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Swiss Federal Office of Energy SFOE

ProKilowatt



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## ENERGY EFFICIENCY BIDDING AND AUCTIONS TEN YEARS OF EXPERIENCE IN SWITZERLAND



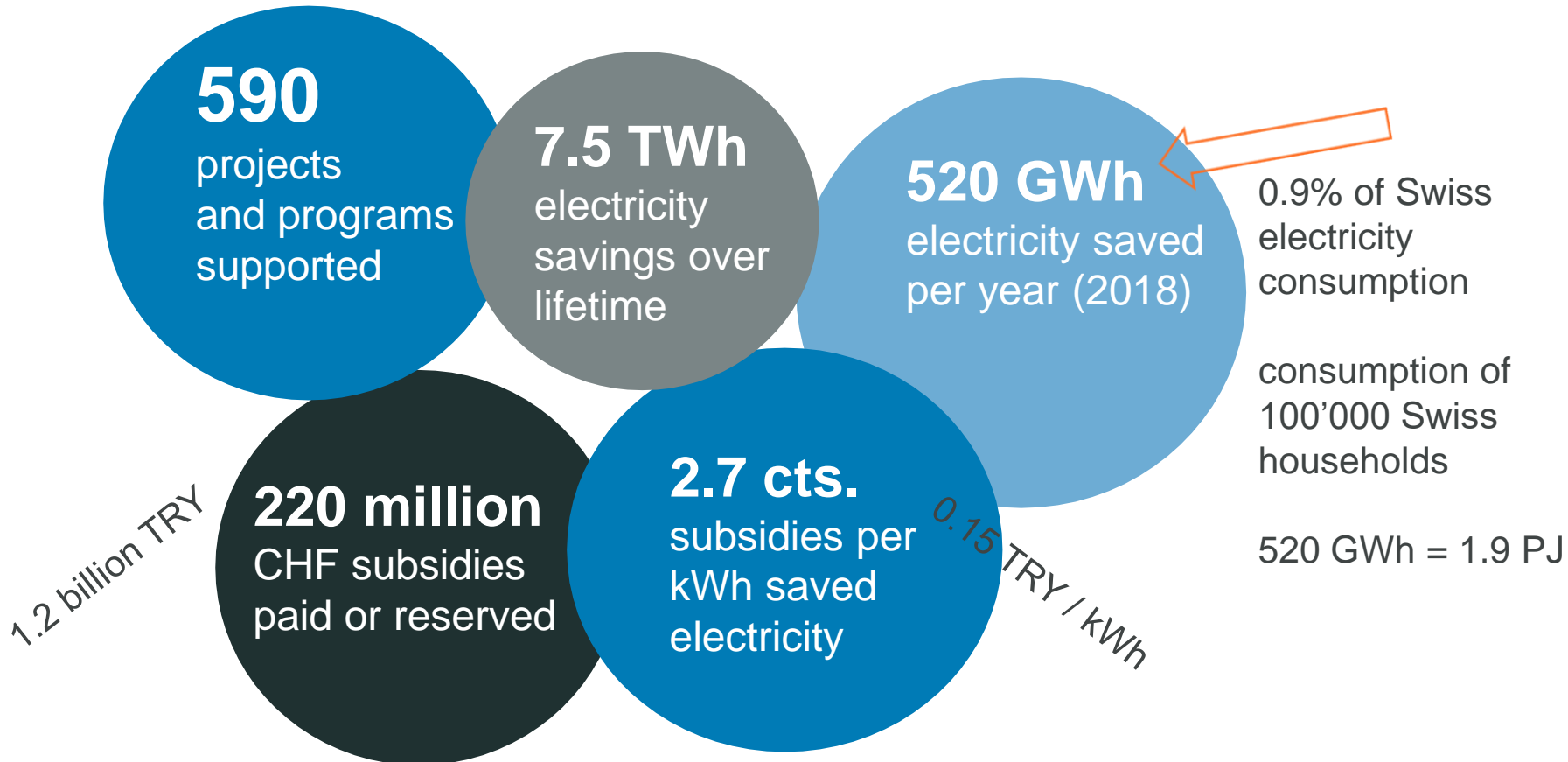
# OVERVIEW

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1. Key numbers of ProKilowatt – main results
2. How does ProKilowatt work?
3. Lessons learnt



# PROKILOWATT KPIS 2010-2018\*



\*tentative numbers for 2018, numbers may be subject to change



# SUPPORTED TECHNOLOGIES

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Over 20 different kind of technologies supported

More than 75% of electricity savings through the following technologies:

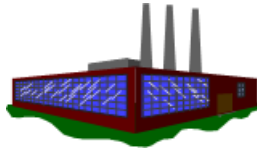
- lighting
- motors and variable-frequency drive
- cooling systems
- hot water heat pumps
- circulating pumps
- pumps
- ventilation systems

2010-2016



# SUBSIDIES AND SAVINGS BY SECTOR

industry



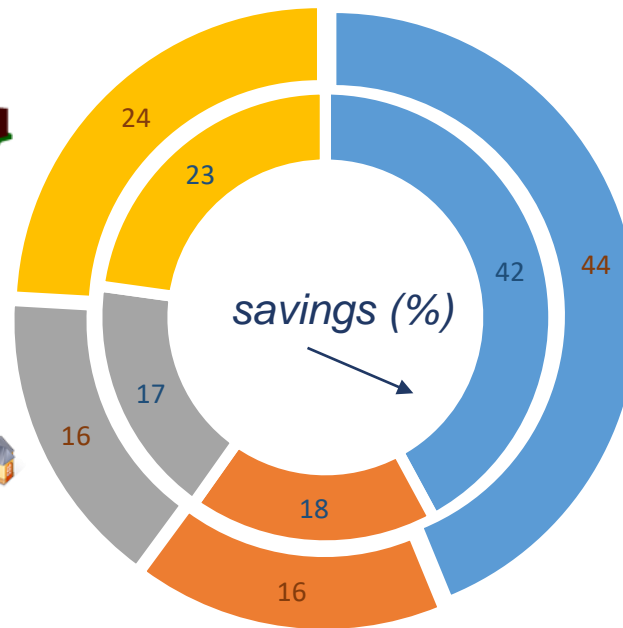
services and trade



households



public sector

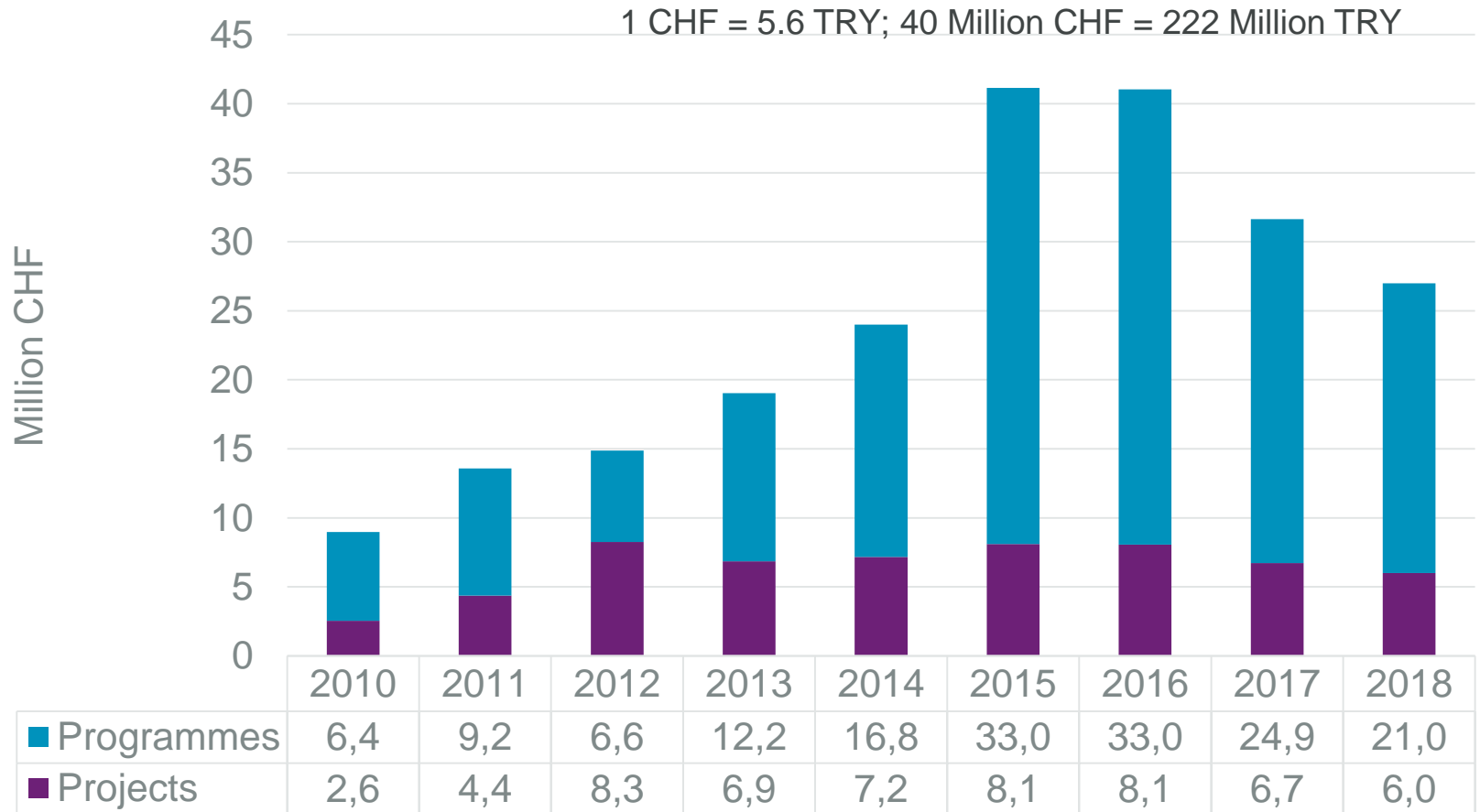


subsidies (%)

2010-2016



# BUDGET 2010-2018



Budget approved for projects and programmes, 2010-2018



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# BIDDING AND AUCTIONS?

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Bidding and auctions – common for renewables (wind, photovoltaics)...



**...But bidding and auctions for energy efficiency?**

How to handle...

... different technologies?

... different target groups?

... uncertainty in delivering energy savings?

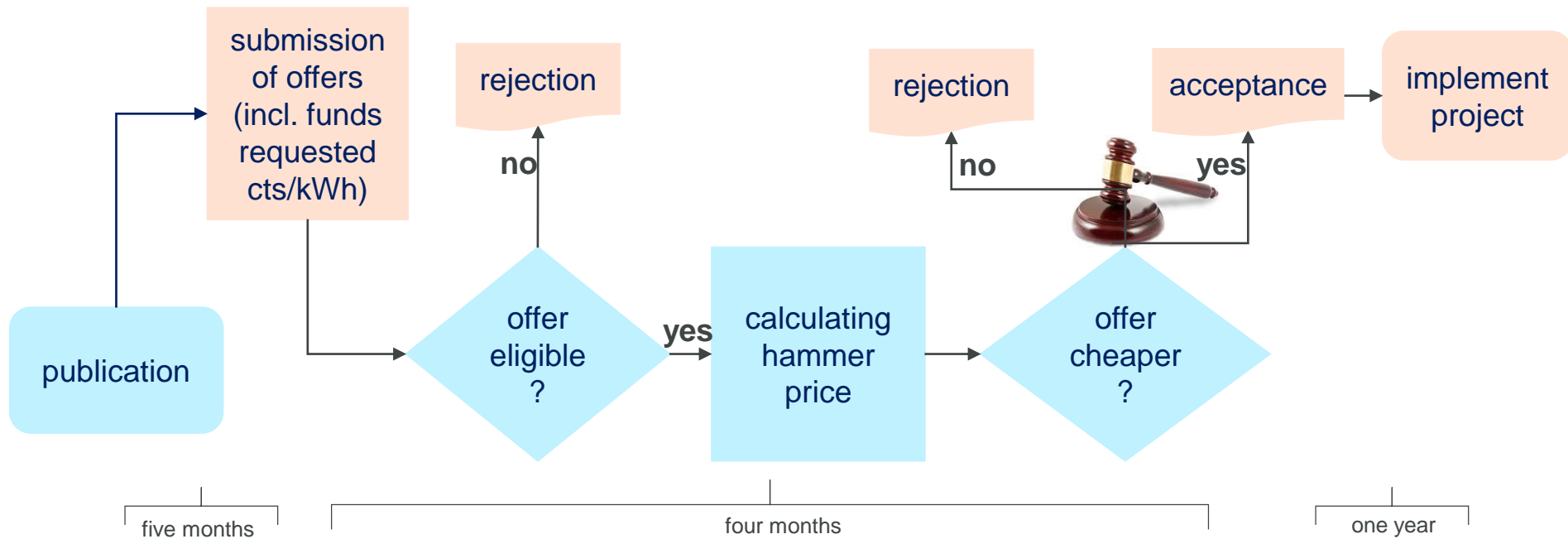
... possible windfall profits?





# HOW DOES ONE AUCTION WORK?

business enterprises applying for funds



public administration granting funds



# DIFFERENT TECHNOLOGIES?

Many efficient technologies – but one award criteria:  
**funding in cents / savings in kWh**



Technical process optimisation

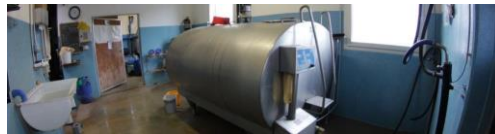


Replacing electric motors with variable-speed steered and/or highly efficient motors

Variable-speed air compressor for producing compressed air



Replacing circulating pumps with efficient circulating pumps



Heat recovery in milk production



Replacing indoor lighting with steered LED-lighting

**Aim:**  
addressing a significant part of electricity efficiency potential.



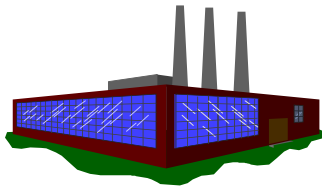


# DIFFERENT TARGET GROUPS?

May apply for subsidies: both (1) enterprises owning installations and (2) intermediaries.

**Projects:** owners of installation applies directly for own measures

**Programmes:** intermediaries apply for measures of different owners



applies for funds



gets subsidies for efficiency measures



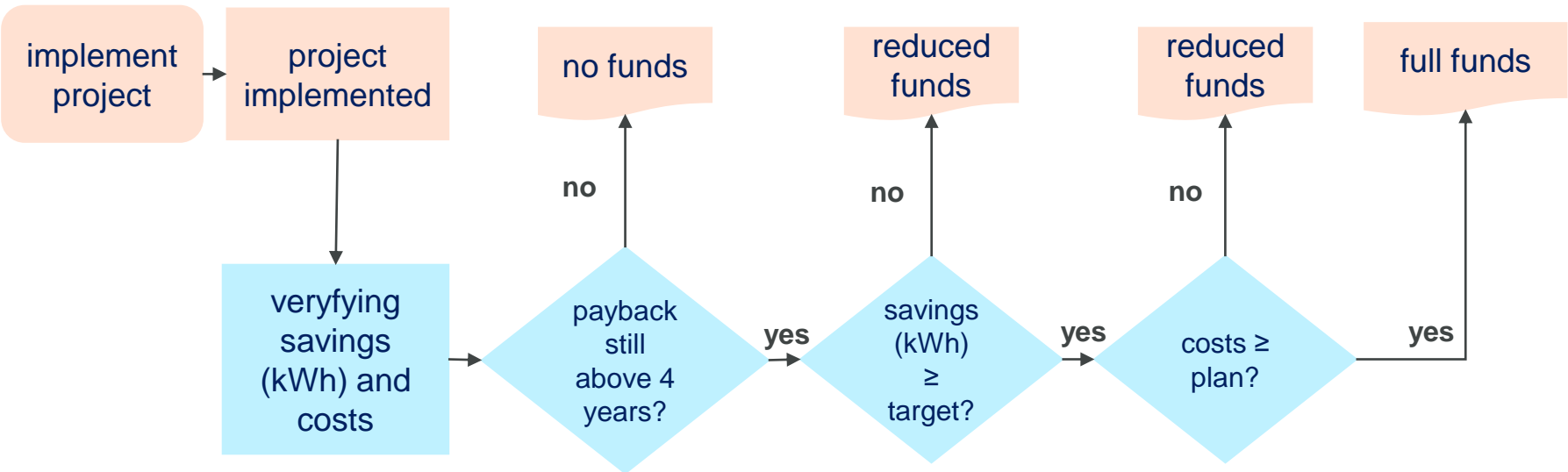
Aim:

addressing electricity efficiency potentials in industry as well as in small enterprises and households.



# ENERGY SAVINGS DELIVERED?

business enterprises



public administration



# WINDFALL PROFITS?

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«**Additionality**» of funds: Financial support for measures which would otherwise not be implemented.

In practice, all these criteria have to be met:

- measure not yet implemented
- measure not required by law
- measure not economically viable (payback criteria)
- measure is best available technology.

In addition: market studies, evaluations and audits.



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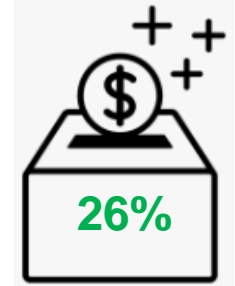
# SOME HINTS FOR IMPLEMENTING AN ENERGY EFFICIENCY AUCTION SCHEME

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- ✓ Define saving calculations for standard measures upfront.
- ✓ Observe market and technology trends and adjust conditions for auctions on a yearly base.
- ✓ Auctions need fixed deadlines, foresee time for evaluation of offers.
- ✓ Two or more auction rounds should be run for projects per year to meet planning cycles of enterprises.
- ✓ Communicate auctions and directly inform trade organisations and energy consultants in order to gain enough and qualitative good participation in the scheme.
- ✓ Audits are needed to ensure that energy savings are calculated correctly and that funds are spent in line with the conditions.



# EFFECT OF TENDERING ON COSTS



In 2016, the projects which passed tendering applied on average for 74% of what they would have been allowed to.

Thus, tendering help saving 26% of public funds as compared to more traditional subsidise programmes.

2010-2016





# LIMITS OF BIDDING AND AUCTION

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- Main advantage of tendering: bidders do not per se submit the maximal price limit set by the government but are closer to the actual value of needed subsidies.
- Auctions are robust: no evidence of strategic bidding so far, even though about 80% of projects submitted get funds.
- But: Tendering to some degree lead to frustration of companies that get no funds.
- Tendering is a voluntary measure, i.e. participation is not legally binding. It might thus be more likely to find political acceptance. On the other hand, energy savings are hard to be predicted.
- If one wants to attain a clearly fixed goal of energy efficiency / energy savings, one should opt for such instruments as White Certificates or a steering tax on energy use.



# THANKS!

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## Contact

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Eiger, Moench and Jungfrau, Bernese Oberland, as seen from Sefinefurgge (Mürren)

Further reading: Radgen, Peter and Kurt Bisang (2016): Competitive Tenders for Energy Efficiency – Lessons Learnt in Switzerland. Eceee Industrial Summer Study Proceedings. Online Version. <http://proceedings.eceee.org/docs/2016/contents.pdf>