Do the size matters?

OP PIK Programme, Size of the Applicants and Energy efficiency etc.

IREAS Energy, s.r.o.
Czech Technical University
Jan Evangelista Purkyne University

Ing. Ondřej Vojáček, Ph.D.
Ing. Jiří Louda
Ing. Jan Macháč
Mgr. Ladislav Sobotka
Ing. Lenka Zemková
Petr Krautwurm
Ing. Ondřej Kubica

PART 1

- Broader picture
- Methodology
- Common findings

Broader Picture

Operational Programme "Enterprise and Innovation for Competitiveness"

Target of the analysis:

How to most efficiently reach the goals, that were approved by European Commission for OPPIK
(in relation to the Europe 2020 strategy and to the goals defined in Partnership Agreement for individual key development areas of the Czech Republic)

- OPPIK consists of 5 priority axes

- OPPIK targets in relation to the Europe 2020 strategy:
  - Invest 3 % GDP into research and development,
  - Meet the targets of the **energy-climate package**,
  - OPPIK focuses on 8 investment priorities concentrated thematically as defined in regulation 1303/2013.

- It is the **main tool of the Ministry of Industry and Trade** to reach the **EED goals**

Study Motivation

- One of the **main obstacles** to reach the OPPIK´s targets is the **allocation limit for LEs** (Large Enterprises) within OPPIK
  - LEs can be subsidized by max. 20 % of the planed allocation for the
    - **PA 3 (Efficient energy use;** except for ST 3.6),
  - These restrictions mean that more than **70% of OPPIK allocation have to be used by the SME.**

- The sponsor of the study **NCEU (National Centre for Energy Savings)** strives to assure the OPPIK funds will be allocated efficiently and in order to contribute to the targets for which OPPIK exist, especially to the **Energy efficiency targets**.

Efficiency Requirements

- The general EU allocation requirements set:
  - **The orientation on results**
  - **The orientation on the effective spending with regard to the defined indicators, expected results and outputs of the funded projects.**

- Examples of the efficiency requirements:
  - Article 52 preamble of the 1303/2013 Regulation, Article 54 preamble of the 1303/2013 Regulation, Article 88 preamble of the 1303/2013 Regulation

- After definition of the targets of the program, these requirements can be framed into the requirements on the **cost-effective investments** of the ESF funds, i.e. the effort to maximize the required effects with the given budget.

- Strong accent on the **cost efficiency** in the process of selection of the subsidized projects… → **see study METHODOLOGY**

Methodology of the Study

- Analysis of the supported measures in OPPI (2007-2013)
- Analysis of the supported measures in OPPIK (2013-2020)
- Comparison of the previously and currently supported measures/activities

The same activities supported:

- Ex-post analysis of the cost efficiency of the previous program for the LEs and SME
- The analysis of the impact of the findings for the current OPPIK

New topic supported or new activities supported:

- The analysis of the absorption capacity for the LEs and SME
- The proposal of the optimal allocation for the SME and LEs

STUDY FINDINGS: Analysis of the 2007-2013 period
Common Findings

- Substantial **compliance of the activities** and project supported in OPPI and OPPIK scheme

- Significant **differences in cost effectiveness** at which the SME and LEs achieved required results

- The absorption capacity of the small enterprises is **limited**

- **Different dynamics** of the cost efficiency for the SME and LEs (depending on the number of realized projects):
  - SME: the cost efficiency of the project decreases
  - LEs: the cost efficiency remains more or less the same

PART 2

- **Main results for the individual specific goals**

- OPPI 2007-2013 ex-post cost efficiency analysis for specific targets and specific indicators

- The impact of the current settings for the target reaching

SG 3.2: Final Energy Consumption

Ex-Post Analysis Main Findings

- Analysis of the OPPI 2007-2013 projects corresponding to priority axis 3, specific goal 3.2; **Increasing the energy efficiency of the business sector**

- **RESULTS:**
  - The efficiency in energy savings: efficiency of LEs was **3.9 times higher** compared to the SME

    (CZK 476 for LEs vs. CZK 1838 for SME per GJ saved annually),

    i.e. the LEs drew 54% of the subsidies for 82% of the annual energy saving
  - The efficiency for the CO_2 reduction: LEs reach the CO_2 reduction **4 times less expensive** than the SME

- Dynamics: 1st to 3rd call:
  - **Noticeable increase in the subsidy to achieve 1 GJ of savings for SME,**
  - **The amount of subsidy per GJ of energy savings remained stable for LEs.**

SG 3.2 Final Energy Consumption
Modelling the OPPIK Potential

- **Achievable savings with the same:**
  - **cost effectiveness**,
  - ratio of drawing between LEs and SME as in the OPPI (SME drew 46% of the total allocation),

  the OPPIK **could achieve** **28.4 PJ annually** (with an allocation of CZK 20.5 billion).

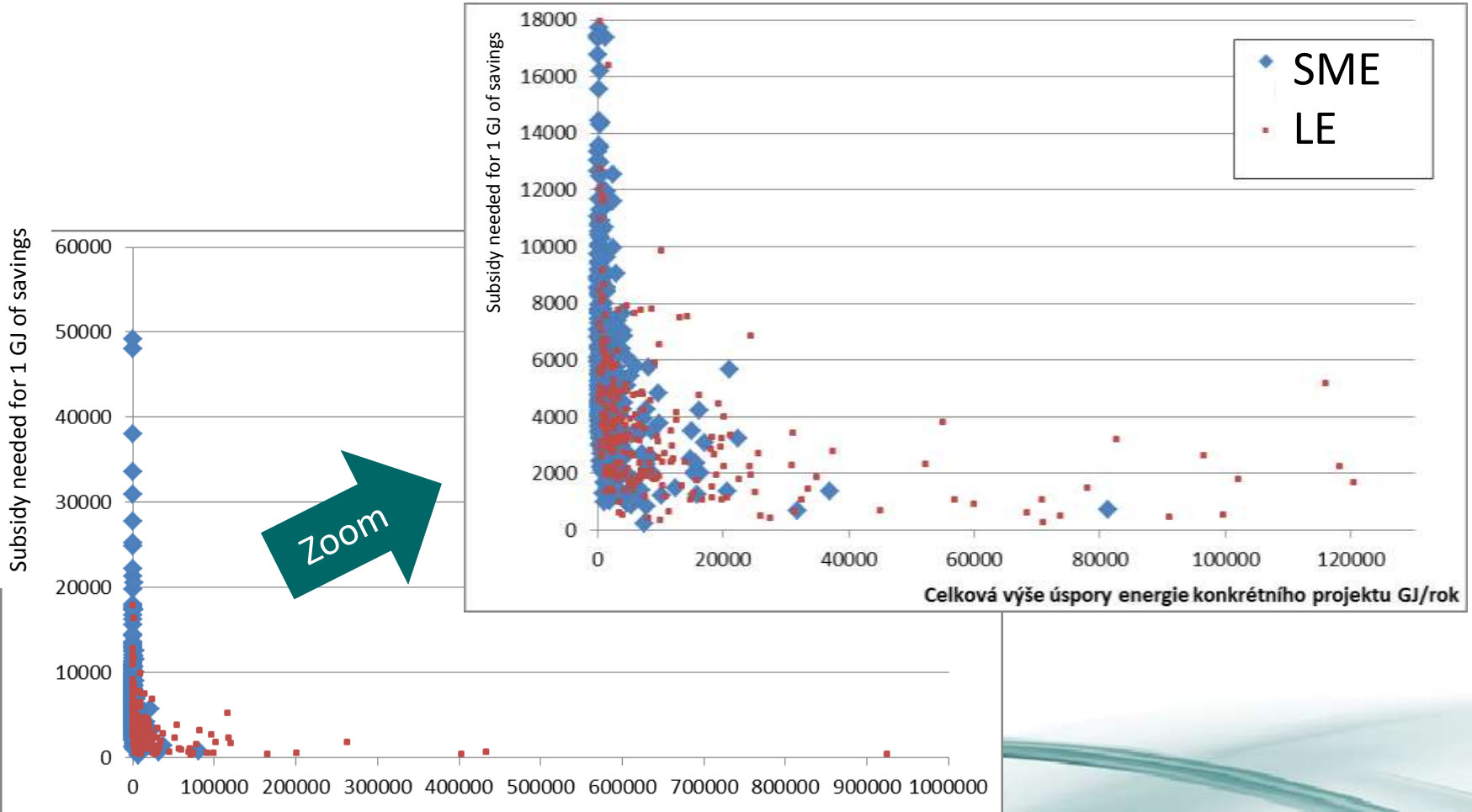
- With the **current condition** (allocation) of the fund money between LEs and SME ("80 : 20") **only 17.5 PJ** annually would be achieved (i.e., **38% less**).

- **A redefinition of the parameters for drawing under specific goal 3.2 (savings in final energy consumption) would lead to 10.9 PJ more savings!**

SG 3.2 Final Energy Consumption

Chart: Savings and CO2

- Graphs illustrate efficiency between LEs and SME
  - Subsidies in CZK needed for 1 GJ of annual savings are much lower for **LEs (red colour)** compared to **SME (blue)**



SG 3.3: Intelligent Network Components

Absorption Capacity of the SME

- New program ⇒ no ex-post analysis possible
- The analysis of the absorption capacity done
- **Main FINDINGS:**
  - Restriction for LES is absurd ⇒ **eligible applicants are more or less large enterprises:** regional distributors and operators of regional distribution grids (PREdistribuce, a. s., E.ON Distribuce, a.s., and ČEZ Distribuce, a. s.)
  - Under current limit for LEs there is only minimal absorption capacity available
  - The set allocation of approx. CZK 1 billion will be drawn by large enterprises, if allowed to.

Reflection of the new EK proposal

- Cancelling the limit for the LEs support is reasonable and it is strongly welcomed

SG 3.4: Low-Carbon Technologies
Absorption Capacity of the SME

- New program ⇒ no ex-post analysis possible

- SG focused on low-carbon technologies and utilization of secondary raw materials

- **High capital investment activities**, which are not achievable for SME in all areas

- Researchers tend towards opinion that **it is not advisable to restrict support to LEs for this specific goal**

SG 3.5 Primary Energy Consumption
Absorption Capacity

- Based on the program assessment criteria: **projects primarily aimed at replacement of steam networks by hot-water networks will be supported**

- The **share of large enterprises** in the steam networks **is** approx. **94%** (data: energy regulatory office)

SG 3.5 Primary Energy Consumption
Ex-Post Analysis Main Findings

- **RESULTS:**
  - **Energy savings**: **2.7 times less costly** primary energy savings **in LEs**
    (CZK 292/GJ/year vs. CZK 806/GJ/year in SME)
  - **CO_2 reduction: 3 times less expensive in LEs**
  - Dynamics: the subsidy cost effectiveness did not decline over time for projects implemented by LEs, while it decreased for SME.

SG 3.5 Primary Energy Consumption
Modelling of the Potential in OPPIK

- **Achievable savings with the same:**
  - **cost effectiveness**,
  - ratio of drawing between LEs and SME as in the OPPI (SME drew 46% of the total allocation),

  the OPPIK could achieve **10.9 PJ annually** (with an allocation of CZK 3.9 billion).
- With the current allocation of subsidy between LEs and SME ("80 : 20"), **only 6.5 PJ** annually would be achieved (which is 40% less).

- A **redefinition** of the parameters for drawing under specific goal 3.5 could lead to **4.4 PJ more energy savings!**

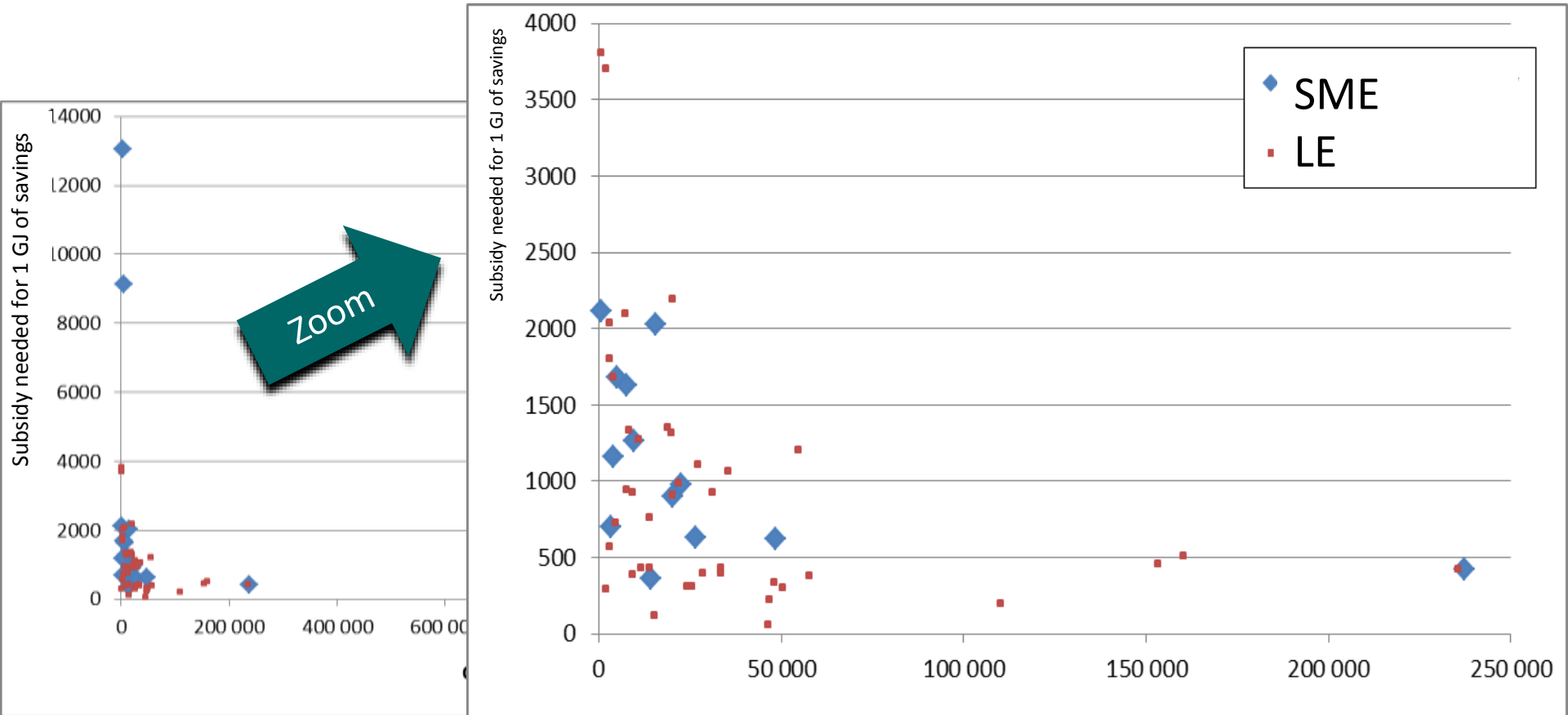
Reflection of the new EK proposal

- Positive change, however still **doubts** if the **full allocation can be drawn**

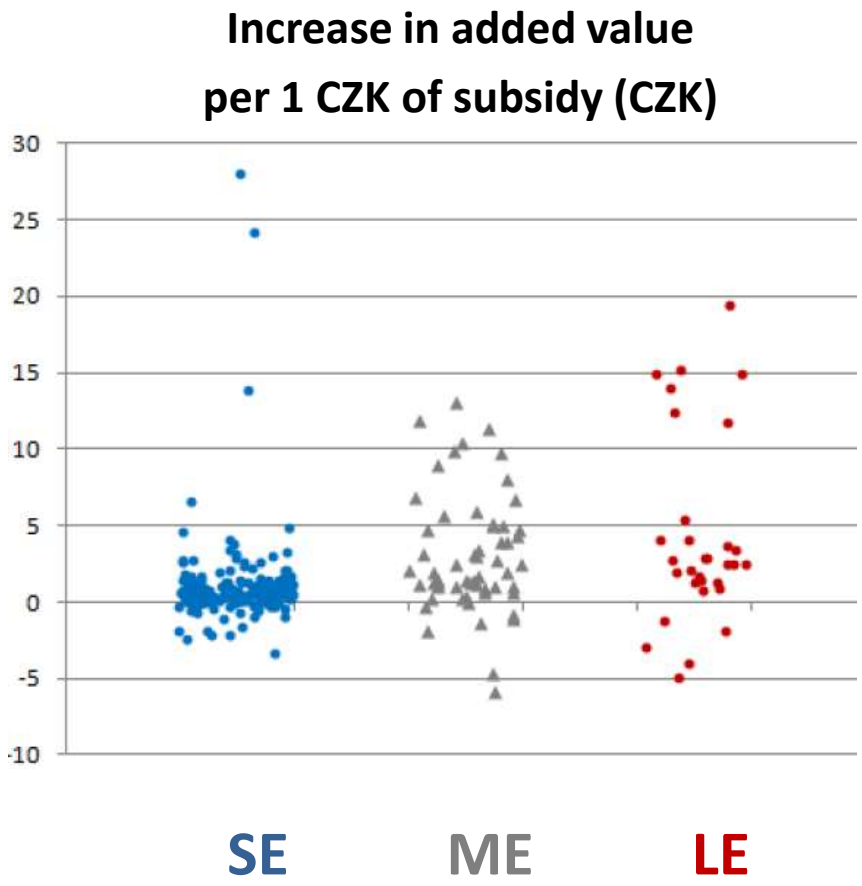
- Still being questioned how the district heating companies owned by foreing municipalities will be threated under new redefinition

SG 3.5 Primary Energy Consumption
Chart: Savings and CO2

- Graphs illustrate efficiency between LEs and SME
  - Subsidies in CZK needed for 1 GJ of annual savings are much lower for **LEs (red color)** compared to **SME (blue)**



Priority Axis 4:
Development of High-Speed Internet Access Networks and Information and Communication Technologies



Change in added value

Comparison of the average change in added value (in CZK) generated by 1 CZK of subsidy

Among LEs, 1 CZK subsidy increased added value by 2.8 CZK
Among SEs, 1 CZK subsidy increased added value by 0.5 CZK

(SEs generated **5.6 x less output** per 1 CZK subsidy compared to LEs)

Part 3

- **Other aspects of the strict requirements to LEs and SME share of support**

- **Conclusions and recommendations**

What Is Typical Large Enterprise in Czech Republic?

- There are 2800 LEs according to the Czech statistical office data (2016)
- 80 % of these 2800 LEs (i.e. 2251 enterprises) are **large enterprises only due to the number of employees** criterion but do not reach the annual turnover criterion
- In addition for the categorization of the value of the assets, turnover and number of employees are summed up in the interconnected companies
- Foreign subjects owe 40 % of the total basic capital of the Czech companies and at the same time they have property share in more than 1/5 of the companies (unfortunately exact data are not available)

Legal Analysis of the Limited Support of the LEs

- Art. 3 of Regulation no. 1301/2013, **explicitly** lays down that the ERDF is to support **productive investment regardless of the size of the enterprise concerned**, as long as it contributes to the investment priorities set in:
  - Art. 5, point 1 "strengthening research, technological development and innovation",
  - Art. 5, point 4 "supporting the shift towards a low-carbon economy in all sectors".

- **In contravention of these requirements** of Art. 3 of Regulation no. 1301/2013, the **OPPIK programming document lays down a restriction on the allocation share between LEs and SME for allocation of funds** in:
  - priority axis 1 – "Promotion of research and development for innovations",
  - priority axis 3 – "Efficient energy use, development of energy infrastructures and renewable energy sources, promotion of implementation of new technologies in energy use and secondary raw materials".

- That said, both priority axes are linked to one of the investment priorities specified above.

- **This restriction on the allocation share between LEs and SME is therefore in contravention of Art. 3 of Regulation no. 1301/2013**.

The Drawing Scenarios and Requirements

- **The current limit** on the support of LEs up to 20% of the allocation in PA 1, PA 3 and PA 4 means that **SME would draw 72%** of the OPPIK allocation (PA 5, Technical assistance, is excluded).

- This would lead to **not utilization of the funds allocated in the OPPIK**. This statement is supported in the study with a calculation of two scenarios for drawing of OPPIK funds.

- Scenario 1 **("realistic scenario")**, based on the assumed real absorption capacities of the priority axes shows that **SME would only exhaust 54% of the OPPIK allocation**, translating into CZK 63 billion.

- Scenario 2 **("hypothetical scenario")** shows that **if the current rules were maintained, the ČR would lose the opportunity to utilize CZK 13.3 billion** that the SME would be unable to draw (**corresponds to 11.5% of the total OPPIK allocation)**.
- **Therefore it makes sense to redefine the limit for the support of the LEs to 50% from current 72% without any additional rules for the specific priority axis or specific goals.**

Current support of SME 72%

Suggested support of SME 54% (for optimal target reaching)

Thank you for your attention

Dr. Ondřej Vojáček

IREAS Energy

Czech Technical University

National Center for energy savings

ondrej.vojacek@nceu.cz