

# 800 Gt-e CO2 left

And how to create a (near) 0-CO<sub>2</sub> built environment?

"Join the community and write your analyses"

## www.buildingscarbonbudget.org

iiSBE-academics have launched a buildingscarbonbudget-initiative: a collections of expert explorations of CO2 consequences for the built environment, with the following starting points:

"The international community, by signing the Paris climate agreement, has in fact set a concrete and absolute target for the global society: a upper limit of 800 Gt CO2-e emissions (2016), decreasing with time!

#### FINDINGS FROM FIRST ENTRIES:

#### 3.1: Retrofitting for 0-energy

 retrofitting all existing houses for ZEB operation creates a huge rebound effect in materials application. Such that it is unavoidable to reduce heated areas and limit materials input for retrofit .

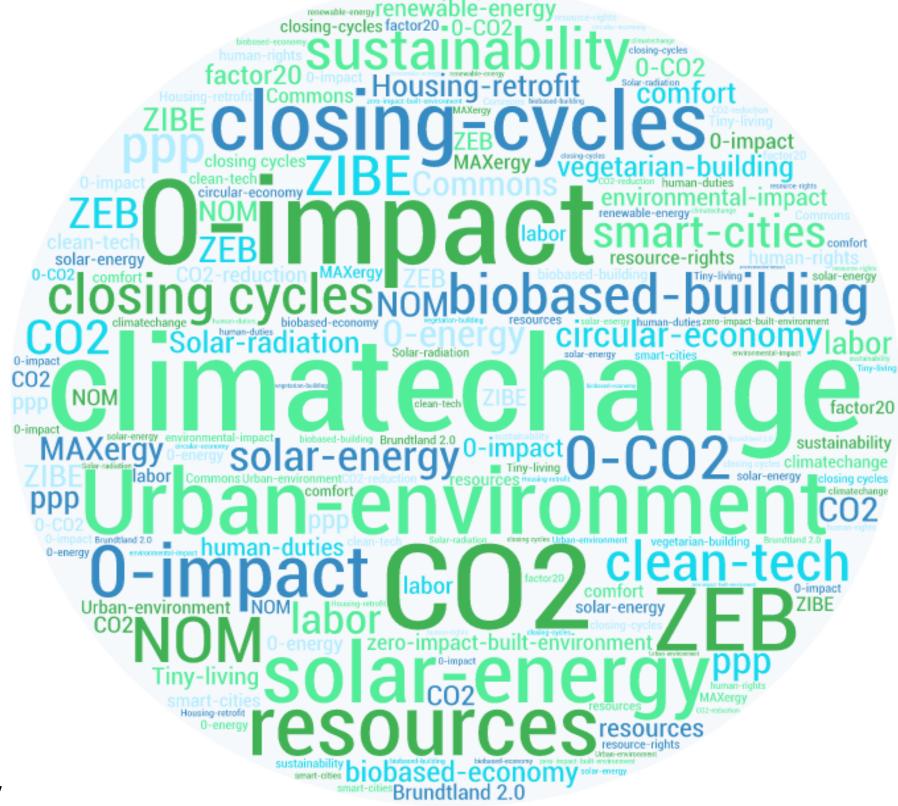
- to avoid an end of pipe approach and rebound effects in retrofitting houses, it is more wise to put all effort in reforming the industry first, and make industry produce 0-embodied energy/ 0-CO2 materials and products.
- -a shift for low impact materials is urgently needed, to focus at biobased building/retrofit. The strategy required is comparable to that of food: vegetarian building.

#### 3.2: Global quality of housing within CO2 budgets

- operation energy seems to be of lower importance than the embodied energy of (new) buildings.
- Drastically reducing the quality of the built environment or massively using wood/bamboo in the built environment seem to be the two unavoidable solutions.
- new construction for the global need should be based on renewable ie biobased resources.

#### 3.3: Exploring inhabitants CO2 budgets

- to be able to live within natural balanced CO2 emissions schemes,
  household energy demand will have to be reduced significantly
- Some of the measures required to bring energy demand within balanced CO2 managed levels, are: reduced living area per capita, no cooling, and limit the power consumption to around 500kWh /cap-year





Launched at: COP22 Marrakesh, november 2016

### GUIDELINES FOR CONTRIBUTIONS:

Contributions to this compendium, should comply (with some freedom of interpretation), with the following guidelines:

1 The Carbon Countdown project follows the clock at the Guardian website, based on scientific papers. That implies: currently there is 792 Gtonnes of CO2-e left, before 2(!) degrees is out of sight.

For all explorations: this is the given maximum limit. All contributions should relate to this number: How to stay within that budget, whatever you plan to do.

2 global population rises to 10 billion, from 7,2 now. For the next 35 years on average there will be 8,5 billion people around, which is what we use for projections over decades.

- 3 When calculating a CO2 budget for your sector, country, or per capita, we assume a fair share for everyone in the world: so the Carbon budget divided by the global population. If you wish to use another distribution, you have to motivate this. To come to a sector budget, use the same distribution over sectors as currently customary.
- 4 the explorations are not about solutions directly, but about exploring the Carbon budget left and what can be done with that. The solutions come in a next phase: how to deal with a limited budget, which solutions fit.
- 5 these are not direct political or economical explorations! : its Carbon/CO2 exploration, which later can be translated into adapted- proposed political or economical pathways. 6 Max. 3-4 A4 pages.

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