

What is benchmarking ?

do we all mean the same thing ?

Practical experiences

The dictionary says:

“A standard or base of reference from which specific estimates are made, a precedent or guideline used for making decisions”

This definition does not clarify the technical content or method how to derive benchmarks for the purpose of energy or CO₂ efficiency policy, and in practice different methods of benchmarking appear, leading to confusion.

Benchmarks may be derived from:

- arbitrary targets
- theoretical calculations
- practical measurements
- literature (does not always state origin, often uses margins)

Benchmarks are influenced by a number of random circumstances, which must be well specified and respected.

Industrial benchmarking

- data comparison of large processes (costs, production efficiency, maintenance, energy consumption), as a tool for evaluating installations in an economic way, and for taking business and investment decisions
- a recognized international consultant collects data from all participating industries, using a validated method
- results are evaluated and reported in an agreed way that respects confidentiality
- this way of “benchmarking” does not define “benchmarks”; it is up to the users to set their own objectives

Energy Efficiency Benchmarking Covenant

- policy instrument in The Netherlands and in Flanders between industries and government
- uses the industrial benchmarking method
- sets “benchmarks” based on the results (the highest consumption in the best decile)
- requires that the installations are improved to reach the benchmark
- remark: it was not feasible for all installations to make a “full benchmark”; best practice was an alternative (world best installation + 10 %)

Theoretical Benchmarks

- in some programs theoretical benchmarks have been used
- theoretical benchmarks are quite easy for energy conversion: boilers, power stations, even CHP
- but very difficult for final energy consumers (industrial processes) if one aims to reach a level playing field for all participants

Acceptance of Benchmarks

Will set benchmarks be accepted ? Will it be more easy than for a covenant ?

- a level playing field needs some kind of benchmarks anyhow, thus in order to make free allocation possible, ETS participants will accept benchmarks which not everyone appreciates as 100 % correct
- practical benchmarks can be established with a higher (100 % ?) participation of the involved companies, but time is running short
- theoretical benchmarks remain a threat, but can be accepted if no better solution is available

Verification of Benchmarks

The benchmarking process will need a step of verification, which is highly technological, but which can be kept more limited than the verification of the annual emission reports.

It will probably be easier than the verification in a covenant:

- participation will be higher
- it is not a single customer situation, so unilateral approaches will not occur
- the resulting benchmark is not an absolute target

Not all Benchmarks are easy ...

The degree of benchmarking complexity is different from case to case:

- Some products must be made from different raw materials
- Some processes produce more than one product at the same time, in a varying balance
- The “cross boundary heat”-problem is known, but even more comprehensive: recovery of heat of a near-by process, especially exothermic processes, tend to make benchmarks impossible
- Benchmarks for intermediate products could principally be avoided in some cases, such as for steel manufacturing, but not for paper and pulp manufacturing

Quick inventory necessary

The preparatory work has been done , but the coming work of assessing benchmarks may not be underestimated; time is running short, so an inventory is necessary of which products (processes) to be benchmarked, and every time:

- benchmarking method
- boundaries
- random conditions
- problems and solutions
- verification

Two parts, two aims

Allocation = specific allocation x production
(benchmark) (activity)

Expectations:



“correct”
level playing field
transparent
verified



estimated
business plan
to be justified
transferable