1976

Jute Statt Plastik

Erklärung von Bern


GEPA
THE FAIR TRADE COMPANY
...das Original
JUTE
STATT
PLASTIK
HANDARBEIT AUS BANGLADESH

1987

Our Common Future

The Brundtland Comission UN

CONNECTION

SOCIAL

ENVIRONMENTAL

ECONOMICAL

SUSTAINABILITY

1987

SNØHETTA

CONNECTION

SOCIAL

ENVIRONMENTAL

ECONOMICAL

SUSTAINABILITY

1988

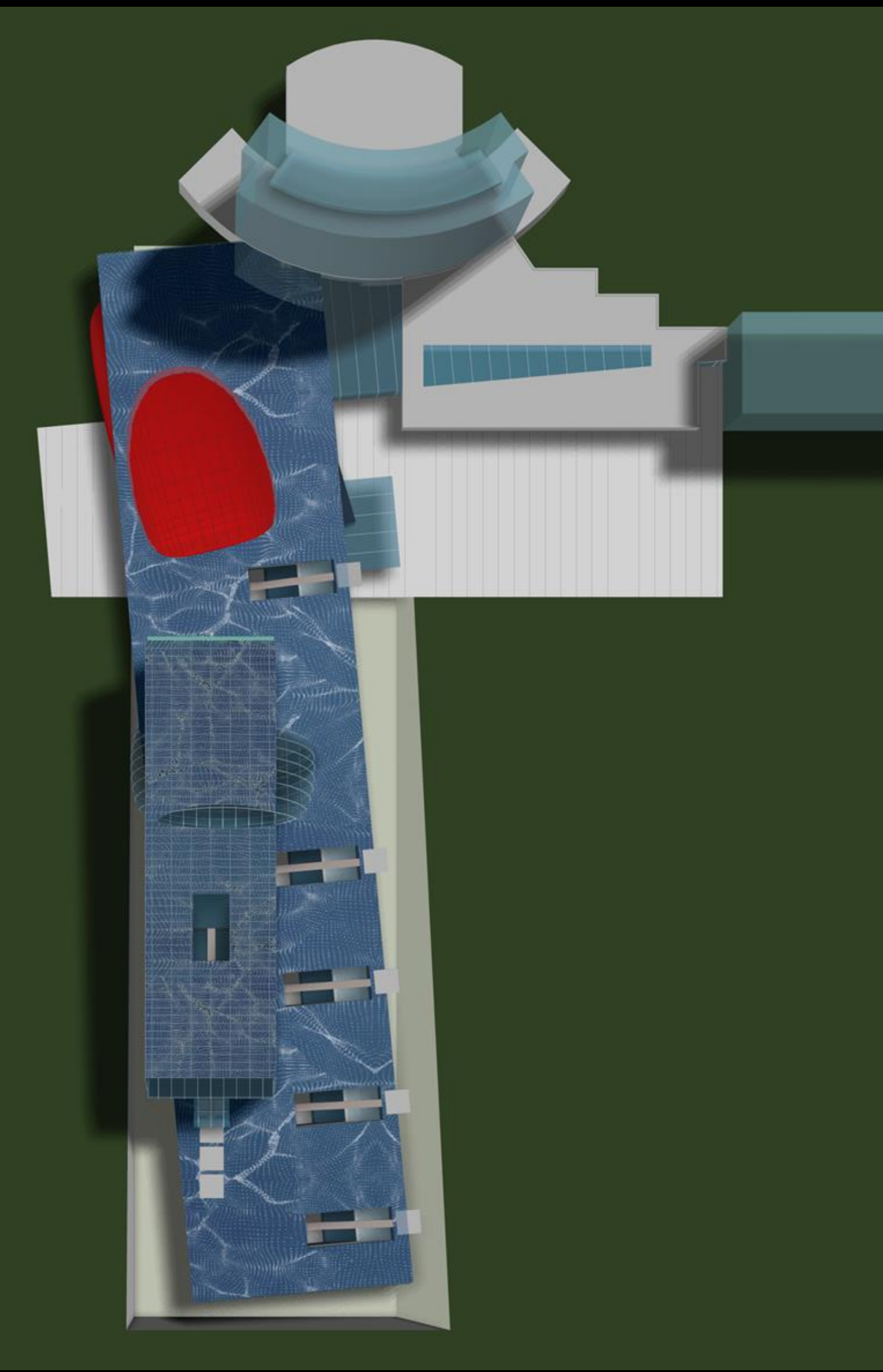
Det Siste Syke Hus

Bjørn Berge

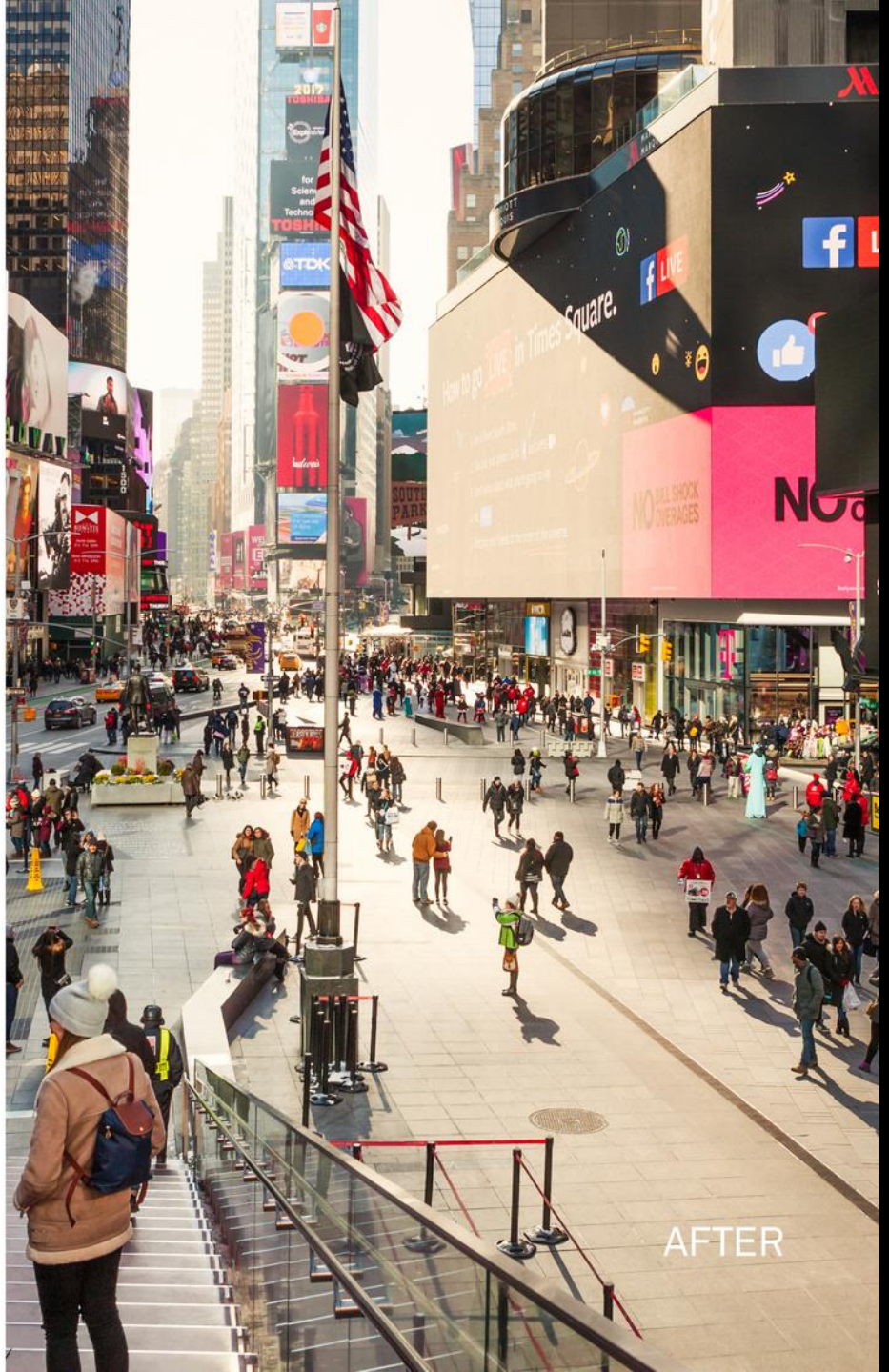
AFFECT

BEHAVIOR

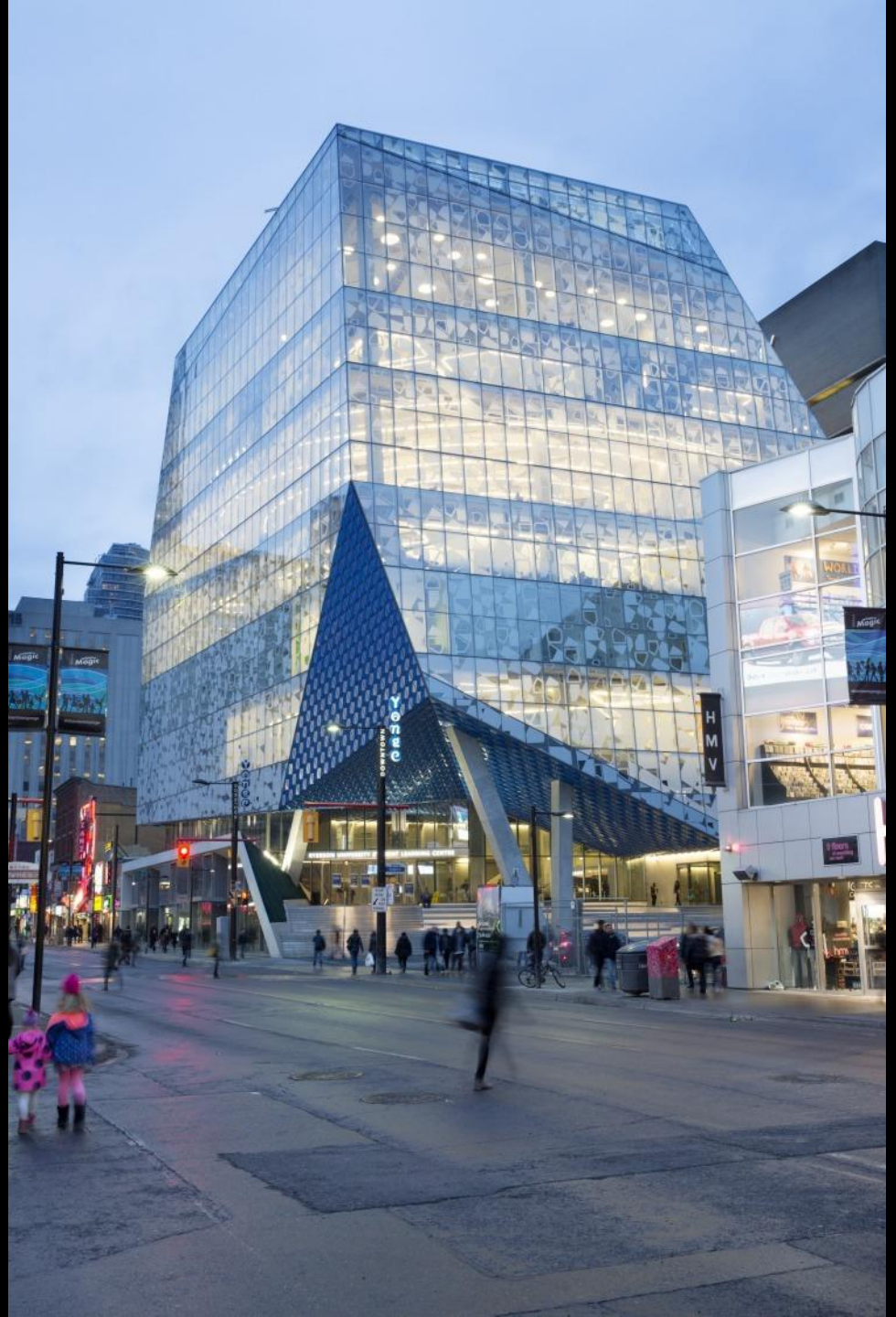
COGNITION




TOSHIBA
TDK
CHEVROLET
Kodak
RESCUE ME
BankofAmeric
LAKEFRONT
BEFORE


Square.
AFTER

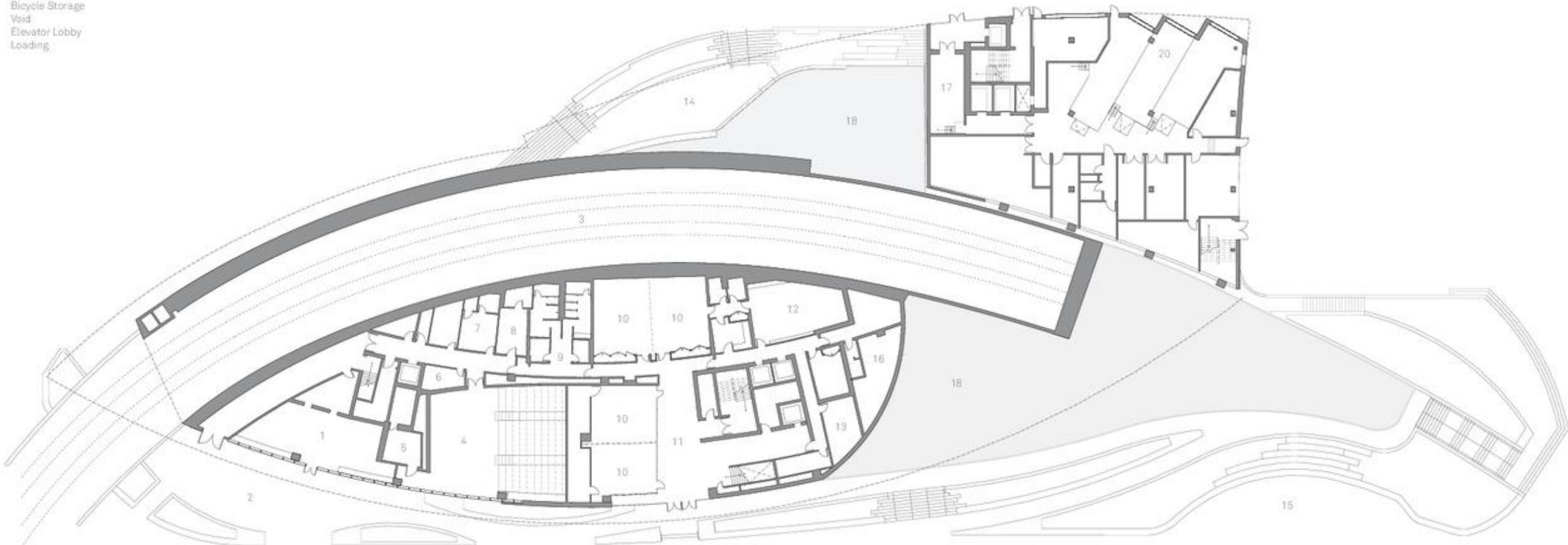
Solstice Yoga in Times Square 2014. Photo: Amy Hart for Times Square Alliance


Yonge
HMV


STARBUCKS COFFEE
EXIT
EXIT

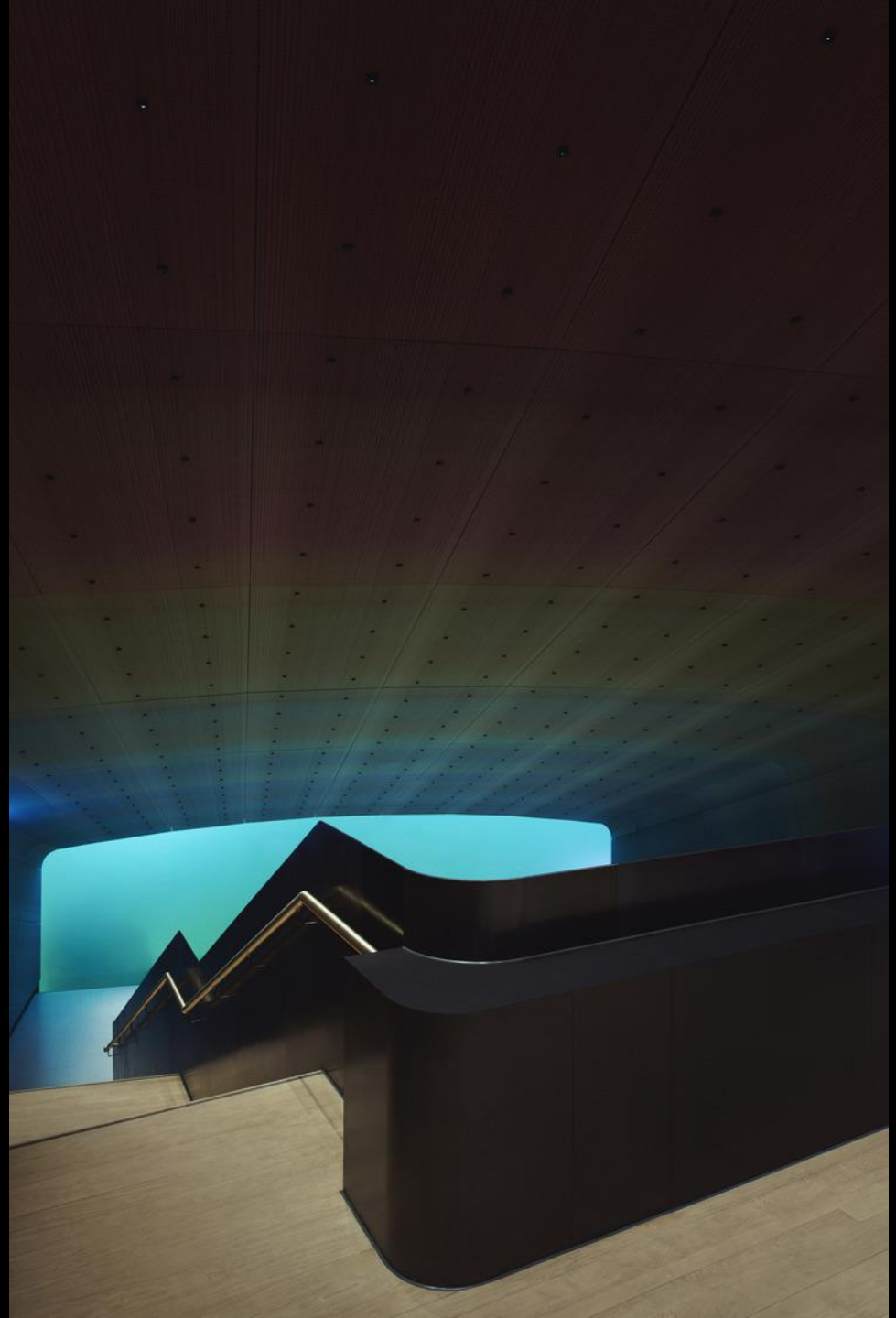

reception

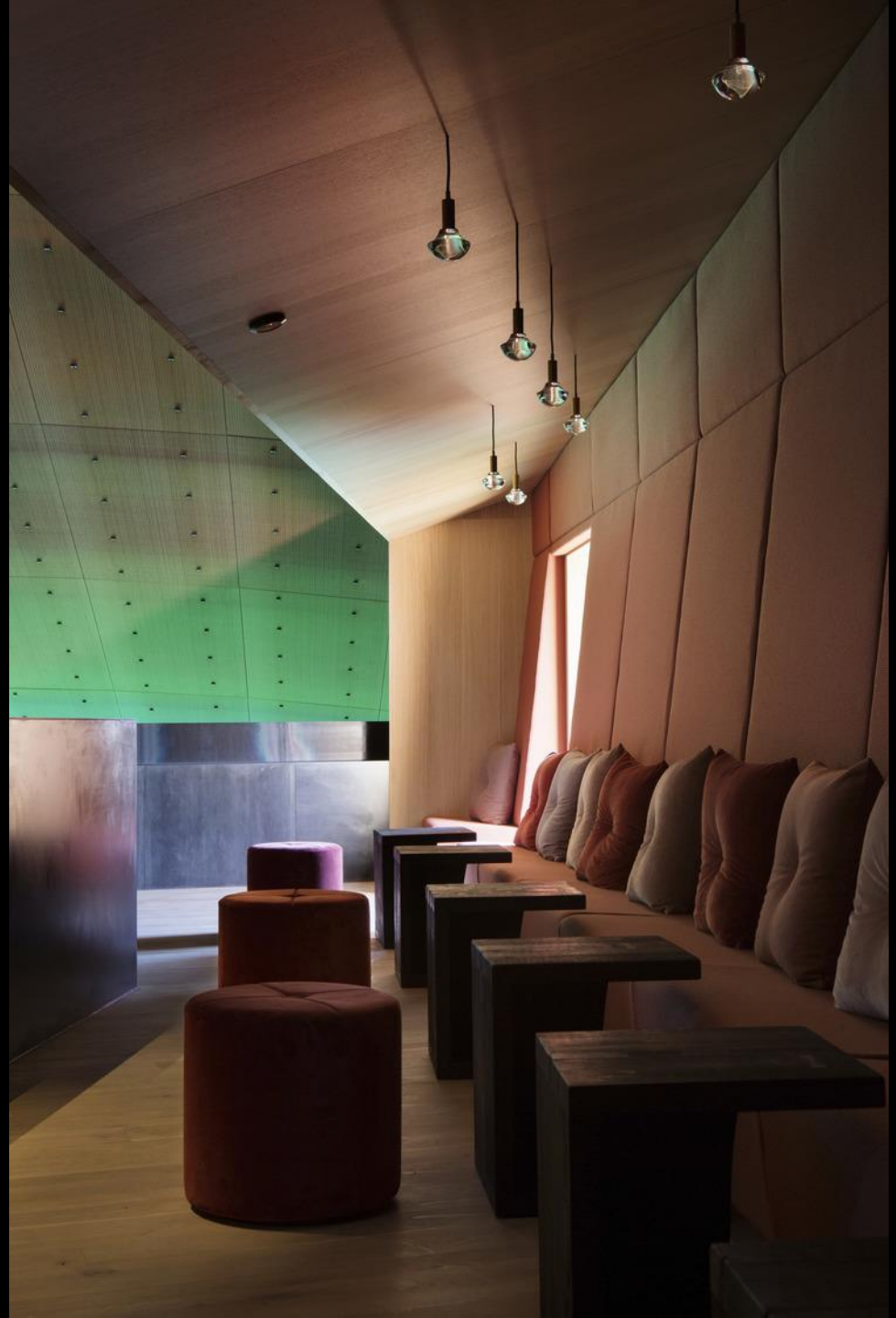
1. Cafe
2. Outdoor Seating
3. Light Rail Transit
4. Performance Hall
5. Backstage
6. Control Room
7. Green Room
8. Dressing Room
9. WC
10. Multipurpose Room
11. Community Lobby
12. Boardroom
13. Communications Room
14. East Terrace
15. Public Plaza
16. Cistern
17. Bicycle Storage
18. Void
19. Elevator Lobby
20. Loading



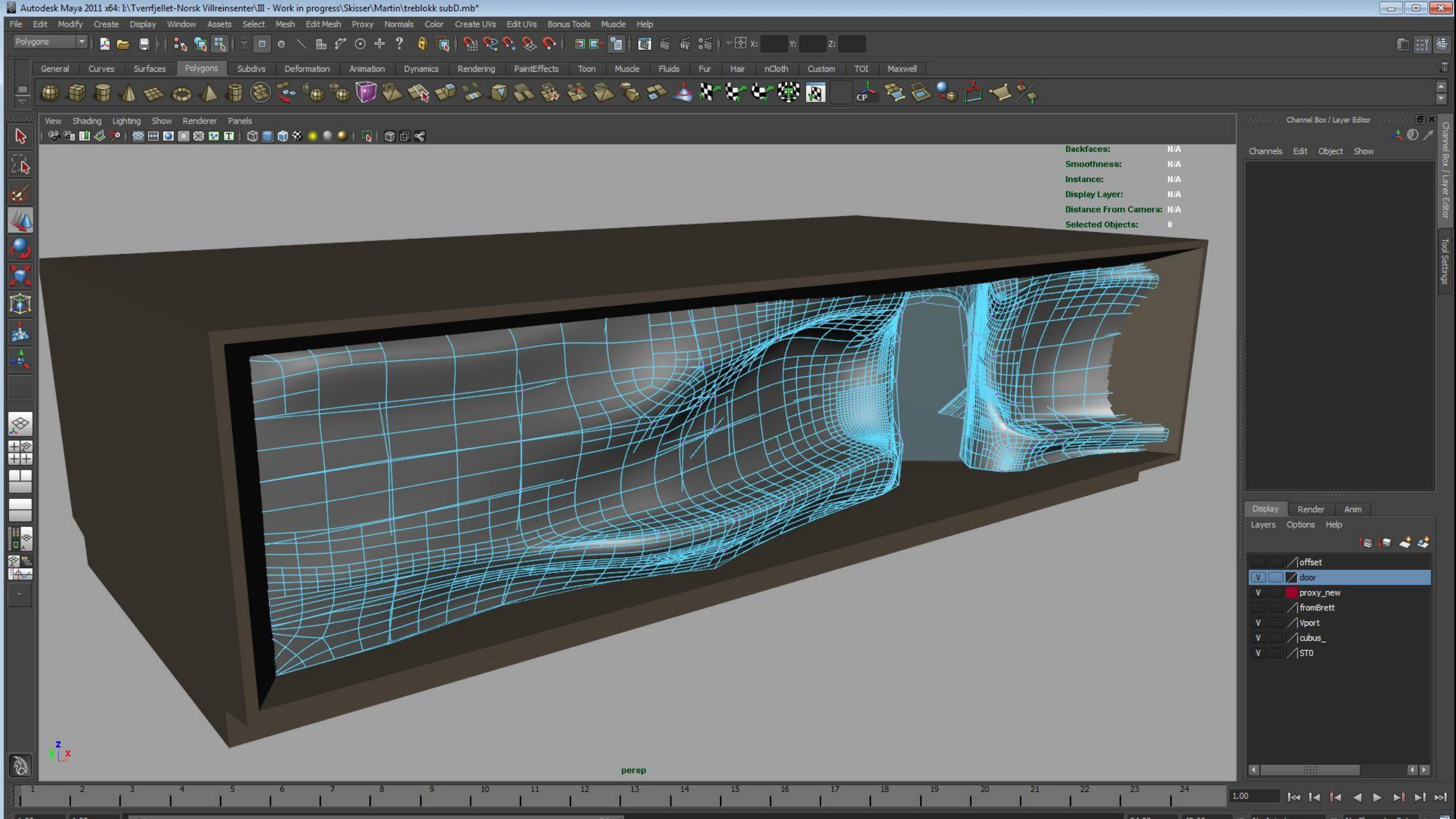
0 20m


FFS
FFS






Erling Kv


Autodesk Maya 2011 x64: I:\Tverrfjellet-Norsk Villreinsenter\III - Work in progress\Skisser\Martin\treblokk subD.mb*
File Edit Modify Create Display Window Assets Select Mesh Edit Mesh Proxy Normals Color Create UVs Edit UVs Bonus Tools Muscle Help
Polygons
General Curves Surfaces Polygons Subdivs Deformation Animation Dynamics Rendering PaintEffects Toon Muscle Fluids Fur Hair nCloth Custom TOI Maxwell
View Shading Lighting Show Renderer Panels
Backfaces: N/A
Smoothness: N/A
Instance: N/A
Display Layer: N/A
Distance From Camera: N/A
Selected Objects: 0
persp
Channel Box / Layer Editor
Channels Edit Object Show
Display Render Anim
Layers Options Help
offset
door
proxy_new
fromBrett
Vport
cubus_
ST0
Channel Box / Layer Editor
Tool Settings

Snøhetta

people
process
projects


Snøhetta
Collective Intuition
PHAIDON

2009

ZEB-SENTERET

NTNU SINTEF

CONNECTION

SOCIAL

ENVIRONMENTAL

ECONOMICAL

SUSTAINABILITY

Illustrasjon: Simon Archer Goulden Dreyer, AHO

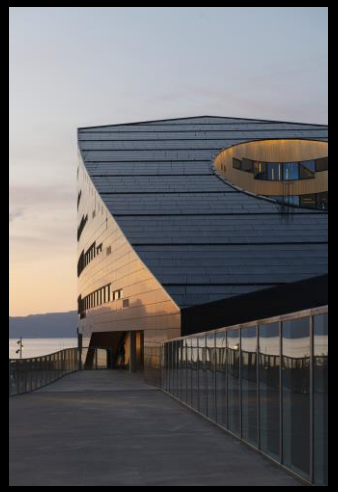
Snøhetta v. Tine Hegli

Snøhetta

Den Norske Opera og Ballett, 2000-2008

Bevisst materialbruk

Powerhouse Brattørkaia, 2012-2019



ZEB Larvik, 2014

Powerhouse Kjørbo, 2012-2014

Ny kunnskap om produksjon og CO2ekv utslipp

Gullhaug Torg, 2016-2018

Reduserte mengder

S-1500, 2016-2018

Ombruk

Iterasjoner

POWERHOUSE

Powerhouse Drøbak Montesorri, 2018

Zero Village Bergen, 2010 -

ZEN
research Centre on
ZERO EMISSION
NEIGHBOURHOODS
IN SMART CITIES

Powerhouse Telemark, 2015 -

ZEB
The Research Center on
Zero Emission Buildings

Harvard HouseZero, 2016-2018

Snøhetta v. Tine Hegli

2019
CLIMATE

CO2

Snøhetta

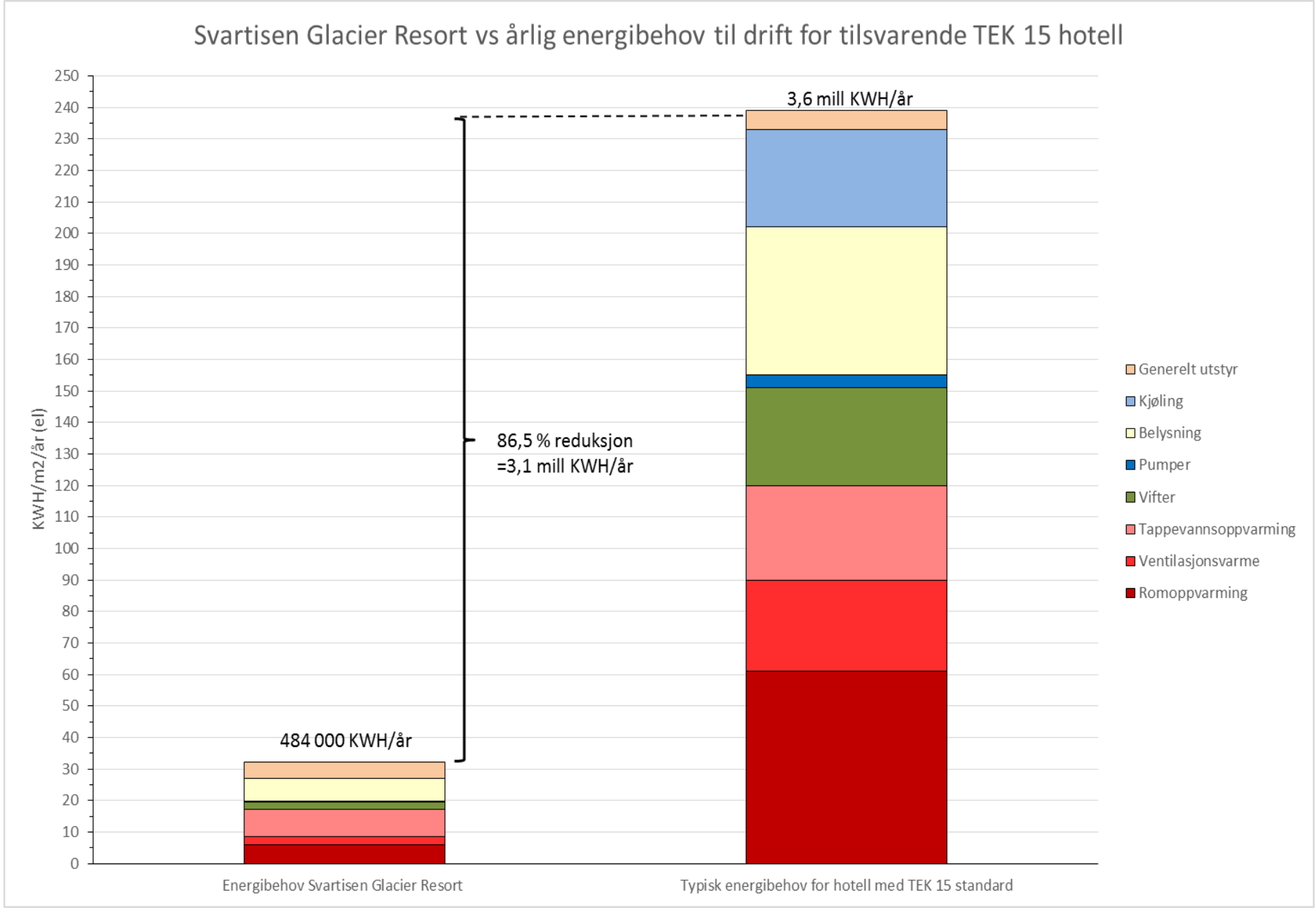


Diagram: Powerhouse Svart, preliminary design report, Skanska – Bjørn Jenssen

Bruksfase 60 år

A1-3 PRODUCT STAGE			A4-5 CONSTRUCTION		B1-7 USE STAGE					C1-4 END OF LIFE				Supplementary information beyond the building life cycle
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	D
Raw material supply	Transport	Manufacturing	Transport	Construction installation process	Use	Maintenance	Repair	Replacement	Refurbishment	De -construction demolition	Transport	Waste processing	Disposal	Benefits and loads beyond the system boundary
														Reuse-Recovery-Recycling potentia

Bevisst materialbruk

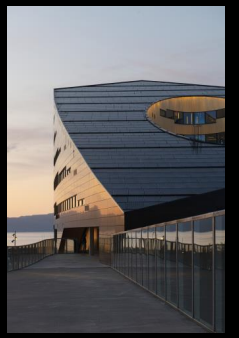
Produksjon + Transport + Byggeplass + Bruksfase 60 år + avhending

A1-3 PRODUCT STAGE			A4-5 CONSTRUCTION		B1-7 USE STAGE					C1-4 END OF LIFE				Supplementary information beyond the building life cycle
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	D
														Benefits and loads beyond the system boundary
Raw material supply	Transport	Manufacturing	Transport	Construction installation process	Use	Maintenance	Repair	Replacement	Refurbishment	De -construction demolition	Transport	Waste processing	Disposal	Reuse-Recovery-Recycling potentia

Ny kunnskap om produksjon og CO2ekv utslipp + litt om resten ...





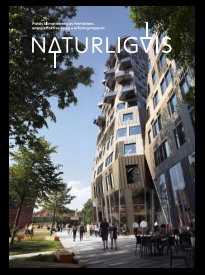
LCA / Livsløpsanalyse

Snøhetta v. Tine Hegli

Produksjon + Transport + Byggeplass + Bruksfase 60 år + reduserte mengder + avhending

A1-3 PRODUCT STAGE			A4-5 CONSTRUCTION		B1-7 USE STAGE					C1-4 END OF LIFE				Supplementary information beyond the building life cycle
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	D
Raw material supply	Transport	Manufacturing	Transport	Construction installation process	Use	Maintenance	Repair	Replacement	Refurbishment	De -construction demolition	Transport	Waste processing	Disposal	Benefits and loads beyond the system boundary
														Reuse-Recovery-Recycling potentia

Ny kunnskap om produksjon og CO2ekv utslipp + litt om resten ...



Produksjon + Transport + Byggeplass + Bruksfase 60 år + reduserte mengder + avhending + ombruk og resirkulering

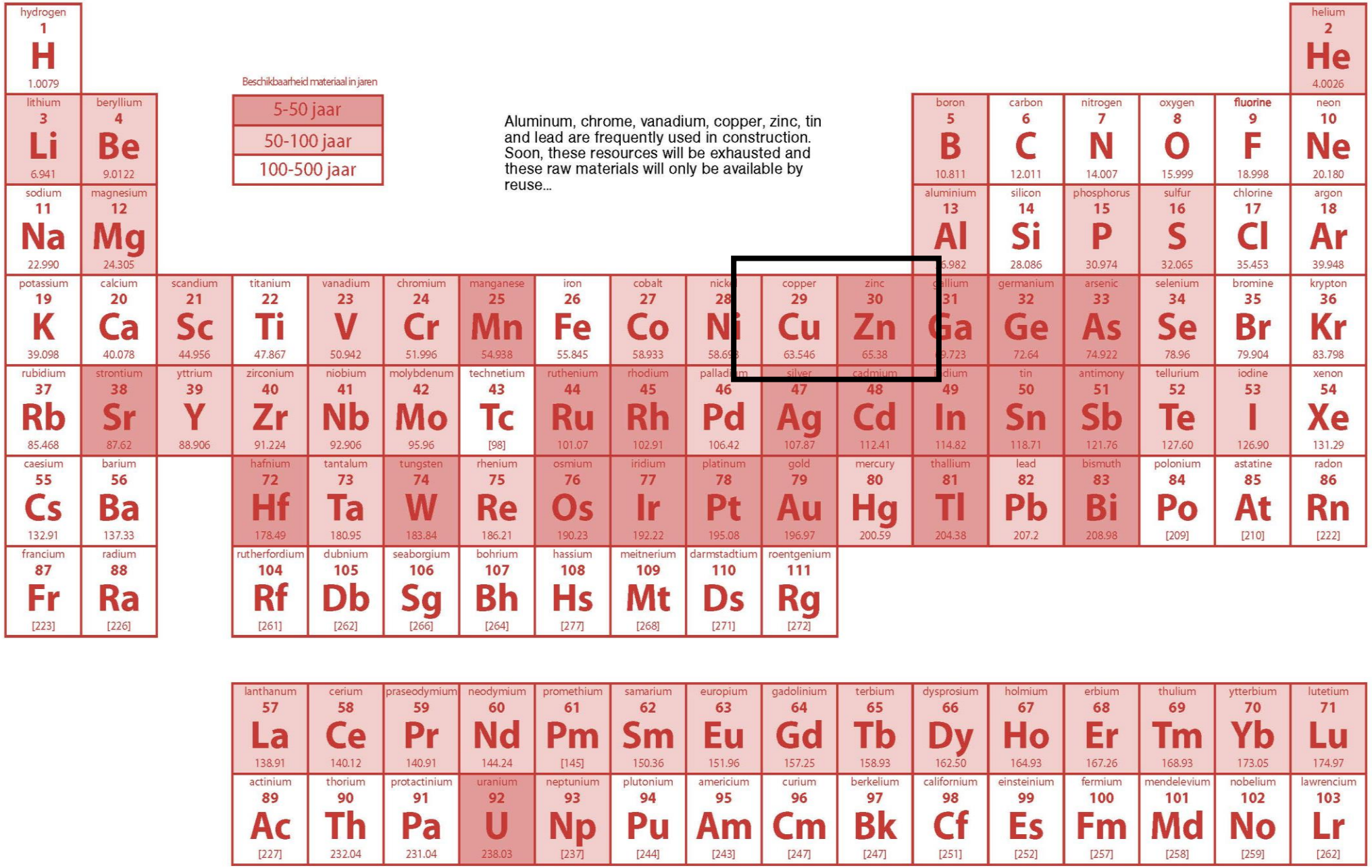
A1-3 PRODUCT STAGE			A4-5 CONSTRUCTION		B1-7 USE STAGE					C1-4 END OF LIFE				Supplementary information beyond the building life cycle
A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	D
Raw material supply	Transport	Manufacturing	Transport	Construction installation process	Use	Maintenance	Repair	Replacement	Refurbishment	De -construction demolition	Transport	Waste processing	Disposal	Benefits and loads beyond the system boundary
														Reuse-Recovery-Recycling potentia

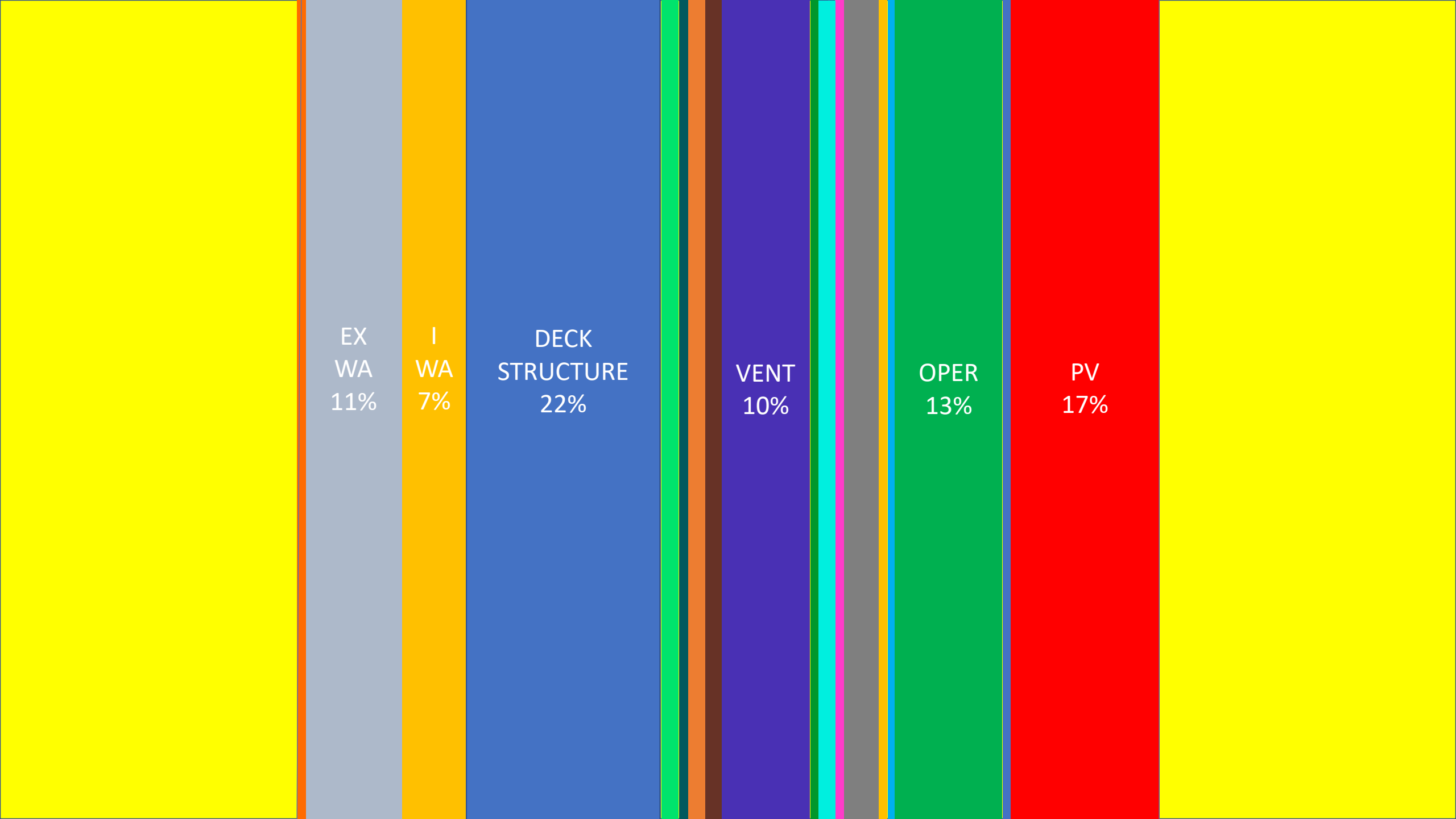
Ny kunnskap om produksjon og CO2ekv utslipp + kunnskap om og planlegging for materialenes kretsløp

Konkretisering

MATERIALS

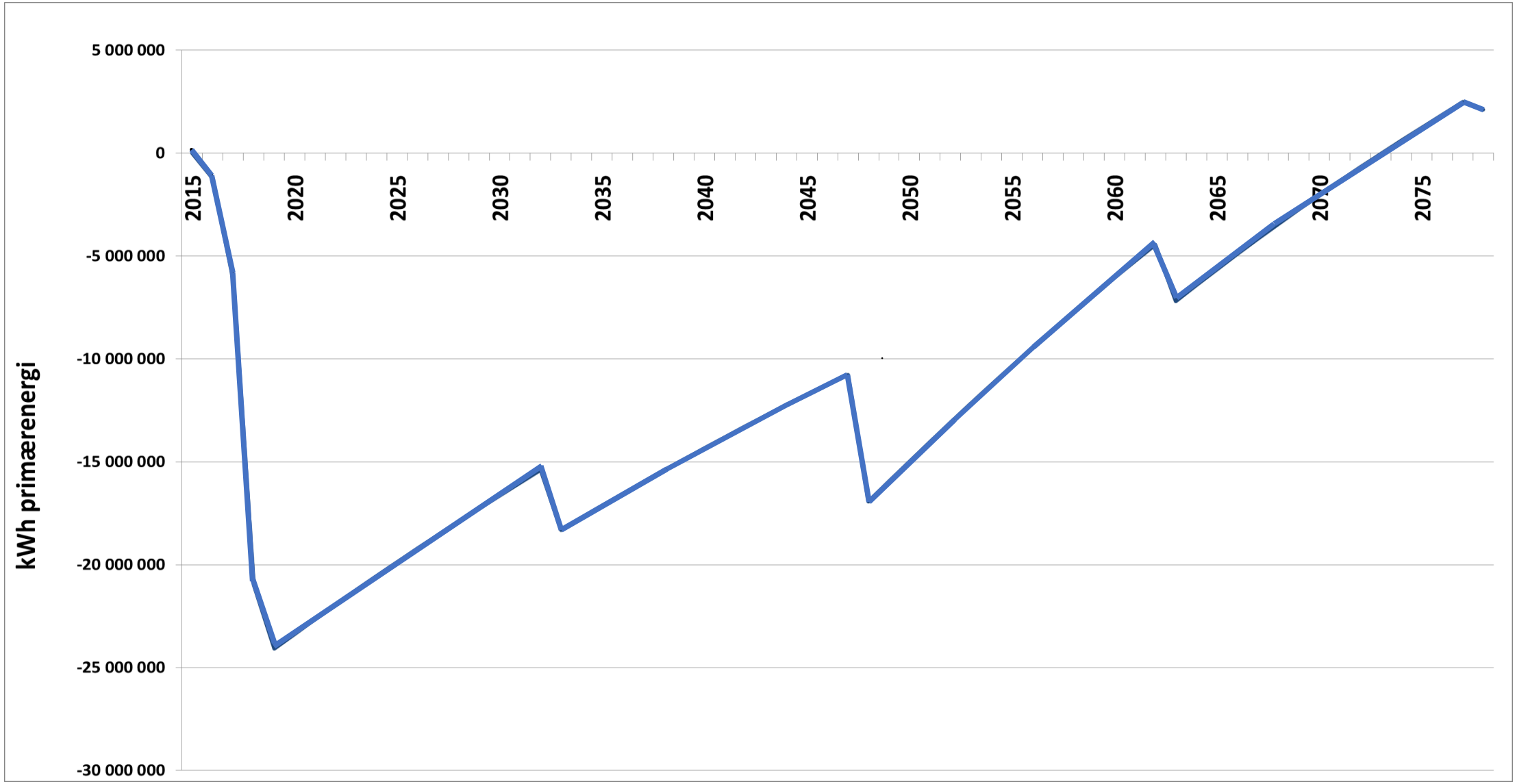
CO2


Beschikbaarheid materiaal in jaren
5-50 jaar
50-100 jaar
100-500 jaar
Aluminum, chrome, vanadium, copper, zinc, tin and lead are frequently used in construction. Soon, these resources will be exhausted and these raw materials will only be available by reuse...

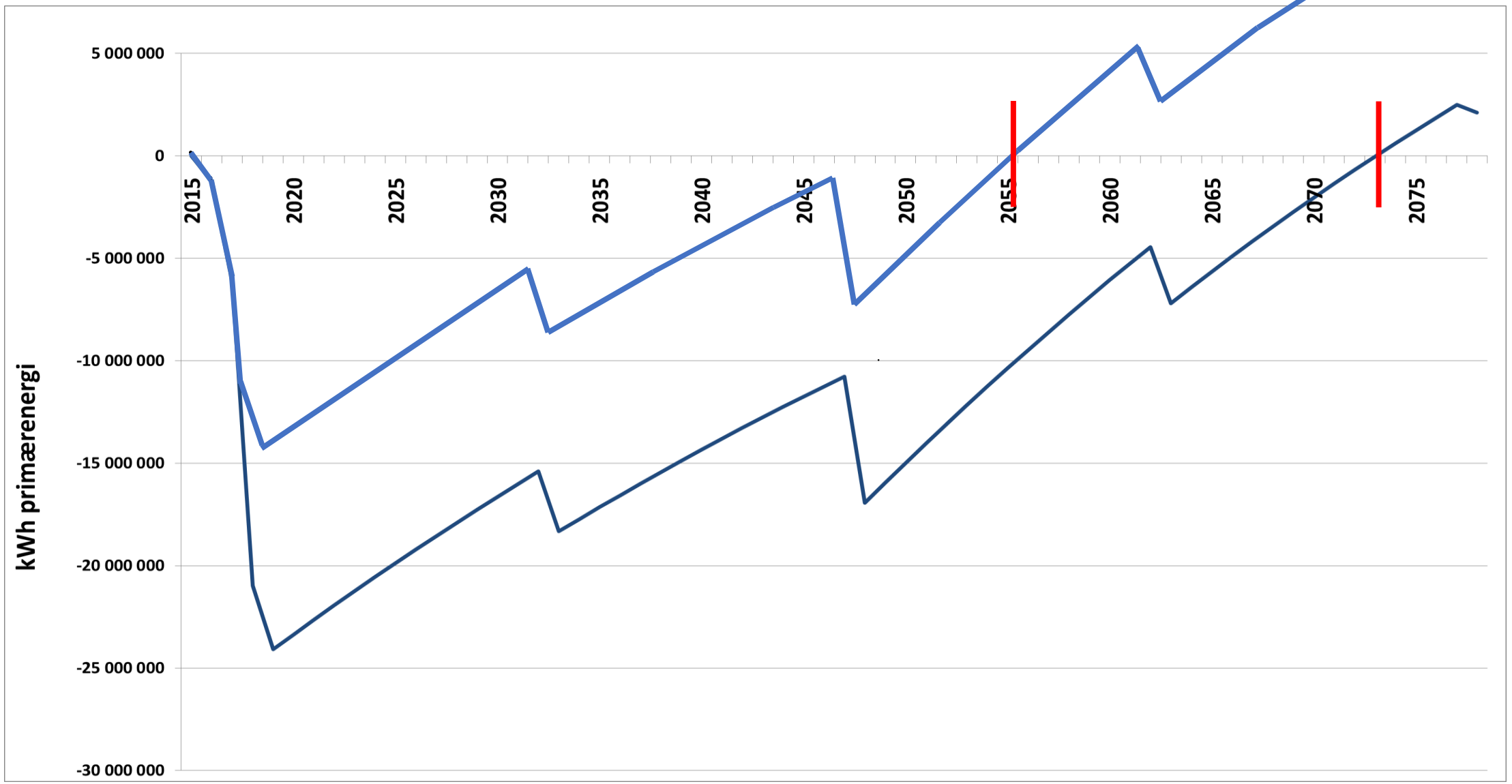

EX
WA
11%
I
WA
7%
DECK
STRUCTURE
22%
VENT
10%
OPER
13%
PV
17%

OPER

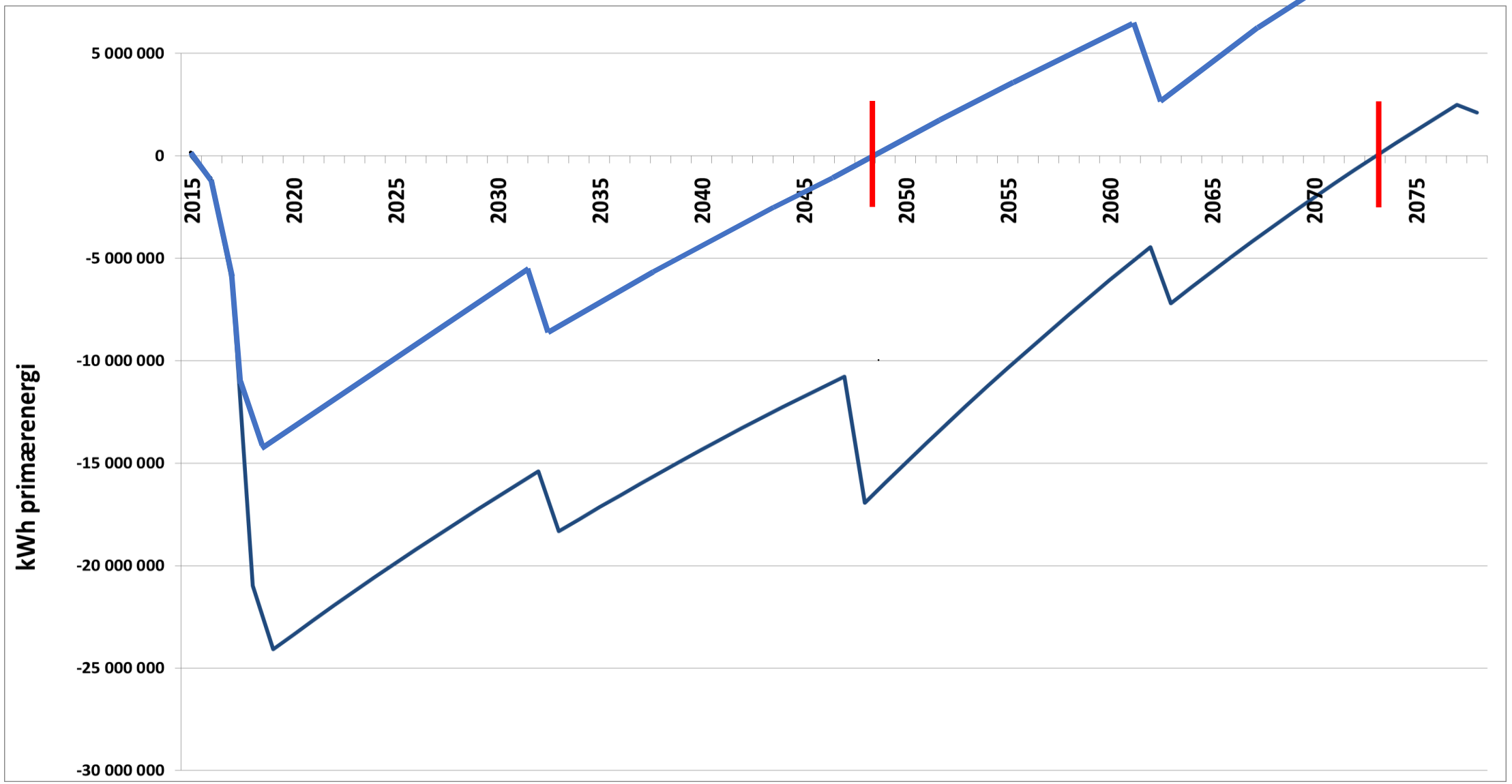
Energibalanse gjennom livsløpet



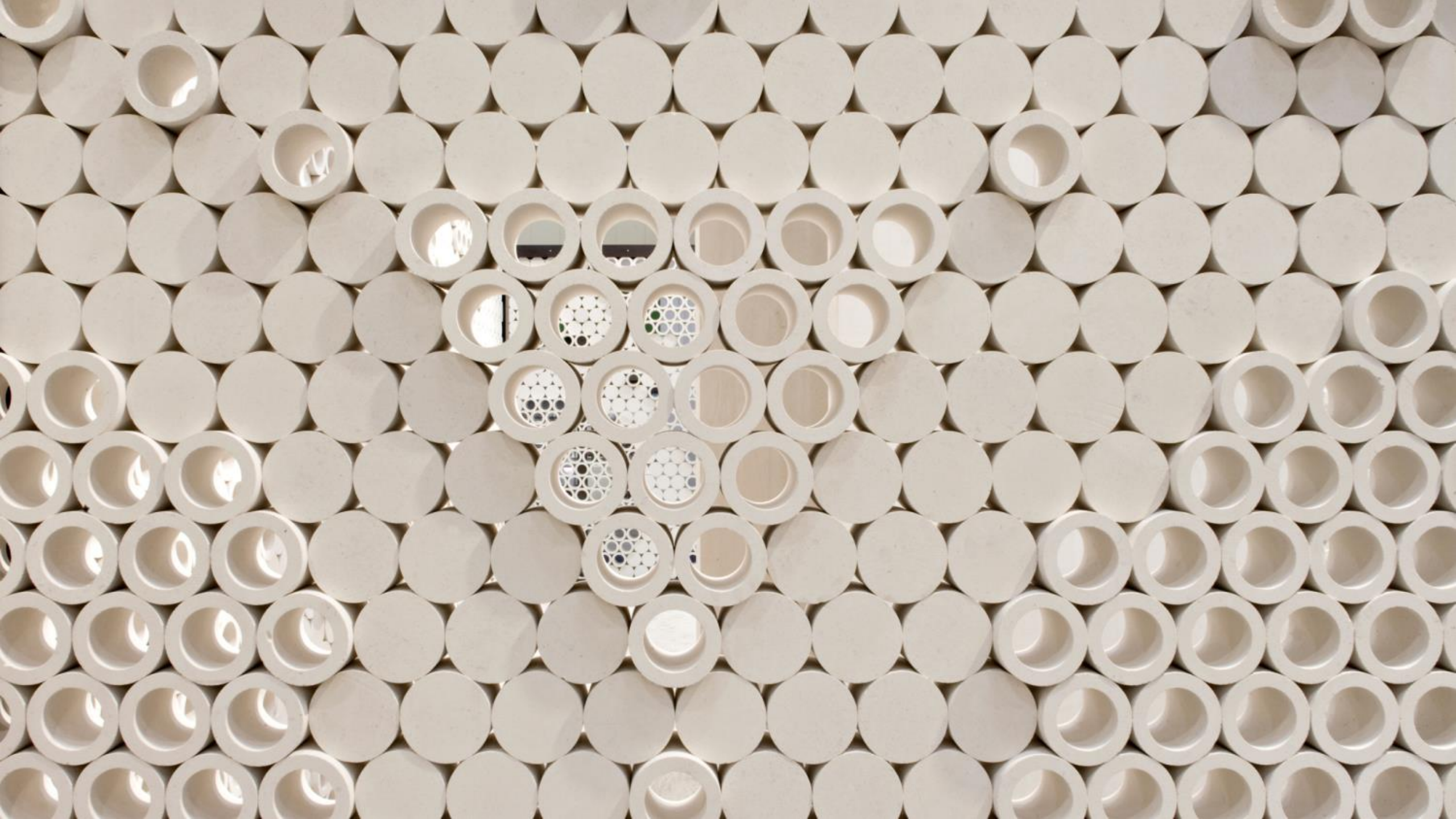
Energibalanse gjennom livsløpet



Energibalanse gjennom livsløpet



FROM MINIMALISM TO REDUCTIONISM




HSBC
THE FULLERTC
HOTEL

BAREFOOT

POST OCCUPANCY

TIMES SQUARE
RECONSTRUCTION

40%
DECREASE IN PEDESTRIAN INJURIES

20%
DECREASE IN CRIME

60%
DECREASE IN POLLUTION

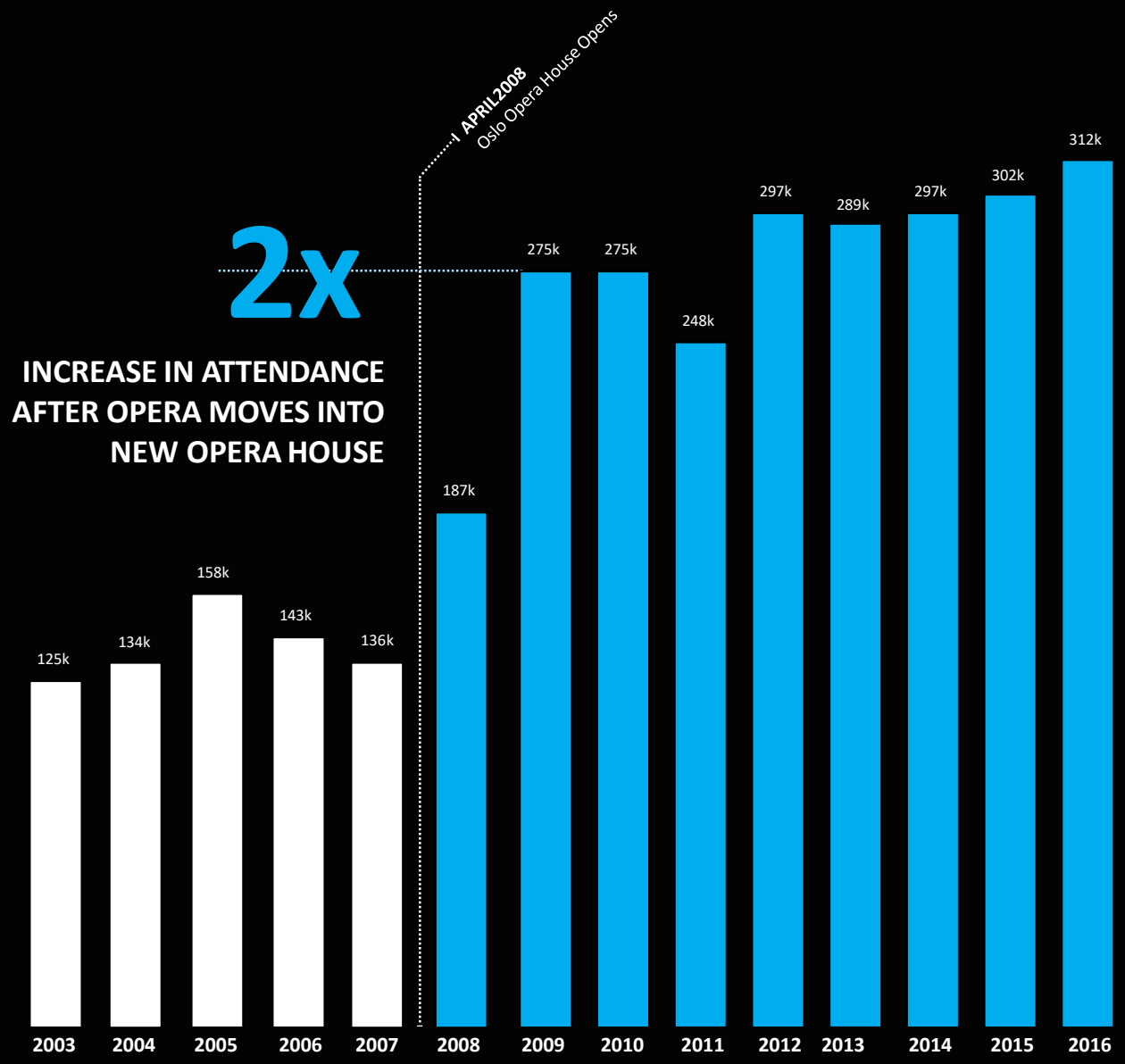
59%
INCREASE IN PEDESTRIAN TRAFFIC

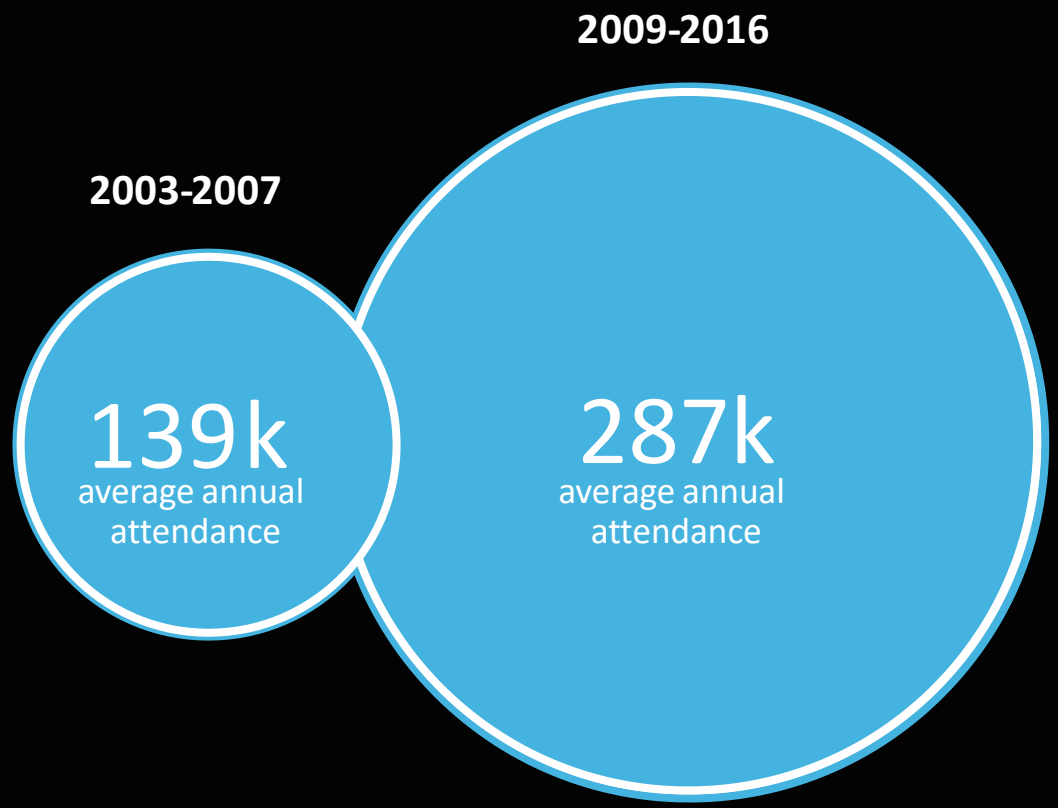
300%
INCREASE IN RETAIL RENT PRICES

22%
INCREASE IN BID ECONOMIC OUTPUT

92%
INCREASE IN CITY AND STATE TAX REVENUE

PHOTO: MICHEL JURIK





+113%

Attendance: Old Opera House vs Oslo Opera House **2003-2015**

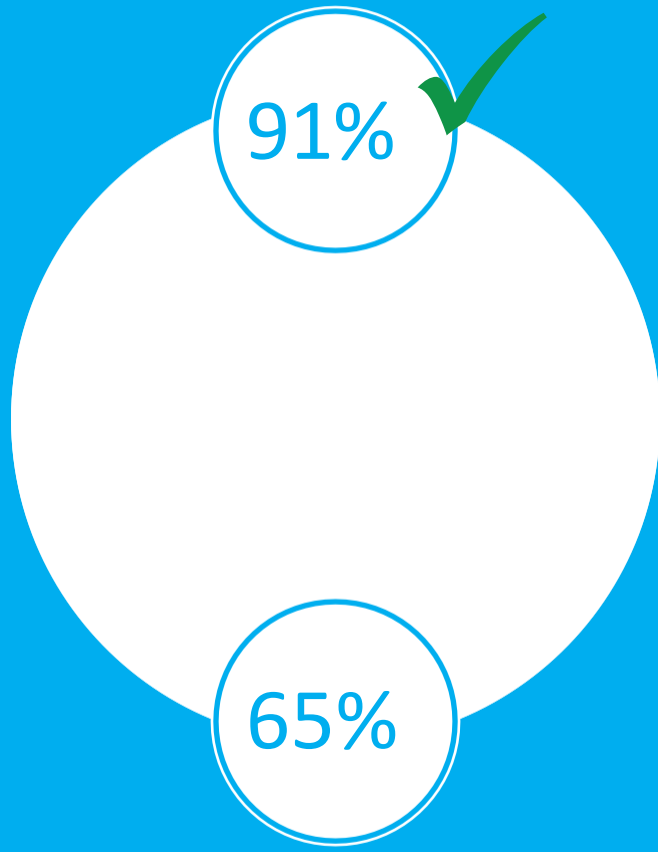
Metro Area		Tickets for sale		Potential Buyers per Ticket
5m residents + tourists in Oslo Metro Area*	÷	**125,000** tickets for sale in 2015 (1,369 seats x 91 shows)	=	

Oslo Opera

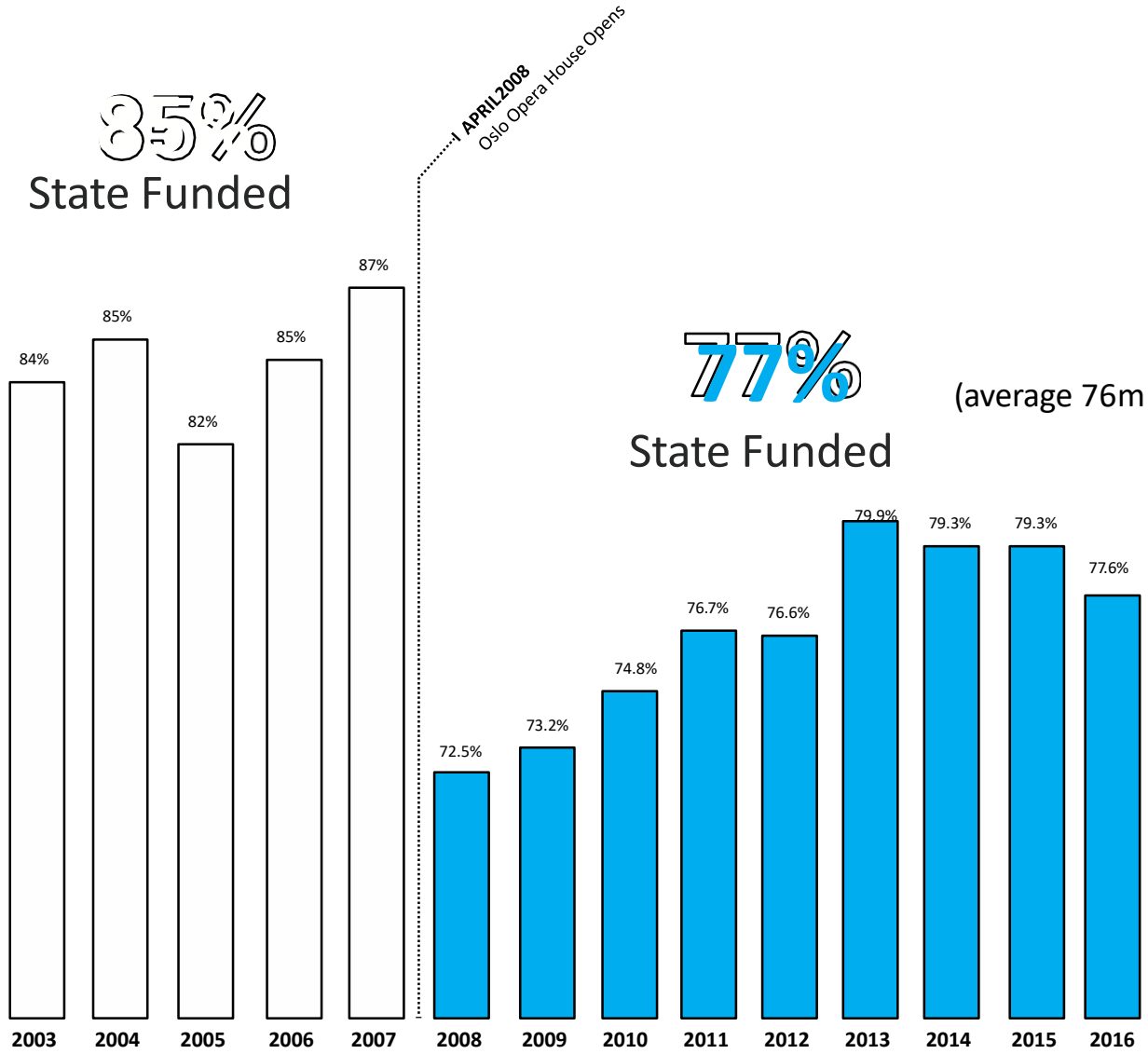
NYC Met Opera

70m residents + tourists in NYC Metro Area*	÷	**836,000** tickets for sale in 2015 (3,800 seats x 220 shows)	=	

Theater % Occupancy



Occupancy vs population size **2003-2015**



(average 76m NOK [13m USD] per year saved)

Percentage Government Funding **2003-2015**


#1 tourist attraction in Oslo
(1.7 million visitors per year)