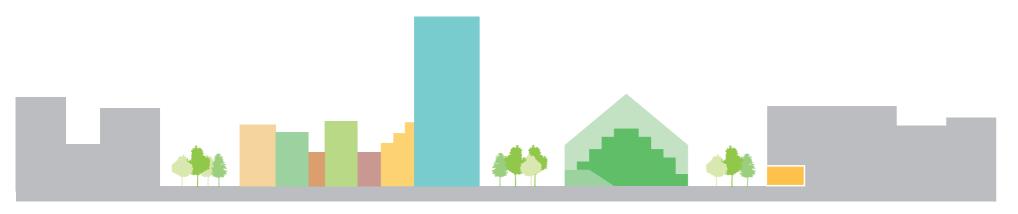
MVRDV Carbon Guidelines

At MVRDV, our mission is both practical and exploratory as we seek ways to address and alleviate the urgent climate challenges. The building industry is responsible for 39% of greenhouse gas emissions. As designers of the built environment, we recognize our crucial role in providing impactful responses to the climate crisis.

The road to zero carbon is a complex one. Challenges and opportunities vary per typology, brief, regulation and country. However, a targeted application of one or more carbon reduction strategies can lead to lowering emissions.

When it comes to decarbonizing our projects, we can have the most impact early on in the process. The "MVRDV Carbon Guidelines" help to inspire and target strategies for active carbon reduction in early design stages. They are not sequential steps or rules; rather, you can combine one or several of these guidelines into a customized strategy for your project.



Small / Medium Scale

- Bio-based materials - Alternative construction
- Re-use

Large Scale

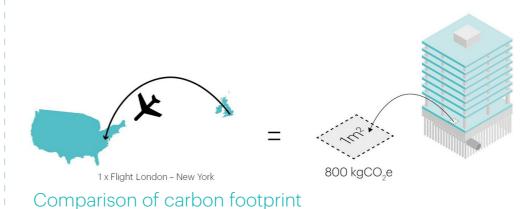
- Reduce structure - Future Adaptability

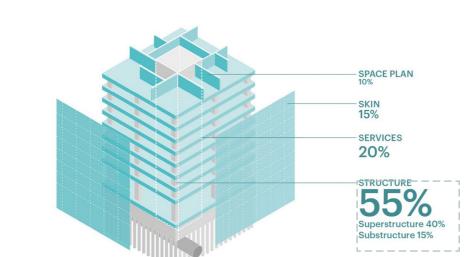
Public

- Material showcase - Programmatic Synergies

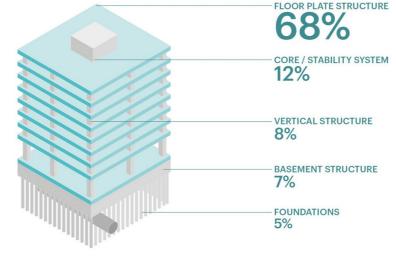
Interiors

- Demountable elements - Recycled / fast growing bio-based materials

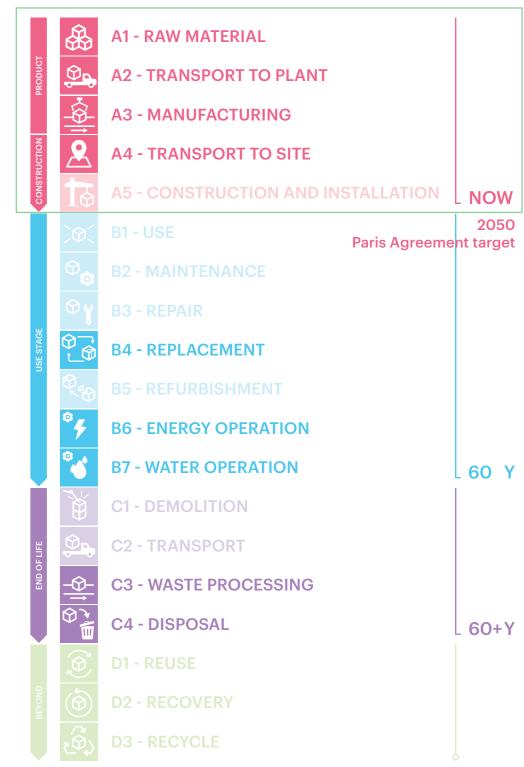




Embodied Carbon in Buildings



Embodied Carbon in the Structure: detailing the 55%

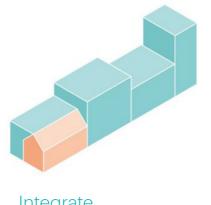


Embodied carbon must be considered throughout the design process, with a particular focus on the Life Cycle Assessment (LCA) gates A1 - A3.

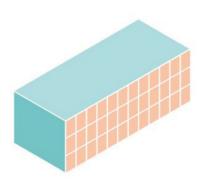


Integrate what is already in site

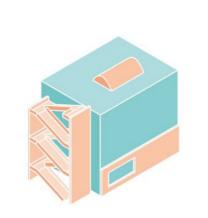
Add



Integrate

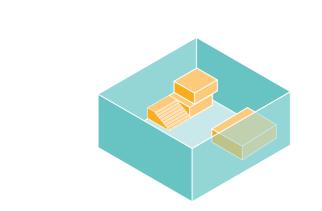


Use existing Materials

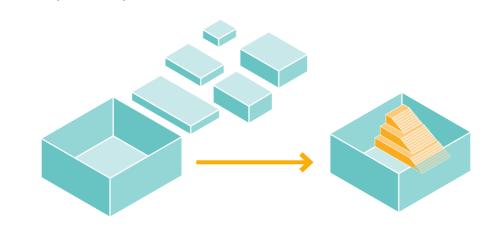


Re-Use Structures

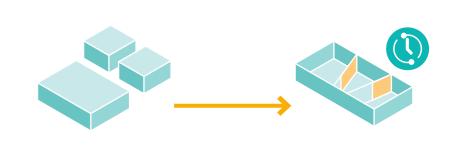
2 Build Less & Flexible Use



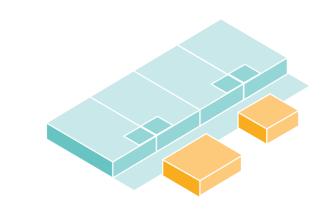
Activate underused spaces like atriums, transit spaces, semi public spaces



Flexible rooms for more intense use, change use during the day



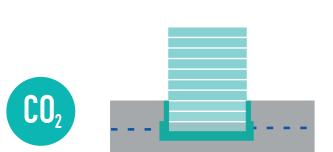
Combine program



Shared facilities

Avoid undergrounds

Do not build new!



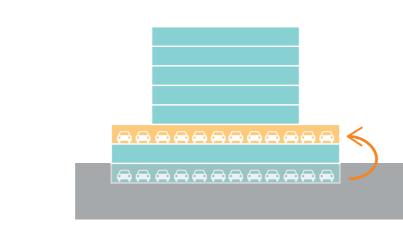
↓ x2 co₂e

Underground parking is material intensive and difficult for future reusability



Underground structures are massive and material intensive. Building in ground water is very material intensive

Rethink Parking

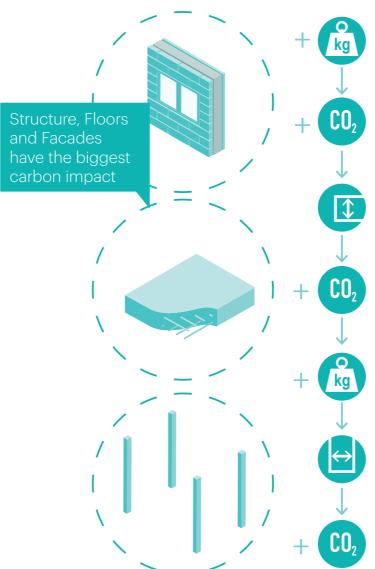


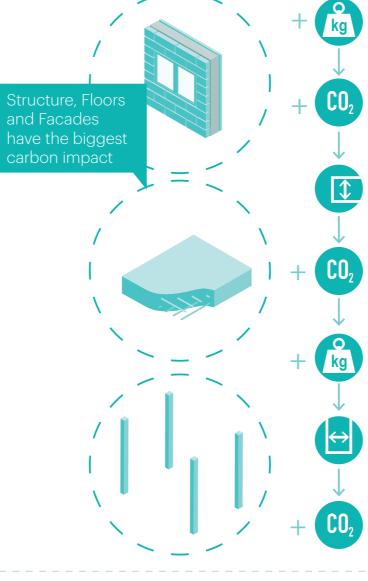
Argue for less parking spots in city locations



Building in the topography is very material intensive. Excavated soil is ending up unused in landfills

5 Reduce weight





6 Optimize Floors



Hollow core slab



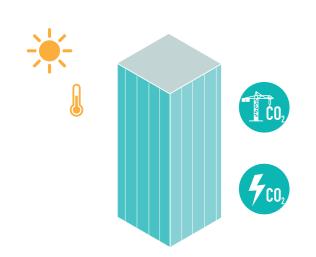
Ripped slab



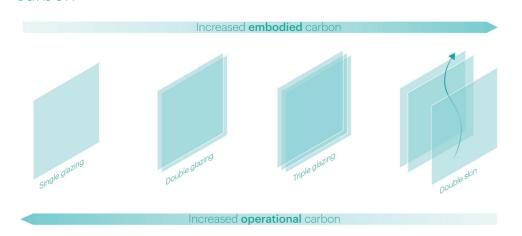
Timber hybrid

Timber ripped slab Timber slab (e.g. CLT)

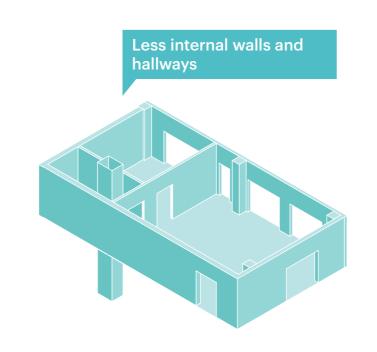
Rethink Openings



Glass facade with very high amount of embodied carbon High cooling demand, therefore high amount of operational carbon

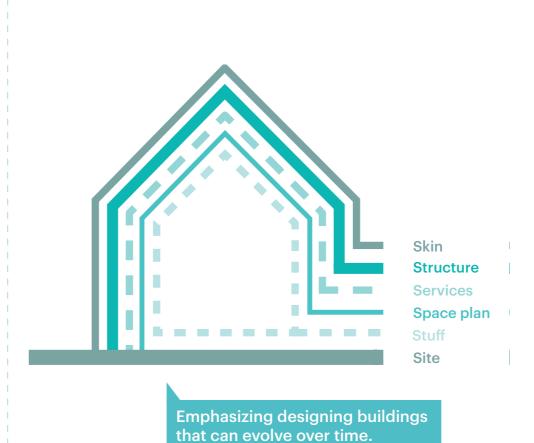


Build Simple & Clean



Clean and reduced floorplans, less hallways, straight shafts...

9 Future flexibility



Design for Reusability

