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**Annual report 2016**

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# **Analysis of framework conditions of energy performance contracting (EPC) in Switzerland**

## **Contracting the Gap: Energy Efficiency Investments and Transaction Costs**

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## List of abbreviations

EC	Energy Contracting
EEG	Energy Efficiency Gap
EPC	Energy Performance Contracting
ESCO	Energy Service Company



## Project goals

This research attempts to provide an empirical assessment of the key determinants of the energy performance contract (EPC) market development and its potentials regarding the energy efficiency gap (EEG). The first objective is to identify the extent to which EPC markets allow for reducing the EEG. Secondly, we will analyse the transaction costs and market barriers related to the adoption of EPC solutions. Finally, the results will be used to draw policy conclusions as to the potential need and justification for government support, either through direct subsidies, indirect financial instruments (e.g. preferential loans) or by providing the required legal and institutional framework that can facilitate market development.

Ultimately the project's goal is to provide recommendations regarding policy instruments (including the adjustment of the existing regulatory framework), their effective tailoring for specific energy contracting (EC) markets and their effective combination with other policy measures used for promoting energy efficiency. An auxiliary objective is to provide new insights as to the EPC contractual design and the related business models. The target audience will include the Swiss federal government, cantons, communities, local utilities and the private sector energy service companies (ESCOs). The project also aims at disseminating results using stakeholder workshops.

## Summary

Energy performance contracting is seen as one possible solution to reduce the energy efficiency gap in Switzerland. Based on available market experiences and a literature review we have described the current framework conditions for energy performance contracting in Switzerland. This work includes an evaluation of the most relevant barriers and hurdles preventing a more prosperous development of the EPC market in Switzerland, as well as a description of the main market players and stakeholders pushing for an accelerated improvement of the boundary conditions.

The main focus of the project is put on empirical data which was gathered amongst potential clients of EPC projects as well as potential service suppliers to evaluate stakeholder preferences, transaction costs and barriers perceived. On the client side, we focused on non-residential building owners with an emphasis on relatively complex buildings that are appealing contexts for considerable energy savings by contracting. On the supply side, the utilities are one of the main focus groups besides other potential EPC providers such as equipment installers, manufacturers and facility managers, to only name a few.

For the data gathering, two internet surveys were prepared and executed, each including a set of more general energy related questions as well as a choice experiment. The choice experiments included attributes on various financing options and payment schemes as well as on regulatory boundary conditions, amongst others. Approximately 300 completed data sets from potential clients and more than 200 completed data sets of potential suppliers of EPC solutions were gathered and are used as the basis of the econometric analysis.

## Work undertaken and findings obtained

The literature review which was set up in 2015 (Klinke et al. 2015) was updated in a few points and made available to swissesco to support the build-up of the energy performance contracting association in Switzerland.

The analysis of the current framework conditions for EPC in Switzerland was finalized and submitted to BFE as one milestone of the project (Klinke et al. 2016). In this report, the barriers and limitations for the EPC market in Switzerland are addressed and suggestions and recommendations formulated to improve market conditions for EPC.



Two online surveys for the empirical data gathering, including choice experiments and the given focus points on the main barriers and framework conditions for EPC, were the major work in 2016:

- As indicated by the last annual report, the first pretest for survey 1 (survey on potential clients) led to the adaptation of the survey. In 2016 the pretest had to be repeated to generate appropriate priors for the choice experiment.
- The second pretest of the survey 1 was conducted in the beginning of 2016 leading to further changes and adaptations in the set-up and design of the survey. One major hurdle was the low response rate for the pretest (approx. 10 participants from 100 invitees) which made it difficult to generate appropriate priors for the choice experiment. After calling several invitees by phone to acquire sufficient participants for the pretest, the survey 1 was finalized end of May 2016.
- In June, the invitation to participate in the survey 1 was sent out to 1885 persons/organisations by post and to 205 persons/organisations by e-mail in a first round. The written communication was prepared in French and German.
- Reminder e-mails were send out to the non-participants of the survey 1 and the ones which did not complete the survey (1763 reminder e-mails end of June and 1578 e-mails end of August). Additionally, 69 respondents which had started the choice experiment but did not finish it have been called by phone to motivate these persons to finalize the survey.
- Approx. 15% of the invitees (in total 305 persons/organisations) have completed the survey 1 by Nov. 2016. Another 11% have started the survey but did not finish due to various reasons.
- The analysis and interpretation of findings is going on.
- From autumn 2016 on, the survey 2 (survey on potential service providers) was prepared for WP3. For this survey 2, the collected addresses were updated in 2016 and a final list of approx. 800 ESCO's was prepared.
- After a first pretest with approx. 30 participants, the survey 2 was finalized and sent out by e-mail in the beginning of Dec. 2016, including the prepared support letter from BFE.
- A first reminder e-mail was sent out to the non-respondents before Christmas 2016 and further e-mail invitations were send out at the beginning of January 2017 to increase the response rate further. Currently, approx. 200 persons have completed the survey 2.

Due to the low response rate of the invitees and the additional efforts needed to increase the number of participants, the data gathering and results analysis of survey 1 was delayed in 2016. To finalize the results analysis and the reporting, the contractors are undertaking all necessary steps to submit the deliverables within the project timeframe.

## National cooperation

The project consortium has been supporting the association swissesco with information material (literature review and WP1 report) to support the development of guidelines and model contracts.

Additional information exchanges have taken place with local utilities and associations such as VSG, swisspower, SIG, etc.



## Evaluation 2016 and outlook for 2017

The project progress in 2016 suffered from the partially low response rate of participants of the two surveys. However, with additional efforts from the project team, the response rate was increased to acceptable rates to allow for the description of relevant results.

In the beginning of 2017 the first results of the survey analysis will be presented to SFOE and the draft report submitted.

## References

Klinke et al. 2015: Klinke, S., Farsi, M., Jakob, M., Martius, G., Reiter, U., 2015. Contracting the Gap: Energy Efficiency Investments and Transaction Costs – Literature review. 2015.

Klinke et al. 2016: Klinke, S., Farsi, M., Jakob, M., Reiter, U., 2016. Contracting the Gap: Energy Efficiency Investments and Transaction Costs – Analysis of framework conditions of energy performance contracting (EPC) in Switzerland. 2016.



## Appendix

Survey 2 on potential service providers attached as pdf (M3\_german).



