbor” problems. Shading, access roads, cutting of trees, wells and not respecting dimensions of house set in CP are the most frequent complaints.

ANNEX 7 Minutes of the Public Consultation Meeting

Public consultations were held at Ministry of the Environment, Vršovická 65, Room No. 900, 2 p.m., May 26, 2009

SEF and MoE invited via e-mail the following institutions and experts:

- Industry and Transport Association (Svaz průmyslu a dopravy)
- Chamber of Commerce (Hospodářská komora)
- Alliance of Towns and Municipalities (Svaz měst a obcí ČR)
- Asociace malých a středních podniků a živnostníků (Association of Small and Medium Enterprises)
- Association of non-profit organizations (Asociace NNO)
- Czech Statistical Office (Český statistický úřad)
- Czech Environmental Information Agency (CENIA, česká informační environmentální agentura)
- Association of Czech Regions (Asociace krajů České republiky)
- Nature and Landscape Protection Agency (Agentura ochrany přírody a krajiny)
- Association of Secondary Raw Materials Industry (Svaz průmyslu druhotných surovin)
- Association of Innovational Enterprise (Asociace inovačního podnikání)
- Institute for Fuel Research (Ústav pro výzkum a využití paliv, a.s.)
- Czech Biomass Association (CZ Biom - České sdružení pro biomasu)
- State Health Institute (Státní zdravotní ústav)
- EkoWATT Prague (EkoWATT Praha)
- Seven (Seven o.p.s.)
- Transport and Energy center (Centrum pro dopravu a energetiku)
- Czech Hydrogeologists Association (Česká asociace hydrogeologů - ČAH)
- Union of Geological Associations (Unie geologických asociací - UGA)

Members of the following organisations attended the meeting:

- SEF – Ms. Plocková, Ms. Česenková
- Consultant – Mr. Nondek
- MoE – Mr. Spies
- Housing and Building Cooperation Olomouc (SBD Olomouc) – Mr. Kyjovský, Mr. Pančocha
- Regional Housing Centre (RCB) – Ms. Chlebcová
- Centre for Reconstruction of Panel Houses (CERPAD) – Mr. Fendrych
- Energy Regulation Office (ERÚ) – Mr. Krejcar
- Line Architektura – Mr. Eger
- Czech Chamber of Commerce (HK ČR) – Mr. Perner

Program of Public Consultation

Registration of participants	13:30
Opening of meeting and Introduction , Ms. I. Plocková, SEF	14:00
Objective of the EMF, implementation into Program CZ GIS, "Zelená úsporám", Ms. L. Česenková, SEF	14:10
Methodical Guidelines OP/BP/GP 4.01 Environmental Assessment, categorization and screening of sub-projects Mr. L. Nondek, consultant	14:20

Implementation of EMF at SEF, Ms. I. Plocková
Discussion of participants
Closing of meeting

14:35
14:45
15:45

Questions raised at the Public Consultation:

Participant	Input	Reaction of SEF	Modification of EMF
Mr. Kujevský, S.B.D Olomouc	Mr. Kujevský asked why EMF has to be implemented. Such questionnaires are not required in the very similar Programs administered by SEF or Ministry for Regional Development (PANEL). There is a concern if new requirements would not discriminate those applying for subsidies from "Zelená úsporám"	Ms. Pícková: The new EA methodology is prepared in accordance with requirements of I.B.R.D, which are a part of Contract on AAU transaction. Mr. Nendek: The I.B.R.D methodology (OP/BP/GP 4.01) SEF has to implement has been developed for large construction projects financed by I.B.R.D like river dams or power plants in developing countries. MČL has to respect it as a standard procedure obligatory for FJ (SEF).	No modification of EMF proposed
Ms. Chlebceová, RČB	SEF should keep administrative burden low as much as possible, it makes no sense to add redundant requirements to areas covered by Construction Code and other legislation.	Ms. Pícková: It is our intention to keep administrative procedures as simple as possible. Personnel of SEF are currently being trained to help applicants at regional SEF offices.	No modification of EMF proposed
Mr. Fendrych, CELPÁD and others	Mr. Fendrych expressed this concern related to complexity of new procedure to be communicated with applicants. The volume of the administrative seems to be enormous as it is expected that 100-200 thous. applications has to be processed in coming years. Why reconstruction of school or hospital financed from other programs requires less red tape agenda than reconstruction of family house financed from "Zelená úsporám".	Ms. Česenková: SEF will do its best to reduce the unnecessary burden and administrative costs. However SEF must respect buyers of AAU, which may have various additional requirements.	No modification of EMF proposed
Mr. Krejcar, ERU	Asks if the Program document has been published officially and if there is a legitimate claim to subsidy.	Ms. Pícková: Program document with annexes and has been published in Bulletin of MČL.	No modification of EMF proposed
Mr. Perner, HKČR	Public is not properly informed on CZ GPS, some information given by MČL or SEF were misleading.	Ms. Pícková: The oversimplification is carried out by media. She gave examples how statements and information at press conferences were misinterpreted by media. The MČL and SEF prepared printed information sheet for journalists but it does not help.	No modification of EMF proposed
Mr. Pančocha, S.B.D Olomouc	Why the threshold value for large apartment buildings to categorize project into more stringent Cat B is 50 apartment units?	Mr. Nendek: The intention was to distinguish between family houses, which should be mainly taken as Cat C projects if Construction office does not react to the notification (see Construction Code) and medium size residential buildings.	No modification of EMF proposed
Ms. Chlebceová, RČB	Ms. Chlebceová pointed out that in Czech republic such	Mr. Nendek asks if participants have the same opinion.	Threshold value of 50

	<i>threshold should be rather 100 apartment units.</i>	<i>Others also propose to use 100 apartment units as a criterion for Cat.B.</i>	<i>apartment units should be increased to 100 units to treat building or building complex as Cat.B.</i>
<i>Mr. Pančochá, SBD Olomouc</i>	<i>Points out on necessity to build up consultation and technical projecting capacities to help applicant with preparation of technical documentation.</i>	<i>Ms. Plocková informs participants on cooperation between SEF and consulting companies. However Operation Programme Industry and Entrepreneurship which is coordinated by Ministry of Industry and Trade should be used for subsidizing consulting and projecting offices.</i>	<i>No modification of EMF proposed</i>
<i>Mr. Krejcar, ERU</i>	<i>Further discussion on quality and availability of consulting services</i>	<i>Ms. Plocková mentioned cooperation of SEF with PPS and other organizations. However cooperation with e.g. Chamber of Commerce is very important.</i>	<i>No modification of EMF proposed</i>
<i>Mr. Perner, HKCR</i>	<i>As a representative Chamber of Commerce is concerned with impact of EMF on small and medium enterprises.</i>	<i>Mr. Nondak: It is necessary to mention also second document required by SBD. A short information of RPF drafted is given to the participants. Also in this case it is necessary not to introduce procedures redundant to existing Czech law and make application process even more burdensome for applicants and companies.</i>	<i>No modification of EMF proposed</i>
<i>Mr. Fendrych, CERPAD</i>	<i>According to Mr. Fendrych, the costs of consulting services may be prohibitive for small reconstructions. People can therefore spend tens of thousands of CZK to prepare technical projects and documentation incl. proof of ownership from Cadastre of Real Estate to realize that the proposal is not eligible for subsidy.</i>	<i>Ms. Plocková: It is subsidy and there is no legitimate claim to get it. However we do our best to give applicants all technical advice and tools to estimate if they meet the technical requirements. She agrees that in the CZ GPS, the administrative burden might be higher than in other Programs. She mentions that SEF prepares a technical calculator simple enough to be used by ordinary home owners to get first rough estimates.</i>	<i>No modification of EMF proposed</i>
<i>Ms. Chlebceová, RTB</i>	<i>Ms. Chlebceová continues the discussion on the necessity to use various tools and instruction manuals. She however objects to use very simple calculating tools which may be misleading.</i>	<i>Ms. Plocková explains that the calculator has been developed in Austria in similar program. SEF has used experience from Austria as much as possible.</i>	<i>No modification of EMF proposed</i>
<i>Mr. Kyjovský, SBD Olomouc</i>	<i>Mr. Kyjovský proposes to certify and joint various projecting and consulting activities to make life of applicants easier. Program "Zelená usperám", Program PANEI and PPKM seem to be very similar if not overlapping. All these programs should have comparable administrative requirements. It does not make sense to make more complicated</i>	<i>Ms. Plocková agrees with Mr. Kyjovský and informs participants that the IT systems and databases will enable exchange of information between administrators of all mentioned programs. Applications would have a unique IDs to enable cross check procedures.</i>	<i>No modification of EMF proposed</i>

	<i>rules for one program e.g. This is also question how to eliminate double subsidizing, which is possible in some cases.</i>		
<i>Mrs. Chlebčová, RČB and others</i>	<i>Mr. Chlebčová opens discussion on administrative overload at ŠLF regional offices, which might be increased due to EMF. As an experience from programs coordinated by Ministry of Regional Development, there is a certain initial period where people are evaluating information and making decisions. Also preparation of the technical and other documentation requires several months.</i>	<i>Mrs. Pícková agrees with Ms. Chlebčová that some initiation period is necessary. It is however not easy to predict dynamics of application process. Again she mentions the wrong help of media. ŠLF e.g. get several applications filled in accordingly wrong instructions and forms printed in several newspapers. ŠLF addressed several papers, e.g. Hospodářské Noviny to make such cooperation better and effective.</i>	<i>No modification of EMF proposed</i>
<i>Mr. Perner, HKČR</i>	<i>Hopes that the initial problems will be solved and the Program "Zelená uspora" will help small and medium enterprises to cope with economic crises.</i>	<i>Mrs. Pícková thanks participants for their comments and advices and asks if anybody has another comment or recommendation on EMF. She closes the meeting at 15:45.</i>	<i>No modification of EMF proposed</i>

Questions and comments received by e-mail

Name, company	Date	Input (question, comment)	Reaction of SEF	Modification of EMF
Mr. Václav Šváb, ENVI, Pízeň	26.05.09	Mr. Šváb has proposed to take into account LCA of the construction materials not only impacts taking place during reconstruction. The use of BAP (best available product) could be used as an indicator for "Zelená úsporám".	All construction materials that can be supported from the GFS Programme are certified. SEF will publish information on LCA of insulation materials on the CZ GFS web.	Not relevant
Mr. Václav Šváb, ENVI, Pízeň	26.05.09	Better dissemination of information for general public is necessary. The present availability of technical information and practical guidelines is necessary. Ekologické poradny (environmental NGO consulting) should be more involved.	The availability of information is one of the priorities of SEF. Any practical proposals how to make the program more efficient are welcome.	Accepted
Mr. Petr Nádvořník, Český mlýn s.r.o., Čelákovice	22. and 23. 05. 09	Company Český mlýn s.r.o., Čelákovice, is interested in emission trading. They have a small hydropower plant and they would like to enter into emission trading	The focus of the Program "Zelená úsporám" does not allow EIT of emission reductions achieved by small sources of renewable energy. Renewable electricity production has a different support scheme (fixed purchase prices).	Not relevant
Mr. Petr Nádvořník, Český mlýn s.r.o., Čelákovice	22. 05. 09	Mr. Nádvořník asks for text published on EMF in news paper "Hospodářské noviny", 22.05.09. They can not find the link.	Link sent.	Not relevant
Mr. Zdeněk Jeřl	22.05.09	Mr. Jeřl points out that the costs for project preparation incl. various expertise etc. is up to 10% of total cost of reconstruction. The market with consulting and projecting services should be regulated by SEF.	SEF has an intention to keep rules and procedures as simple as possible. However, the program is financed from EIT with various parties and their individual requirements must be taken into account. The project and relevant calculations must be prepared by a member of the Czech Chamber of authorised engineers and technicians.	Taken into account
Mr. Zdeněk Jeřl	22.05.09	Mr. Jeřl spent in last 3 years approx. 400 thous. CZK (cca 25 thous. USD) for exchange of windows and insulation of roof. As the Program "Zelená úsporám" requires 3 measures to be implemented simultaneously, he has no chance to meet the requirements and get the subsidy. Why the Program has rules set by this way.	The rules have been set after long negotiation with parties involved in EIT. SEF is aware that many home owners which carried out early energy saving measures are in fact discriminated. However the pay-back period is even shorter in their case (growing costs of materials, windows etc.). As this was a very frequent comment to the Programme, the Programme rules may be adjusted by the decision of the SEF Council.	Taken into account
Mr. Vladimír Goby, Praha-Uhřetěves	22.05.09	Mr. Goby point out that the use of biomass may have negative impact on air quality e.g. and he does not agree with	SEF will use the air quality data monitored at many sites by Hydromet and published regularly. Also impact of	Not relevant

		<i>electric power-to-biomass switch. The electric power produced by the Czech nuclear power stations are free of GHG emissions.</i>	<i>biomass use on biodiversity will be monitored in EMF to avoid negative environmental impacts. However the use of biomass increases "greening" required by JET partners.</i>	
<i>Mr. Roman Šubr</i>	<i>21.05.09</i>	<i>Mr. Šubr asks for clear and publicly well known rules for quality checks and penalization for breaching of Program rules.</i>	<i>The quality checks have been designed in discussion with trading parties (JET) and JET has the obligation monitor the Program properly.</i>	<i>Taken into account</i>