



**UNIVERSITÉ
DE GENÈVE**

INSTITUTE FOR
ENVIRONMENTAL
SCIENCES

Learning from 10 years of lighting efficiency

**Findings and Lessons learned from a 10-year Energy
Efficient Lighting Programme for the Swiss Service Sector**

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First meeting of the project ODYSSEE-MURE

Monitoring EU EE First Principle and Policy Implementation

Berlin, December 17th 2019

EXCERPTS

Presentation layout

Context

- National and international
- Geneva's "éco21" program

Insights from an EE Program

- Data and methods
- Average savings
- Savings decomposition

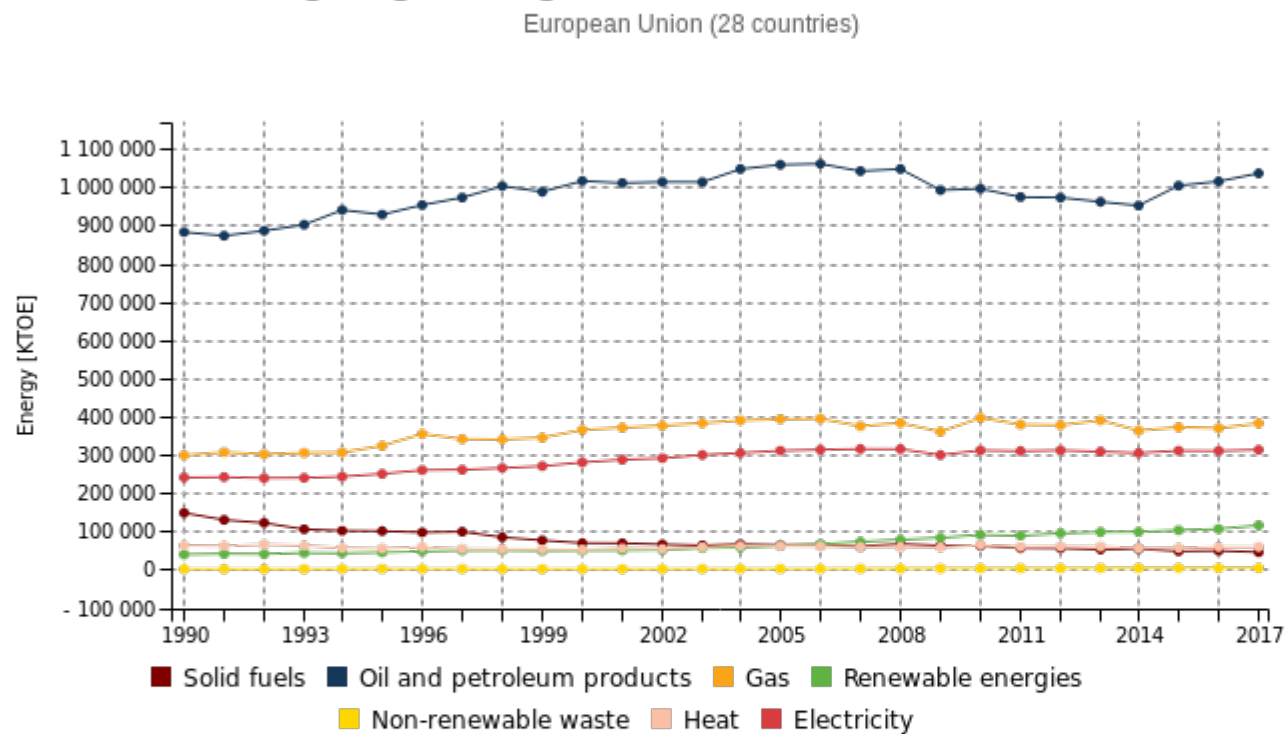
Data quality issues

- Comparing energy saving estimations
- Field experience

Context

Europe:

- Entry into force of the new regulation on lighting efficiency in September 2019
- Energy consumption increasing again since 2014 (2016 for electricity)



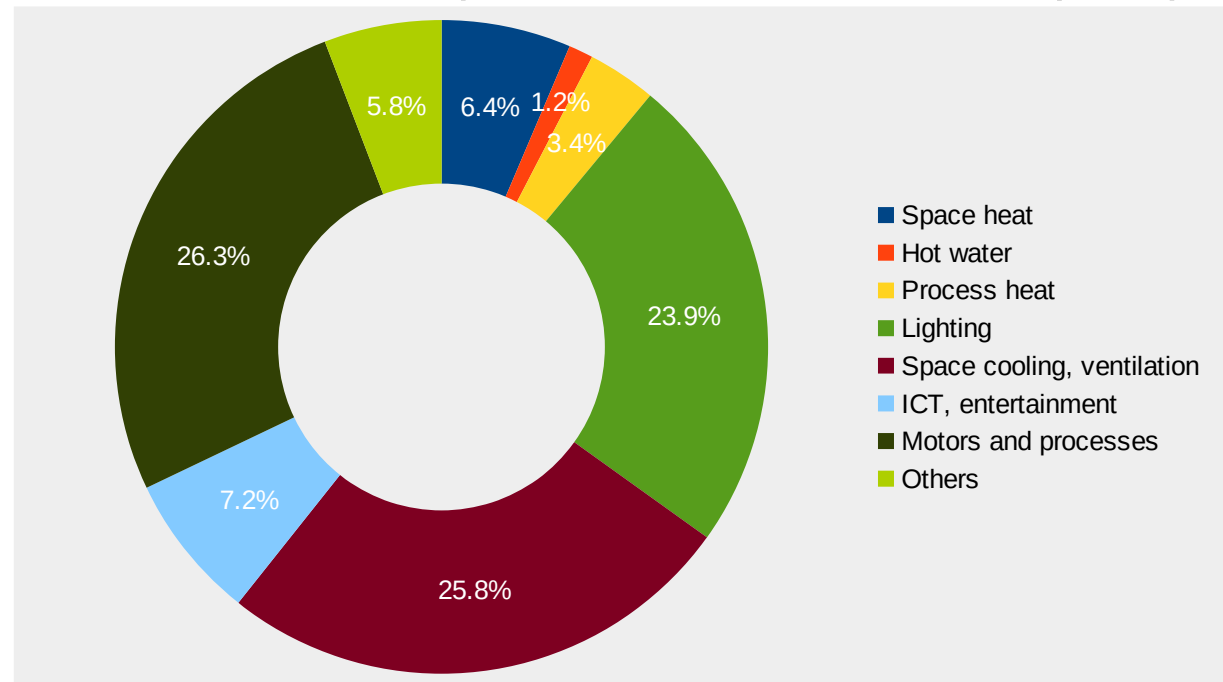
Source: Eurostat

Context

Switzerland:

- Energy Strategy 2050
– Objective -54%
final energy use/inhabitant
- Focus on Energy Efficiency
and Renewable Energy
- Policy implementation
mostly at cantonal level,
with national guidelines

Decomposition of the electricity consumption in the service sector (30% of CH elec. consumption)



Translated from Kemmler, A., Spillmann, D.T., Koziel, S., Piégas, A., Notter, B., Läderach, A., Jacob, M., Catenazzi, G., 2018. Analyse des schweizerischen Energieverbrauchs 2000-2017. Bundesamt für Energie, Bern.

Context - “éco21-Efficient lighting”

About SIG-éco21:

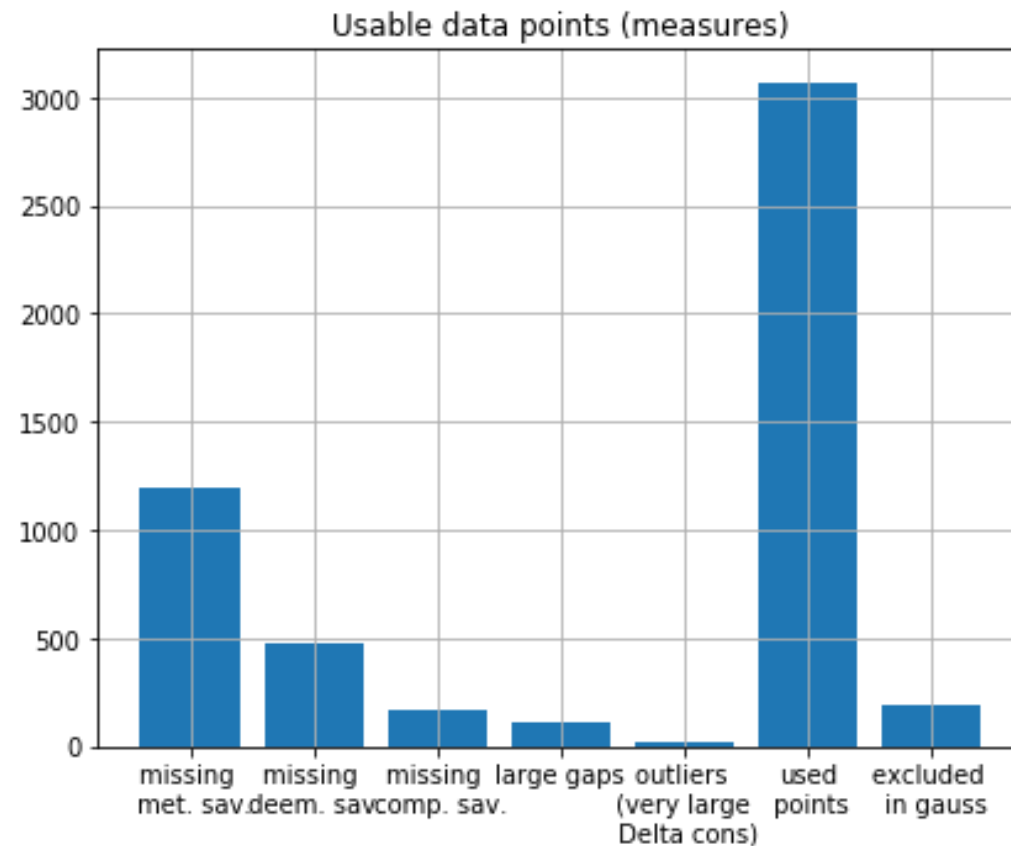
- EE Program for Geneva canton started by the utility in 2008
- Comprehensive targetting of energy consumption and strong link with stakeholders
- Most savings achieved on lighting in BCAs and SMEs
+ other usages in large enterprises

Brief history of the Efficient Lighting action plan:

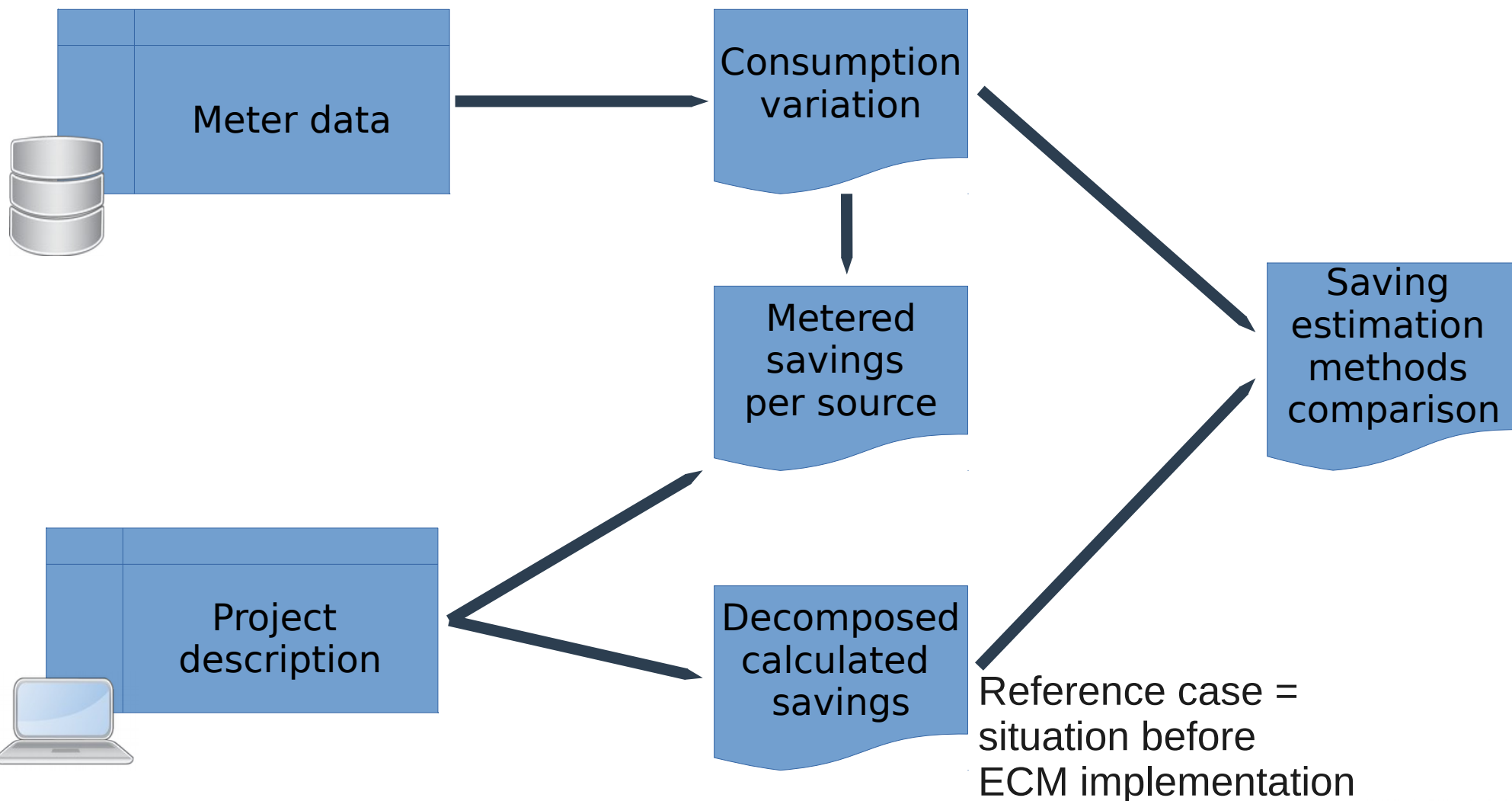
- Started in 2011 as a subsidy for technology replacement and detection installation in Building Common Areas (12h or 24h lighting imposed by law until 2005)
- Reinforced in 2014 with projects in SMEs + technical advice by auditors
- Now mature and restricted following new regulation (incandescent bulbs)

Data

- Access to éco21 operational data and utility meter data under a collaboration agreement
- Detailed description of 3551 projects
 - Provided by the program partners (electricians and auditors)
 - Entered on an online subsidy application form
 - Number and power of light sources & times of use before and after the ECM
- Link with metered consumption (one entry per year in general, 1/month for large consumers)



Methods



Conclusion

- Average savings per source of light have been relatively stable and show little dependence on size or type of facilities (sector, size).
- Where available, a reduction of the times of use dwarfs savings from technology replacement (sufficiency before efficiency)
- Stakeholders are ready to get involved into EE programs but a focus on financial benefits and limited resource availability can induce data quality issues.



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Thank you for your attention

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