

PRESURCE

Analytical report for market and stakeholder analysis

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Based on expert interviews with financial stakeholders

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1. Introduction

The Czech Republic has always been an industrial country where manufacturing sector plays an important role in its economy. Despite service sector growth in last years, manufacturing still generates more than 20 % of GDP (industry in total: 37 %), and considerably contributes to jobs creation.

Since 1990's, there has been a huge investment in manufacturing sector into environmental improvement measures and production efficiency increase driven by both market pressures (as our economy opened) and environmental legislation (in particular in EU accession period). However, environmental investment was oriented primarily on end-of-pipe solutions (e.g. emission filters, waste water treatment, etc.).

Our experience shows that there is still big potential for resource efficiency improvement in Czech companies, however companies (especially SMEs) often lack own financial resources to implement improvement measures. These measures often represent an investment with longer payback period, while financial managers usually do not accept projects with a payback period exceeding 3 years.

As a new member of EU, the Czech Republic has been running several funding programmes supported from European Regional Development Fund, Cohesion Fund and European Social Fund (current period: 2007 – 2013), including schemes, from which resource efficiency / eco-innovation measure can be funded. Therefore, a space for private financing sector (banks, venture capital) and financing mechanisms other than subsidies is only limited in this field.

1.1. Strategy and policy

The Czech Republic has approved its sustainable development strategy as Strategic Framework for Sustainable Development. The Strategy should provide a basis for all other strategic documents in economic, environmental and social fields; however, in practice it is not taken seriously enough by policy makers and other (partial) strategies are often in contradiction with the Strategy.

The main strategic documents that should support resource efficiency (and eco-innovation) are State Energy Concept and Raw Materials Policy, for which Ministry of Industry and Trade is responsible. While State Energy Concept addresses primarily supply side (i.e. energy sources) and the role of energy savings and efficiency is a little bit underestimated, Raw Materials Policy is more advanced. With its revision this year, it includes Policy of Secondary Raw Materials as a separate part addressing challenges of resource efficiency and use of scrap / waste as a resource.

Ministry of Environment is responsible for State Environmental Policy, which is the main strategic document in the environmental field. Resource efficiency is supported through environmental objectives (reduction of emissions, CO₂ and waste, reduction of water consumption, protection of non-renewable resources etc.) rather than resource efficiency objectives. Prevention is highlighted as a preferable strategy of environmental management.

1.2. Role of financial instruments

All strategies mentioned above recognize financial instruments as an important part of the whole instruments mix. Several negative motivation instruments (i.e. taxes, fees, penalties) has been introduced, however their level is not high enough to motivate companies to introduce resource efficiency and eco-innovation in a large scale. (Rising market prices have bigger influence on companies' behaviour.)

Regarding positive motivation instruments, subsidies from public funds can be used. Nevertheless, except of energy, there is not running any specific support programme for resource efficiency or eco-innovations. Related measures can be supported only within more general programmes (e.g. sub-programme Innovation), therefore a total number of projects of this specific nature is low.

2. General findings

2.1. Term “eco-innovation”

PRESOURCE project focuses on resource efficiency in industry and includes preventive measures linked to energy, water and raw materials. Nevertheless, eco-innovation is perceived (by interviewees) as a broader term that includes also other solutions leading to reduction of negative environmental impacts – e.g. renewable resources, green mobility, etc. At the same time, it may include measures related to end-of-pipe technologies too as their operation can be optimized through resource efficiency.

While representatives of public institutions responsible for environmental issues (Ministry of Environment, Ministry of Agriculture) point out environmental importance of eco-innovations, private organizations and non-environmental public institutions consider them as any other innovations (one specific type of innovation) and underline their economic and competitiveness aspects – i.e. costs savings, increase of competitiveness and jobs creation.

2.2. Drivers and barriers

As stated above, there is not running any specific support programme for eco-innovations at the moment. Political support is prerequisite for eco-innovation development, but currently it is perceived to be on a low level. Other important factors are: education, information, R&D investment.

The role of foreign companies is also important. Not only they bring a capital, but their attitude to (eco-) innovation is different in comparison with Czech-based companies.

Several respondents answer that also environmental regulation (requirements and sanctions) is necessary to boost eco-innovation. Specifically, eco-design and IPPC are mentioned setting concrete technological requirements for products and technologies.

Respondents expect that eco-innovation will play a more important role in the next years / next election period, especially in relation to objectives of EU strategic documents.

3. Public organizations and funding

In the Czech Republic, eco-innovations are financially supported primarily from public sources through subsidies (operational programmes). They improve economy of an investment and thus enable realization of projects that would not be realized without subsidies.

These projects can successfully serve as examples for others. On the other hand, this type of financing helps in particular cases only but from general point of view, it has not proved important impact by now. (For instance, evaluation of the Operational programme Environment carried out in 2010 did not identify any systemic impact on eco-innovations.)

3.1. Operational programmes

In the current programming period, the Czech Republic is running 26 operational programmes, including 8 thematic programmes, 9 regional-focus programmes and 9 programmes for transboundary and international cooperation projects.

None of the programmes targets resource efficiency / eco-innovation as a topic; however, relevant measures may be financed from (sub-) programmes aiming at environmental protection, innovation in general etc.

3.1.1. Operational programme Environment

The Operational Programme Environment (operated by the Ministry of Environment and the State Environmental Fund) is the second largest Czech operational programme, offering almost EUR 5 billion in 2007 – 2013. The programme is intended primarily for public sector (municipalities, public administration, self-government bodies); however, some sub-programmes are open for private companies as well.

Projects leading to improved resource efficiency and implementation of eco-innovation in manufacturing companies can be financed from the next sub-programmes:

- Reduction of water pollution from industrial sources;
- Reduction of air emissions – VOC, ammonia;
- Improvement of efficiency of energy sources;
- Improvement in waste management (including measures for reuse and recycling);
- Monitoring and reduction of industrial pollution.

3.1.2. Operational programme Enterprise and Innovation

The Operational programme Enterprise and Innovation (operated by the Ministry of Industry and Trade and its agency CzechInvest) is intended for co-financing business projects in the manufacturing industry and related services.

It consists of 15 sub-programmes; the following may be used for projects related to resource efficiency and eco-innovations:

- *Innovation* – For projects utilising new, original solutions (product or process innovation), the sub-programme enables companies to acquire the modern machinery, equipment, know-how and licences necessary for their implementation;
- *Eco-energy* – Projects of energy savings, increasing energy efficiency and use of renewable energy sources are supported;
- *Development* – It helps accelerate development of SMEs by supporting investments in modern technologies (acquisition of technologies with better parameters, increase of efficiency of processes);
- *Potential* – Support for investment in the establishment or expansion of company's development centre (department) aimed at research, development and innovation of products and technologies.

3.1.3. Regional operational programmes

Seven regional operational programmes have been introduced at NUTS II level and two more operational programmes for Prague.

Each programme contains specific sub-programme for support of (regional) entrepreneurship, under which refurbishment of companies' buildings can be funded leading to increased energy efficiency. Moreover, Operational programme Prague - Competitiveness includes sub-programme Development of SMEs that enables support for resource efficiency / eco-innovation measures.

3.1.4. Other operational programmes

Other operational programmes offer subsidies for resource efficiency / eco-innovation measures indirectly through funding of educational, capacity building and R&D activities:

- Operational programme Education for Competitiveness;
- Operational programme Research and Development for Innovations;
- Operational programme Human Resources and Employment;

Ministry of Agriculture operates Rural Development Programme that contains a sub-programme for modernization of agriculture enterprises where projects for resource efficiency improvement can apply. However, it does not cover food processing companies, which are – at the same time – excluded from Operational programme Enterprise and Innovation (as they do not belong under Ministry of Industry and Trade wings). From this point of view, food processing companies are disadvantaged in public funding.

3.2. Other public sources

3.2.1. Green Savings Programme

Apart from programmes supported from EU funds, the Ministry of Environment operates subsidy programme Green Savings that aims at increase of energy efficiency and use of renewable energy sources in private houses and public buildings.

The programme sets minimum efficiency targets to be achieved, which prevents products and technical solutions with worse parameters to be used. Thus, the programme boosts eco-innovation requiring companies to supply high quality solutions. The programme is funded from sale of Czech carbon credits surplus.

3.2.2. Programme EFEKT

Financed from State Budget, the Ministry of Industry and Trade runs State Programme for Support of Energy Savings and Use of Renewable Energy Sources (Programme EFEKT). Its aim is to contribute to reaching State Energy Concept objectives.

EFEKT is a subsidy programme that supports primarily “soft”, but also technology projects, carried out by enterprises, municipalities, schools and NGOs. In particular, it supports:

- Energy audits;
- Energy savings measures in industrial processes;
- Energy savings measures in buildings;

- Operation of Energy Consultancy and Information Centres;
- Information and promotional activities;
- Implementation of energy management systems;
- Preparation of EPC projects.

3.2.3. National R&D Programme

Besides Operational programme Research and Development for Innovations, other R&D activities are supported from national R&D programme that is operated by Technology Agency of the Czech Republic. It provides another indirect support for resource efficiency / eco-innovation measures.

As an example, Ministry of Industry guaranteed programme TIP can be mentioned that provides subsidies for industrial production-related projects of applied research and/or experimental development. It focuses on development and application of new materials, products and technologies.

3.3. Future of public funding schemes

3.3.1. Operational programmes

In the upcoming programming period (2014 – 2020), the Czech Republic will keep on using the EU financial mechanisms and implementing them through operational programmes. The total financial amount allocated will be lower and the number of operational programmes will decrease. However, the operational programmes of Ministry of Environment (Operational programme Environment) and Ministry of Industry and Trade (Operational programme Enterprise and Innovation for Competitiveness) will continue.

Possibilities for funding resource efficiency / eco-innovation measures seem to continue in a very similar way (especially with relation to energy). A little bit higher importance will be given to non-energy sources by supporting projects in secondary raw materials field within a specific sub-programme.

From financial mechanisms point of view, both operational programmes will be based on subsidies again; however, the Ministry of Industry and Trade considers also other instruments to be used (e.g. credits, guarantees).

With decreasing amount of EU funds available and slight shift to financial mechanisms other than subsidies, an importance of private and other financing schemes can be expected.

3.3.2. New Green Savings Programme

The programme Green Savings continues as New Green Savings (started in June 2013). It is estimated that it will provide subsidies of EUR 1.12 billion in 2013 – 2020. However, with continuously decreasing price of carbon credits and uncertainty about a future market development, the budget may finally be lower.

3.4. European funding schemes

Apart from funding schemes operated at national level, Czech companies can apply for eco-innovation projects financed from European funding programmes – i.e. Intelligent Energy Europe (IEE), LIFE +, etc.

In summer 2013, a specific call for eco-innovation projects was published within Competitiveness and Innovation Framework Programme (CIP) supporting projects that aim at prevention or reduction of environmental impacts and/or optimize use of energy and natural resources.

European funding schemes will continue in the next programming period. For resource efficiency and eco-innovation, the following will be the most important:

- Horizon 2020 – research, development and innovation projects (continuation of IEE will be part of the programme);
- LIFE+ – projects in a field of environmental and climate change;
- Competitiveness of Enterprises and SMEs (COSME) – projects to increase competitiveness and sustainability of enterprises (continuation of CIP).

4. Private financing institutions

Taking into account possibilities of public funding, private sources has only limited utilization in financing of resource efficiency / eco-innovation measures in the Czech Republic.

For private financing sector, eco-innovations play the same role as any other innovations. When company applies for a credit for an eco-innovation project, a bank uses the same criteria and procedures. Environmental dimension does not play any role.

On the other hand, there is an example of Ceska Sporitelna bank that cooperates with International Finance Corporation (IFC) on a risk sharing programme **FINESA** aiming at financing energy efficiency and renewable energy projects.

The bank offers investment credit with IFC guarantee up to 50 %, which results in easier access to finance for clients. The guarantee enables Ceska Sporitelna to make finance available to a higher number of projects and reduces administrative burden for clients. The programme entails a Risk Sharing Facility of up to EUR 47.5 million.

5. Innovative financing instruments

5.1. Energy Performance Contracting

Method of Energy Performance Contracting (EPC) has also been developing and realizing in the Czech Republic focusing on projects (investments) that result in energy savings and/or reduction of environmental fees. It is used mostly to finance energy measures in public sector, while there is only low number of applications in companies. The reason is that Energy Services Companies (ESCOs) perceive business risks of potential clients being too high, especially in the time of crisis, and are reluctant to take it over.

In the Czech Republic, a new scheme on implementation of resource efficiency management system in industry on no cure, no pay basis was successfully piloted. This scheme was developed by ENVIROS under name MT/ESCO within the GEF funded and UNEP managed EMPRESS project in 2004 – 2006.

The scheme is very promising, but its wider application in companies is limited by the mentioned problem of clients' business risk.

5.2. Seed Fund

Within the Operational programme Enterprise and Innovation, the Seed Fund pilot project has been introduced. It offers businesses a completely new instrument of support in the form of venture-capital investments.

The project's objective is to develop a venture-capital market in the area of investments in both start-ups and long-established firms with innovation potential. This primarily involves investments that are of almost no interest to either banks due to the associated level of risk or to the majority of traditional venture-capital funds due to the small scope of such investments. Start-up firms in particular frequently have strong potential to become competitive and penetrate foreign markets, not only in fields such as IT and biotechnology, nanotechnology and advanced materials.

The Seed Fund is an instrument of financial engineering via which public and private funding will be jointly invested as capital in promising firms with strong growth potential. Besides financial resources, the Seed Fund will provide the necessary know-how for further development and company management in a similar manner as funds that have long been in existence abroad.

6. Findings from surveys

Within PRESOURCE project, two surveys on financing have been carried out. While findings from a survey among financial institutions are described in previous chapters, the following table summarizes financing-related questions from a survey among companies (manufacturing SMEs).

Question	Conclusions
What are three the most important sources of information you use when seeking finance for implementation of resource efficient measures?	Companies mostly consult experts in their particular sector, make use of informal contacts and information from technology suppliers. Financial institutions were mentioned only once as an information source.
What types of finance for implementation of resource efficient measures have you used?	Vast majority uses their own sources to finance resource-efficient measures; half asked for bank loan. Only one out of five companies used public subsidies.
What are the three most important barriers for your business when seeking public finance (e.g. public grants)?	Almost all companies mentioned high administrative burden as a main barrier. They also lack time for writing application and administrating a subsidy. One third does not have enough information about public funding schemes.
What are the three most important barriers for your business when seeking private finance (e.g. bank loans)?	Half of companies don't see any problem. One third mentioned lack of information and/or contacts.
What concrete actions would you suggest regarding the improvement of	Companies would welcome less administration and better (technical) assistance from public sector.

the existing financing framework conditions?	
Are you interested in taking part in events on how to better finance implementation of RE measures?	Majority of companies are or would be interested in such events. While some have already attended them (including paid ones) and actively search information, others only wait and react on ad-hoc invitations.

7. Swot analysis

7.1. Strengths

- Operational programmes (EU funds)
- Examples of projects
- Public funding infrastructure developed
- Healthy banking sector
- Legislation supporting implementation of EPC method within public sector

7.2. Weaknesses

- High administrative burden connected with public funding schemes
- Low political support given to environmental issues
- Financial mechanisms other than subsidies missing
- Those who control financial mechanisms lack technical capacities for resource efficiency
- Investments in resource efficiency are in general too small and therefore not so interesting for financial institutions

7.3. Opportunities

- High resource efficiency potential within SMEs
- Continuing support from EU funds
- Development of other financial mechanisms
- Implementing resource efficiency considerations in a systematic way at the stage of a new investment (technology / enterprise) design
- Support of eco-innovation related business incubators and technological centres

7.4. Threats

- Lack of trust within the society
- Financial crisis
- Still relatively low prices of natural resources including energy carriers
- Payback periods are often too long for private investment