




MVP – Article 7 and EED

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Concerted Action (CA) on EED – Report!



**CONCERTED ACTION
ENERGY EFFICIENCY
DIRECTIVE**

Energy efficiency
obligation schemes,
monitoring impacts
of eligible measures

Core Theme Series Report:
Concerted Action Energy
Efficiency Directive

8

March 2017

Good practice example

Croatia

Croatia is currently developing a system for monitoring, measuring and verifying energy savings (SMIV). The Authority acts as a central body for data collection, analysis and reporting of energy savings in all sectors of energy consumption at the national level and governs, manages and continuously improves the SMIV. It as a result of implemented programmes related to energy efficiency.

Calculation methodology:

- Deemed and scaled savings are most frequently used (climatic conditions variations?)!
- Large projects are often evaluated using metered approach!
- Despite clearly defined rules for calculation of energy savings, control & verification remains an issue

Monitoring & verification for EE measures:

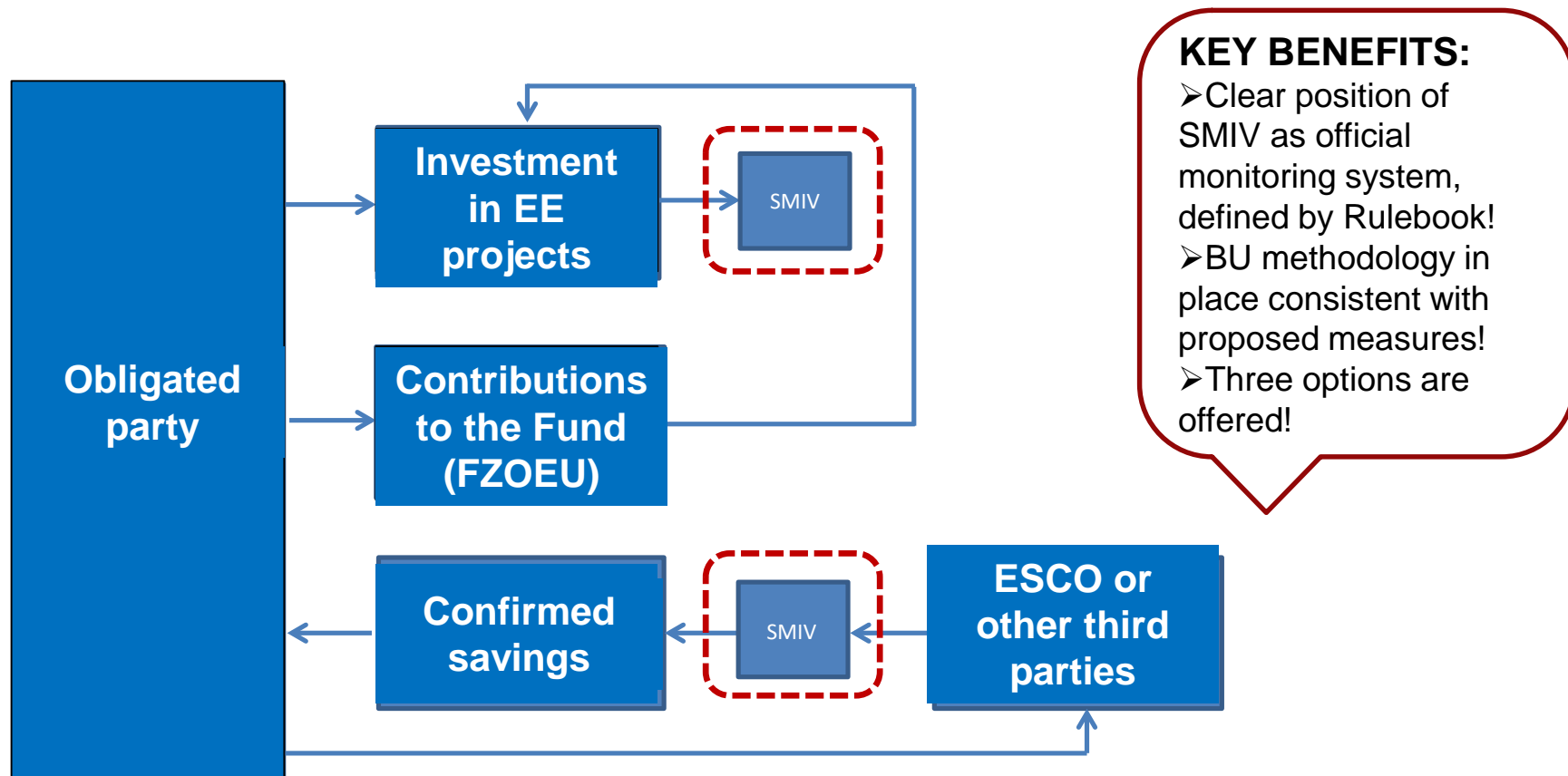
- ‘*Measurement*’ and ‘*Monitoring*’ – 19 MS see no difference!
- Complete harmonization of monitoring, control and verification – not possible!
- Only 8 MS can deliver data on previous year (end of April), most of MS can do this in **year – 2!!!**

SMIV CROATIA:

- CEI status!
- MoEnvEn!
- Further development & adaptation of SMIV!
- **Strong commitment of using SMIV!**



Envisaged functioning of EEOS in Croatia (2016)!

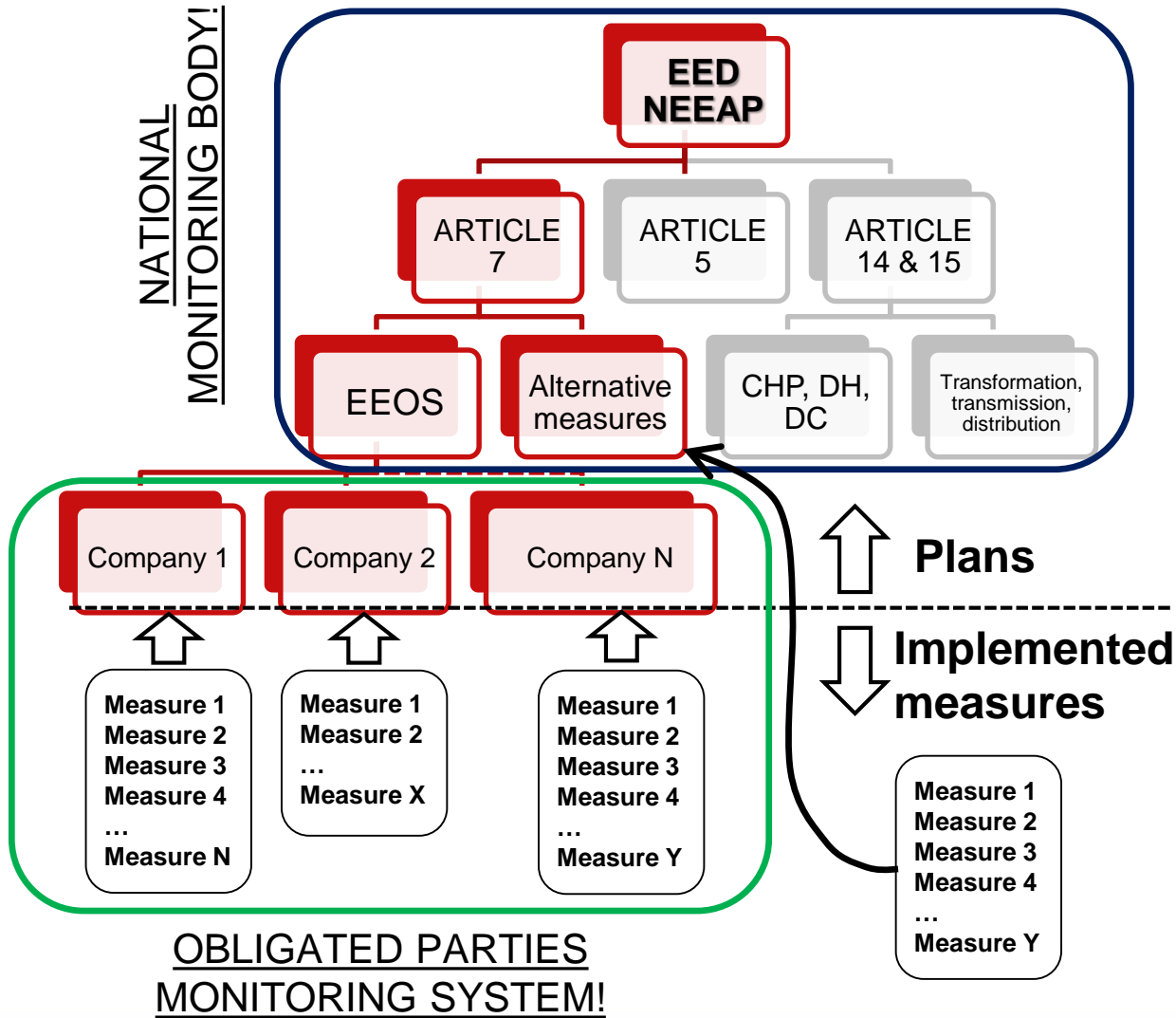


KEY BENEFITS:

- Clear position of SMIV as official monitoring system, defined by Rulebook!
- BU methodology in place consistent with proposed measures!
- Three options are offered!

Presented scheme could be out of date!

MVP – tool for monitoring of Article 7!

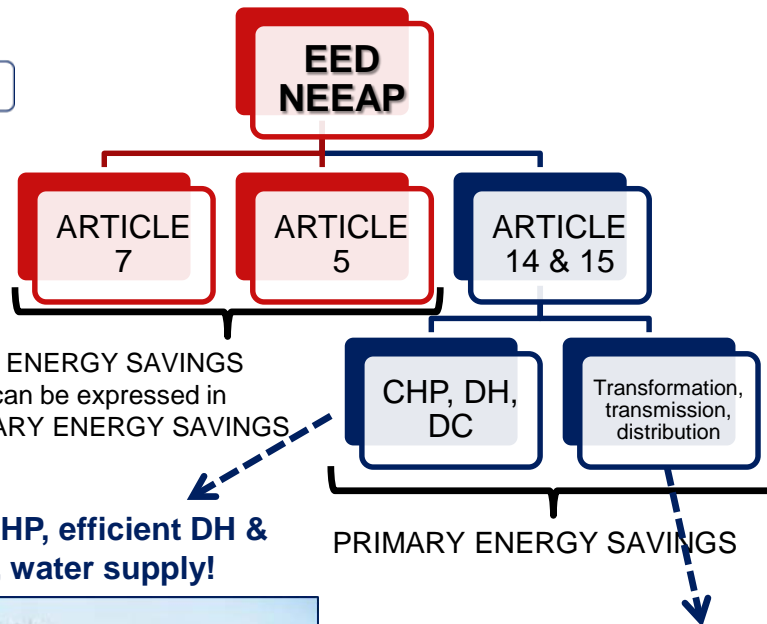
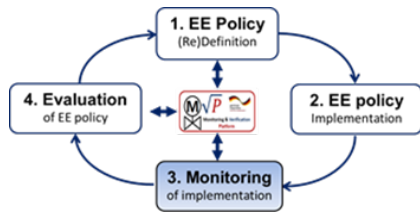


MVP KEY BENEFITS:

- Multiple plans & multiple implemented measures!
- Double counting minimized!
- Continuous & systematic monitoring of EEOS and/or alternative measures (Article 7)!
- Reporting 100% possible for previous year!
- Penalty estimation in €/kWh!
- Transparent and cost-effective solution



MVP – adaptation in line with EED requirements



EED Targets (Article 3):

- Primary energy consumption,
- Final energy consumption,
- Primary energy savings,
- **Final energy savings**,
- Energy intensity.

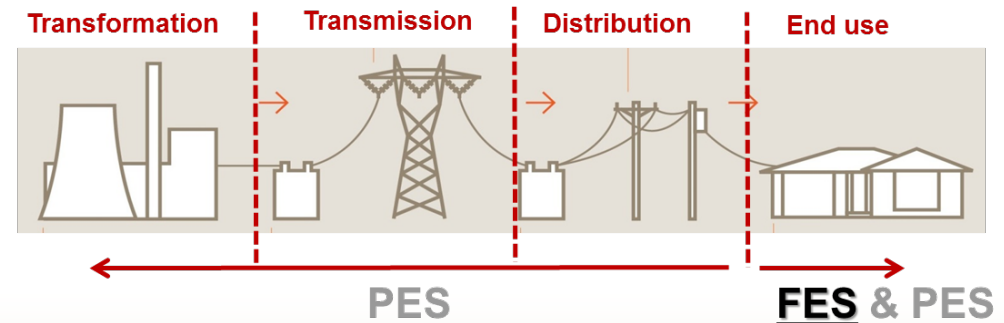
GIZ/ORF-EE (MVP+):

- Continuous & systematic monitoring of NEEAPs and EED implementation!
- Reporting to EC!
- Cost-effectiveness!

Example: Promotion of CHP, efficient DH & DC systems, renewables, water supply!

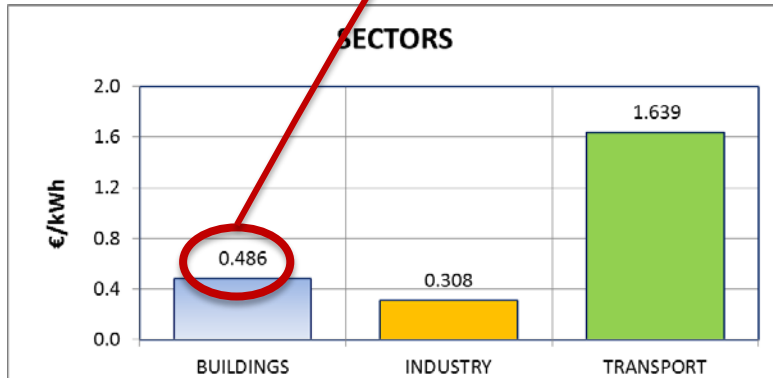


Example: Electricity

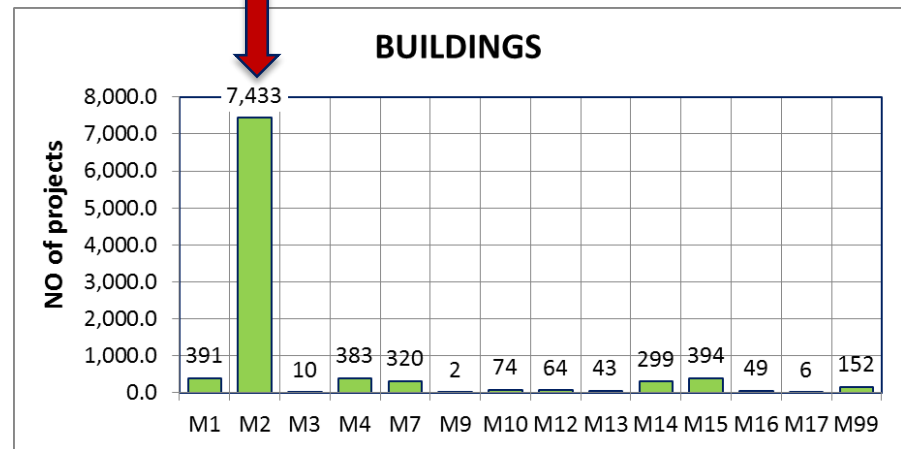
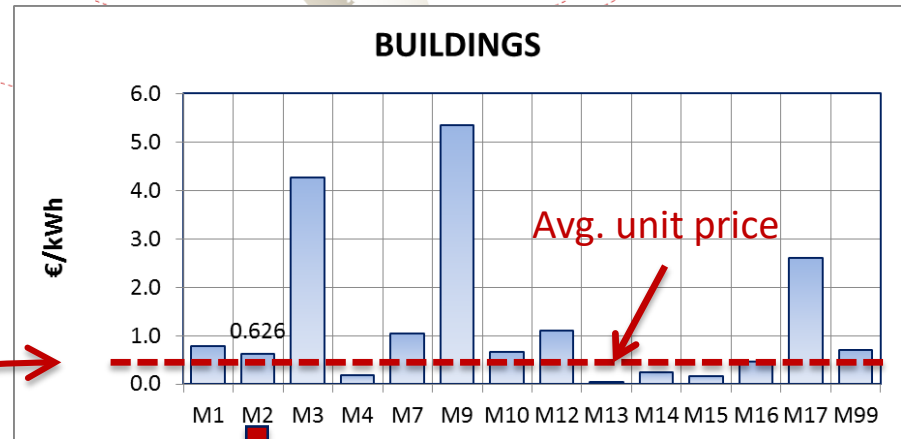


Analysis of MVP data for evaluation (example)!

- Real data was used, based on a sample of 9661 implemented projects!
- **BUILDINGS**: 9620 implemented projects!
- **INDUSTRY**: 15 implemented projects!
- **TRANSPORT**: 26 implemented projects!

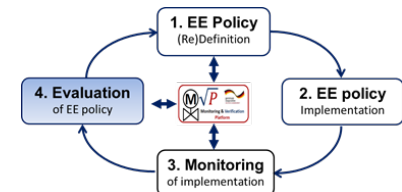


Unit price in euros per kWh saved!



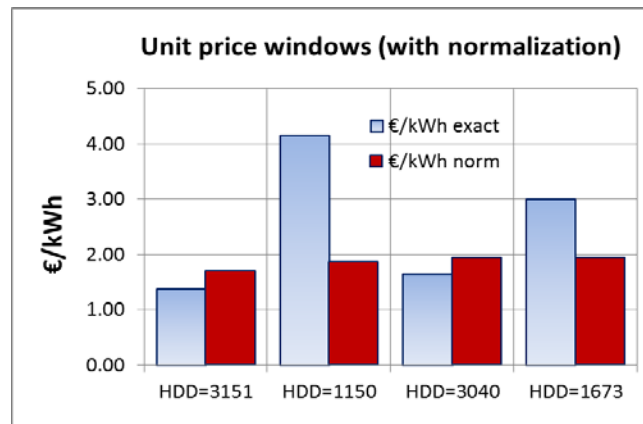
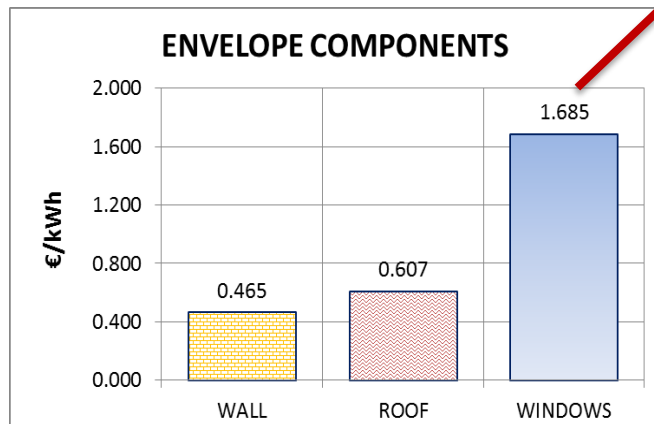
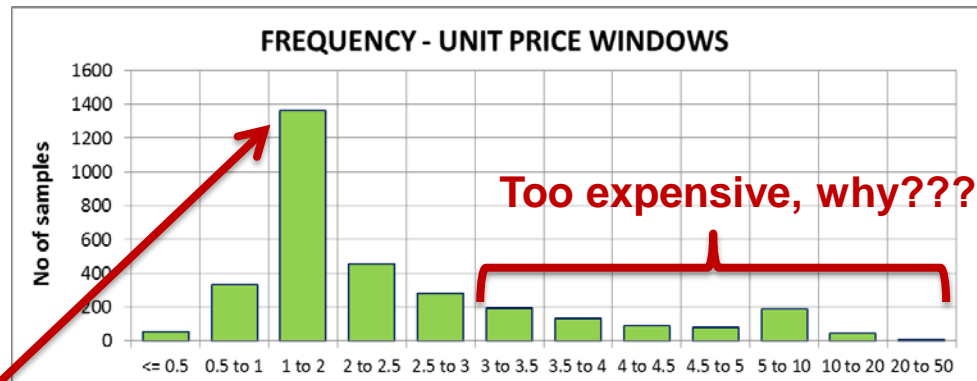
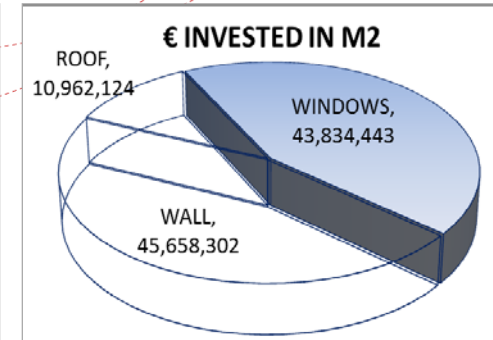
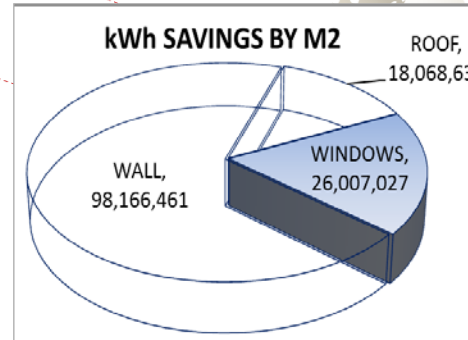
M2 –Envelope components!

- walls,
- windows and
- roofs!

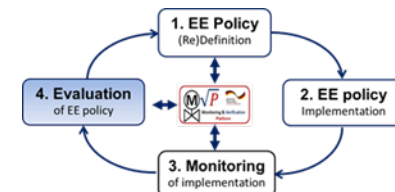


Analysis of MVP data for evaluation (example)!

- M2 measure most frequently used!
- M2 decomposed into walls, roofs and windows!
- Installation of new windows the most expensive measure!
- Insulation of walls below average unit price per BUILDINGS sector!

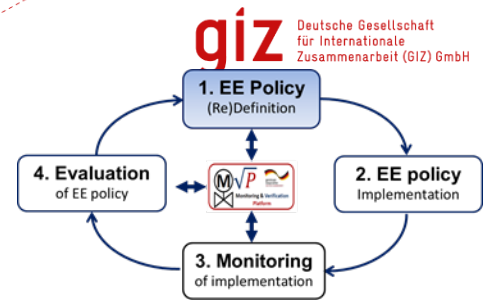
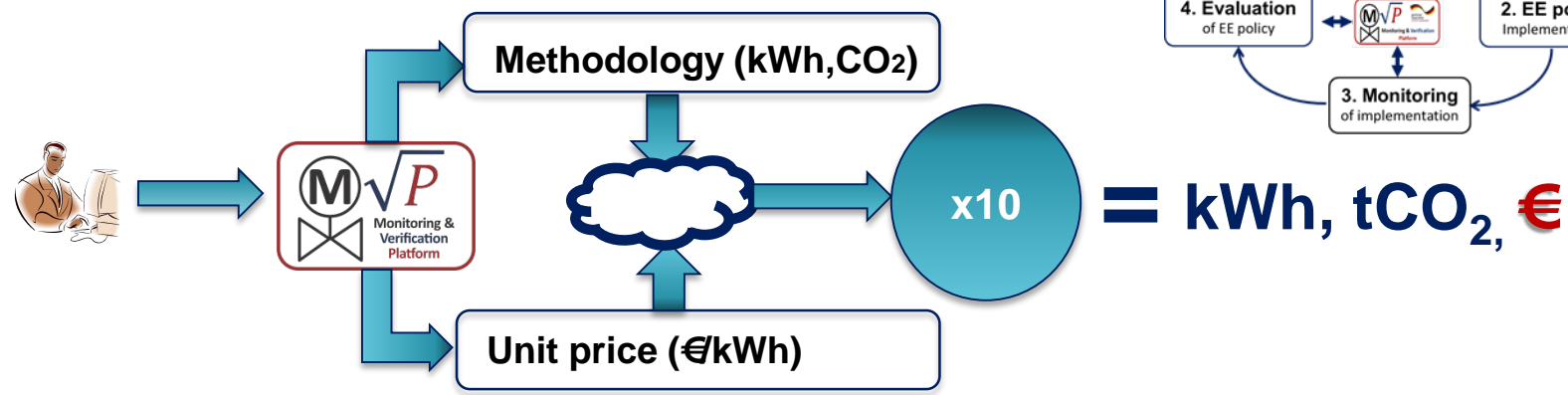


And many other analysis!!!





MVP or alternative used for planning!

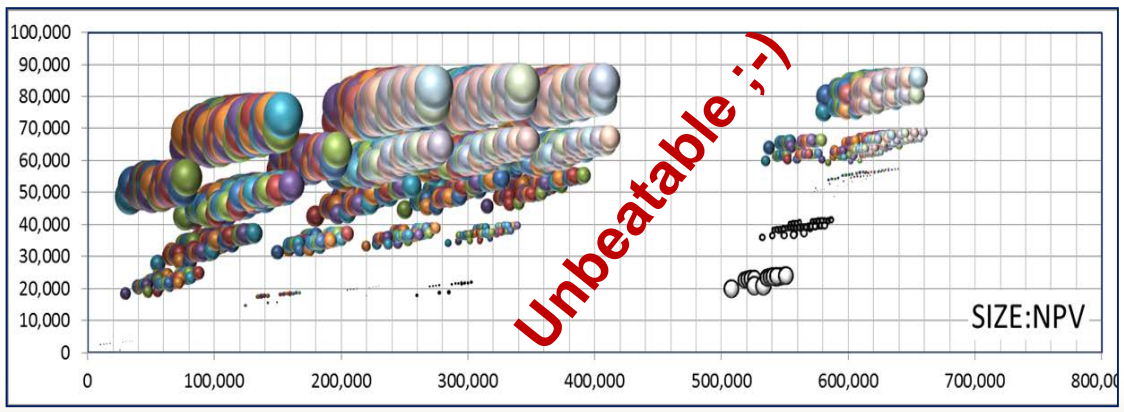


Planning for residential buildings – Kosovo Energy Efficiency Project (KEEP)!

- Multi-criteria analysis!
- SPB, PO, NPV, NPVQ, IRR!
- Based on TABULA calculation methodology!
- For a SINGLE building at least **2249 options of EE measures!!!!**
- To be used for Article 4!



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ORF-Energy Efficiency

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