

# Biogenic carbon, let's find a minimal consensus in rating the contribution of carbon stock in buildings

## 80th LCA Discussion Forum 80

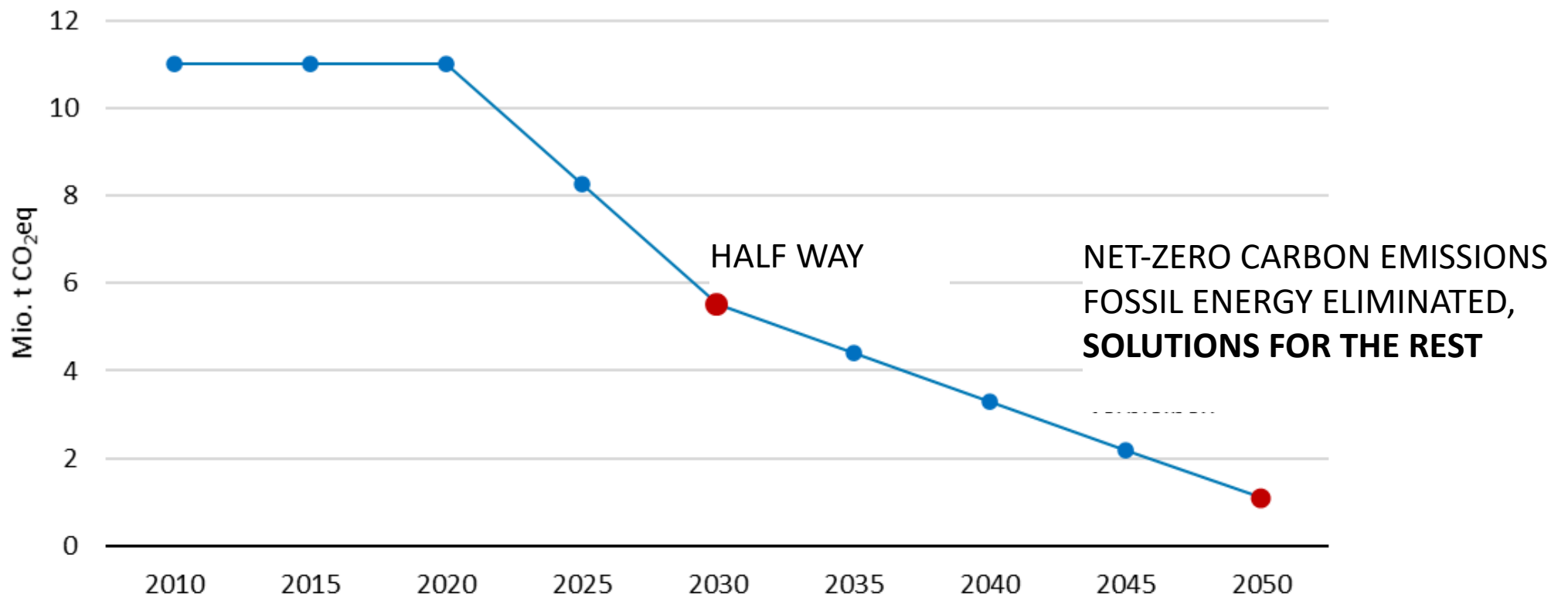
Topic: Biogenic carbon and climate change mitigation: silver bullet or flash in the pan?

### Author

Cornelia Stettler  
Carbotech AG, Basel  
c.stettler@carbotech.ch

# Sketching the path to net-zero

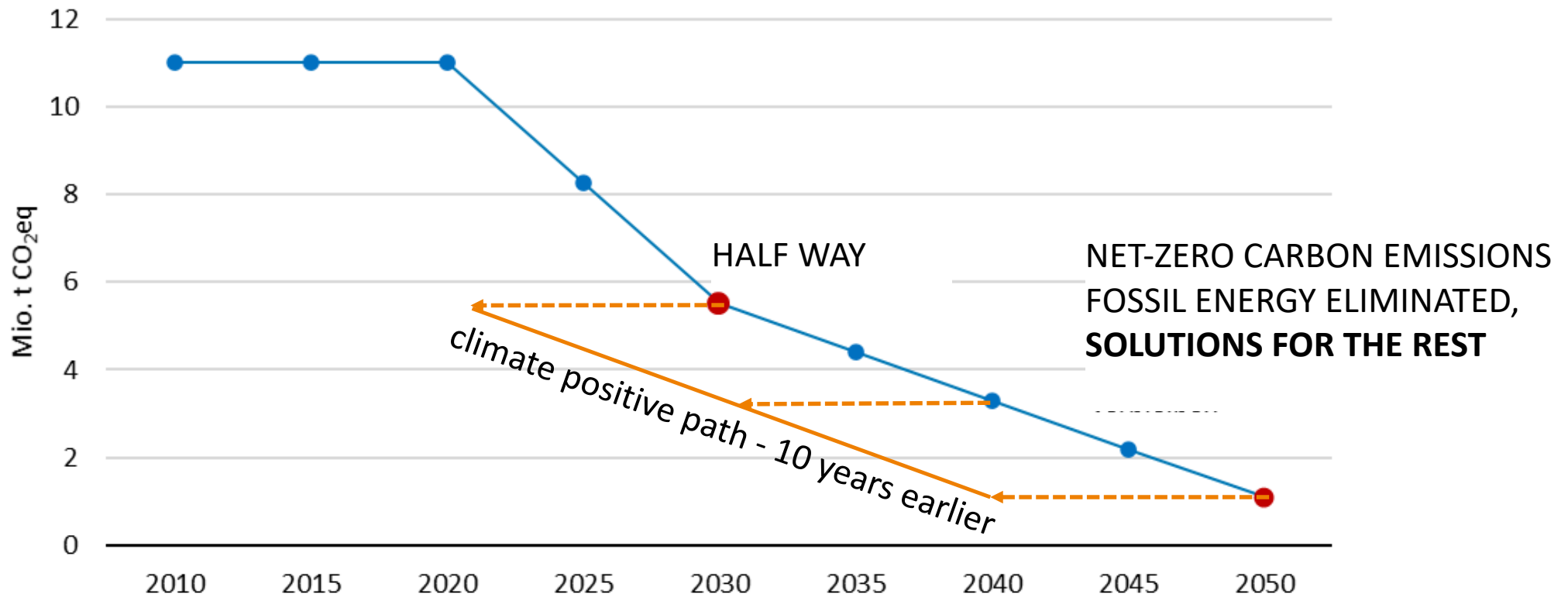
## simplified for building materials consumption CH



<https://pubdb.bfe.admin.ch/de/publication/download/10767>

# Sketching the path to net-zero

## climate positive – buildings complying earlier



# Wishful thinking and reality, the long path to zero

## WISHFUL THINKING

One single and simple solution  
“ the full package - all in one”

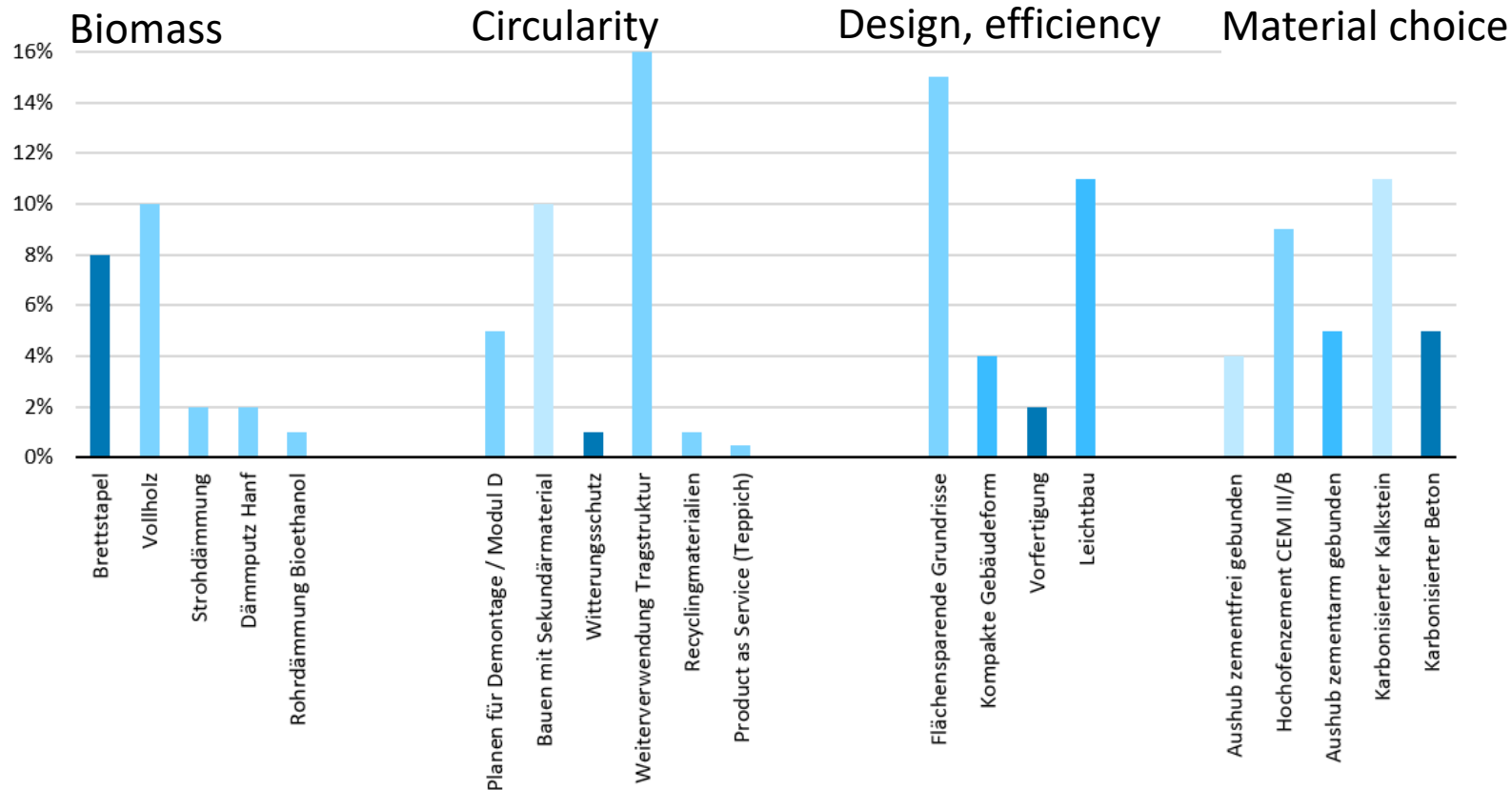
## REALITY

Complicated and highly demanding process of reduction  
with at least 10 steps and a complex mix of solutions,  
some of them not even ready to go

-> “combination of many small steps – no silver bullet”

# A few test results of different measures

## Typical size of effect <15%

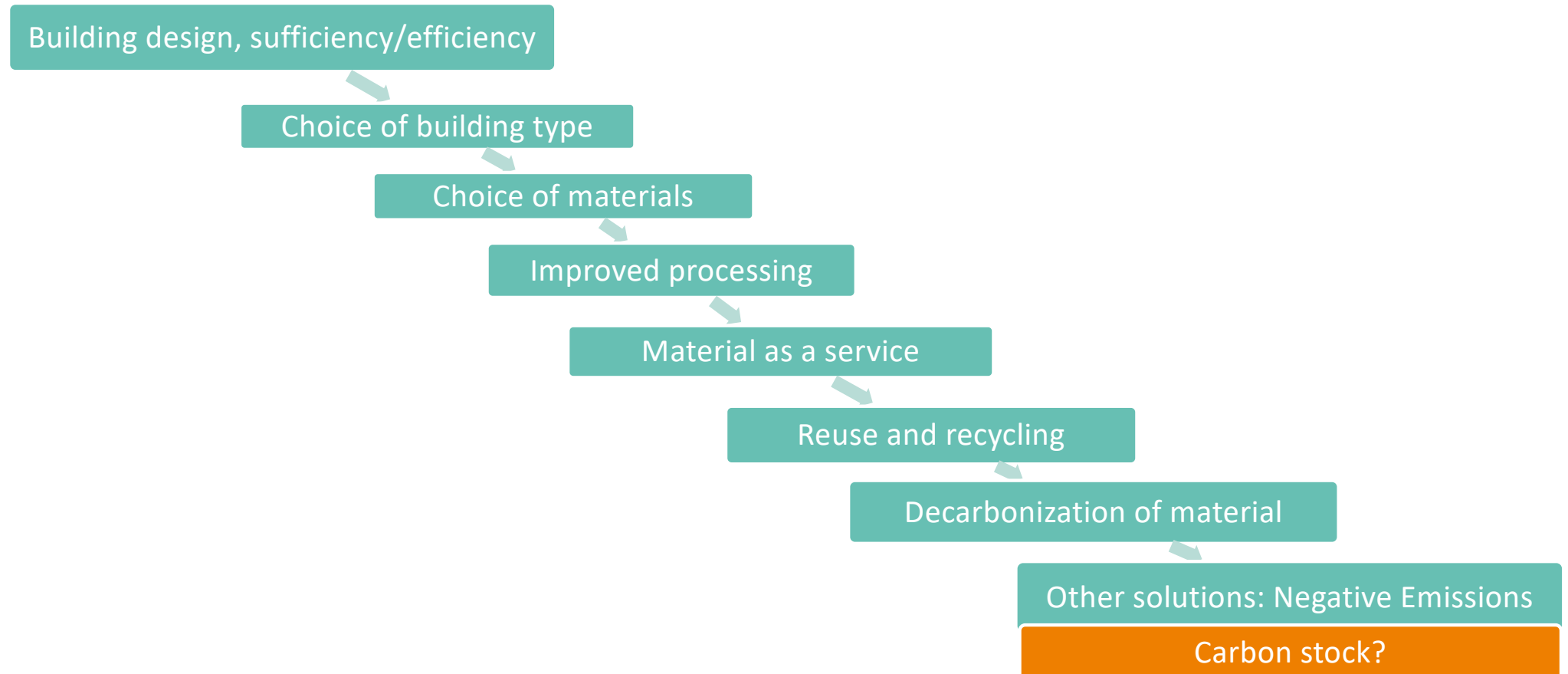


Evaluation of carbon footprint reduction potential relative to the average building footprint

<https://carbotech.ch/projekte/klimapositives-bauen-ein-beitrag-zum-pariser-absenkpfad/>

# No single solutions for net-zero construction

## Difficult path with many small steps





# Different points of view and methods claiming all or nothing for biogenic carbon

## **Long time perspective = zero effect on CO<sub>2</sub>-balance**

Net balance: uptake of biomass identical with release at end of life

## **Short time perspective = biogenic carbon bound in stock**

Citation of short time point of view: Although the production of wood products in 2015 offset less than 1 percent of global carbon emissions, the proportion was much higher for a handful of countries with large timber industries. **Sweden's pool of wood products, for example, offset 9 percent of the country's carbon emissions in 2015**, which accounted for 72 percent of emissions from industrial sources that year.

<https://www.sciencedaily.com/releases/2019/07/190701163837.htm>

# Ongoing discussion on LCA approaches

## Biogenic carbon and climate change mitigation



### Option 1

#### **Focusing on the differences**

model calculations, looking for the perfect approach. Probably, it does not exist, modelling nature and use of products is complex. The only sure number is the carbon content in products

### Option 2

#### **Focusing on minimal consensus**

The use of biomass in construction is not the silver bullet, but there might be useful benefits and reasons for support

- Effect of temporal storage
- Later available options for reuse, recycling and treatment



# Option 1: Credits for biogenic carbon in labels



A solution might be a “climate positive” checklist

- *Carbon Footprint* ✓ : Biogenic carbon not used as excuse for lacking efforts in reduction of carbon footprint, credits only for buildings following the path to net zero.
- *Quality of biomass* ✓ : No over-consumption of resources, leading to shifts in land use and changes in stock of forests. Ecological standard for wood production. No biomass from critical areas with decreasing stock in forest.
- *Minimal quote and lifetime* ✓ : Volume and lifetime required for contribution to increase in carbon stock of CH buildings

# Option 2: Limited accounting for biogenic carbon

## Allowing to be part of the solution

