



EUCALC

Explore sustainable European futures

Preliminary Identification of levers for the building stock

Preliminary Part of D2.5

July/2019



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Short Description
<i>The report shows which drivers for energy demand in buildings were for discussion, which were chosen and why. It lays out the definition of the selected levers and their calculation.</i>

Quality check	
Name of reviewer	Date

Statement of originality:

This deliverable contains original unpublished work except where clearly indicated otherwise. Acknowledgement of previously published material and of the work of others has been made through appropriate citation, quotation or both.

1 List of possible drivers (levers) for the energy demand in buildings

The following list shows drivers for energy demand in buildings for a discussion on which are the most important drivers that should be included within the building module as a lever.

Next steps The List of levers will be further developed as the modelling activities for the building module proceed. The **selection of the levers** to be included in the building module will be reviewed and **validated by the stakeholder** in a co-creation process. The **stakeholder workshop** that is a major milestone within this co-creation process will be conducted in **June 2018**, for detailed information visit the [module webpage](#).

Notes:

[1] drivers are already included in the module.

[2] drivers are selected to be included.

Domestic space heating and hot water

Lifestyle

space use intensity= average living space per Person	m ² /cap
geometry of building= compactness of the building, expressed as volume per surface ratio	m ³ /m ²
smart heating share	ti * h
indoor temperature [1]	ti
hot water usage	ti * l /cap

Envelope Technology

Envelope quality	[1] kWhneed/m ²
innovations in materials	W/(m*K) [λ]
price degradation materials	Eur/m ²
easier installation	Eur/m ² installed

Heat Supply Technology

heating system lifespan	a
energy mix (fuel shares) [1]	%
heating system efficiency [1]	kWhfinal/ kWhneed
level of centralization [2]	%
energy mix for district heating [2]	%
price development	Eur/kWhfinal
diffusion of solar use for heating/cooling	%

LifeCycle

Building component lifetime	a
Resource availability	%
Waste treatment/ Reusability/ Recyclability	%

Commercial space heating and hot water

additional factors for non-residential buildings

industry mix	
use intensity	m ² /€
indoor temperatures	ti
hotwater demand	ti * l /EUR

Domestic lighting, appliances and cooking

Lighting

Lighting behaviour	%
technology efficiency	lm/ kWhel
market diffusion of efficiency	%

Appliances

share of shared appliances	#/cap
lifetime	a
technology efficiency	kWhfinal/ kWhel
market diffusion of efficiency	%

Cooking

share of electric home cooking	%
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LifeCycle

Product lifetime	a
Resource availability	%
Waste treatment/ Reusability/ Recyclability	%

Commercial lighting, appliances and cooking

additional factors for non-residential buildings

lighting intensity	%
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Makro development

Degree of urbanization	cap/m ²
GDP trajectory	EUR/cap
Income distribution	EUR/cap
Energy prices	EUR/kWhfuel