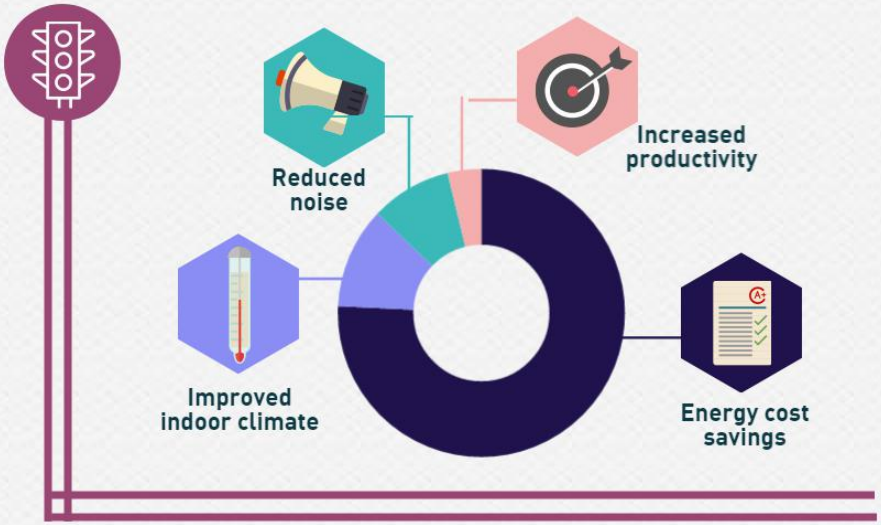
TRANSFORMING HOW WE VALUE ENERGY SAVING PROJECTS

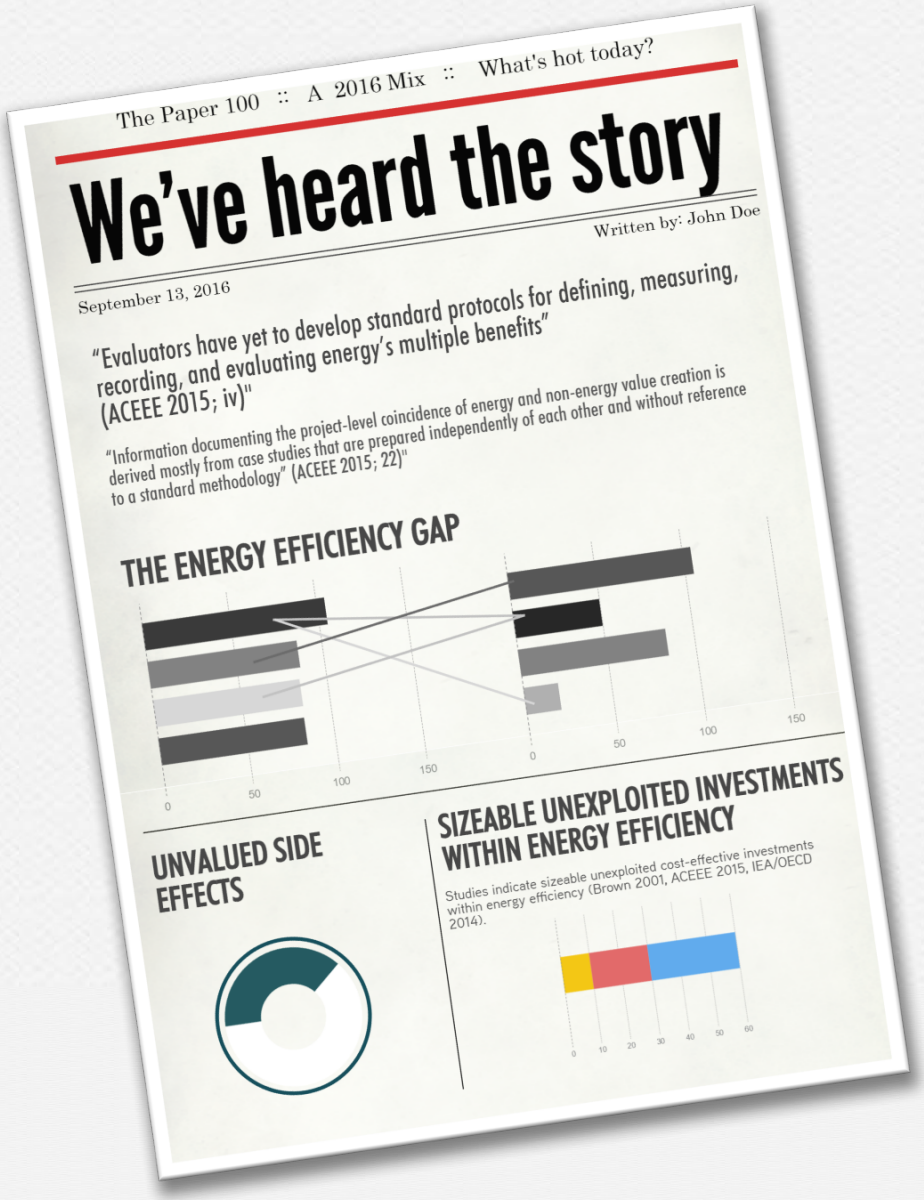
New robes for NEB research – open and expanding data

By Ida Stokkebye Christiansen

Ea Energy Analyses

What are Non energy benefits?




The Paper 100 :: A 2016 Mix :: What's hot today?

We've heard the story

Written by: John Doe

September 13, 2016

"Evaluators have yet to develop standard protocols for defining, measuring, recording, and evaluating energy's multiple benefits" (ACEEE 2015; iv)"

"Information documenting the project-level coincidence of energy and non-energy value creation is derived mostly from case studies that are prepared independently of each other and without reference to a standard methodology" (ACEEE 2015; 22)"

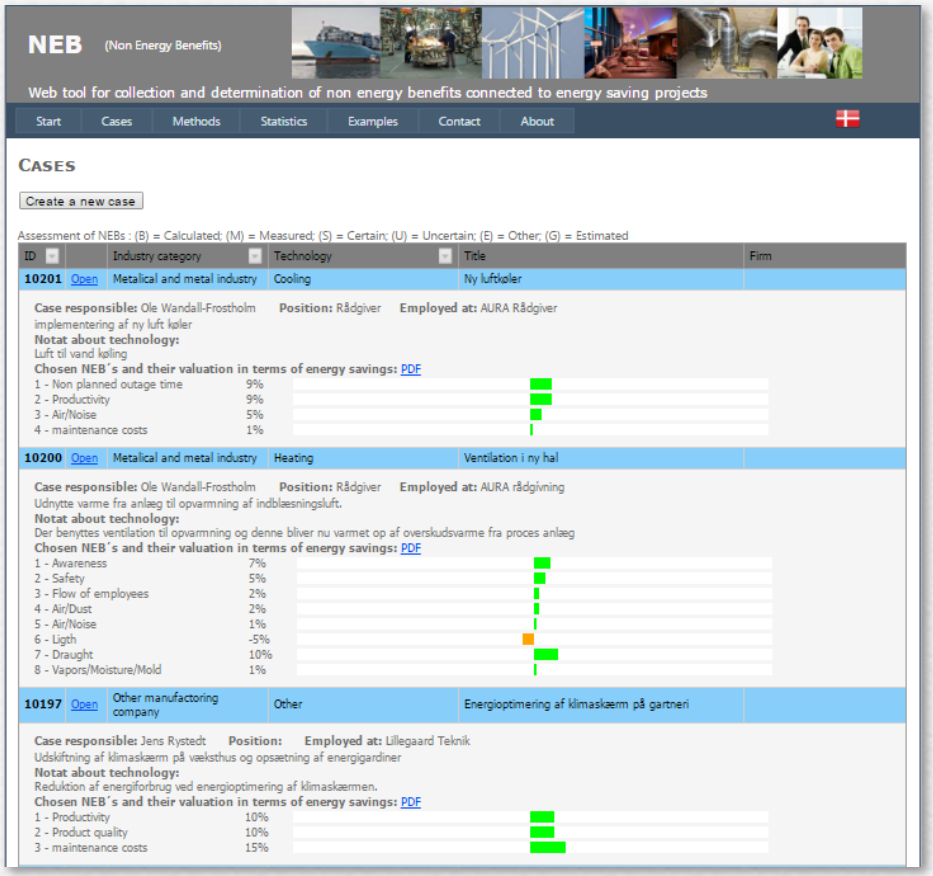
THE ENERGY EFFICIENCY GAP

UNVALUED SIDE EFFECTS

SIZEABLE UNEXPLOITED INVESTMENTS WITHIN ENERGY EFFICIENCY

Studies indicate sizeable unexploited cost-effective investments within energy efficiency (Brown 2001, ACEEE 2015, IEA/OECD 2014).

A TOOL
FOR PROJECT LEVEL NEBs



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NEB CATEGORIES

PRODUCTIVITY

Flexibility in production
Material consumption
Needed manpower
Space requirements
Product quality
Unscheduled down-time
Increased production capacity
Other

INTERNAL ENVIRONMENT / HEALTH / SAFETY

Vapor / moisture / mold
Air / dust
Sound / noise
Light
Employee flux / retention
Room temperature
Safety
Stress
Draught
Heavy lifts
Other

SALES

Better energy label of the building
Sustainability
Improvement / maintenance of the building's exterior
Customer satisfaction/loyalty
Publicity
Unique selling points (such as sustainability)
Other

EXTERNAL ENVIRONMENT AND RESOURCES

Waste
CO2 emissions
Other GHG emissions
Other emissions
Security of supply / Self sufficiency
Other

TECHNOLOGY GROUPS

ENERGY SUPPLY

Biomass
Electricity
District heating
Gas boiler
Oil boiler
Other

ENVELOPE

Facade insulation
Ceiling / roof insulation
Window replacement
Other

RENEWABLE ENERGY

Biomass plants
Solar cells
Solar heating
Heat pumps
Wind turbines
Other

PROCESS PLANT

Burning
Distillation
Evaporation
Cooling
Heating
Process equipment
Melting
Drying
Heat recovery
Other

SERVICE SYSTEMS

Lighting
Cooling
Less energy consuming devices
Pumps
Compressed air
Ventilation
Other

CALCULATED

MEASURED

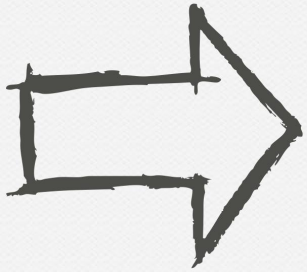
PREFERENCE BASED

RESULTS
THE CHICKEN OR THE EGG

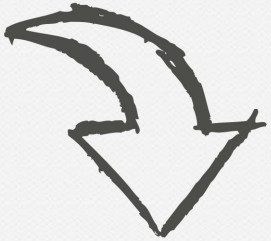
112
ENERGY EFFICIENCY PROJECTS

291
NON ENERGY BENEFITS IDENTIFIED

40 %
MORE VALUE

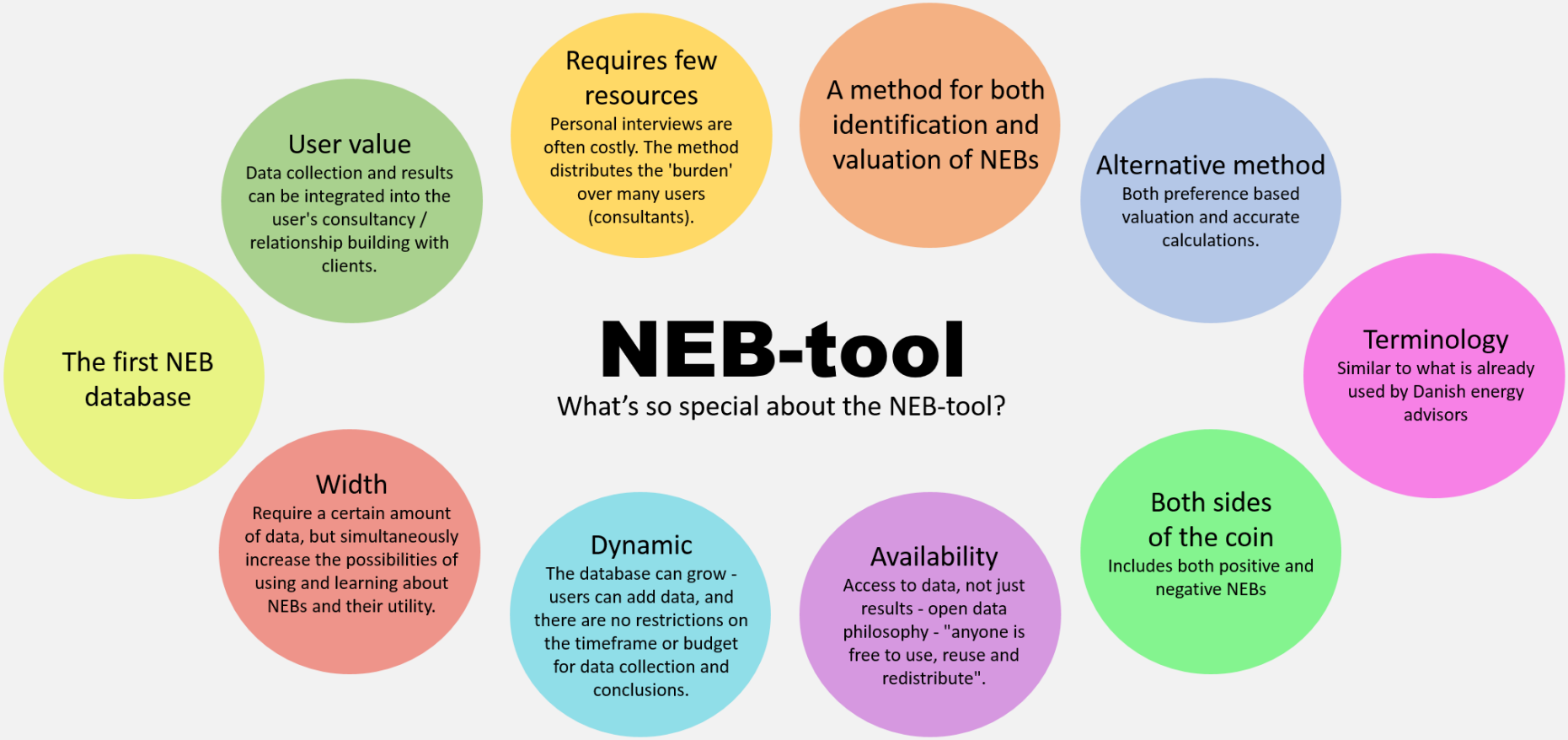


- NON-PROBABILISTIC DESIGN
- SAMPLE SIZE AND CHARACTERISTICS
- A COGNITIVE BURDEN



- INFLUENCING THE INCENTIVE TO INVEST
- OPEN AND EXPANDING DATA
- A PRECISION TRADE-OFF

A TOOL
FOR PROJECT LEVEL NEBs



THANK YOU
FOR YOUR TIME

For more visit:
www. neb.teknologisk.dk

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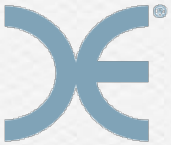

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