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Update on current ISO work on energy savings calculations
Focus on standards for bottom-up methods

Jean-Sébastien Broc, Broc Research & Consulting
jsb -at- brnc.fr

Didier Bosseboeuf, ADEME (France)
didier.bosseboeuf -at- ademe.fr

Content

- Why standards on energy savings calculations can help
- Overview of standards dealing with BU methods
- Focus on ISO 50046: predicted energy savings

Why is it important to evaluate energy savings?

- Energy savings are not attractive for investors

Large projects
Big companies
Classical guarantees

Smaller projects
SMEs
Guarantees ?

Evaluation = providing **evidence**

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Why (and how) standards can help?

- ✓ Defining a common language
- ✓ Providing a framework for the documentation
- ✓ Promoting good practices
- ✓ Giving more visibility to the experience available

"*If there is a standard about this, then it is serious*"

What are the objectives of the standards?

- NOT to specify detailed calculation formula, nor standard values

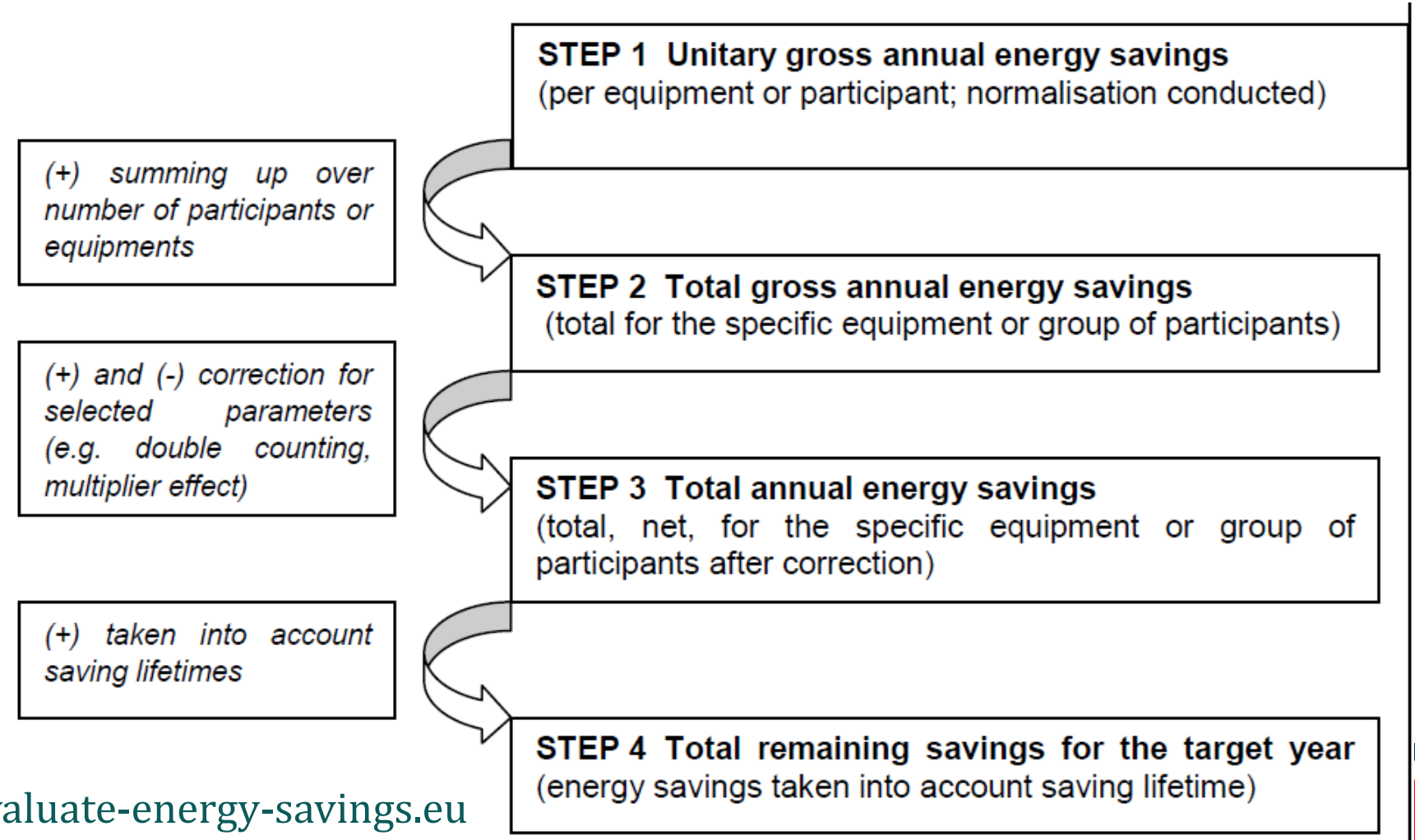
→ *energy savings are specific to a context and to the objectives of the stakeholders*

- But to define **general principles and guidelines**
- Possible users:
  - ✓ **Public authorities** (setting rules for an energy efficiency scheme)
  - ✓ **ESCos** (general reference for a contractual basis)

and any stakeholder interested in a common framework for energy savings calculations (e.g., multinationals)

Overview of standards dealing with BU methods – CEN standard (Europe)

EN 16212 "Energy Efficiency and Savings Calculation, Top-down and Bottom-up Methods"



Mostly based on EMEEES methodology

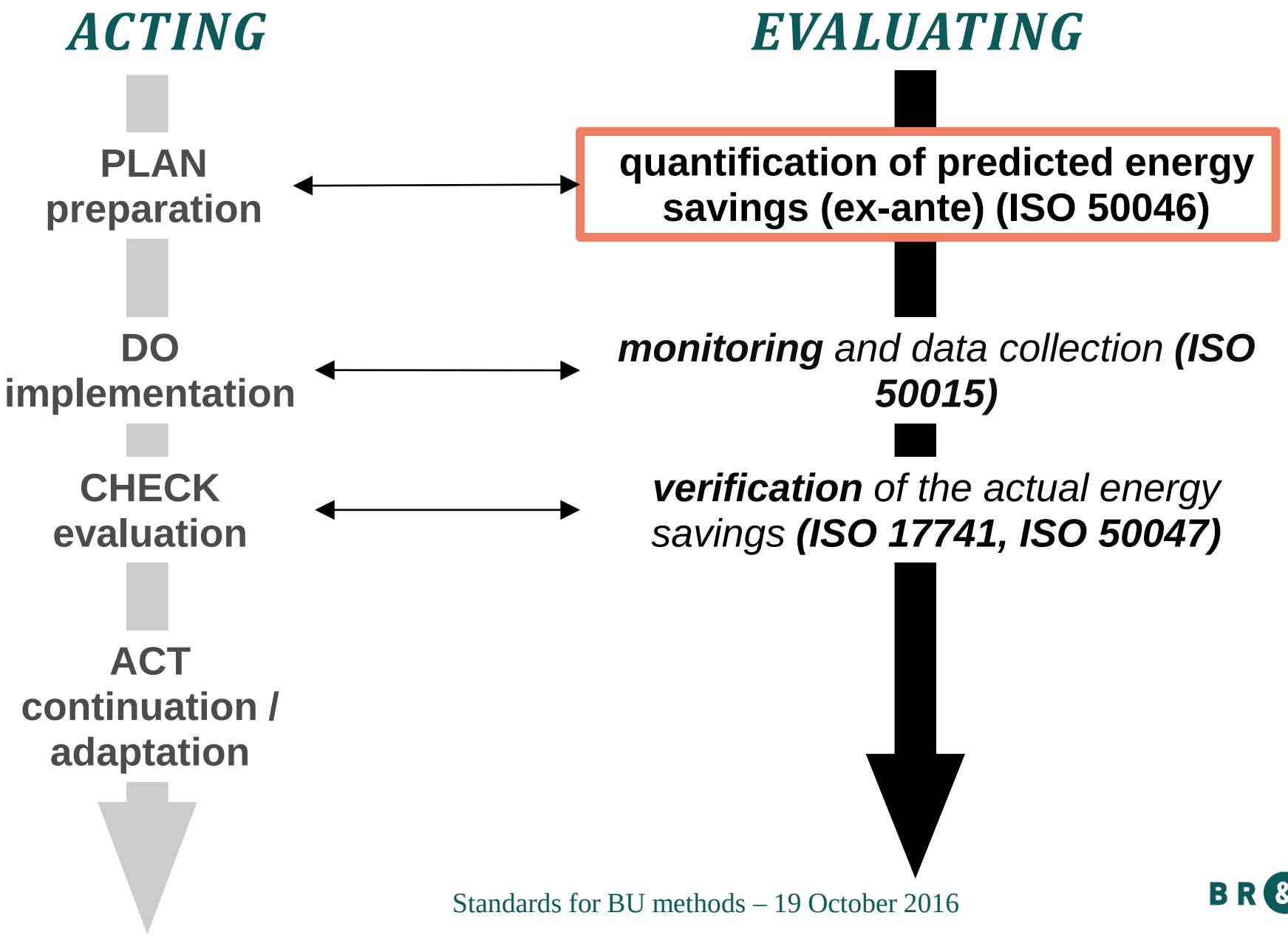
http://www.evaluate-energy-savings.eu

Overview of standards dealing with BU methods – ISO standards

	Scale/ scope	Intention	Methodology
ISO 17743	General, all savings	principles for selecting suitable methodology	Bottom-up and top-down
ISO 50046	General, predicted savings	increase transparency and quality of data	Bottom-up
ISO 17742	Countries / Regions / Cities	evaluation of policies or programmes	Bottom-up and top-down
ISO 50047 **ISO 50015**	Organizations	M&V of action plans, projects, EMS	Bottom-up and top-down
ISO 17741	Projects	M&V of actions	Bottom-up
ISO 50045	Thermal power plants	specific calculation method	Bottom-up

Bold: already published
Italic: under preparation

Scope of proposed ISO 50046



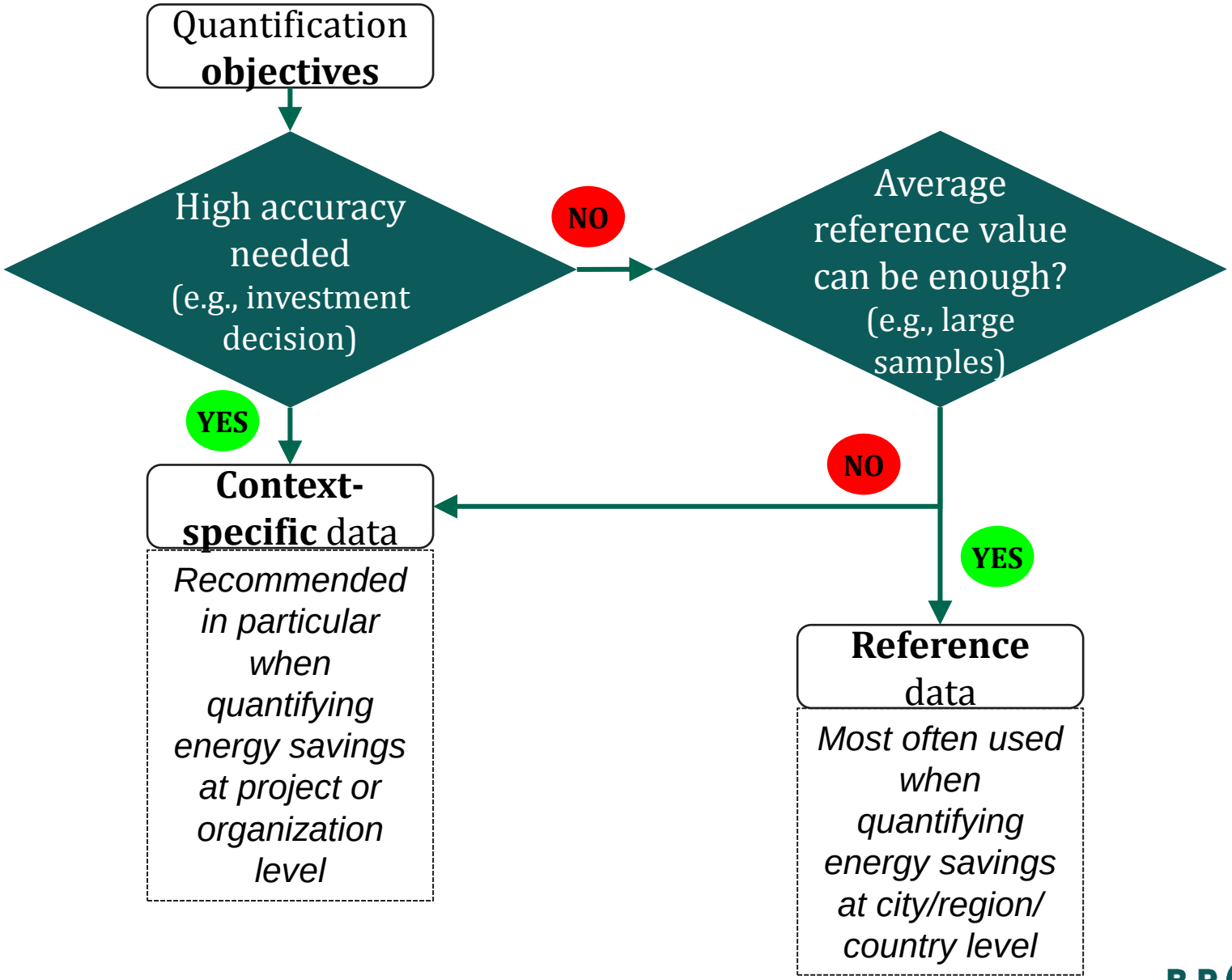
Diversity of contexts/objectives

- Action or project: energy audits, energy performance contracting, etc.
- Action plan (organizations): energy management, voluntary agreement or commitment, etc.
- Programme or policy: by utilities, local authorities, public agencies, etc.

→ **Two main purposes**:

- Internal use: data needs to be **specific**
- External reporting: accounting rules may use **reference values**

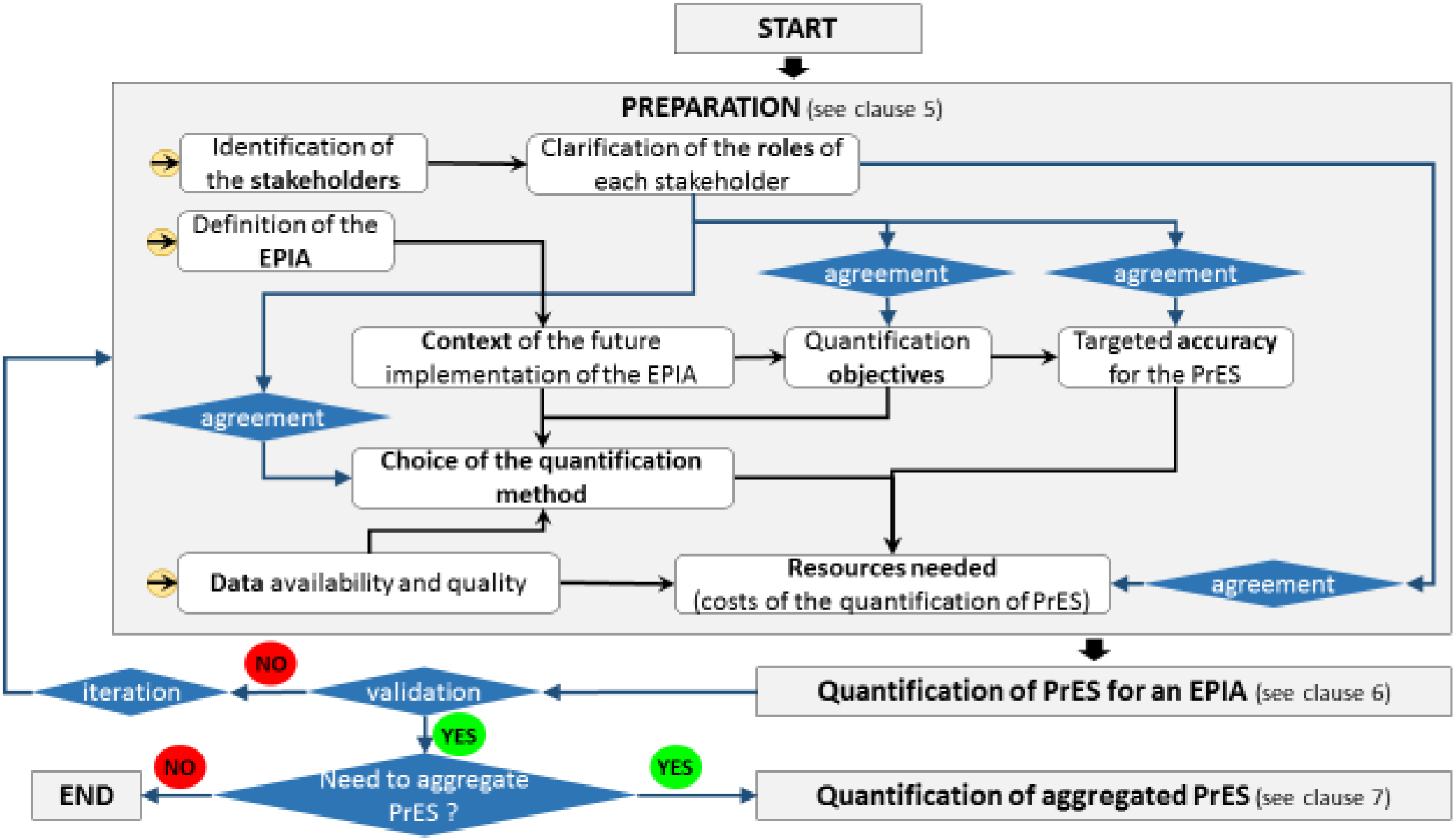
Specific vs. reference values



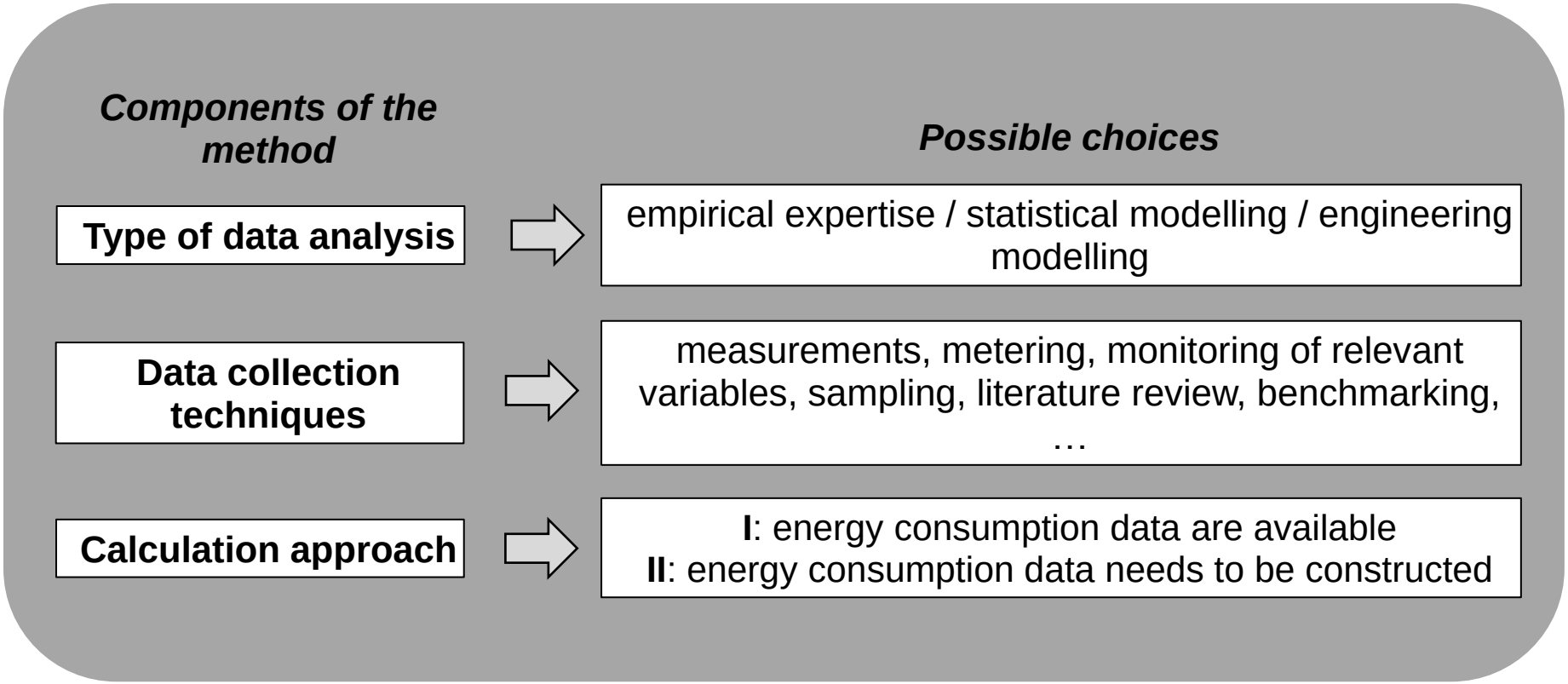
ISO 50046: General principles

- *Early planning*: basic, but often not applied
- *Matching*: no silver bullet, key aspects to take into account when choosing
- *Transparency and reproducibility*: strongly linked with documentation, keeping the memory
- *Reliability and validation*: key for building confidence in the results

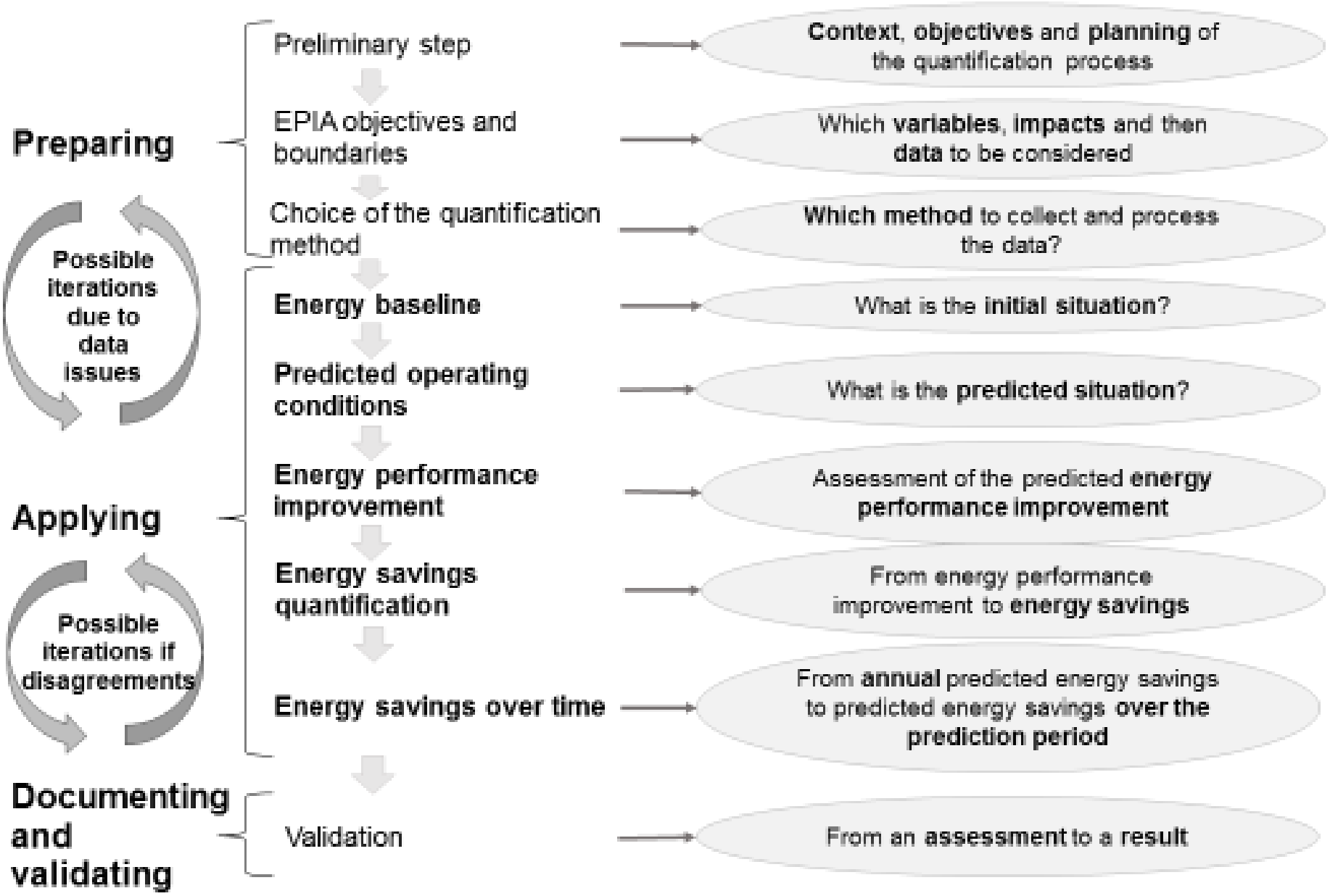
ISO 50046: Overall process



ISO 50046: Quantification method



ISO 50046: energy savings at action level



Documentation template

EPIA	**Name of the EPIA**	*(making explicit the targeted energy-using system and the improvement brought by the EPIA, see examples in 5.2.1)*
	EPIA boundaries	*(including explanations about the possible technical interactions, see 5.2.2)*
	Implementing and operating conditions	*(including explanations about the current and predicted operating conditions of the targeted energy using system, and references to requirements and/or quality criteria when relevant, see 7.1)*
Quantification method	**Quantification objectives**	*(what will the quantification result be used for? to whom will the energy savings data be communicated? see 4.3.3 ; what is the required accuracy for the PrES? see 4.3.3)*
	Type of quantification method	*(estimation / statistical calculations / engineering (physics-based) calculations, see 5.3.1)*
	Definition of the energy baseline	**Type of energy baseline**: *("context-specific before" / "context-specific without" / "reference before" / "reference without", see 5.4.1)* **Baseline period**: *(including duration, dates and dataset used, see 5.4.2)* **Baseline period operating conditions**: *(including the assumptions about the representativeness of the energy baseline, see 5.4.3)*
	Definition of the predicted energy consumption	**Energy performance improvement**: *(data representing the energy performance improvement, related data sources, and explanations when needed ; see 5.6)* **Predicted operating conditions**: *(mentioning the assumption(s) used, see 5.5)*
	Calculation formula or model	*(making explicit the relevant variables and static factors taken into account, and including references about the calculation formula or model when relevant, see 5.3.2)*
	Main data sources	*(mentioning the data collection technique and the collection dates, and highlighting the assumptions used in case of missing data, see 5.3.3)*

...

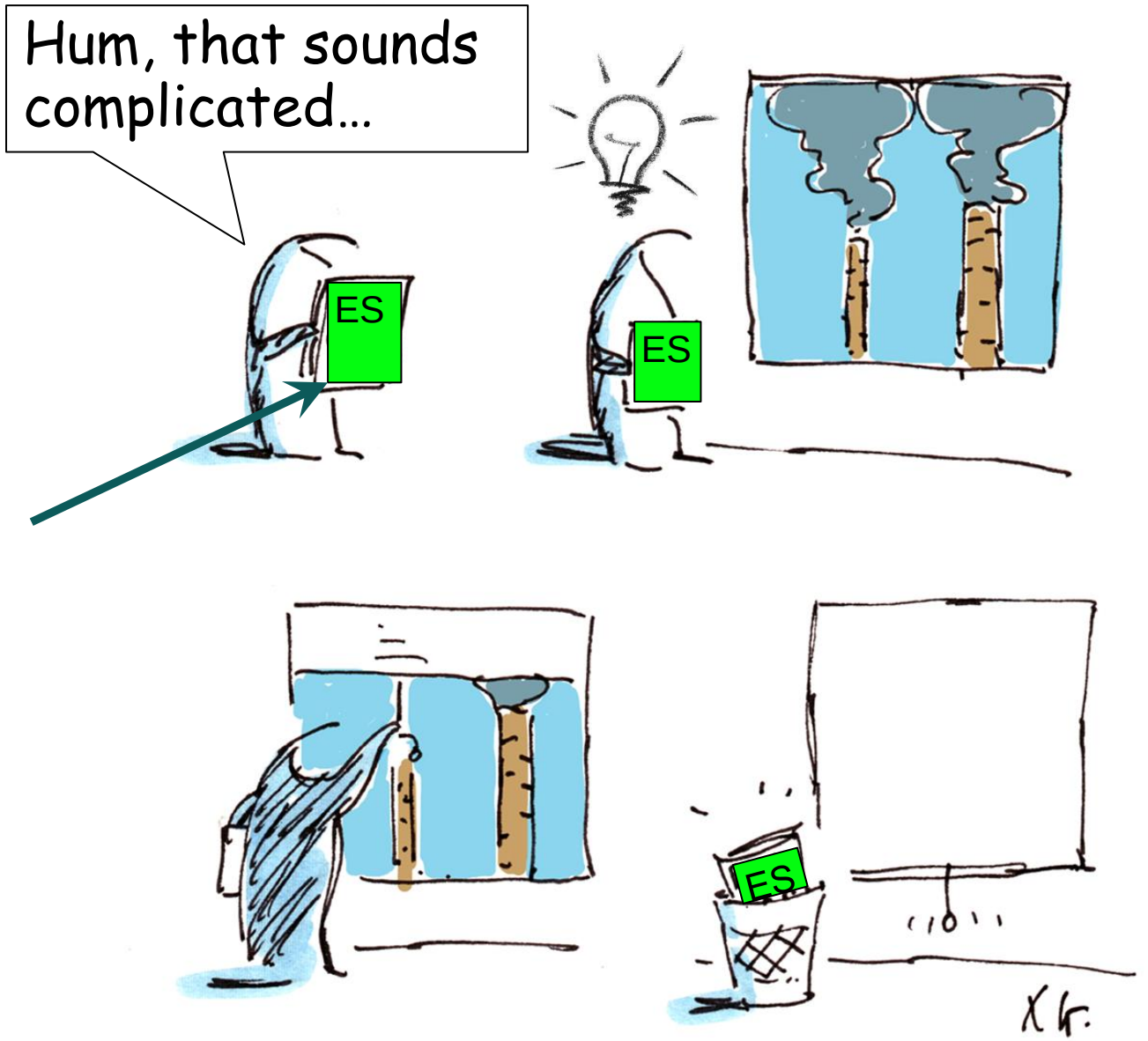
ISO 50046: Next steps

- Integration of examples (as informative annexes)
- First stage of vote (Committee Draft)
- Still at a stage with discussions on the substance
- Objective to finalize the standard by 2018

Active members of the working group : **France** (convenor), US, Japan, India, **UK**, Brazil, Mexico

→ It would be interesting to have more participation from EU countries

Thank you for your attention !



(Energy Savings evaluation)

jsb -at- brnc.fr

didier.bosseboeuf -at- ademe.fr