



# Process efficiency tackle data center challenges

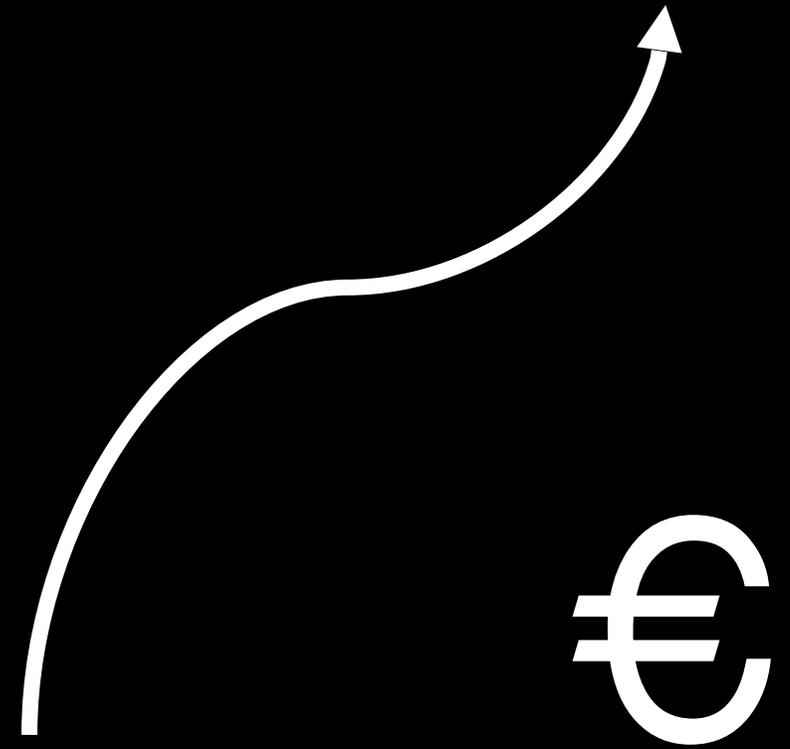
Data center forum  
Oslo

Feb 26<sup>th</sup>, 2026



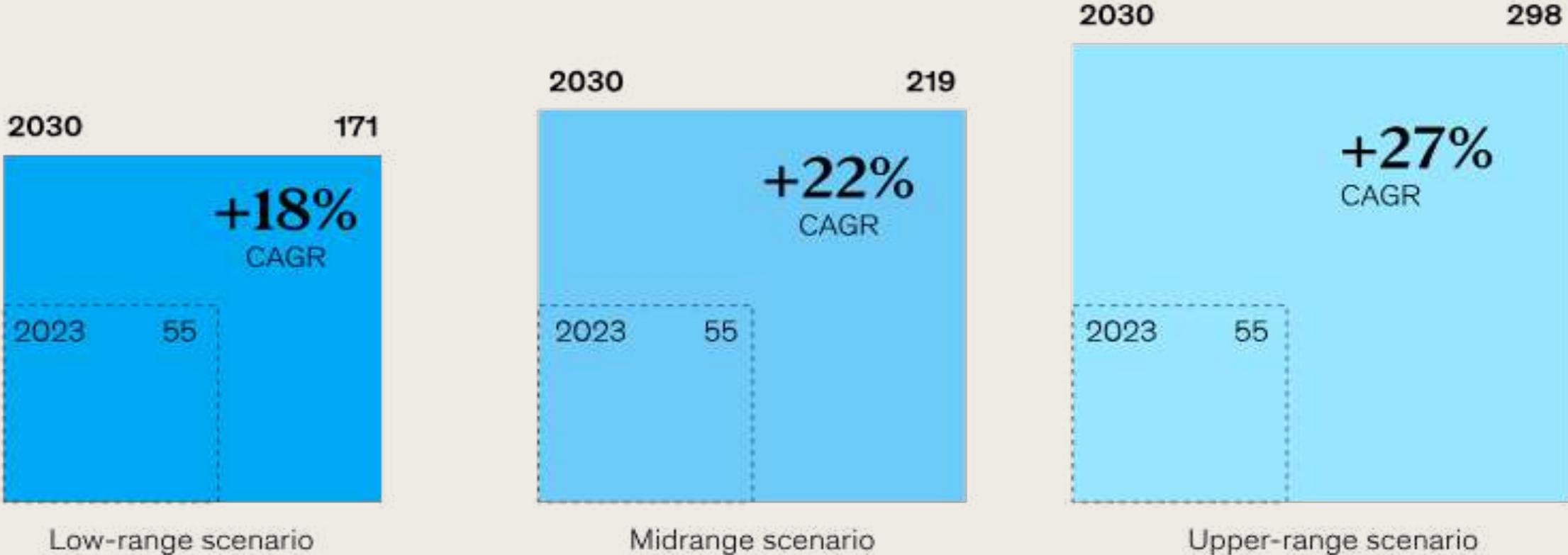
**SUSTAINABILITY =**

**COST**



# Global demand for data center capacity could more than triple by 2030.

Demand for data center capacity,<sup>1</sup> gigawatts



<sup>1</sup>Three scenarios showing the upper-, low-, and midrange estimates of demand, based on analysis of AI adoption trends; growth in shipments of different types of chips (application-specific integrated circuits, graphics processing units, etc) and associated power consumption; and the typical compute, storage, and network needs of AI workloads. Demand is measured by power consumption to reflect the number of servers a facility can house.

Source: McKinsey Data Center Demand model



**NO  
DATA  
CENTER**

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Resider  
data cen

**STOP  
DATA  
CENTERS**

# Pushback against data center construction

Community opposition grows over projec

Critics  
fight  
new data  
cente

# Concerns raised over data center proje

amazon

Google

Brows ovor

**NO  
DATA  
CENTERS**

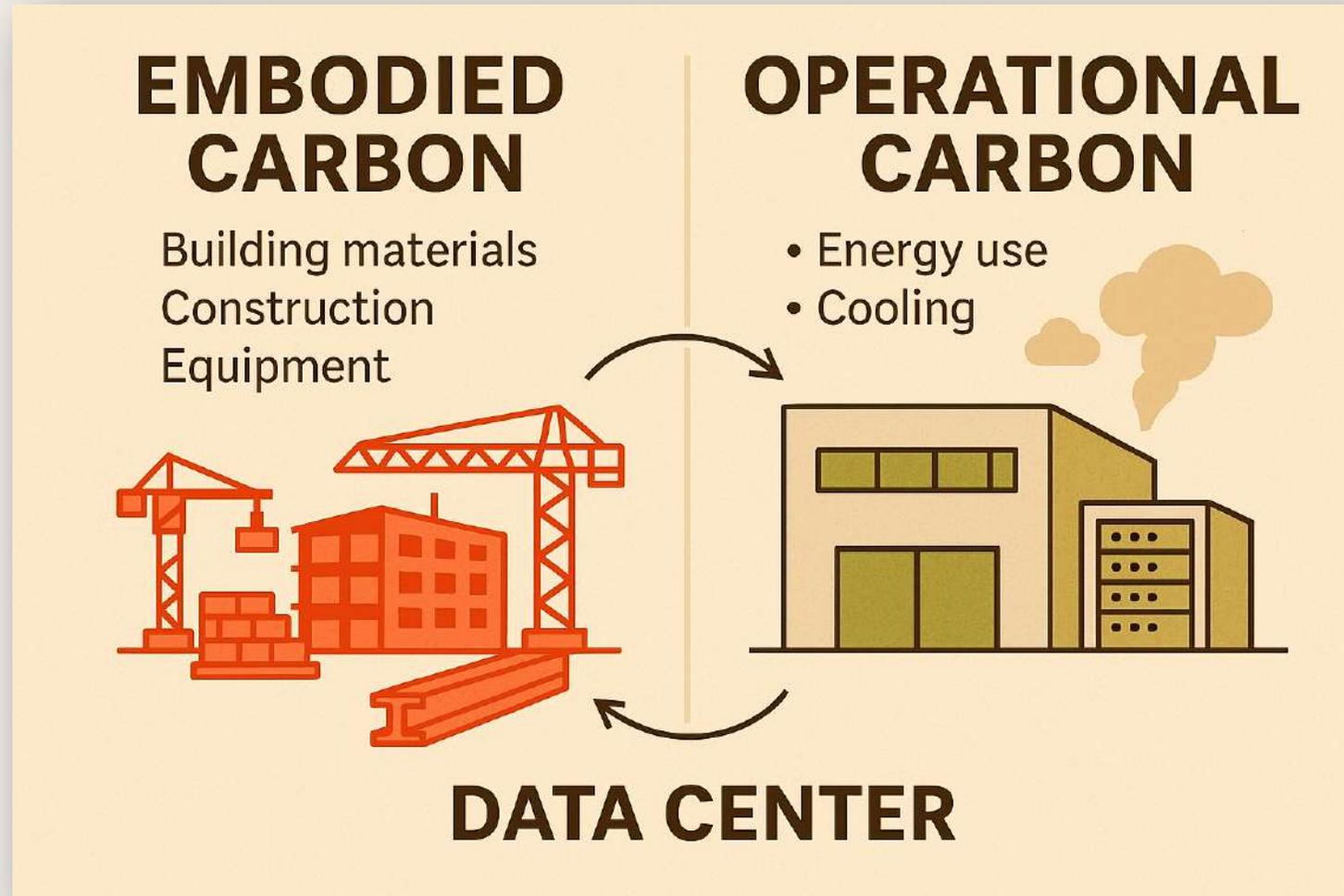
pot

# The carbon challenge

Hyperscalers	Scope 1 & 2	Scope 3
1	~1% of total	Majority of 7.4 Mt CO <sub>2</sub> eq
2	↓6.3% from 2020	↑30.9% from 2020
3	Stable, mostly offset	↑48% since 2019

Source: Annual sustainability reports

# The carbon challenge



# The carbon challenge



*If embodied carbon emissions are not considered, there remains the risk of design decisions having unintended – potentially **environmentally detrimental** – consequences.*

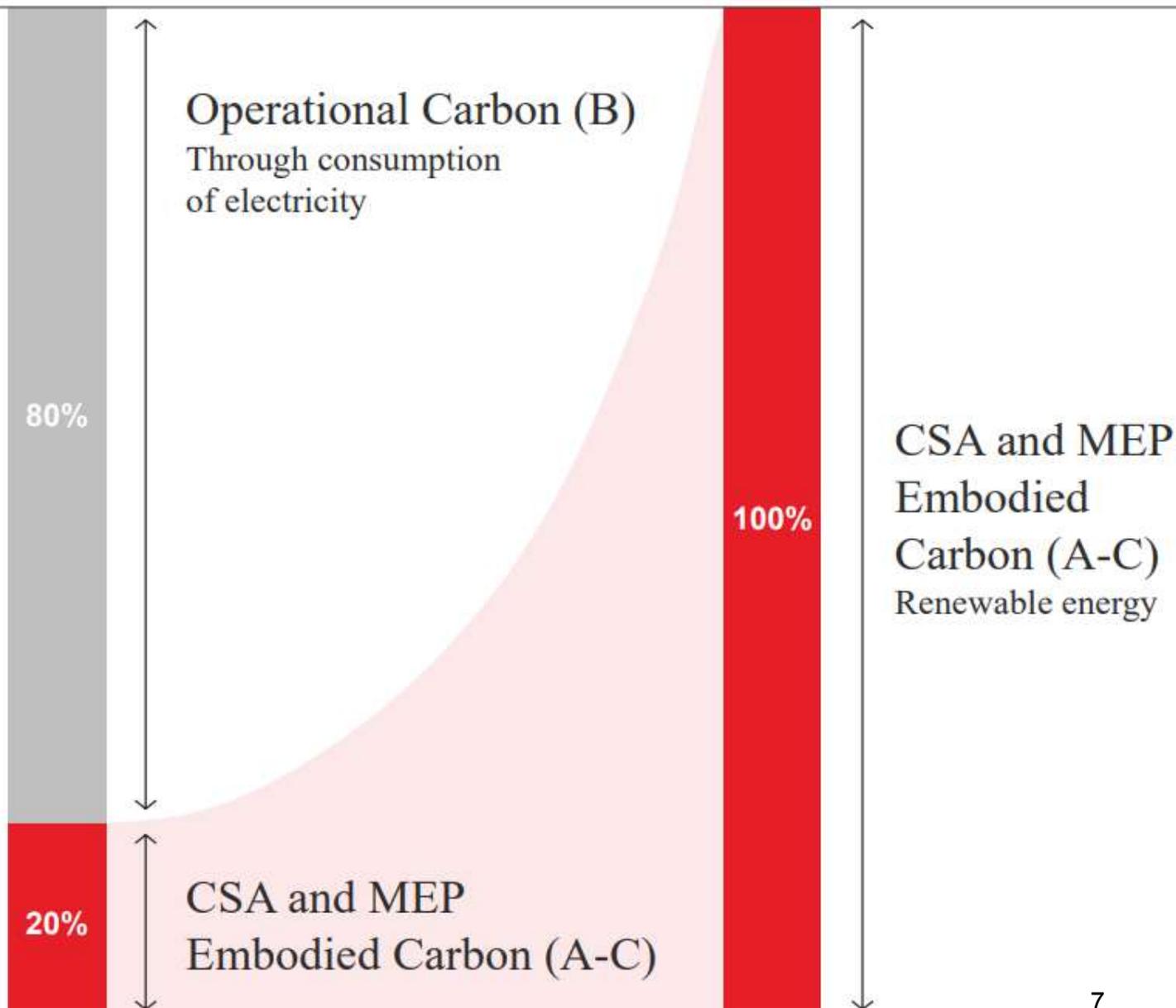
— RED Engineering Design



Source: Arup report "Circular Thinking for Data Centres"

Usual whole life carbon estimate

100% Renewable Energy Scenario



# The labor challenge



# The labor challenge

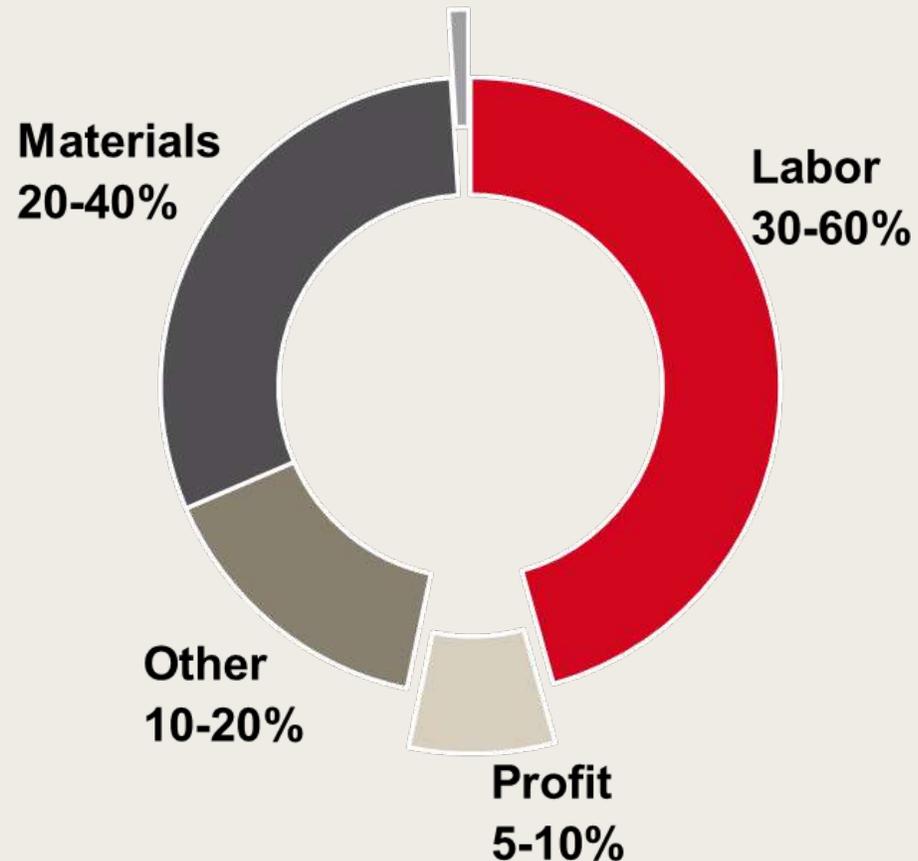


# The labor challenge



# The cost challenge

## Split of construction contractor costs (illustrative)



“

*The surge in data center construction is steadily increasing the cost to build as the supply chain struggles to keep pace with demand.*  
— Turner & Townsend

”

# The sustainability **opportunity** to solve for carbon, cost & labor



# The sustainability **opportunity** to solve for carbon, cost & labor



**Build  
nothing**



**Reuse  
existing**



**Sust. new  
builds**

# The sustainability **opportunity** to solve for carbon, cost & labor



## Value engineering

Early design collaboration. Do more with less.



# The sustainability **opportunity** to solve for carbon, cost & labor



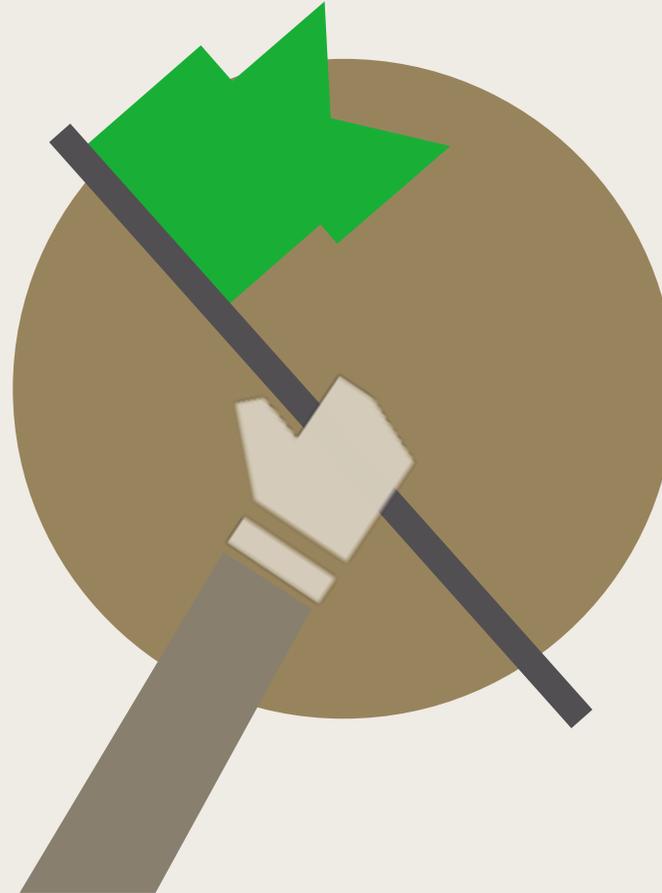
## **Value engineering**

Early design collaboration. Do more with less.



## **Modular low carbon solutions**

Use better materials, focus on concrete and steel.



# The sustainability **opportunity** to solve for carbon, cost & labor



## Value engineering

Early design collaboration. Do more with less.



## Modular low carbon solutions

Use better materials, focus on concrete and steel.



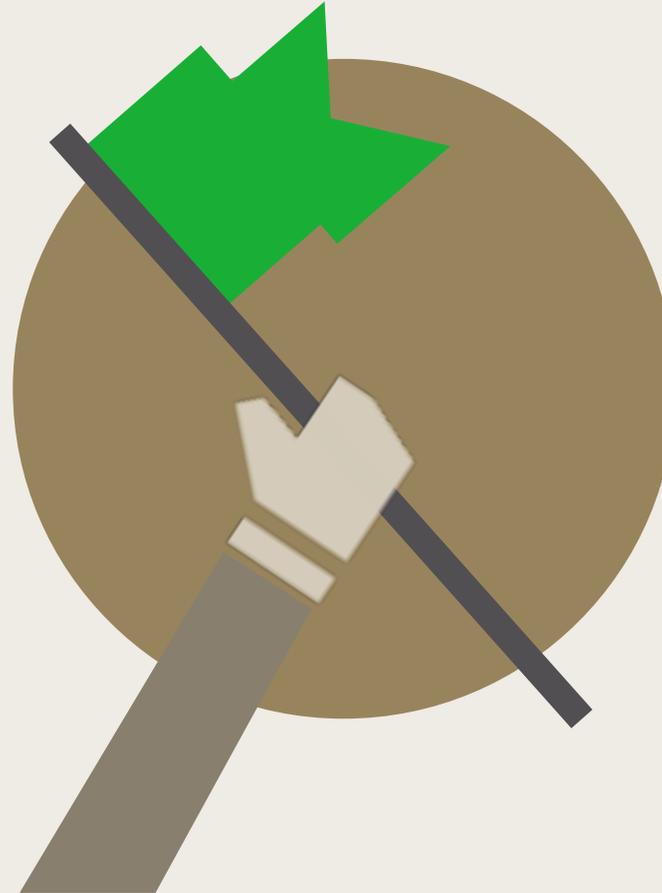
## Offsite Pre-fabrication

DfMA to accelerate, reduce on-site labor and associated risks.

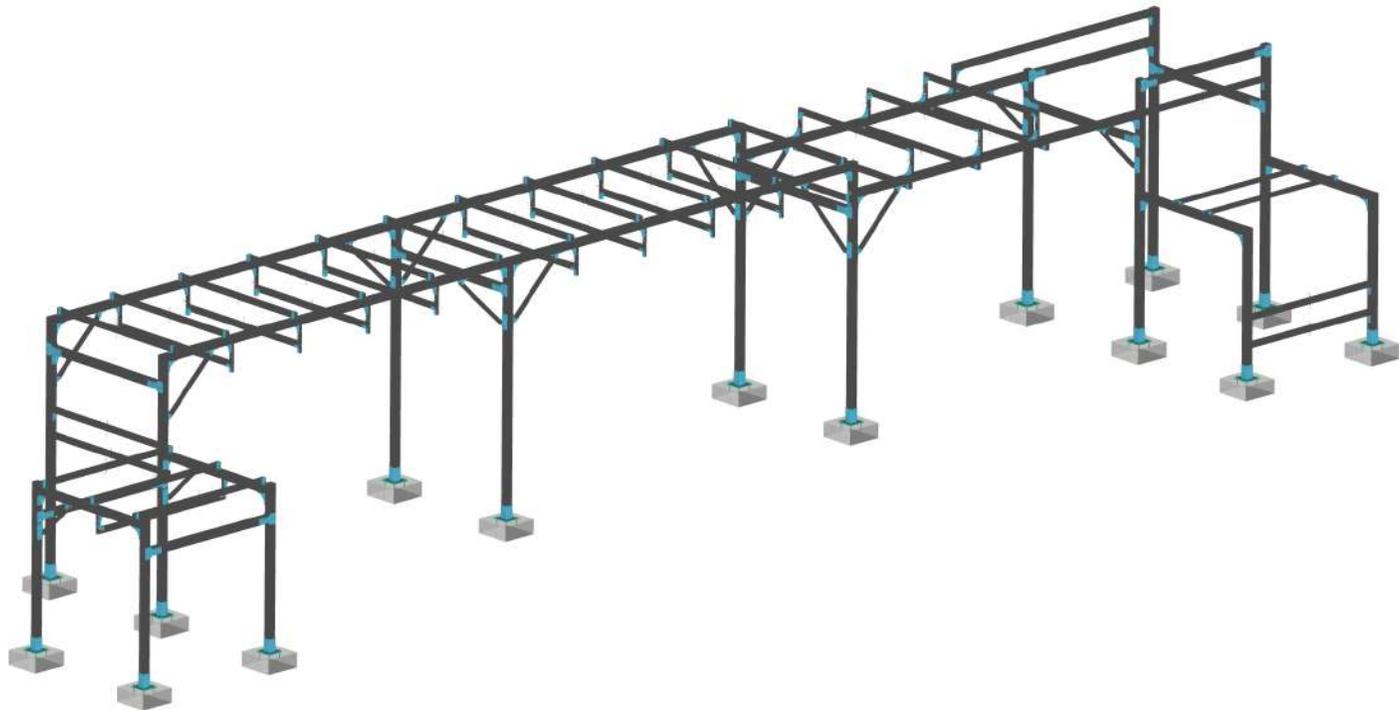


## Measure, improve and standardize

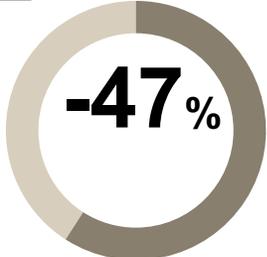
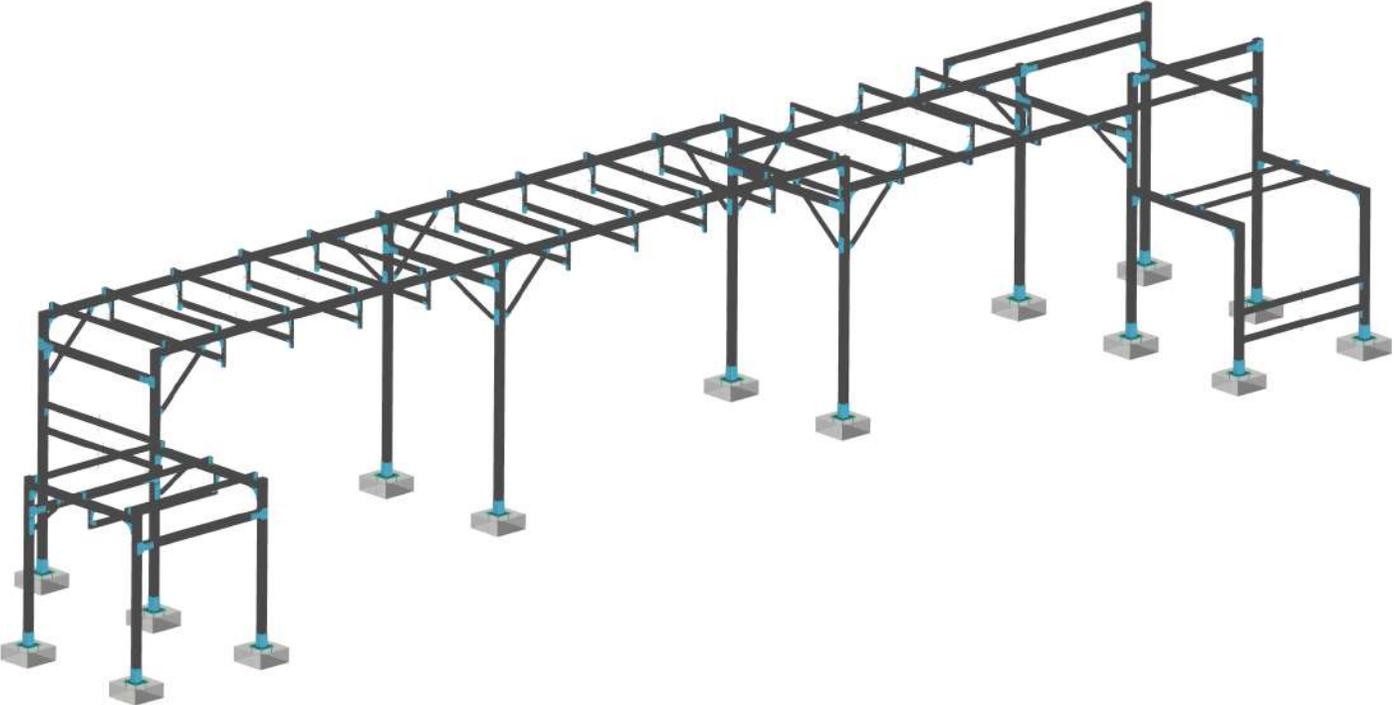
Set WBLCA baselines and targets, leverage EPDs, scale tested solutions.



# Reference case of converting welded steel to modular value engineered and pre-fab solution



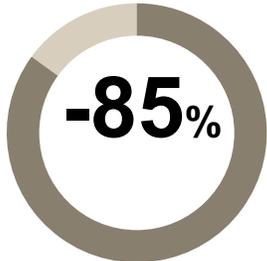
# Reference case of converting welded steel to modular value engineered and pre-fab solution



Cost Reduction



Installation time Reduction



Weight Reduction

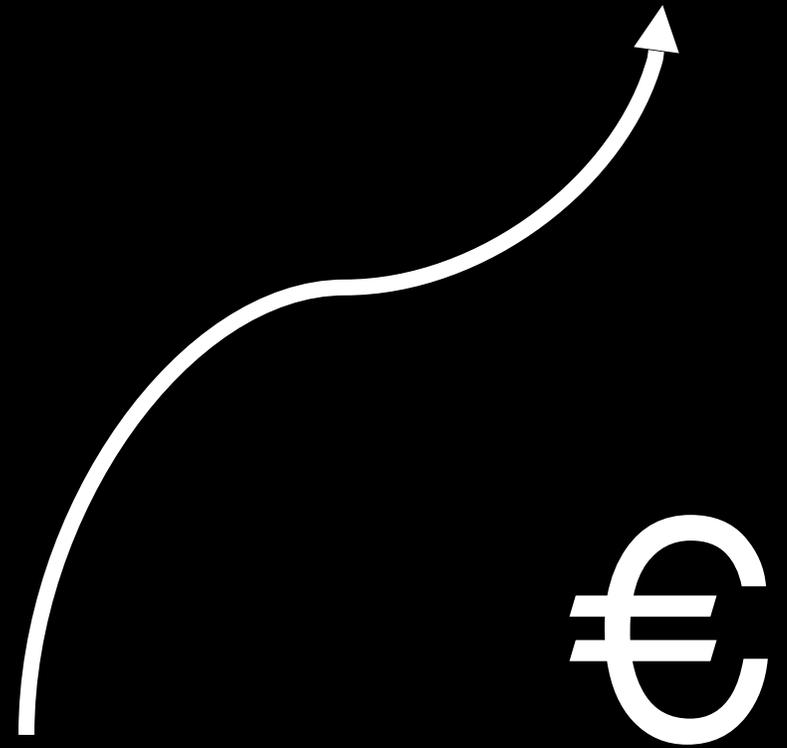


CO<sub>2</sub> Reduction



**SUSTAINABILITY =**

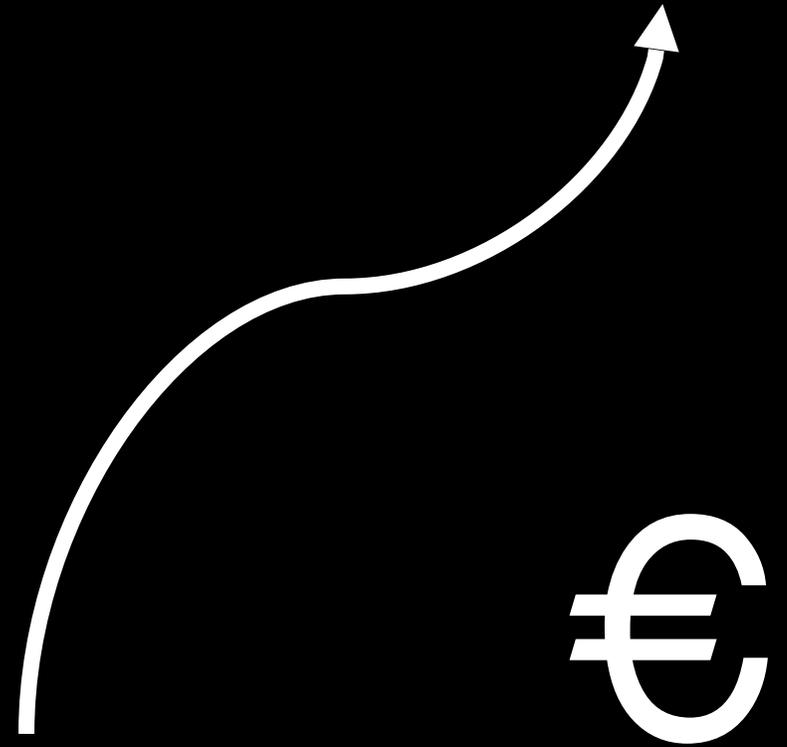
~~**COST**~~





**SUSTAINABILITY =**

**Savings**



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**THANK  
YOU**

