ENERGY ACADEMY

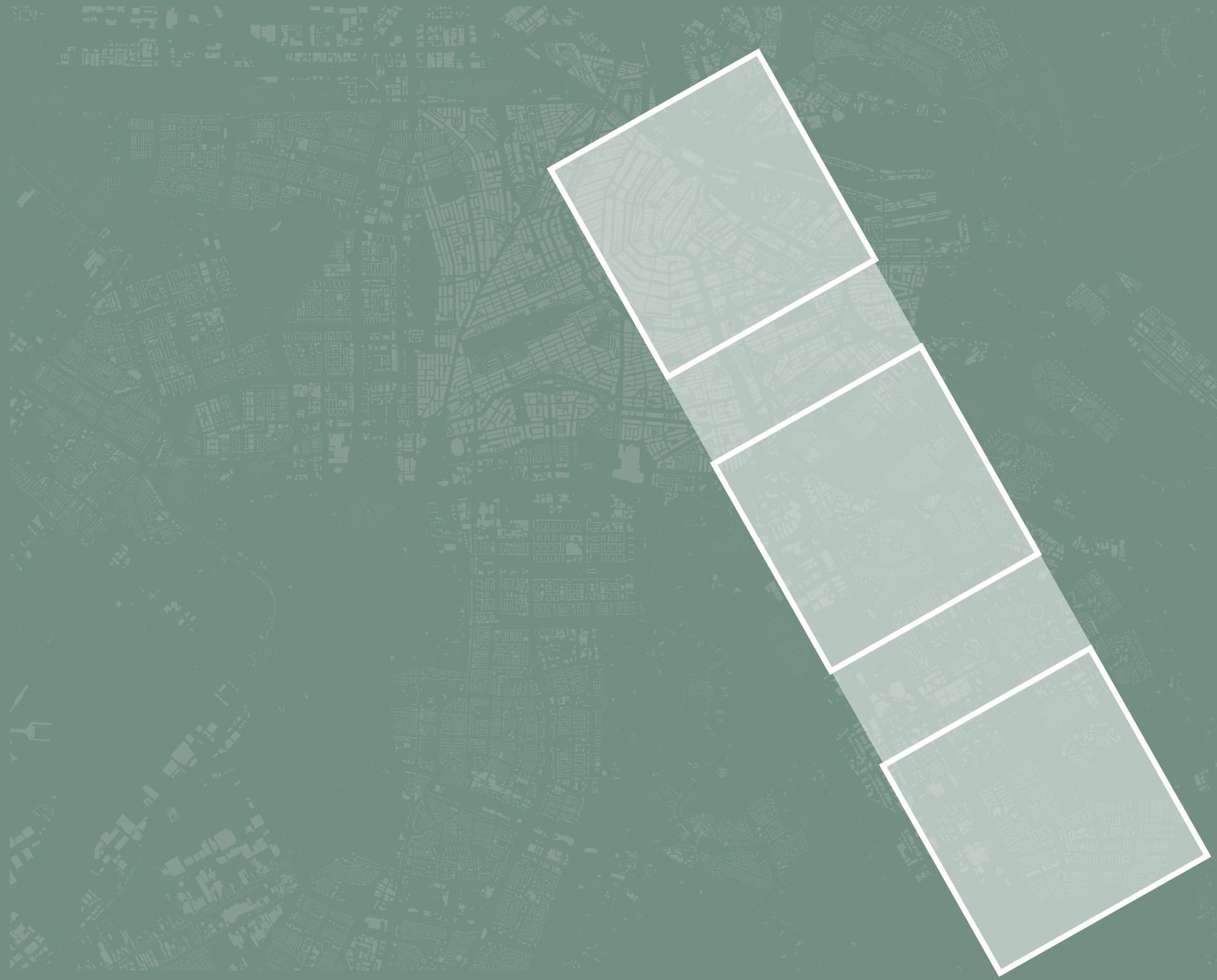
| POWER TO THE PEOPLE |

Tom Hulsman

02-02-2018

CP

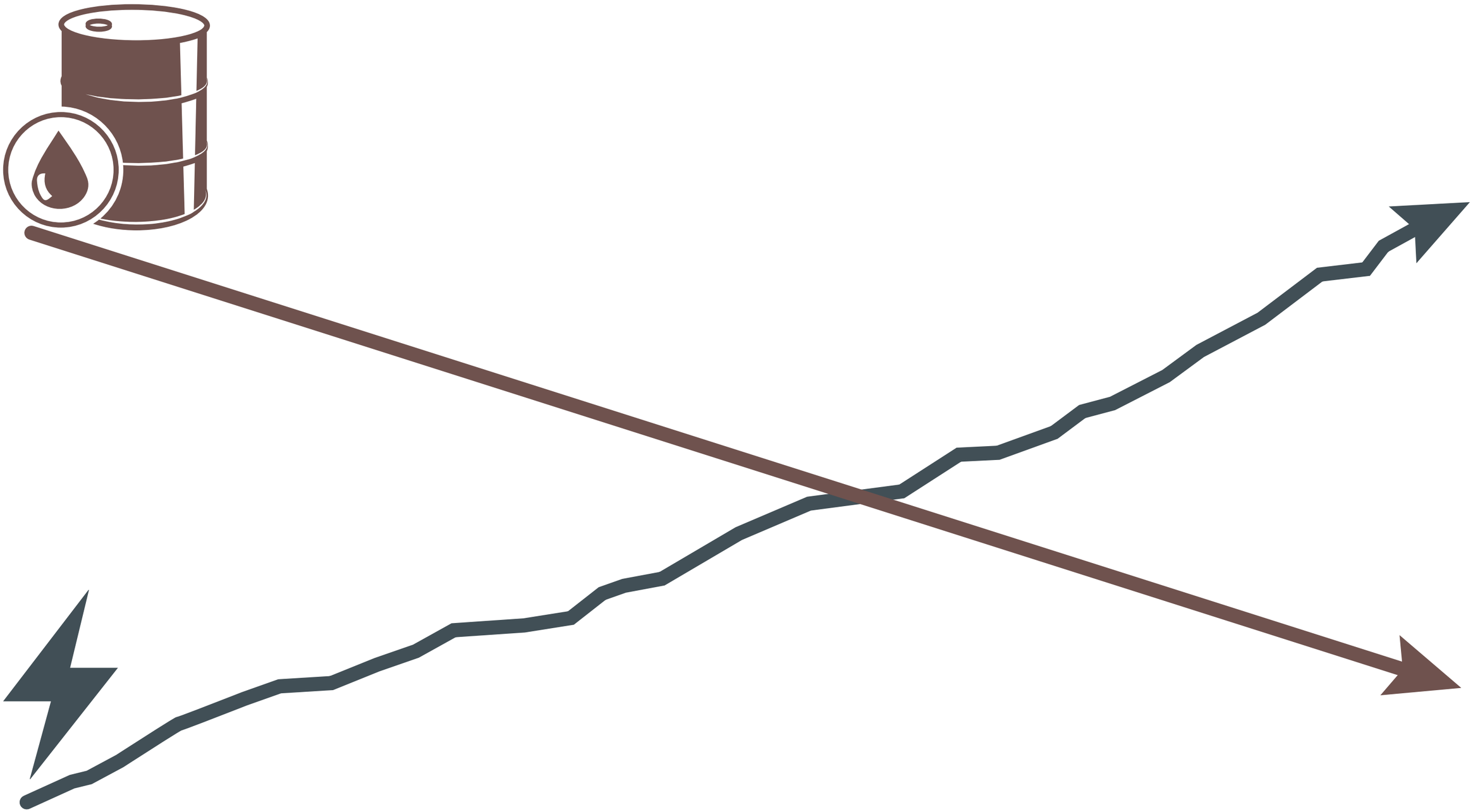
AMS MID-CITY



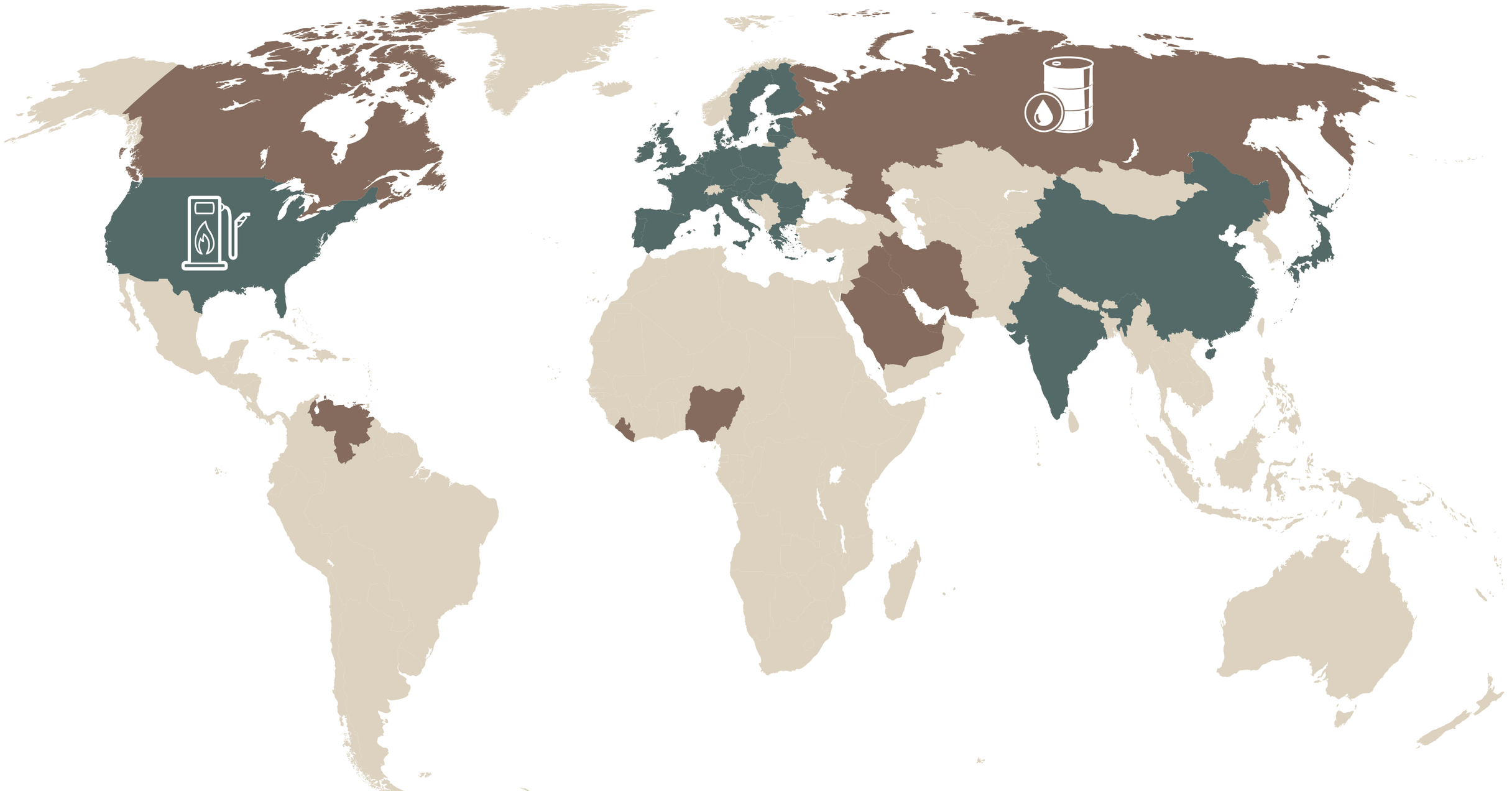
DESIGN FOR 2050

ENERGY IS THE DRIVER FOR DEVELOPMENT

DIMINISHING RESERVES



UNSTABLE REGIONS



CLIIMATE CHANGE

AMBITIONS

involve community

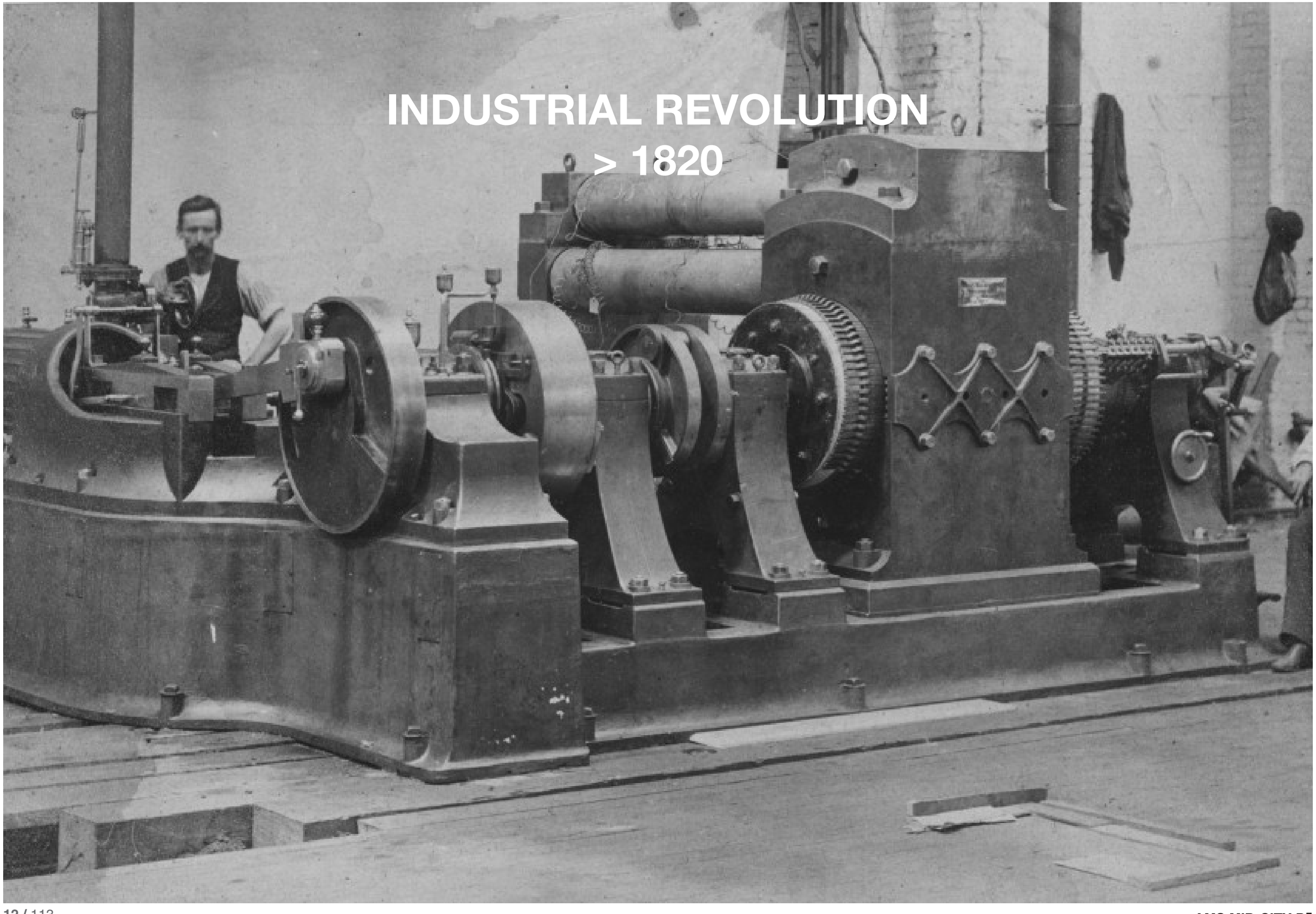
clean, reliable and affordable energy

provide education on energy

act as example for future ideas and development

RESEARCH

INDUSTRIAL REVOLUTION
> 1820

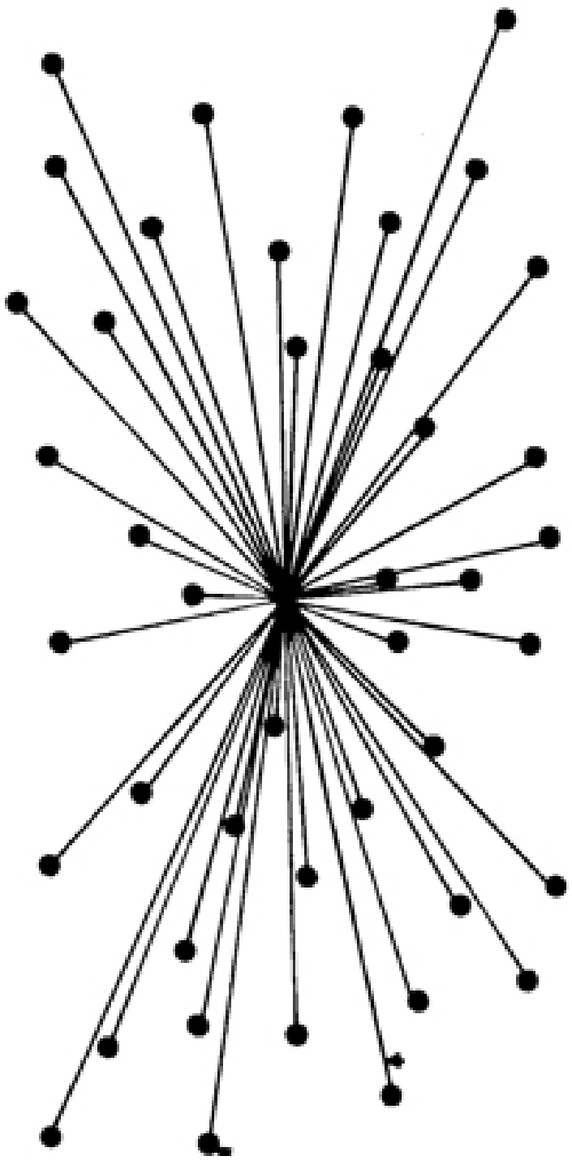



> 1900

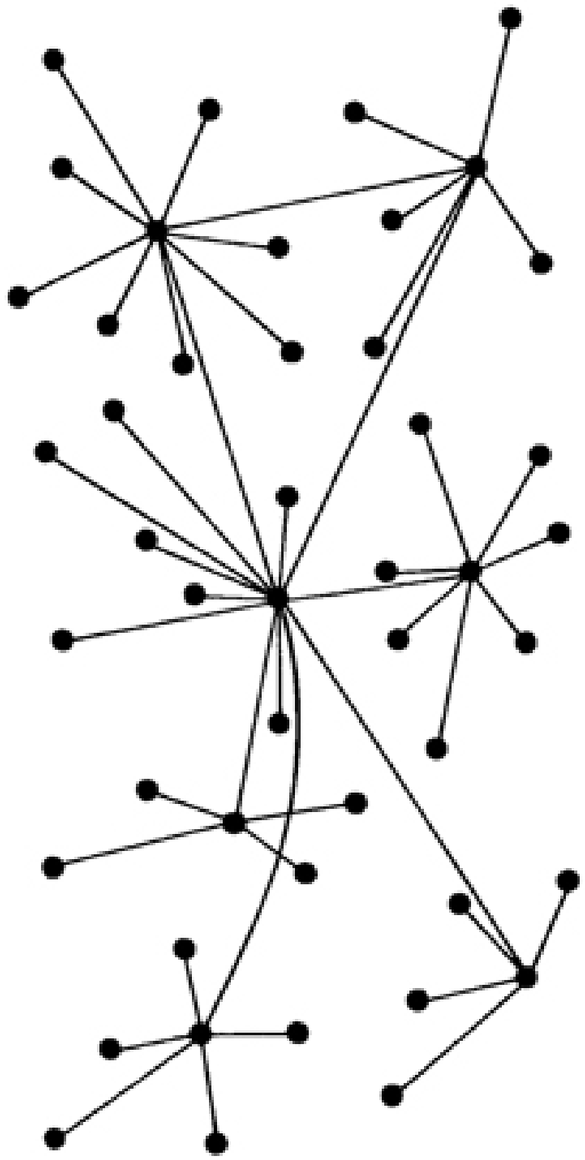
FRACTURE


Community
Education
Energy
Production

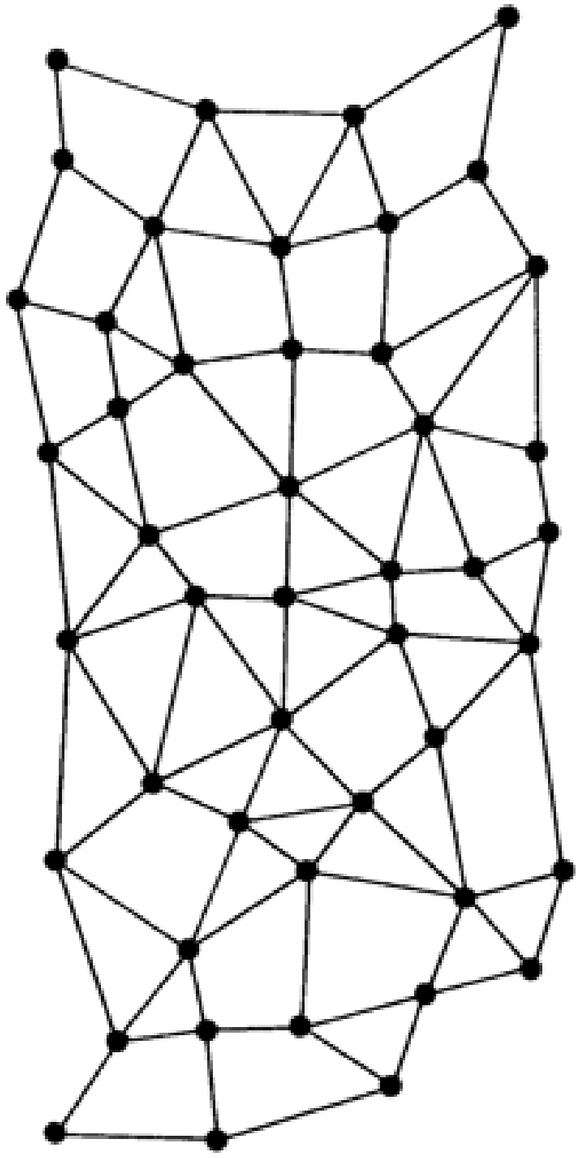
DECENTRALISATION



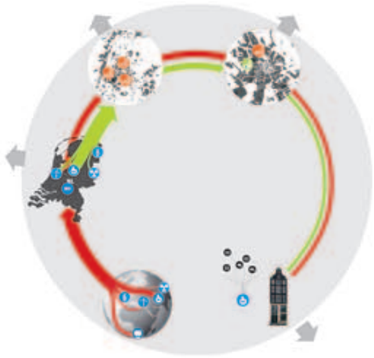
Centralised

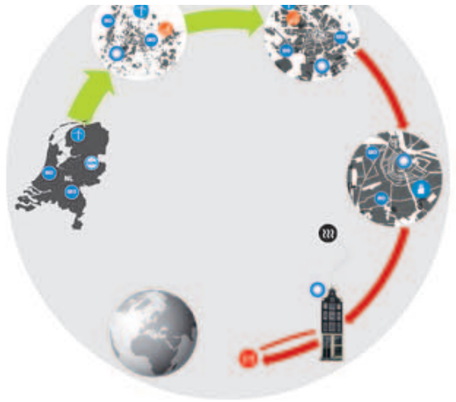


Decentralised



Distributed

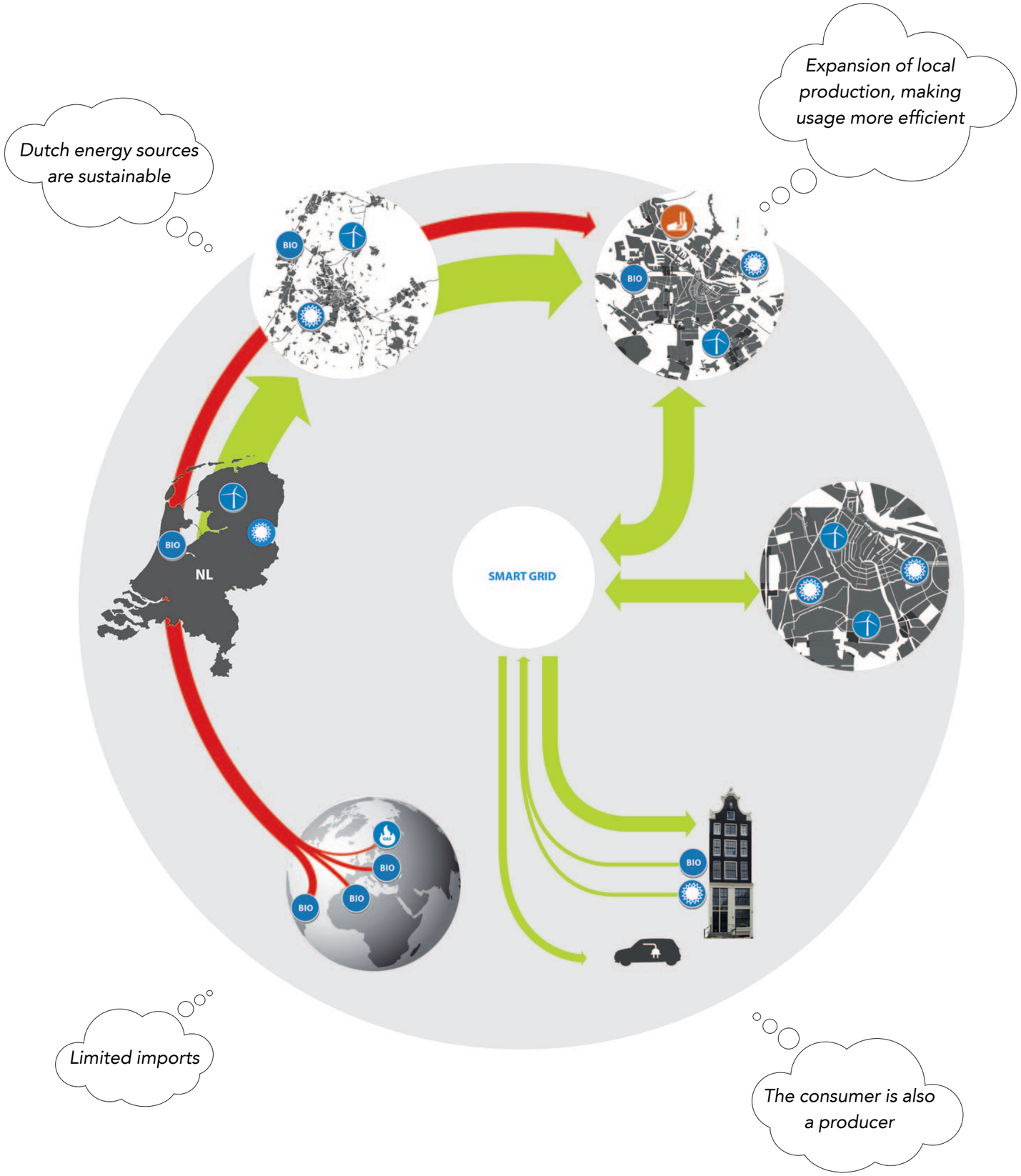




Towards the Amsterdam Circular Economy

Source: JonkHoff, E. et all. Towards the Amsterdam Circular Economy. Gemeente Amsterdam, 2015.

CIRCULARITY



Renewable sources

Local production

Self reliant

NEWS

Germany's energy transformation

Energiewende

Comment (45) | Timekeeper reading list | Reprints & permissions | Print

German plans to cut carbon emissions with renewable energy are ambitious, but they are also risky

Jul 28th 2012 | BERLIN AND NIEBÜLL

"THE quieter the evening, the more you hear it," says Wilfried Bockholt, mayor of Niebüll in North Friesland. He mimics the sound of a 55-metre-long rotor whirling round a windmill's mast. He is a driving force behind the "citizens' wind park", but he has mixed feelings. A region famed for broad l
spires.
comple
North F
Germa
transfo
and fossil fuels to renewables. It was dreamed up in the 1980s, became policy in 2000 and sped up after the Fukushima disaster in March 2011. That led Angela Merkel, the chancellor, to scrap her extension of nuclear power (rather than

Much could go wrong. Wholesale electricity prices will be 70% higher by 2025, predicts the Karlsruhe Institute of Technology.

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Latest updates »

Whole wallet: An industry shudders as bn

an

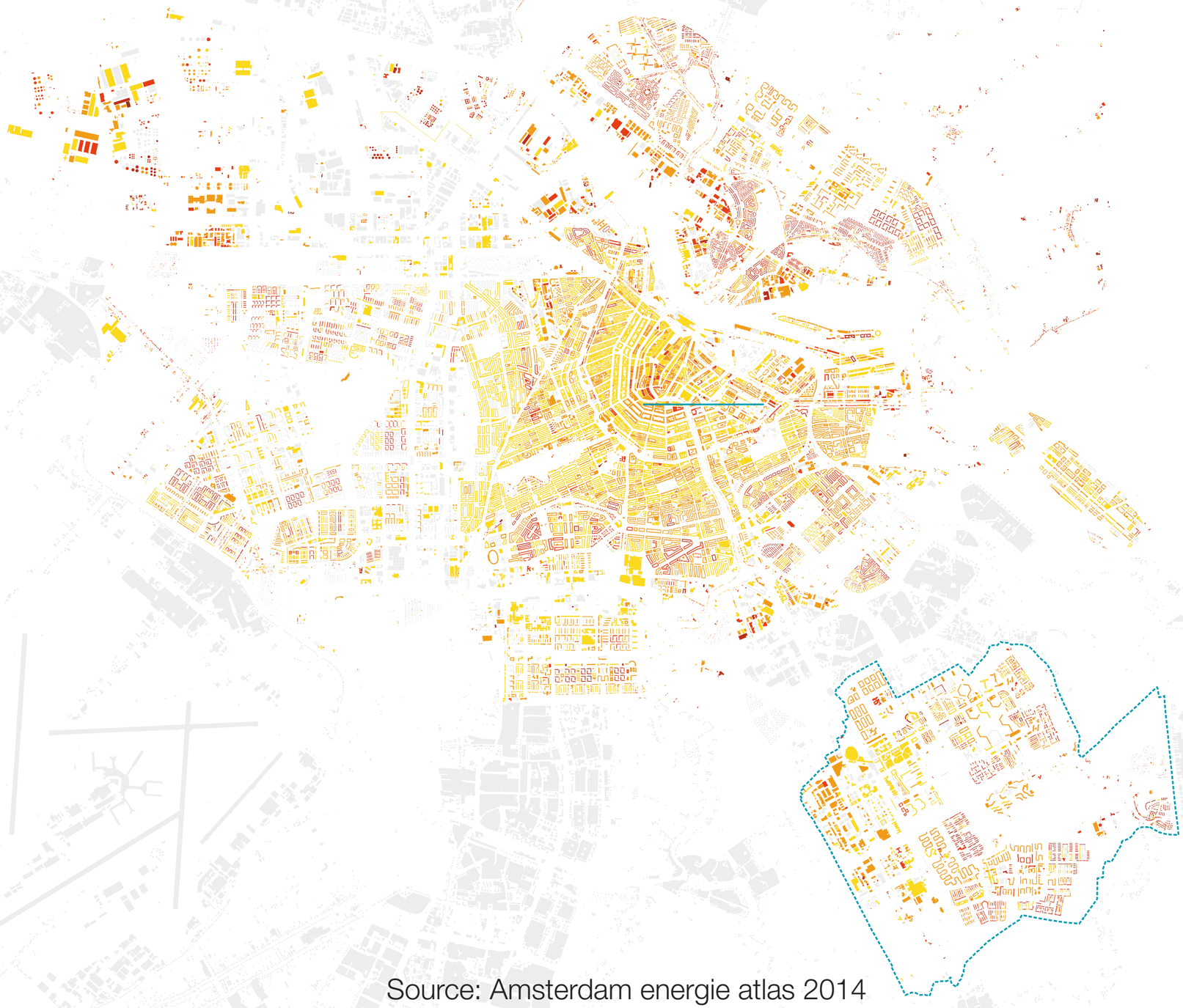
After Pulse: In Orlando, everybody is an artist
Prospero | Jun 16th, 17:13

Bagehot's notebook: The politics of a tragedy
Bagehot's notebook | Jun 16th, 16:14

RESEARCH QUESTION

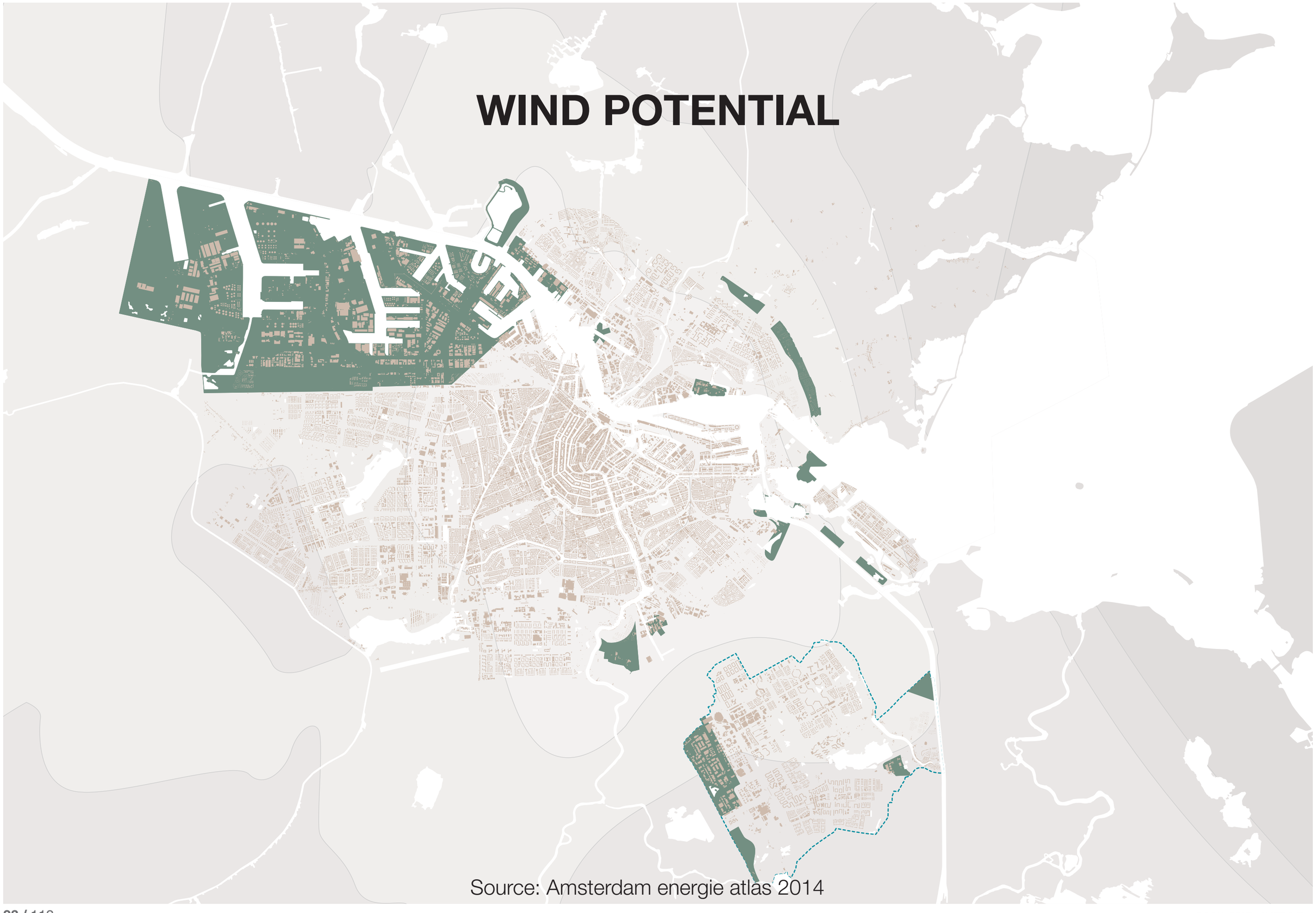
How can Amsterdam provide its citizens with a clean, reliable and affordable source of energy while creating an added value in economic, social and environmental aspect.

SOLAR POTENTIAL



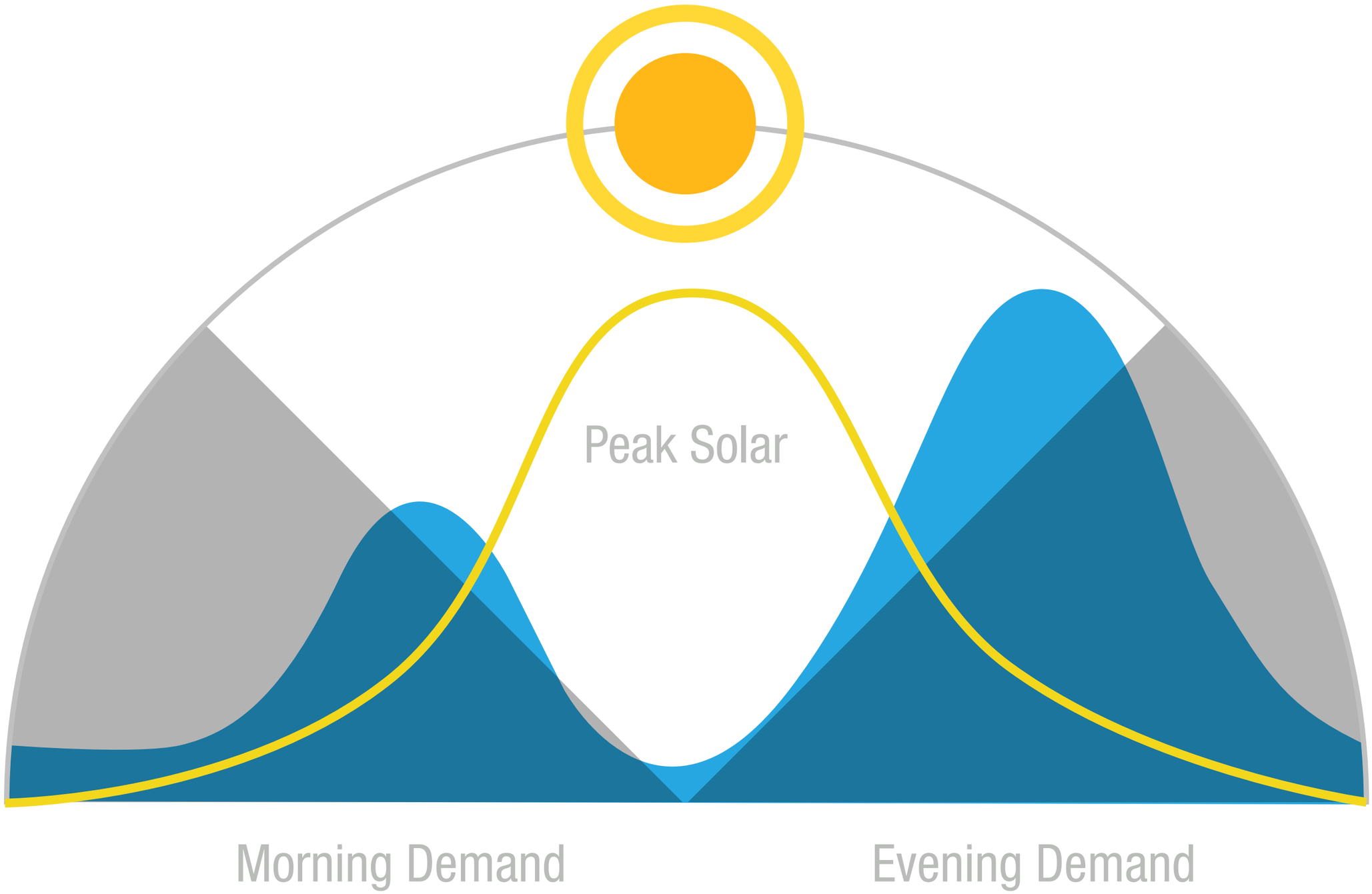
Source: Amsterdam energie atlas 2014

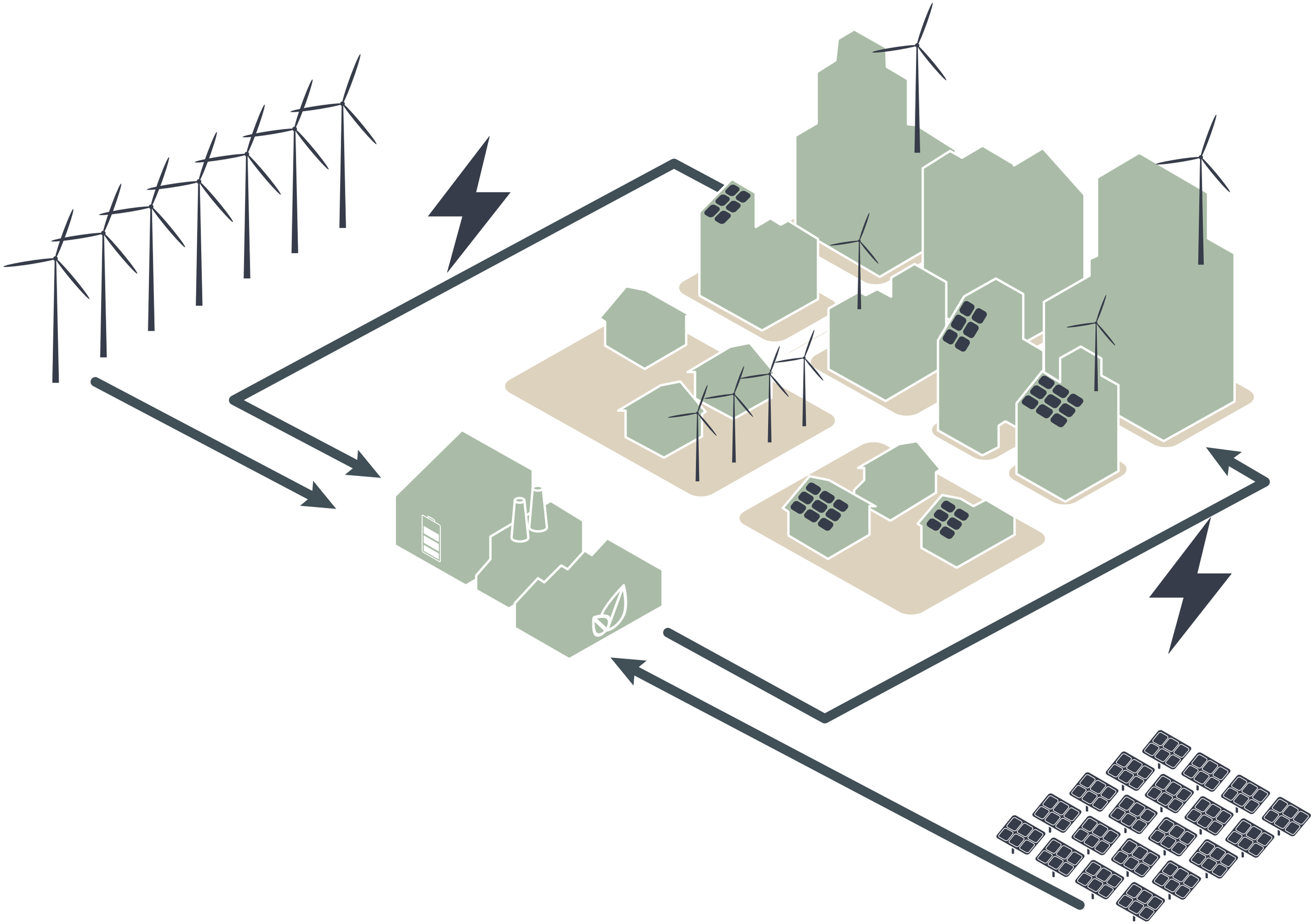
WIND POTENTIAL

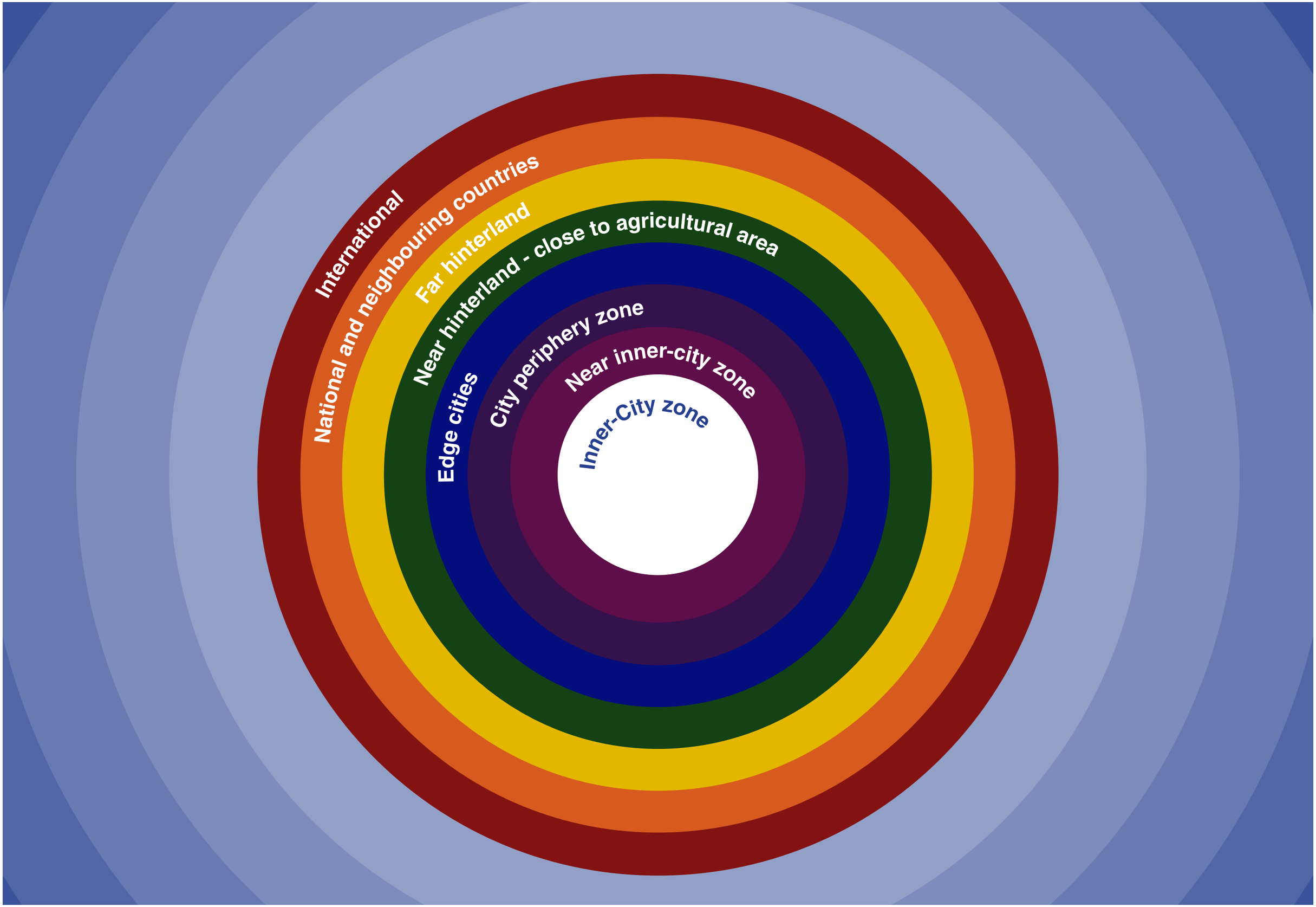


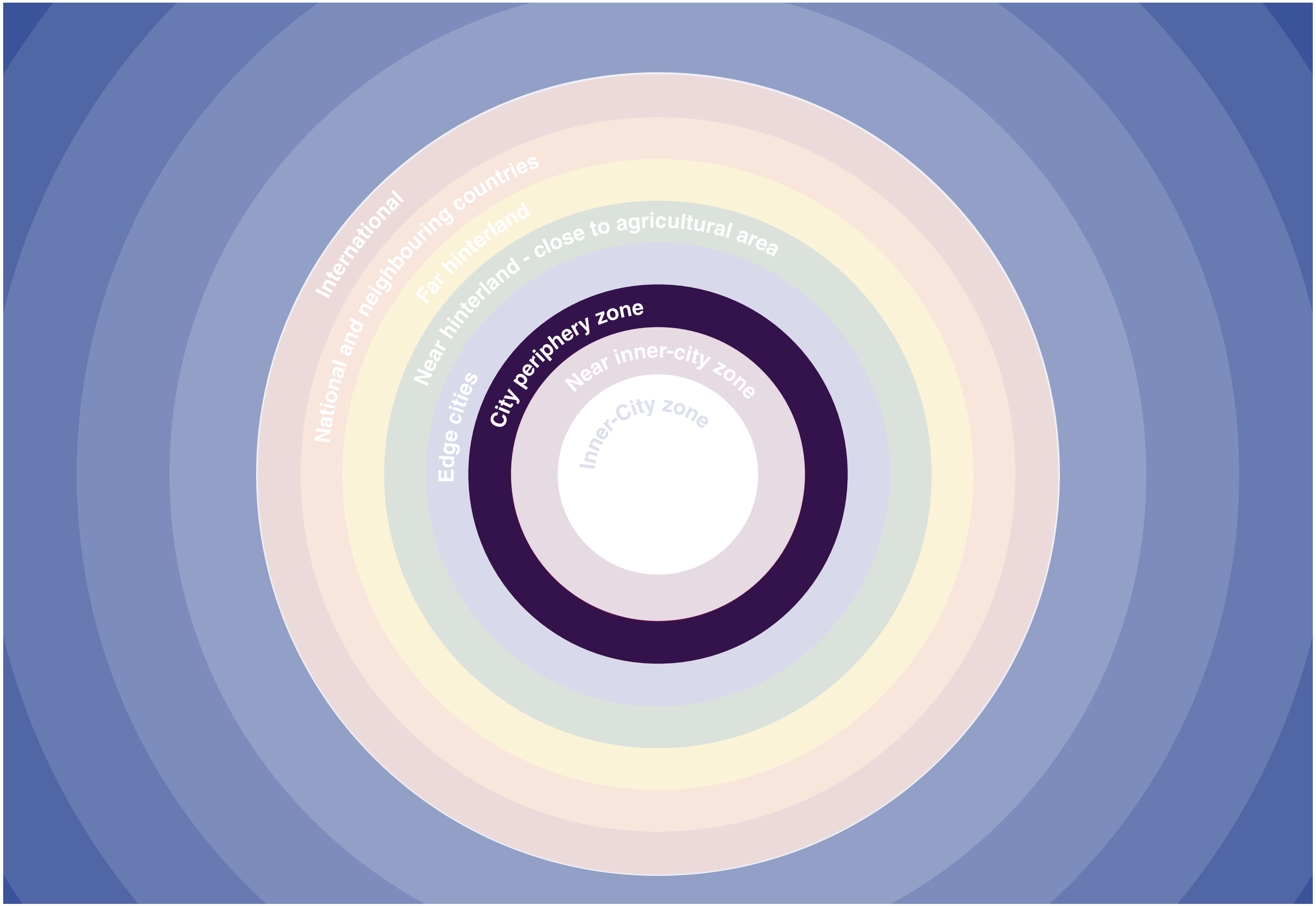
Source: Amsterdam energie atlas 2014

CHALLENGE






International
National and neighbouring countries
Far hinterland
Near hinterland - close to agricultural area
Edge cities
City periphery zone
Near inner-city zone
Inner-City zone


International
National and neighbouring countries
Far hinterland
Near hinterland - close to agricultural area
Edge cities
City periphery zone
Near inner-city zone
Inner-City zone

CITY PERIPHERY

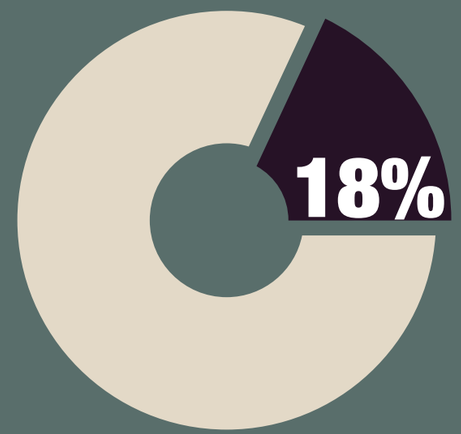
Within boundary of city

Economical land value

Low density

Enough free space

Parks



Undefined green space

LACK OF FUNCTIONS

Amsterdam inner city

Zuidoost

HIGH UNEMPLOYMENT RATE

LOW EDUCATED POPULATION

STRATEGY

Empowering the local community by providing an energy centre with educational facilities which provides job opportunities and awareness on energy use.

PROGAMMATIC THEMES

Community

Energy

Education

Rehovot community center
Kimmel Eshkolot architects

Connection with neighbourhood

Public Square

Multifunctional spaces

Sedan cultural center
Rich+Schoeller architects

Connection with neighbourhood

Public Square

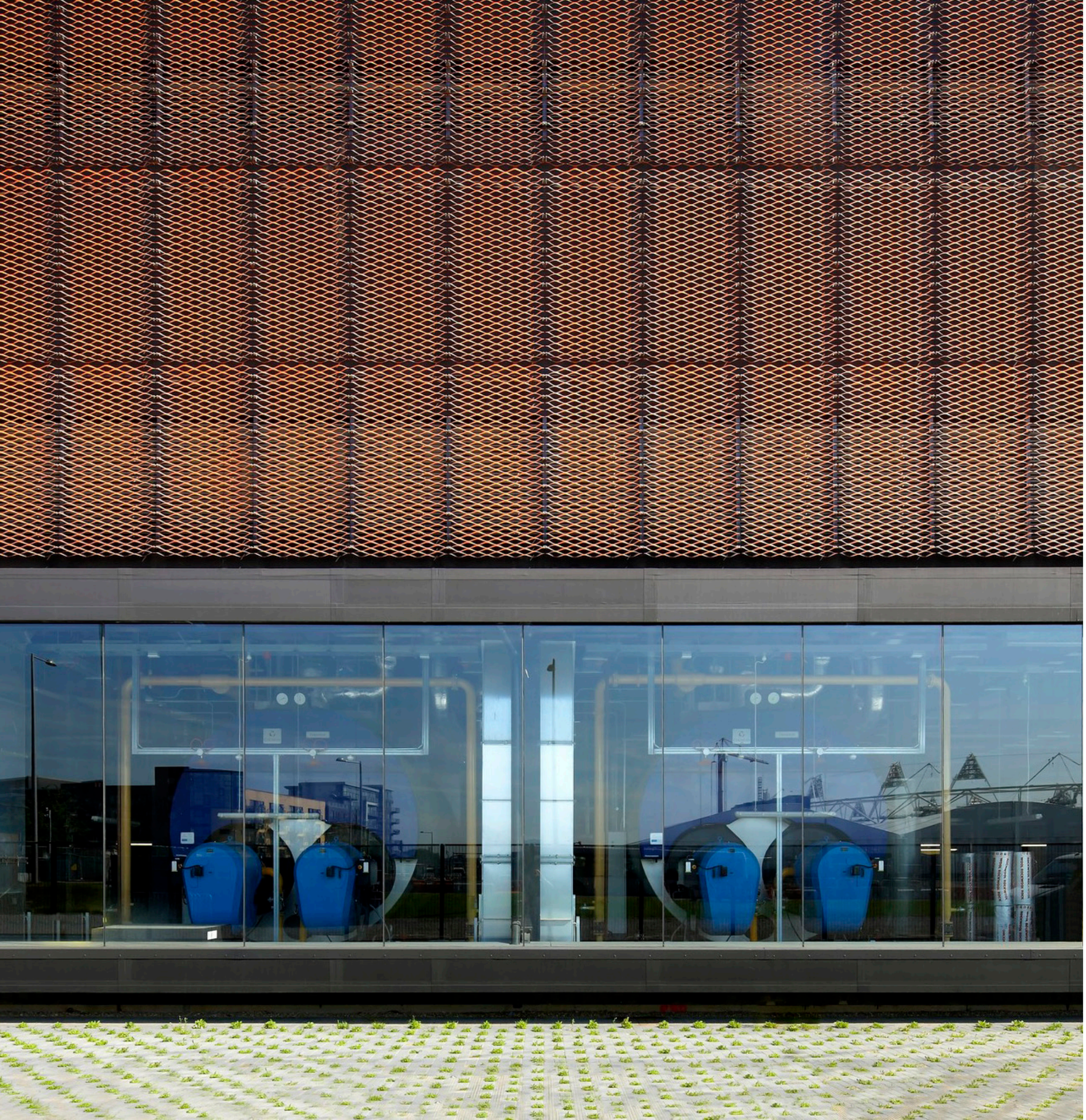
Multifunctional spaces

Stanford Energy Facility
ZGF Architects

Organisation in hall

Visibility of systems

Visibility through exhaust



Olympic Energy Centres
John McAslan + Partners

Organisation in hall

Visibility of systems

Visibility through exhaust

Low-carbon Energy center
C.F. Moller Architects

Organisation in hall

Visibility of systems

Visibility through exhaust

NHL Leeuwarden
Herman Hertzberger

Open learning spaces

Common core

Maker spaces

Melbourne University
John Wardle architects

Open learning spaces

Common core

Maker spaces

Pier 9 Workshop
Lundberg Design

Open learning spaces

Common core

Maker spaces

PROGRAM

Offices 10%

Control room 5%

Storage 45%

Conversion 40%

10.000 m²

Auditorium 8%

Offices 17%

Classrooms 40%

Workshop 20%

Study places 15%

6000 m²

Multifunctional 10%

Consultancy 10%

Meeting 30%

Exposition 20%

Café 10%

Library 20%

2000 m²

PROJECT LOCATION

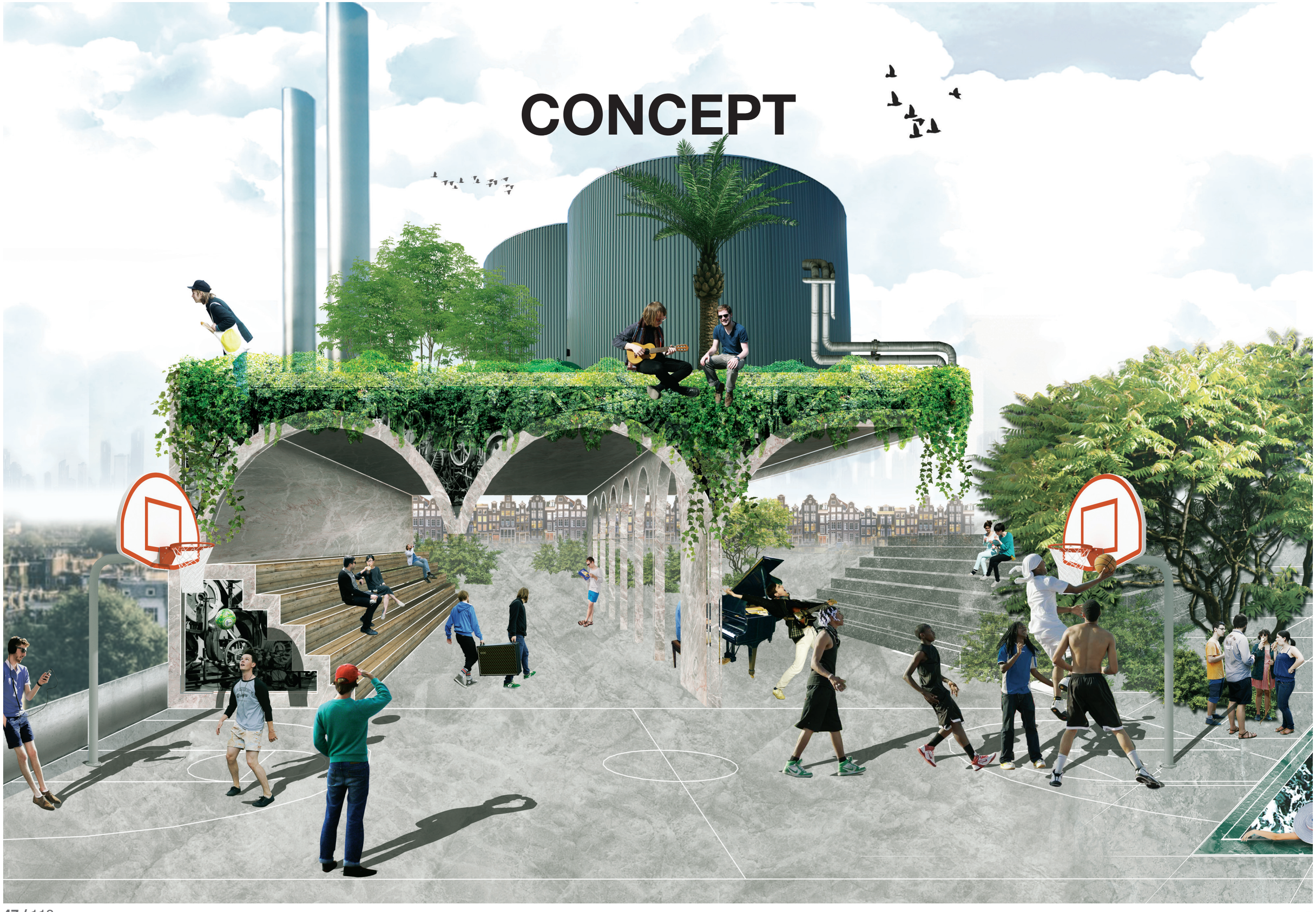
BIJLMER PARK

Central location

Enough free space

Accesible for bike, car and pedestrian

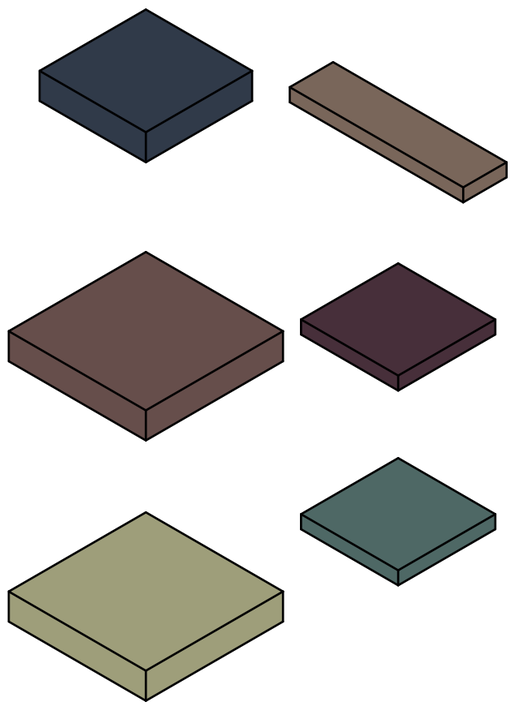
CONCEPT




Community
Education
Energy

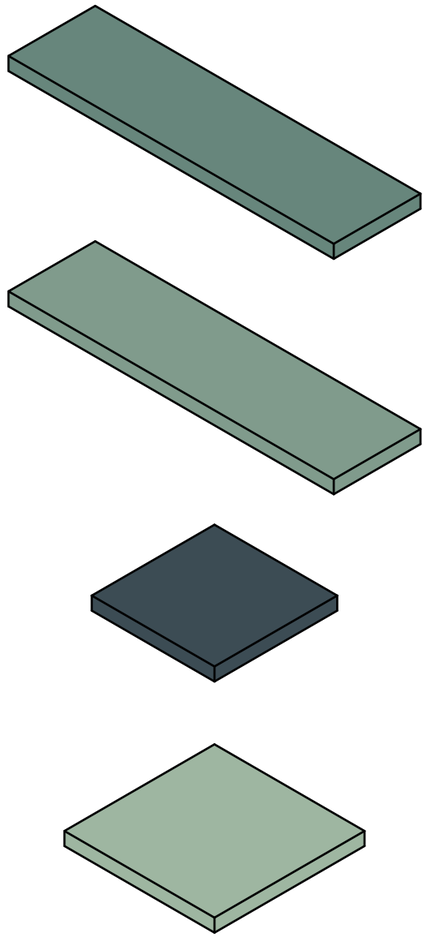
LEVELS OF PUBLICNESS

PUBLIC



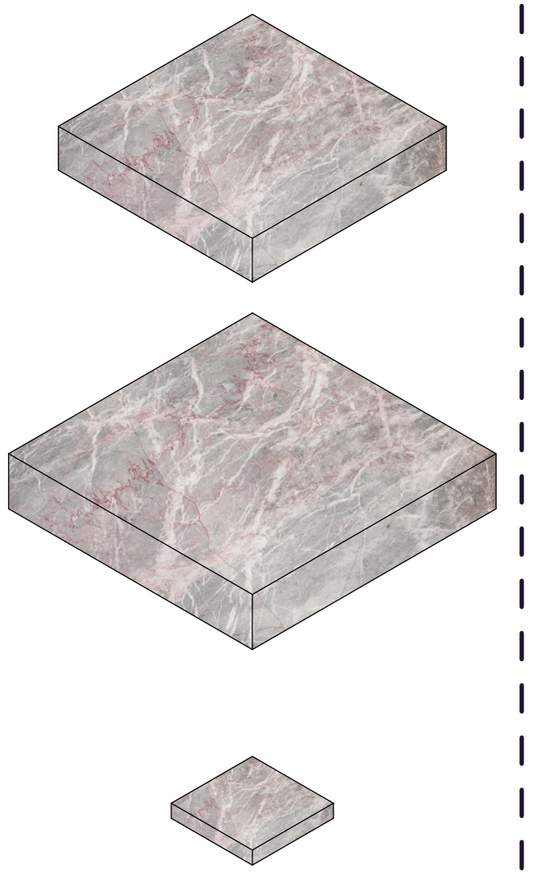
MEETING & LEISURE

SEMI-PUBLIC



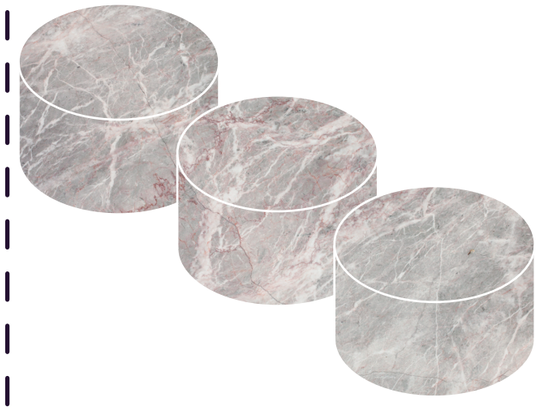
EDUCATION

PRIVATE



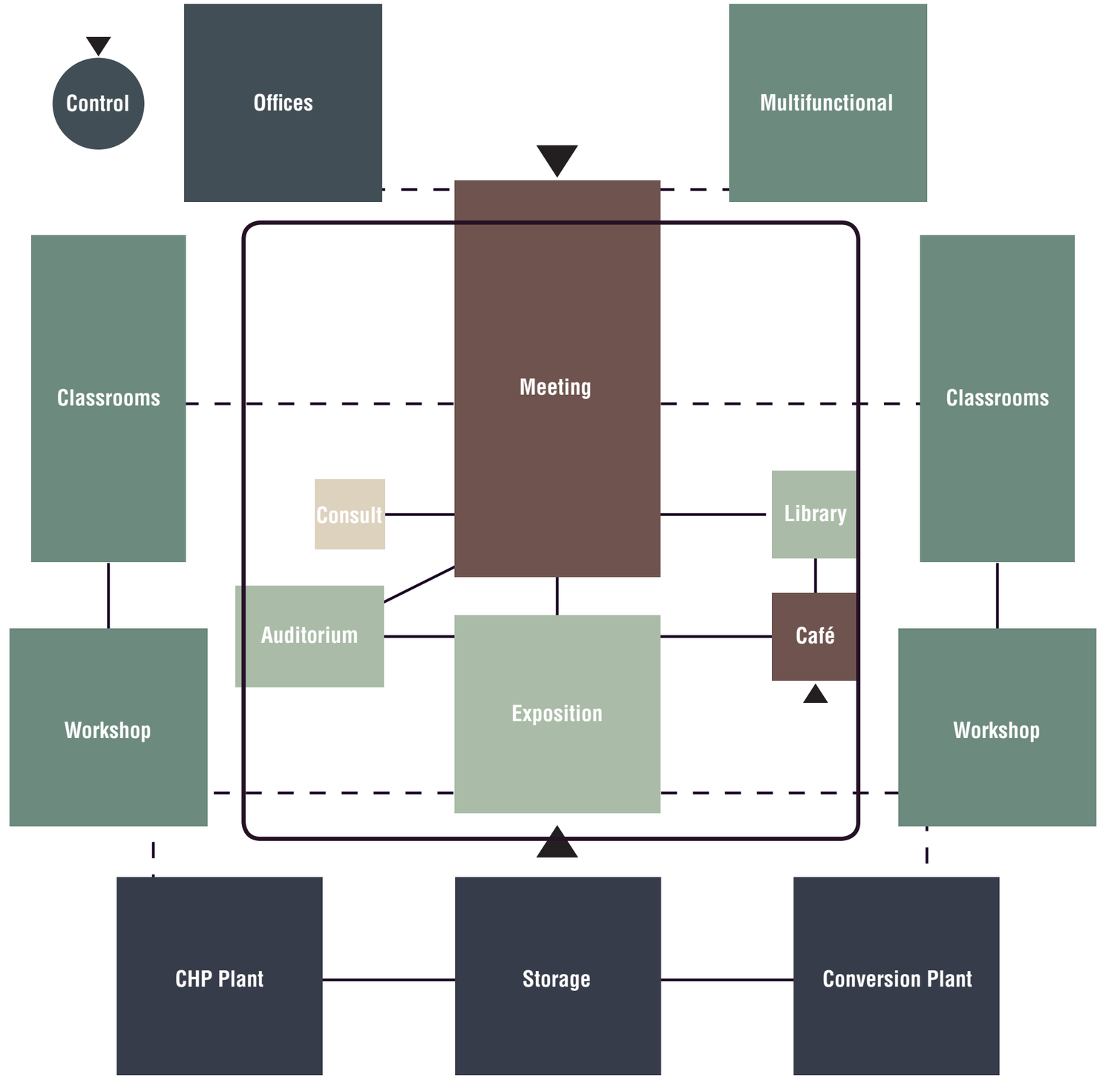
CONVERSION PLANT

HAZARDOUS

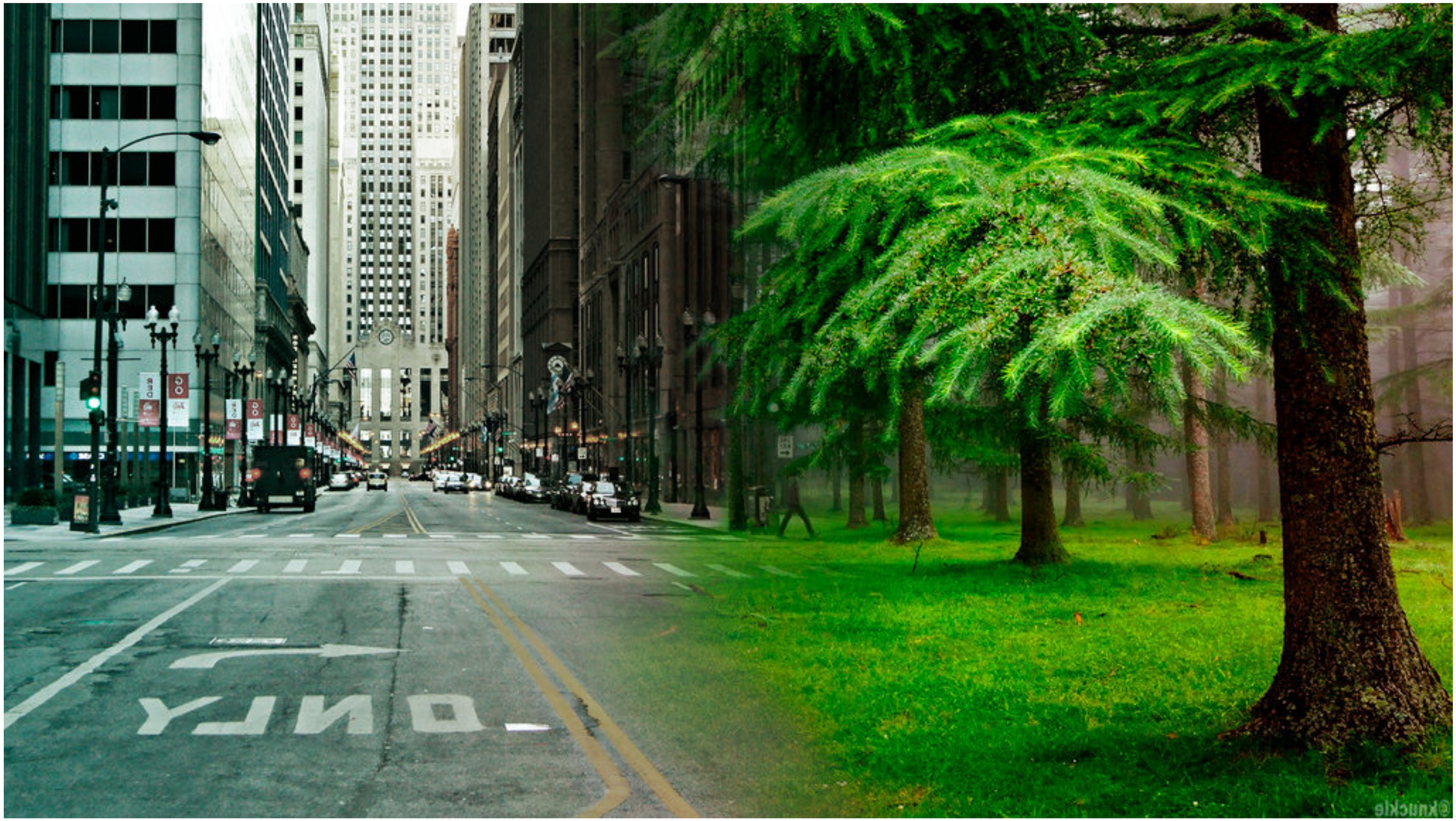


STORAGE

CENTRAL CORE



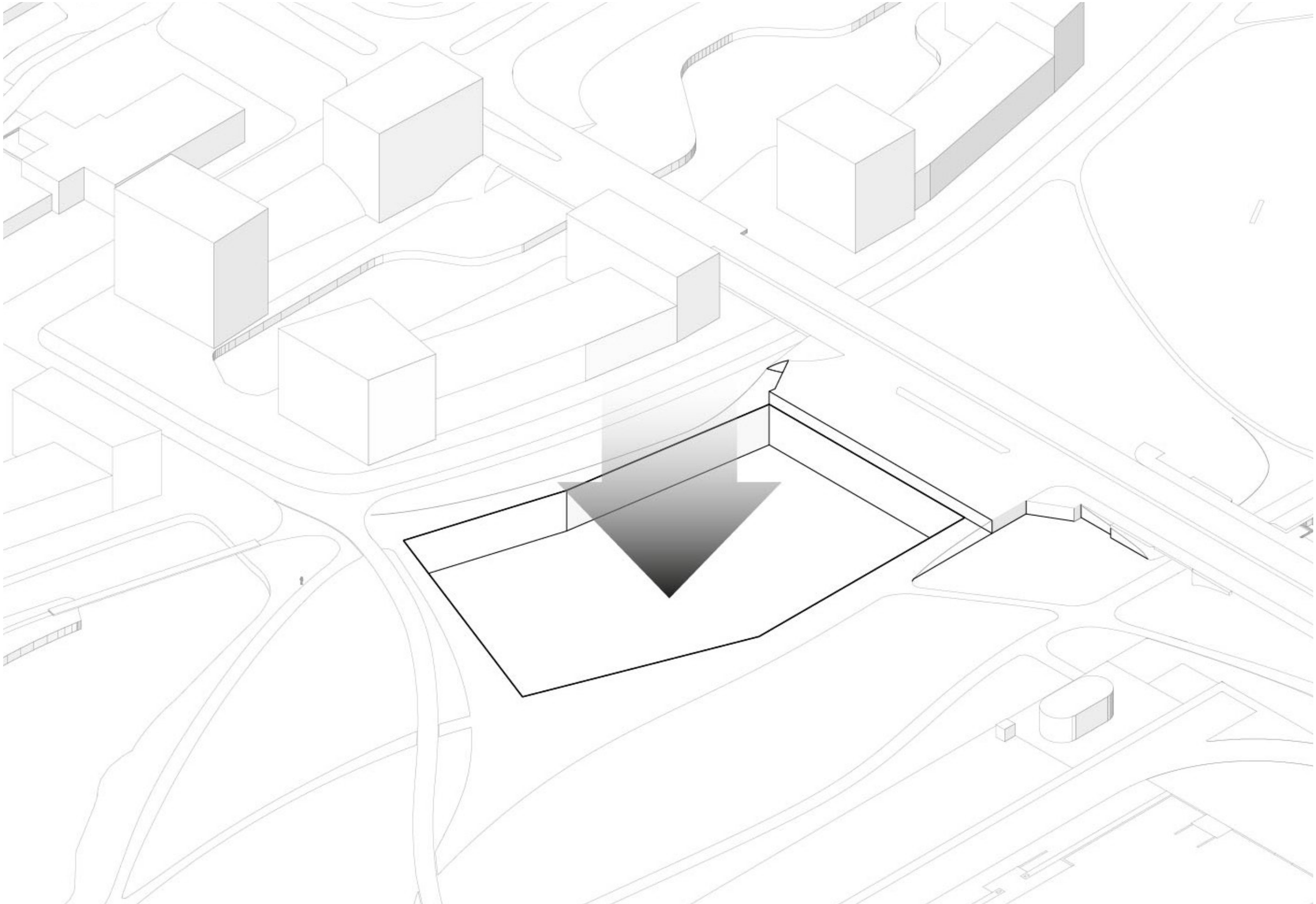
CITY VS NATURE

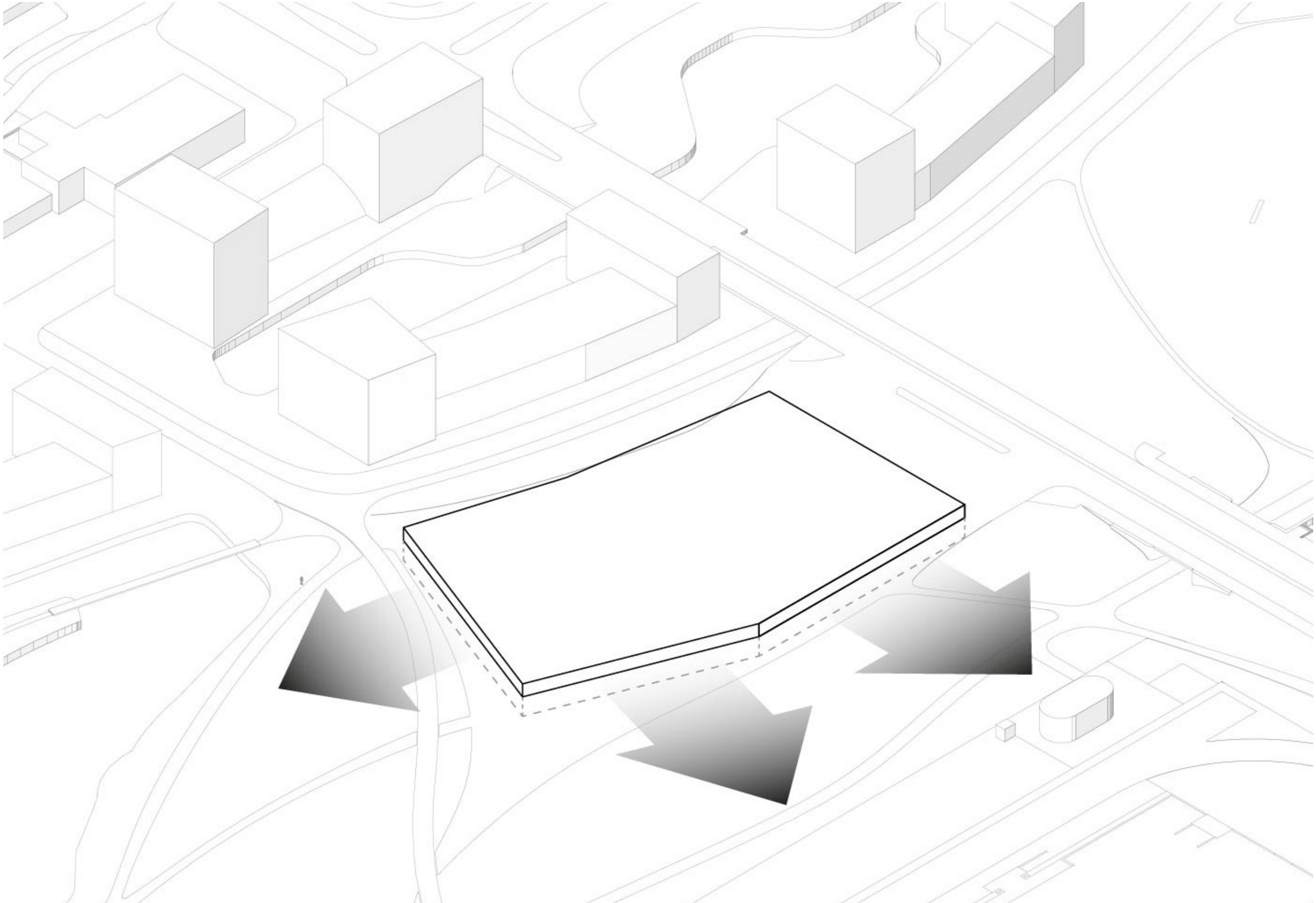


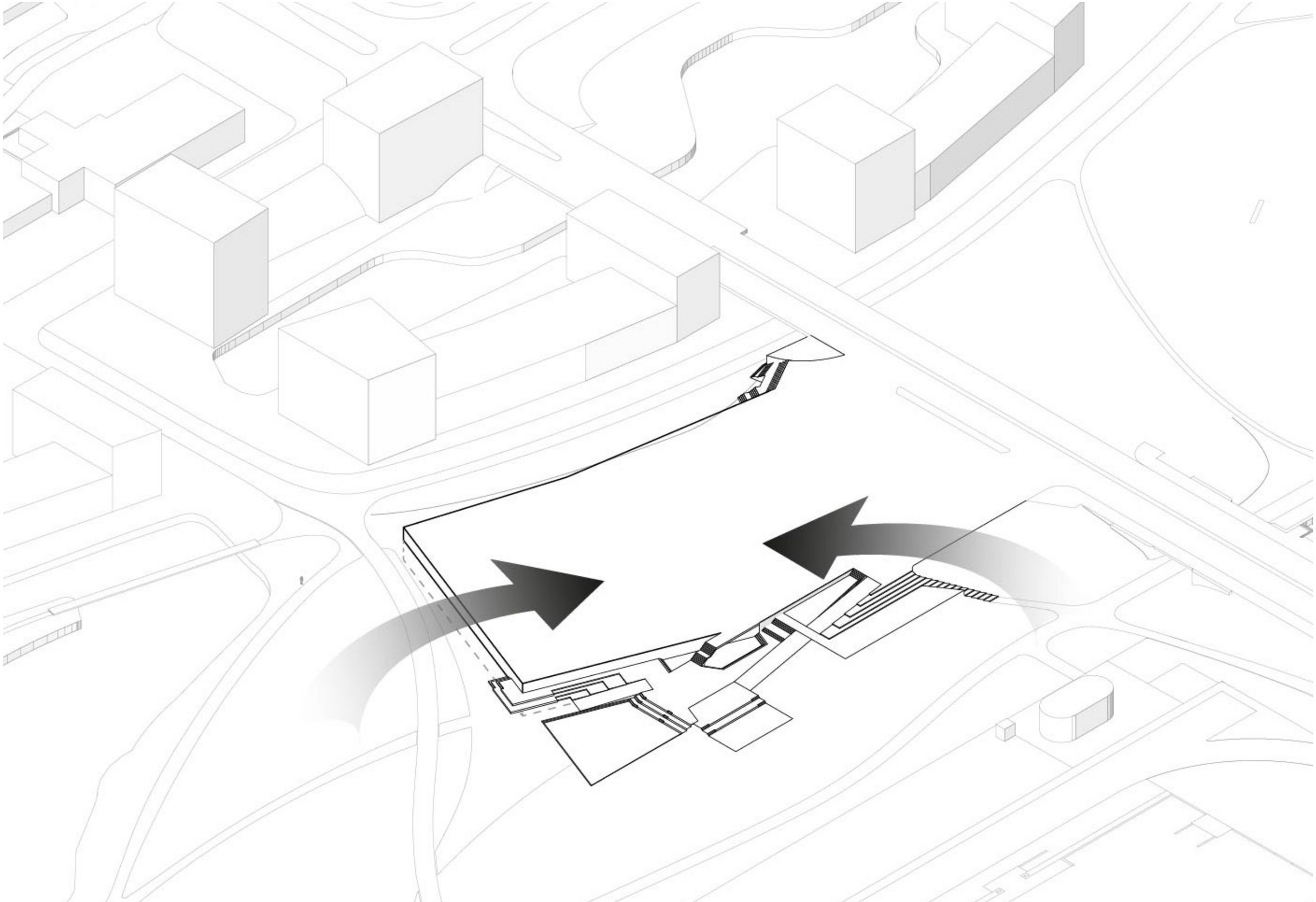
CITY VS NATURE

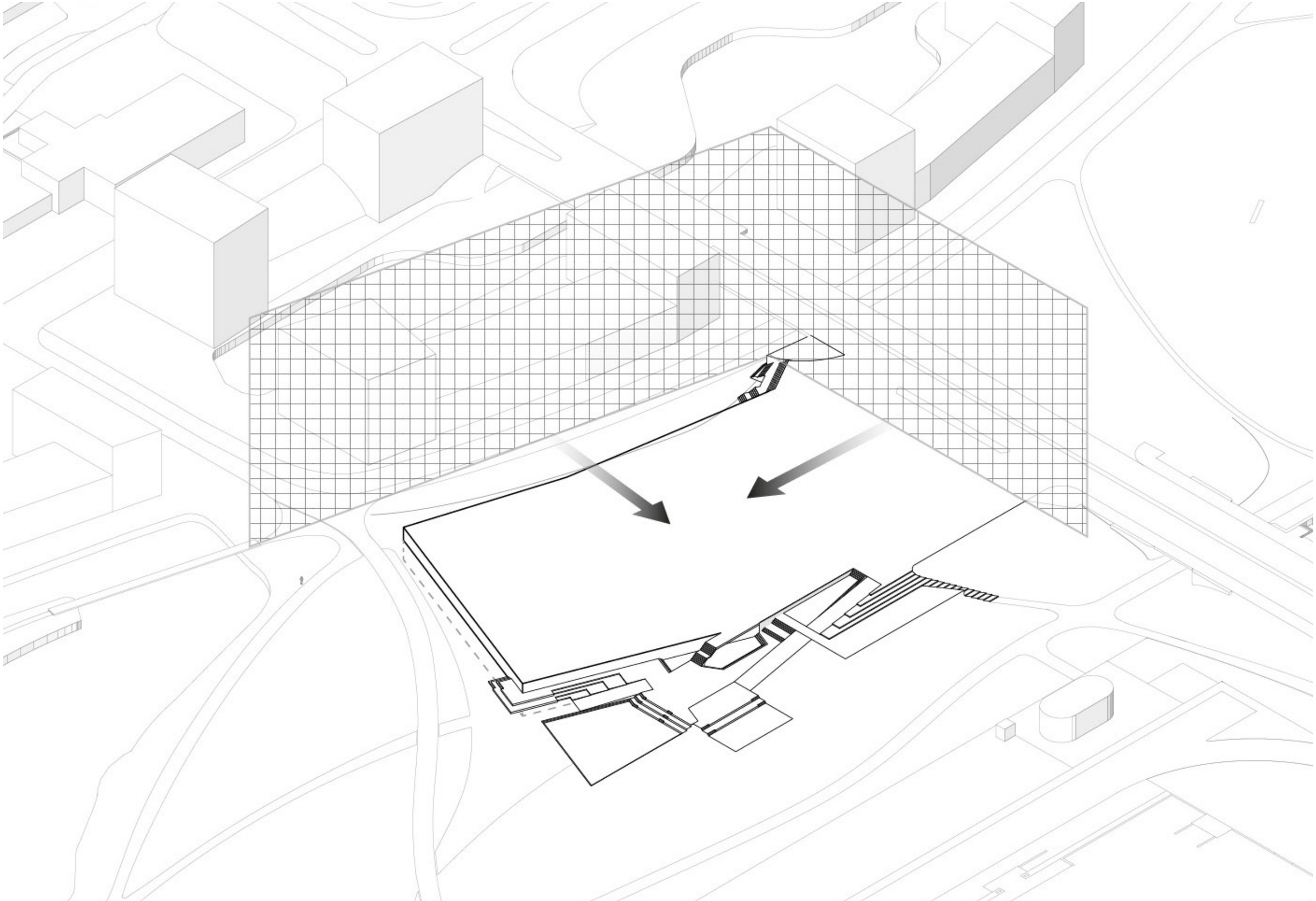
CLOSED

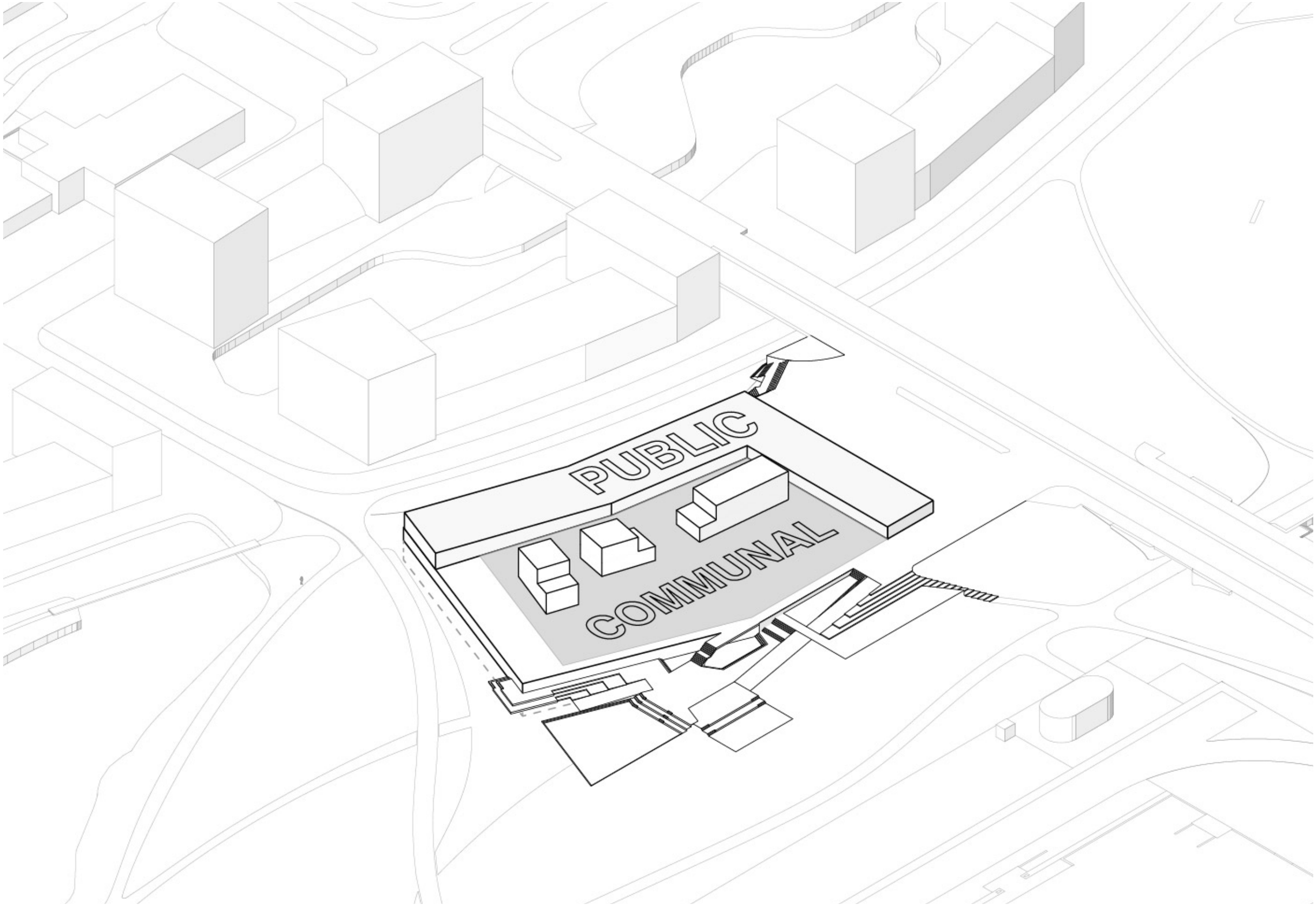
OPEN

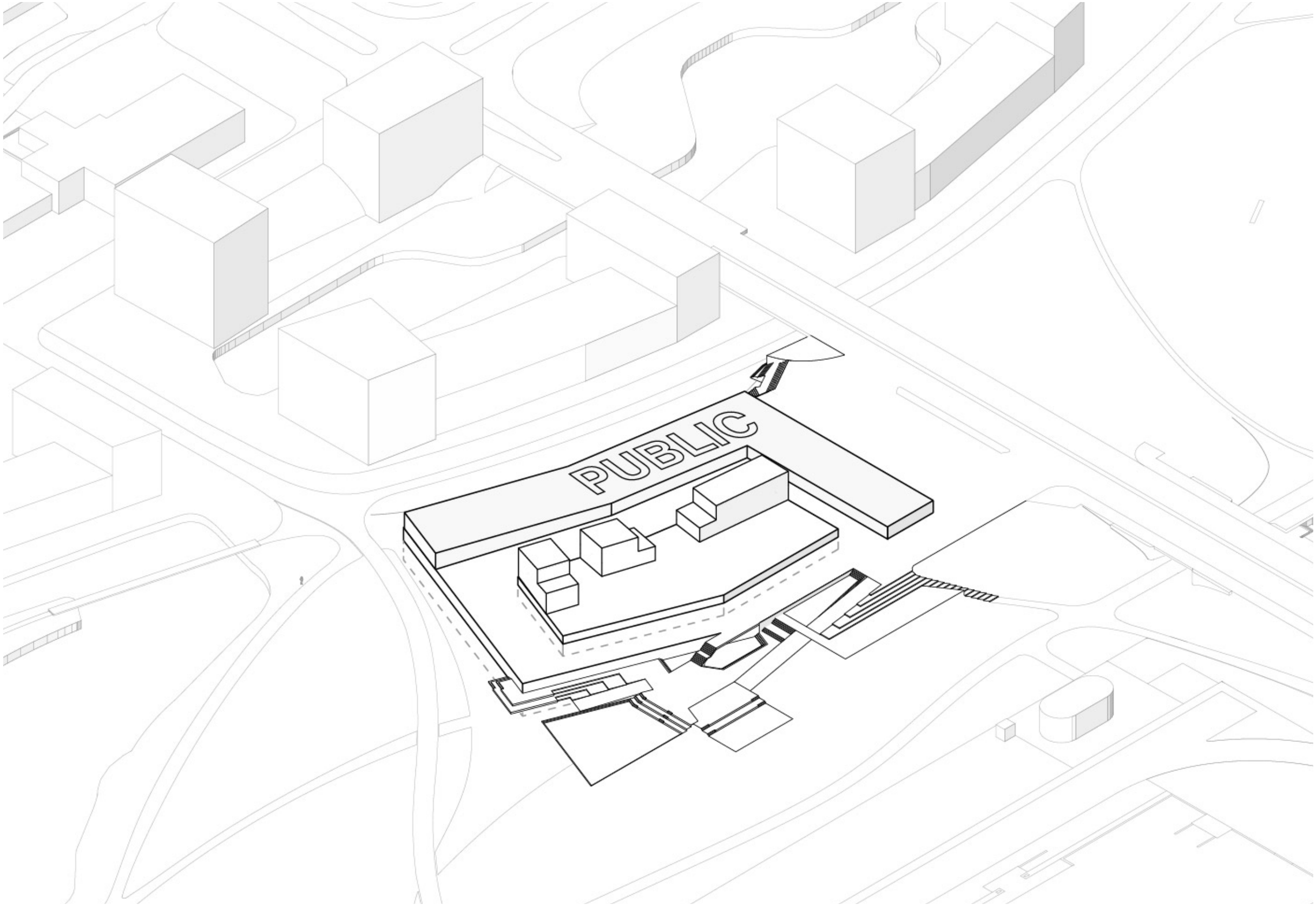


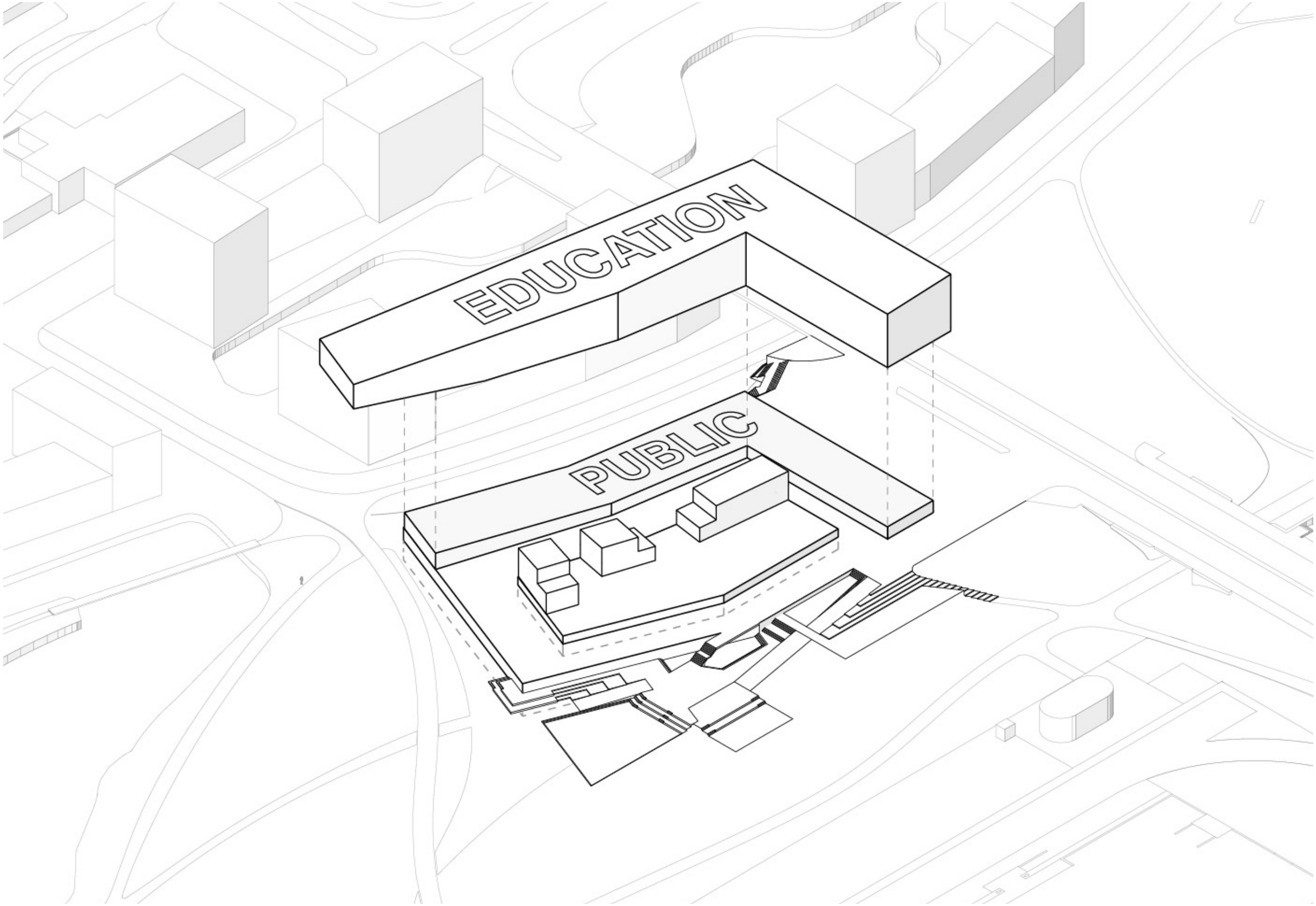


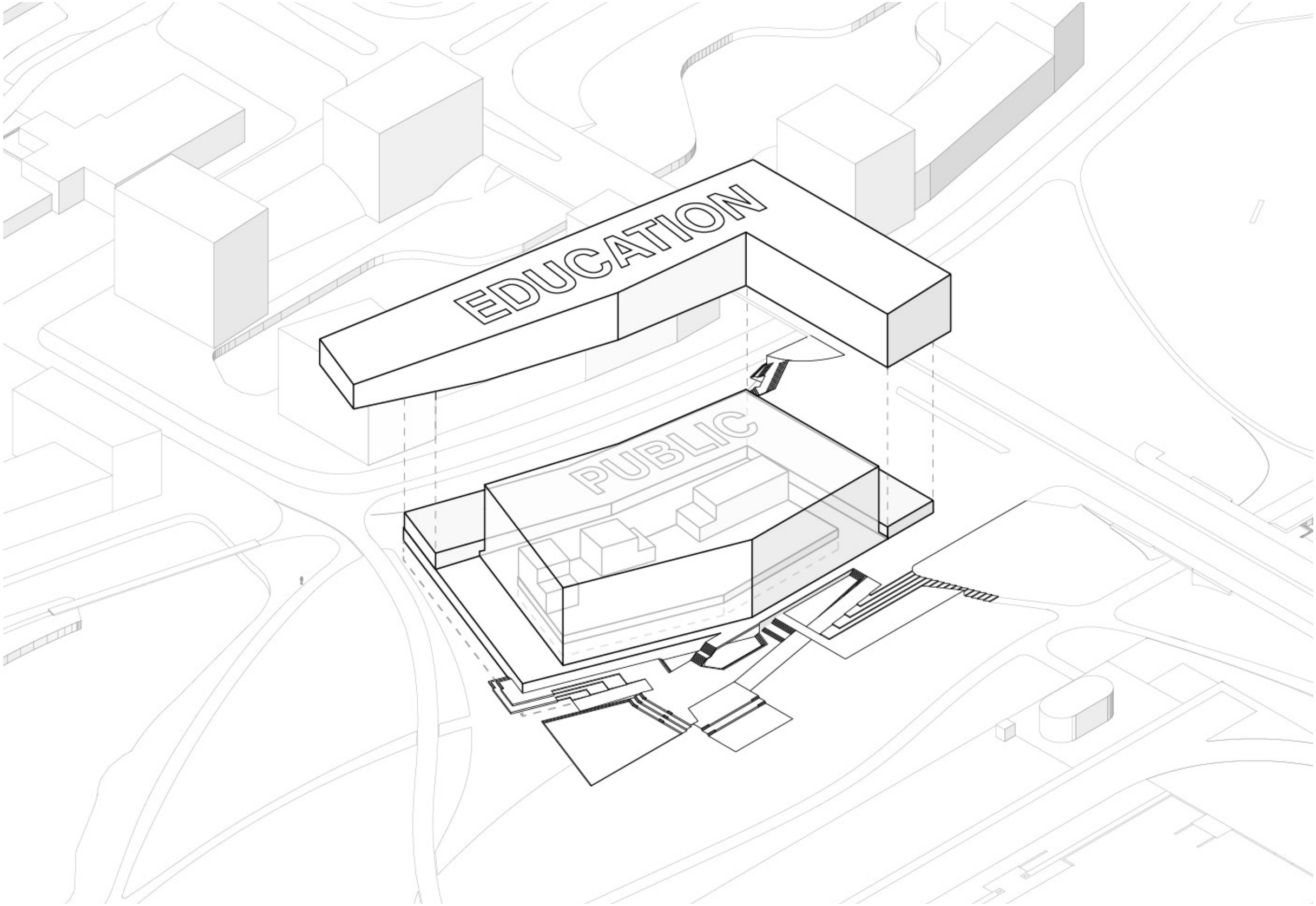


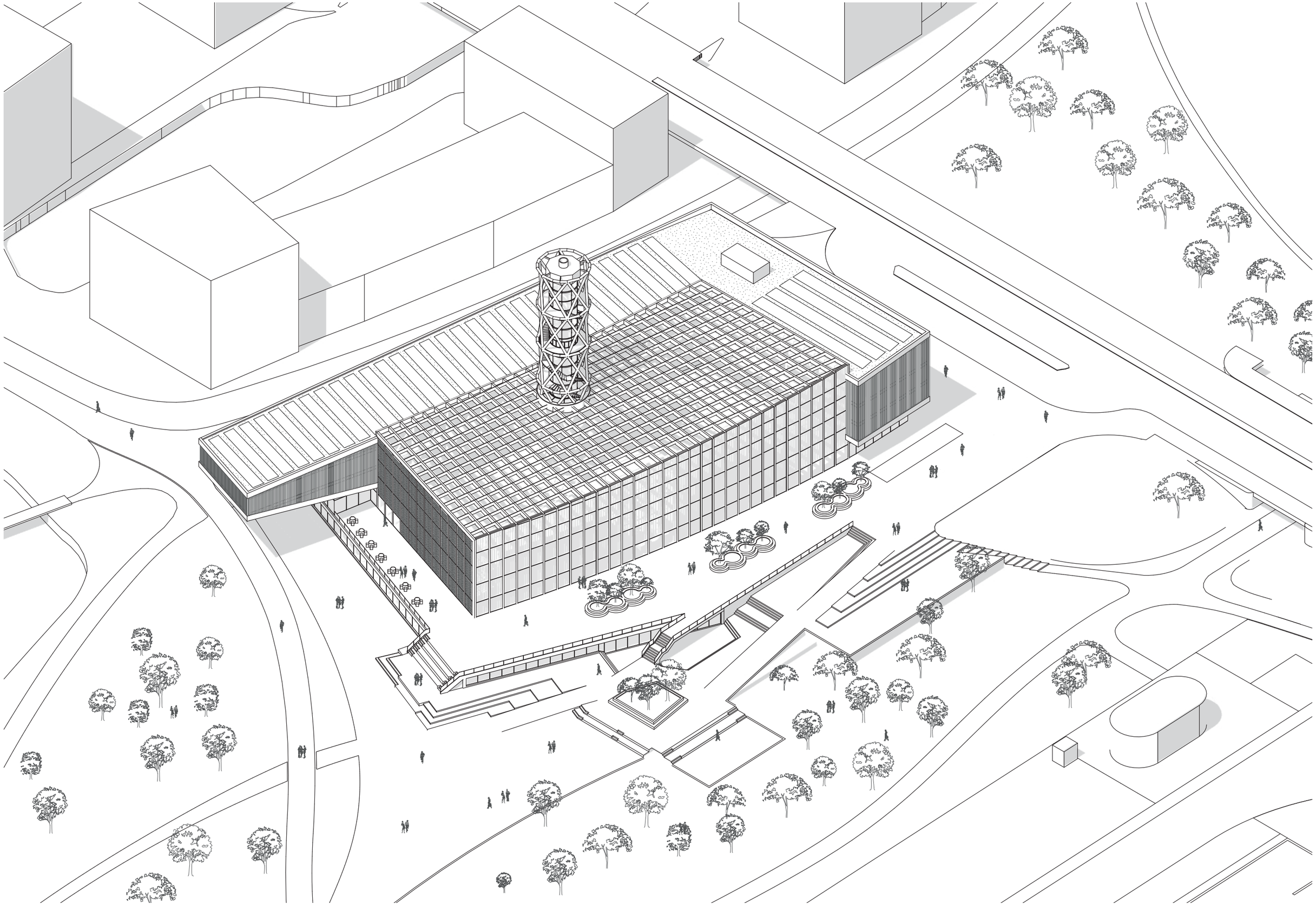



PUBLIC
COMMUNAL

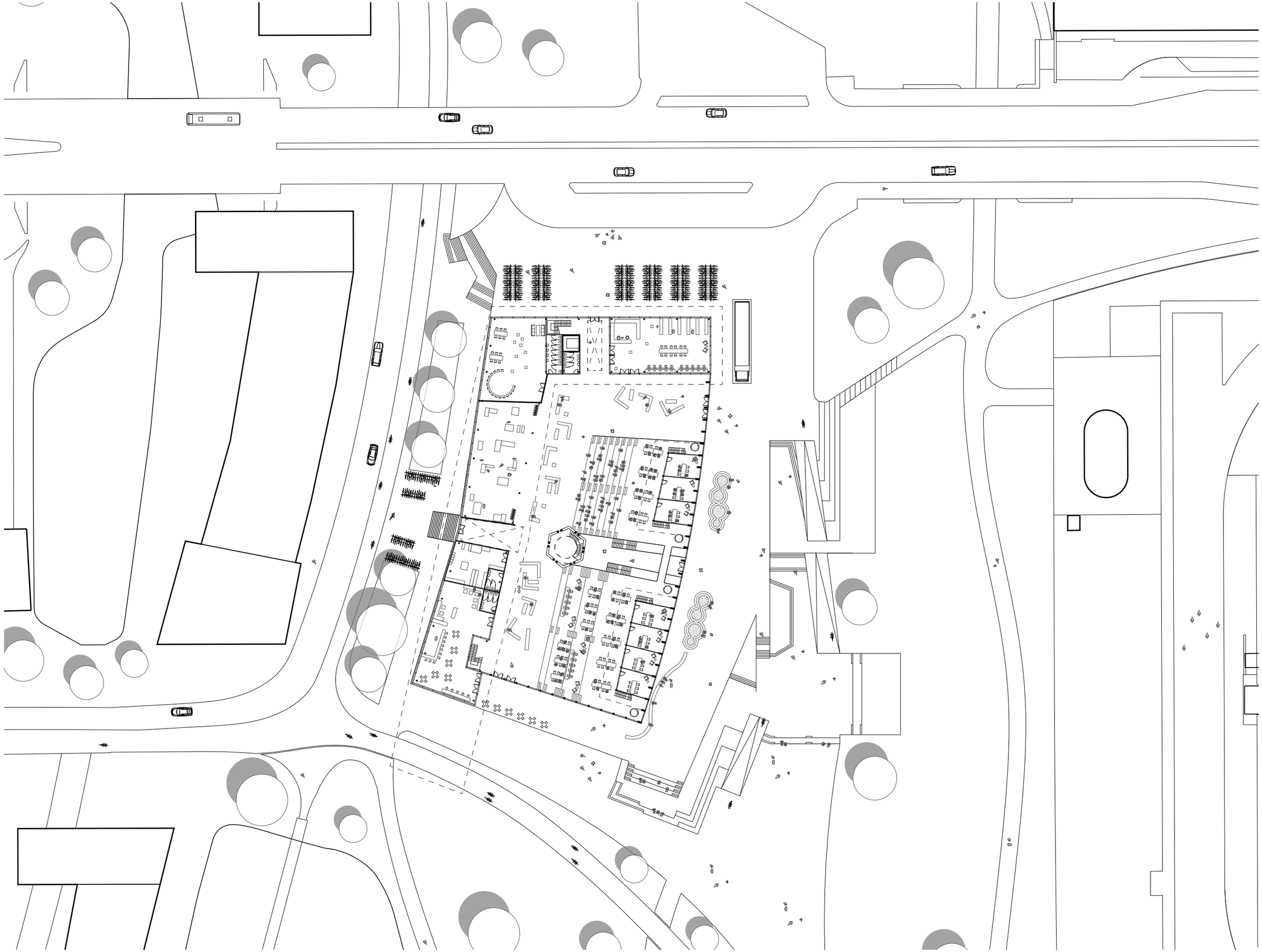

PUBLIC

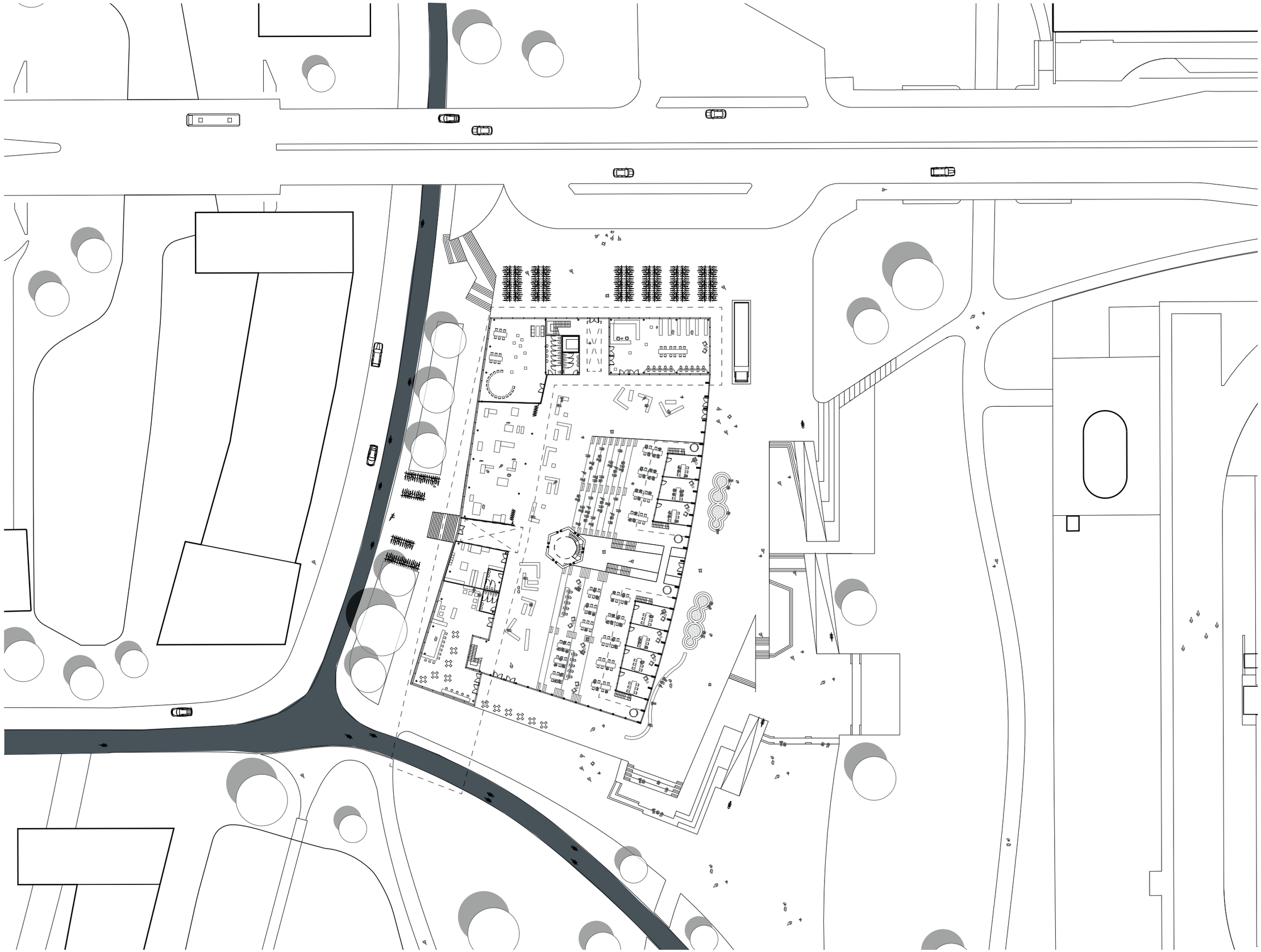

EDUCATION
PUBLIC

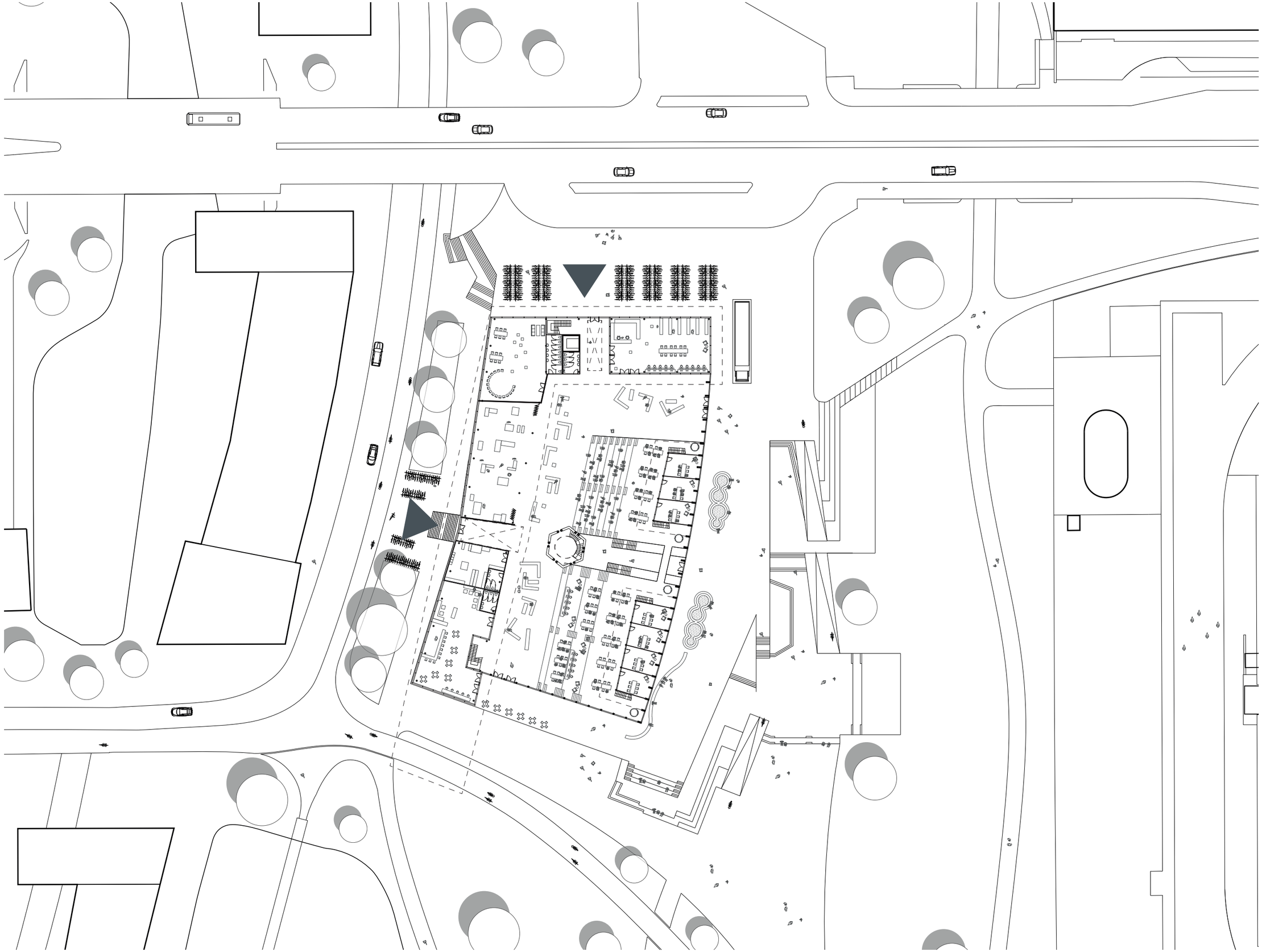

EDUCATION
PUBLIC

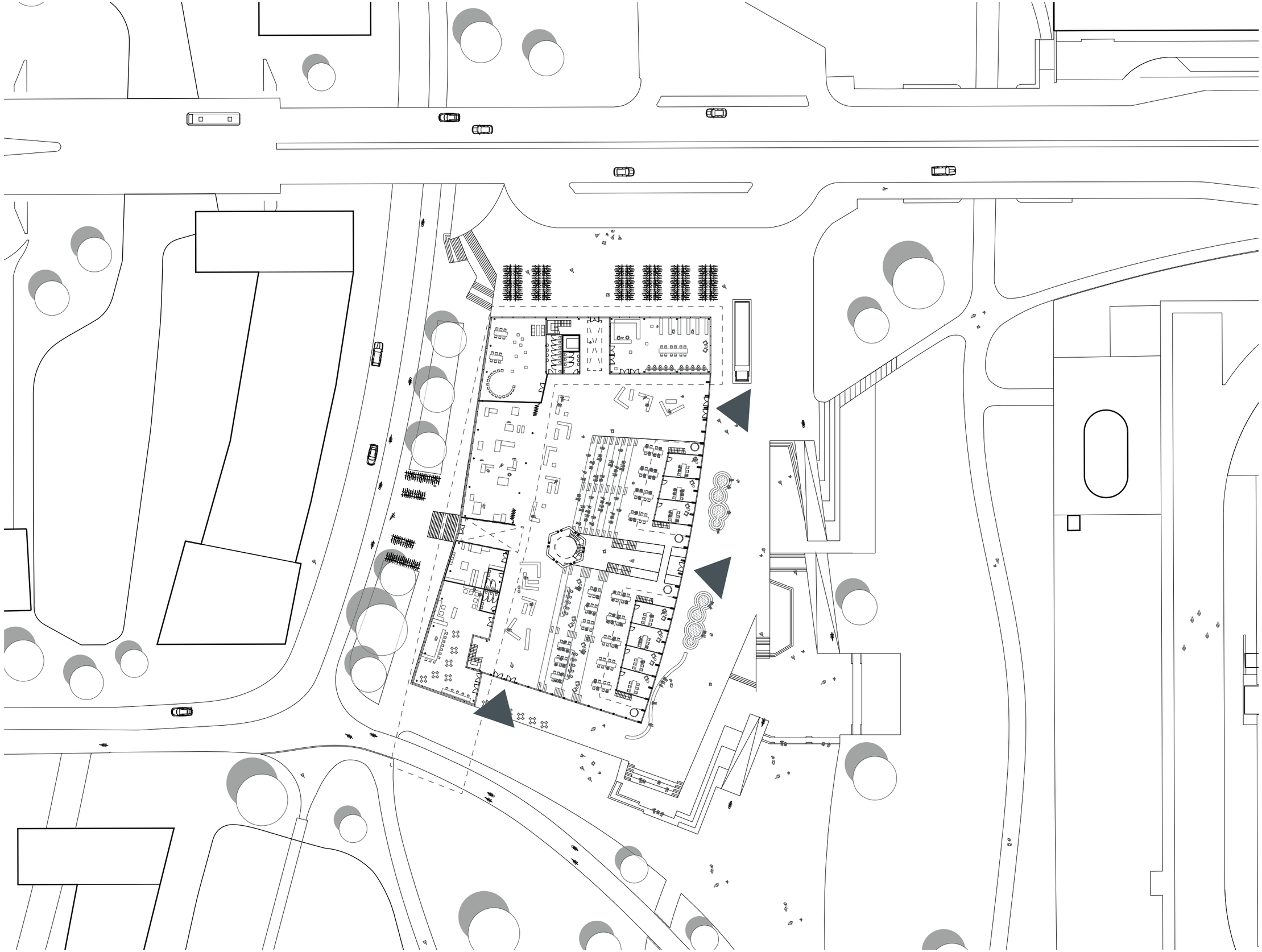


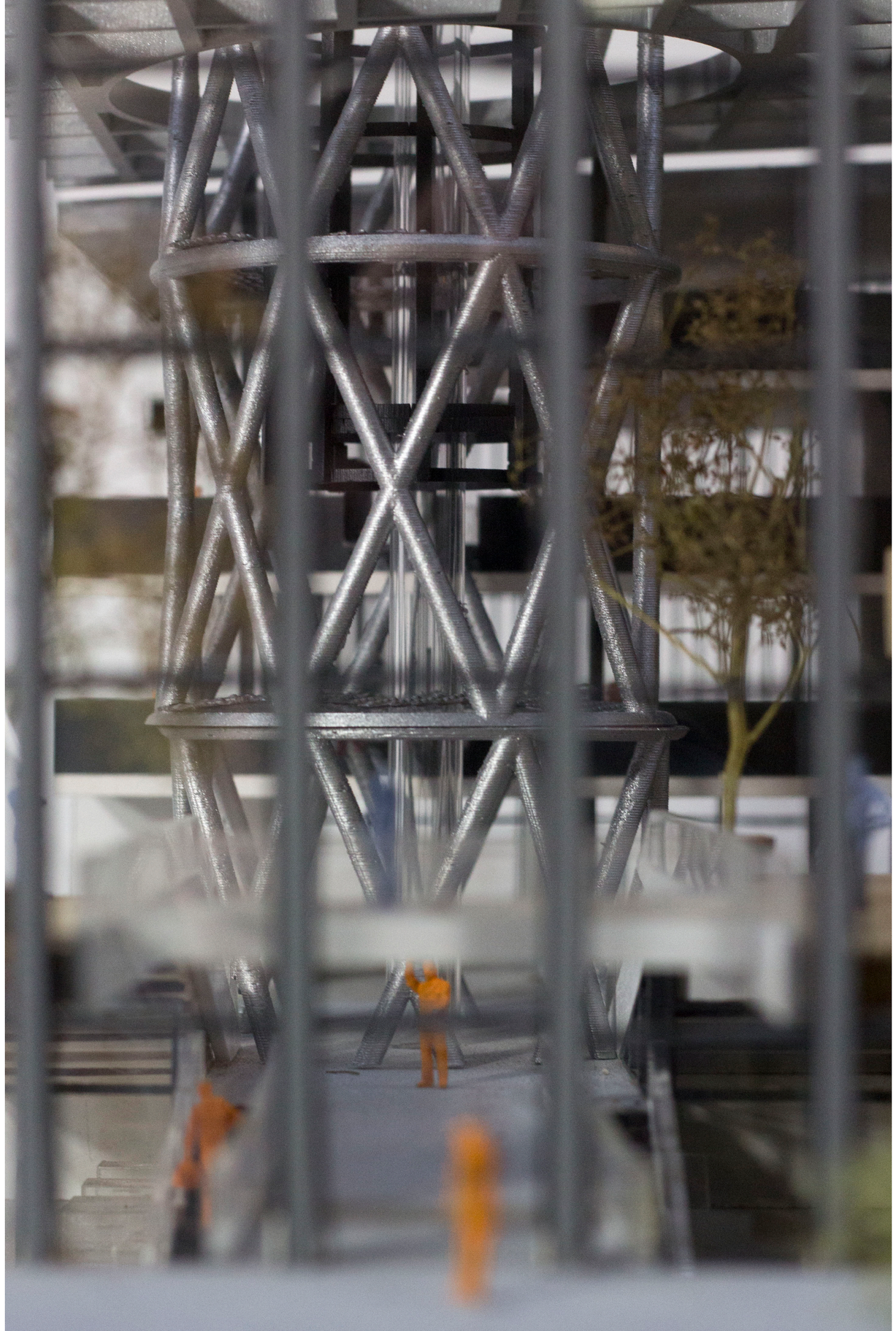
ORGANISATION



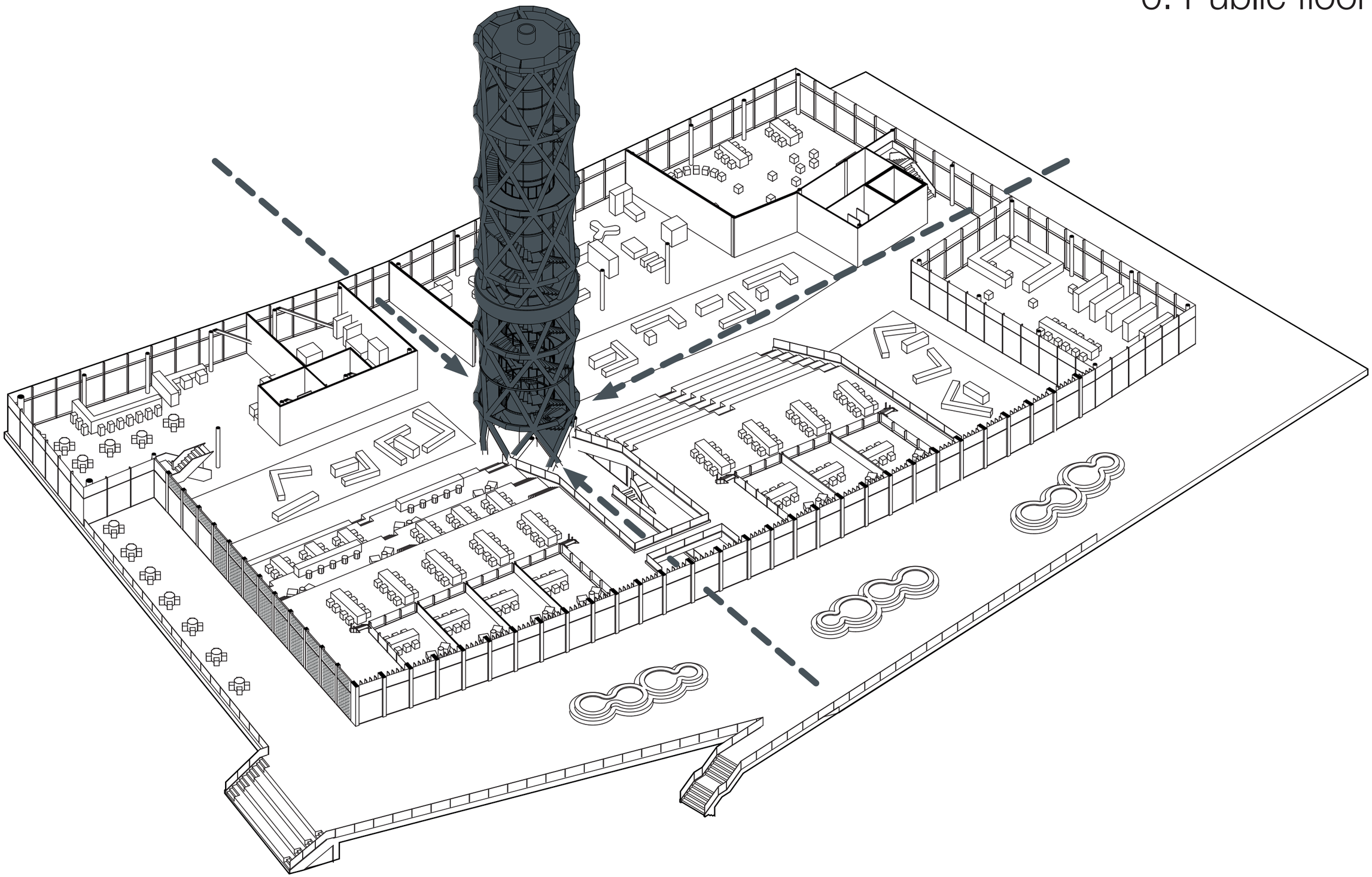








0. Public floor



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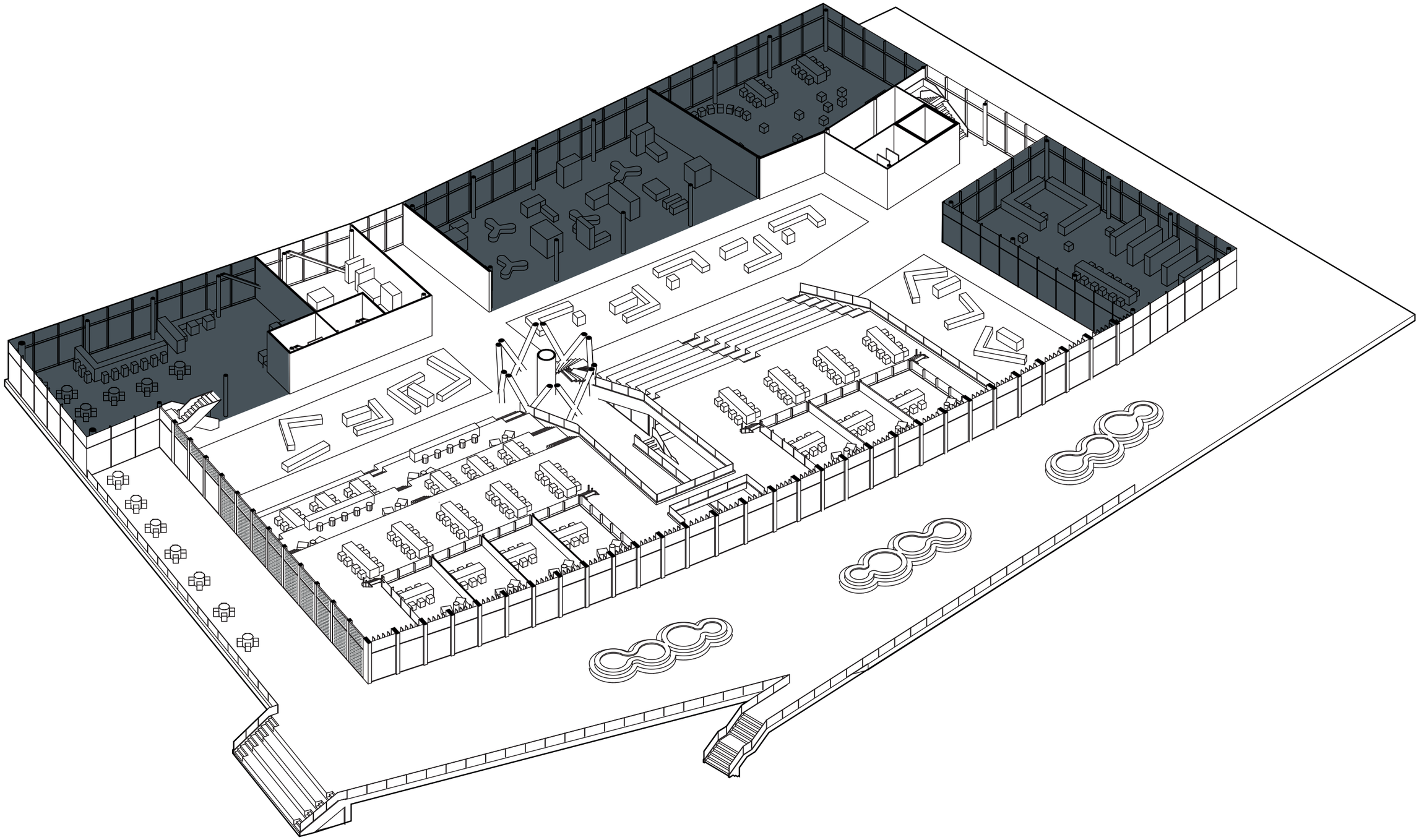
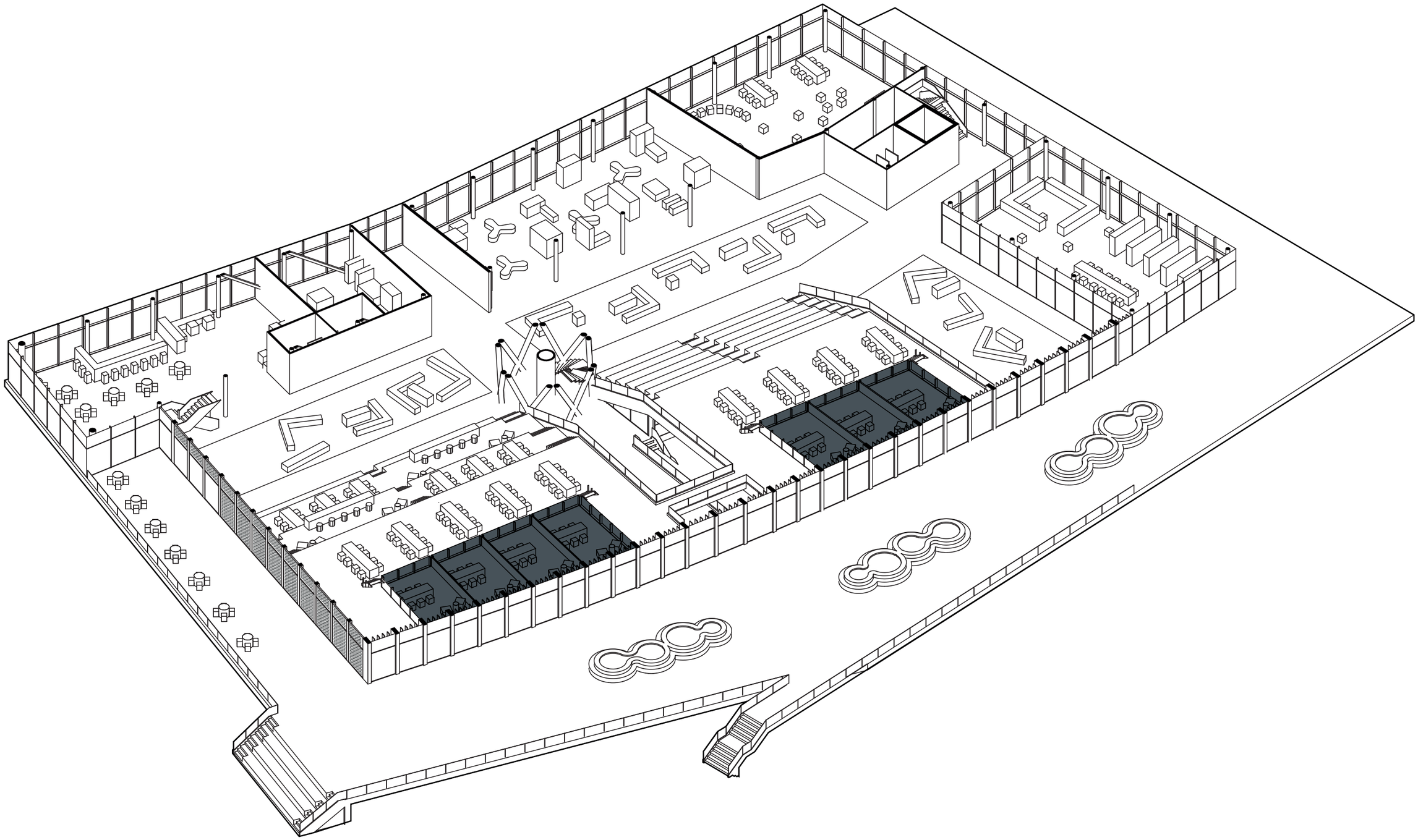
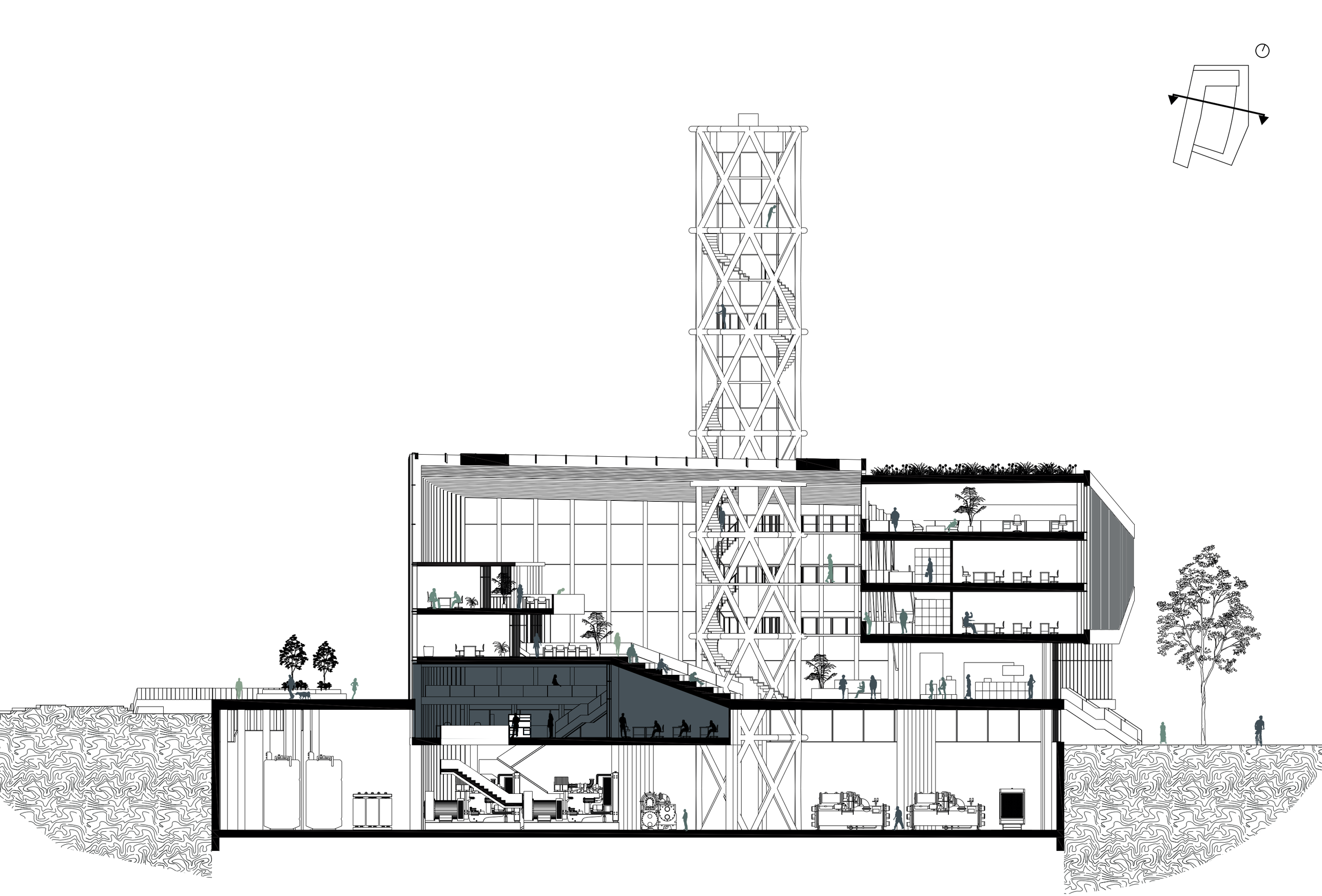
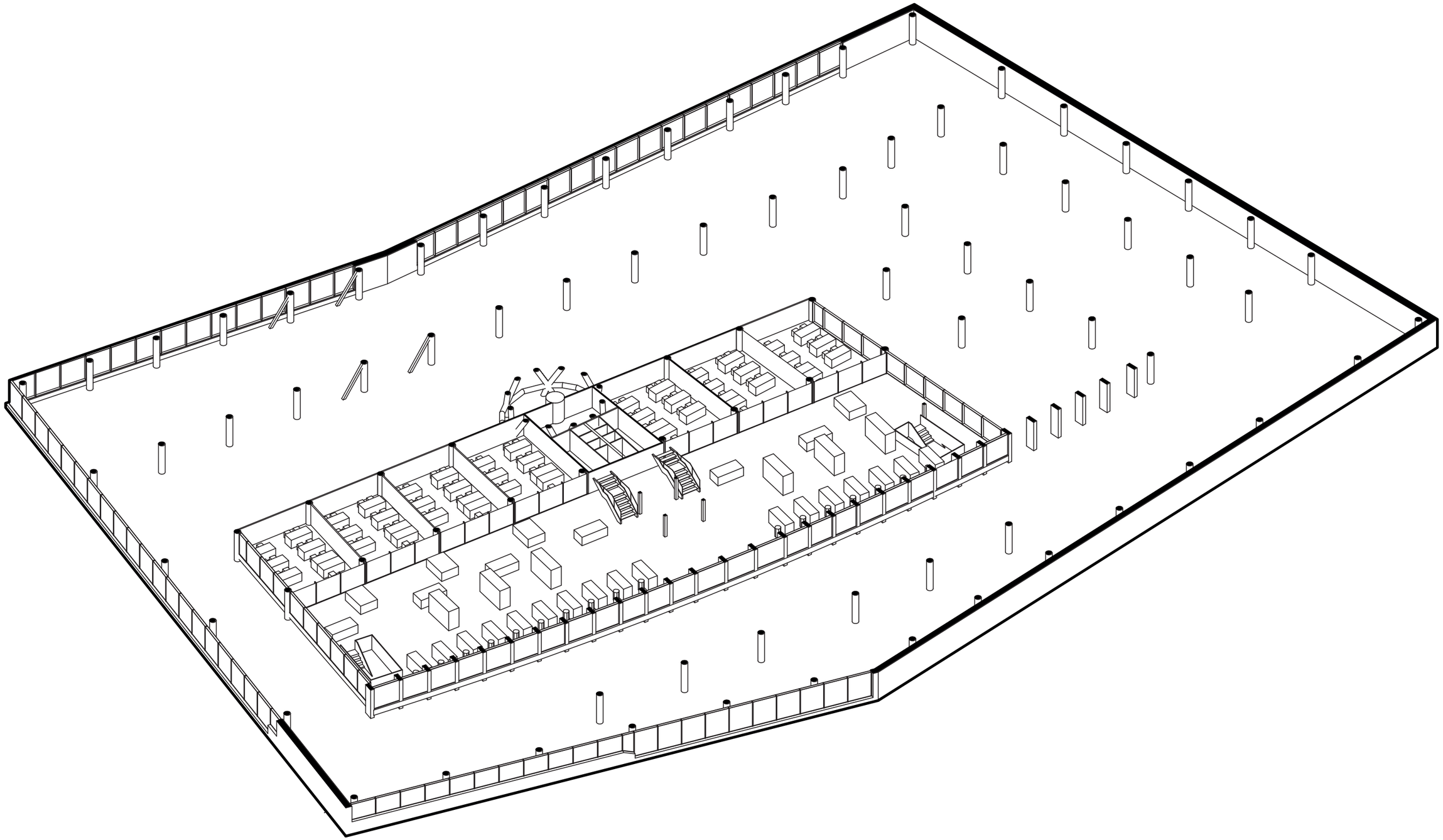


0. Public floor

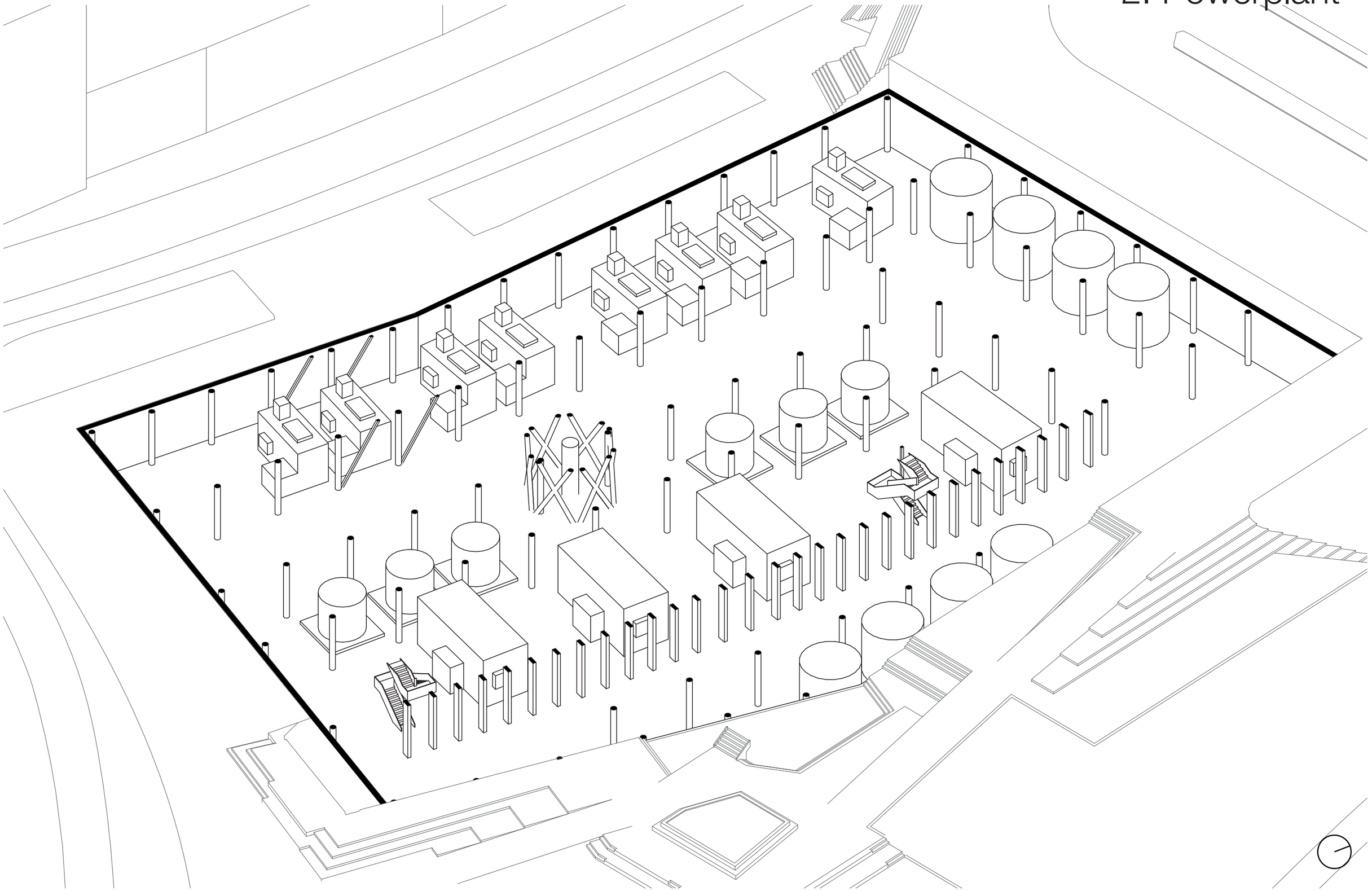


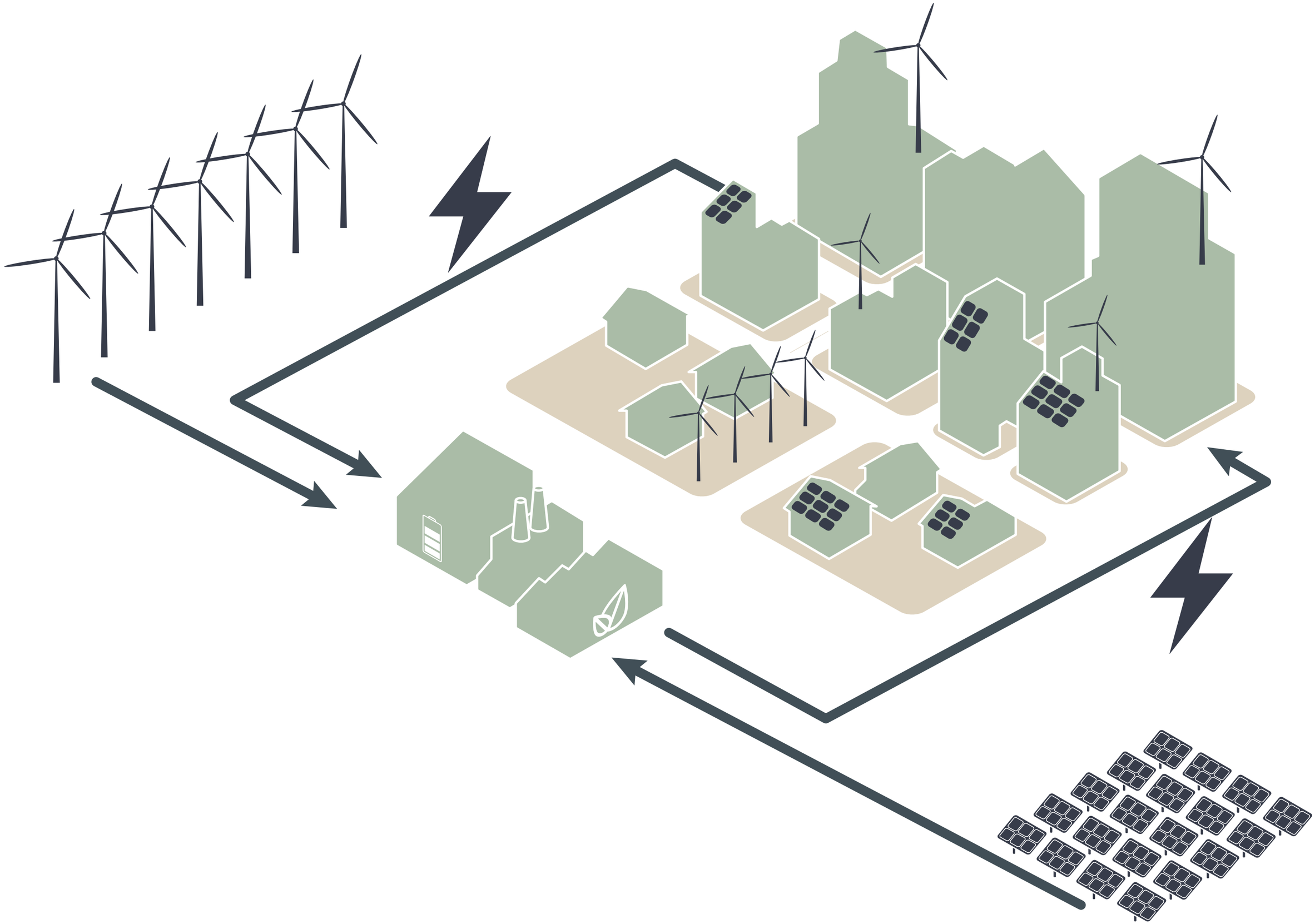


-1. Workshop

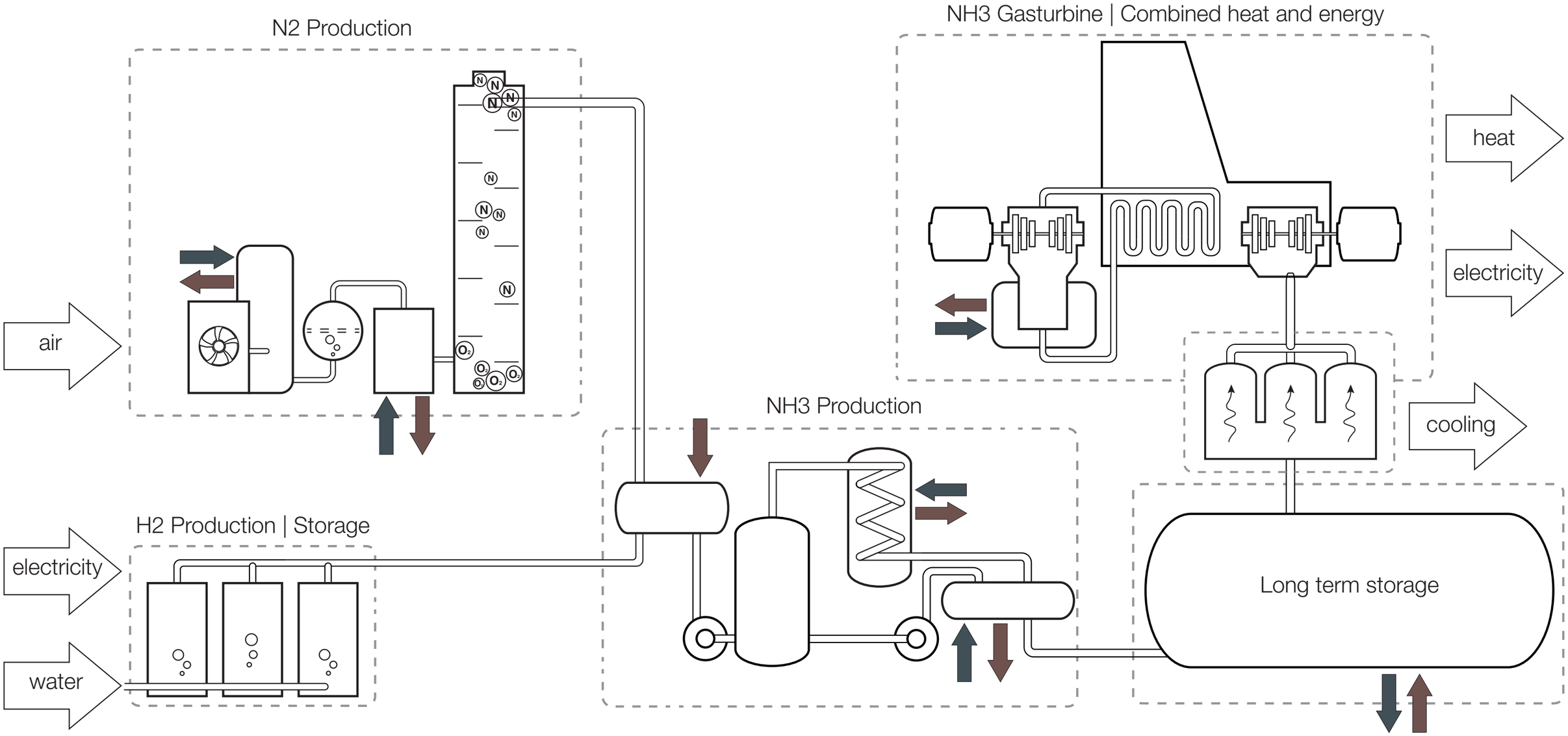


-2. Powerplant

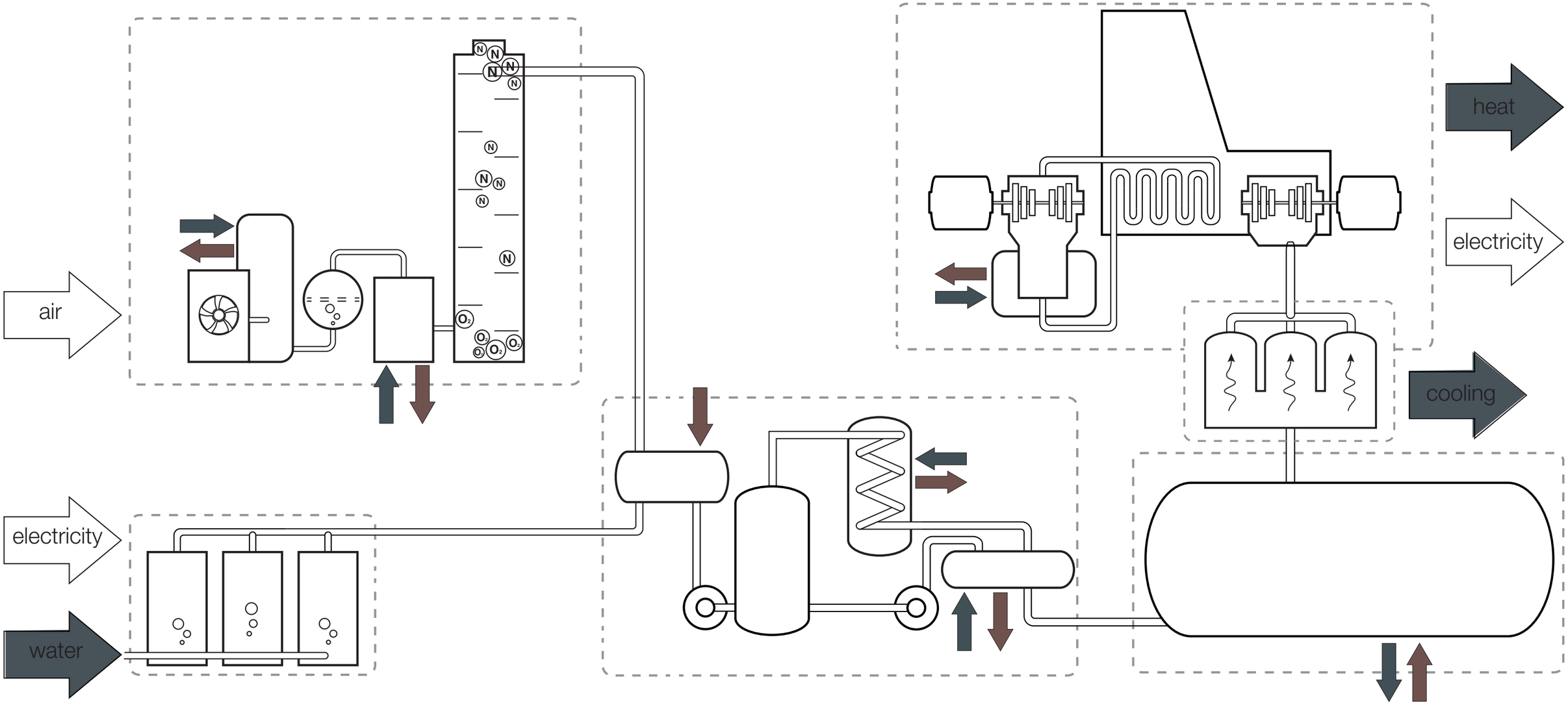


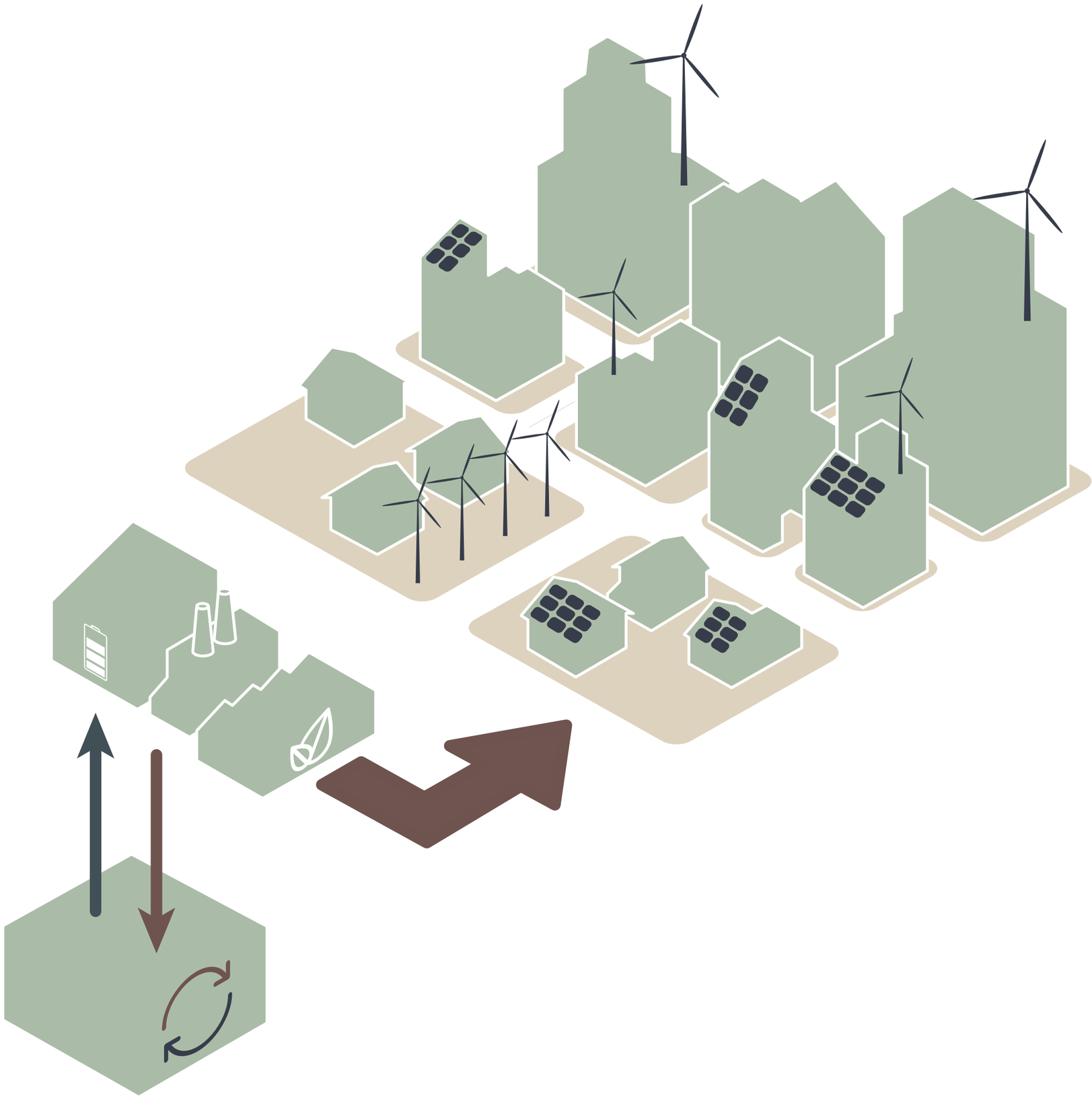


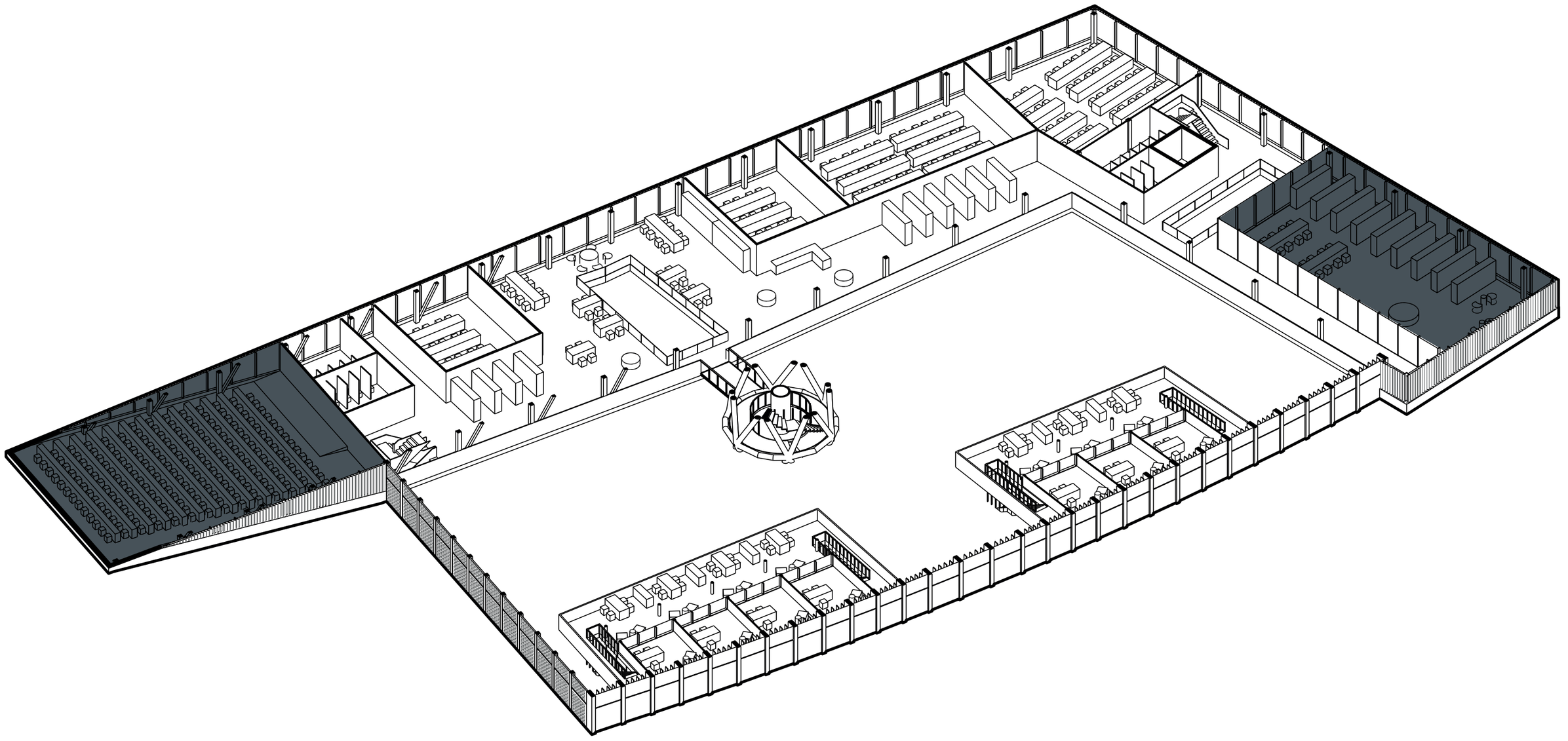
POWER TO AMMONIA PROCES

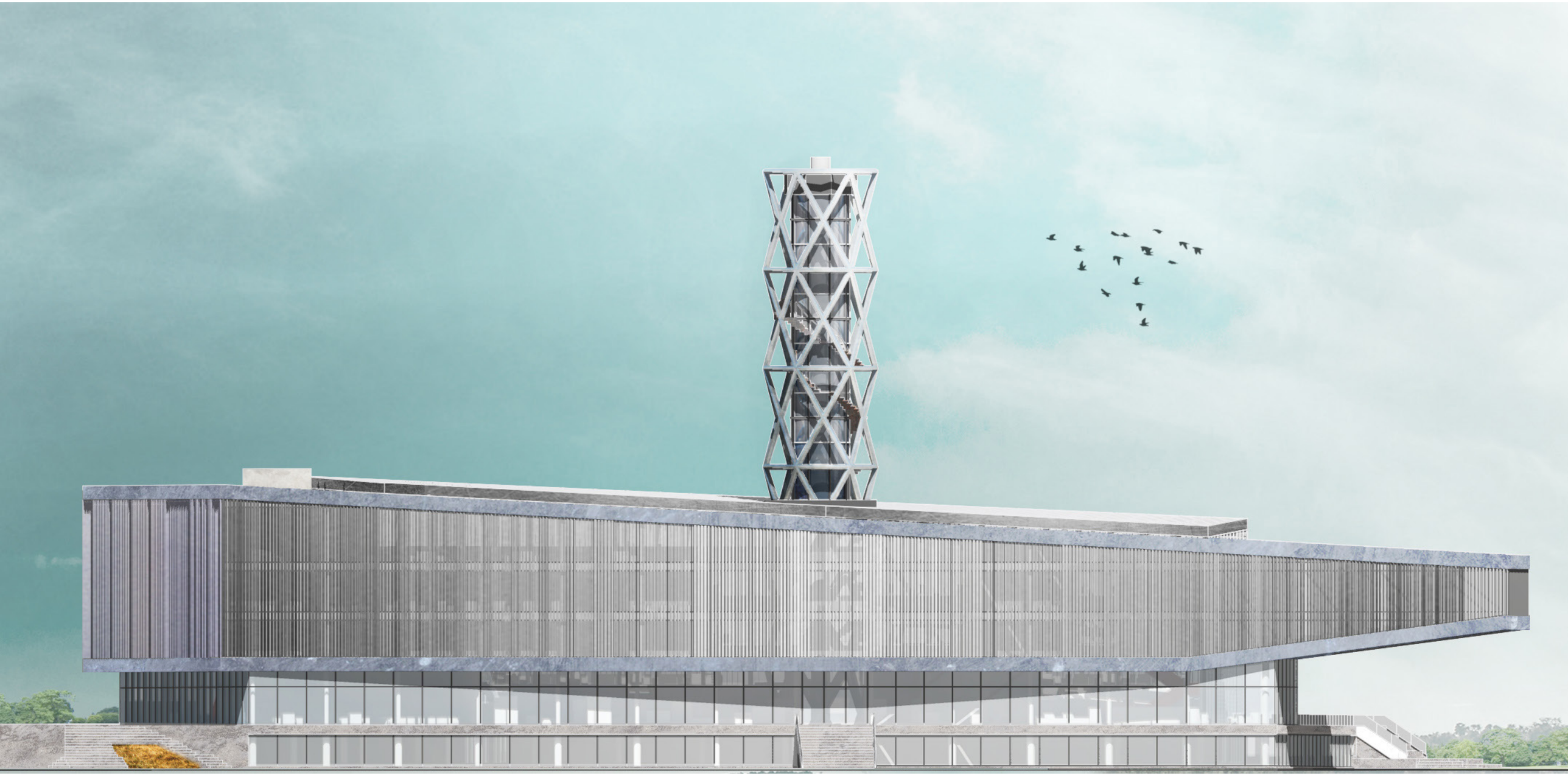


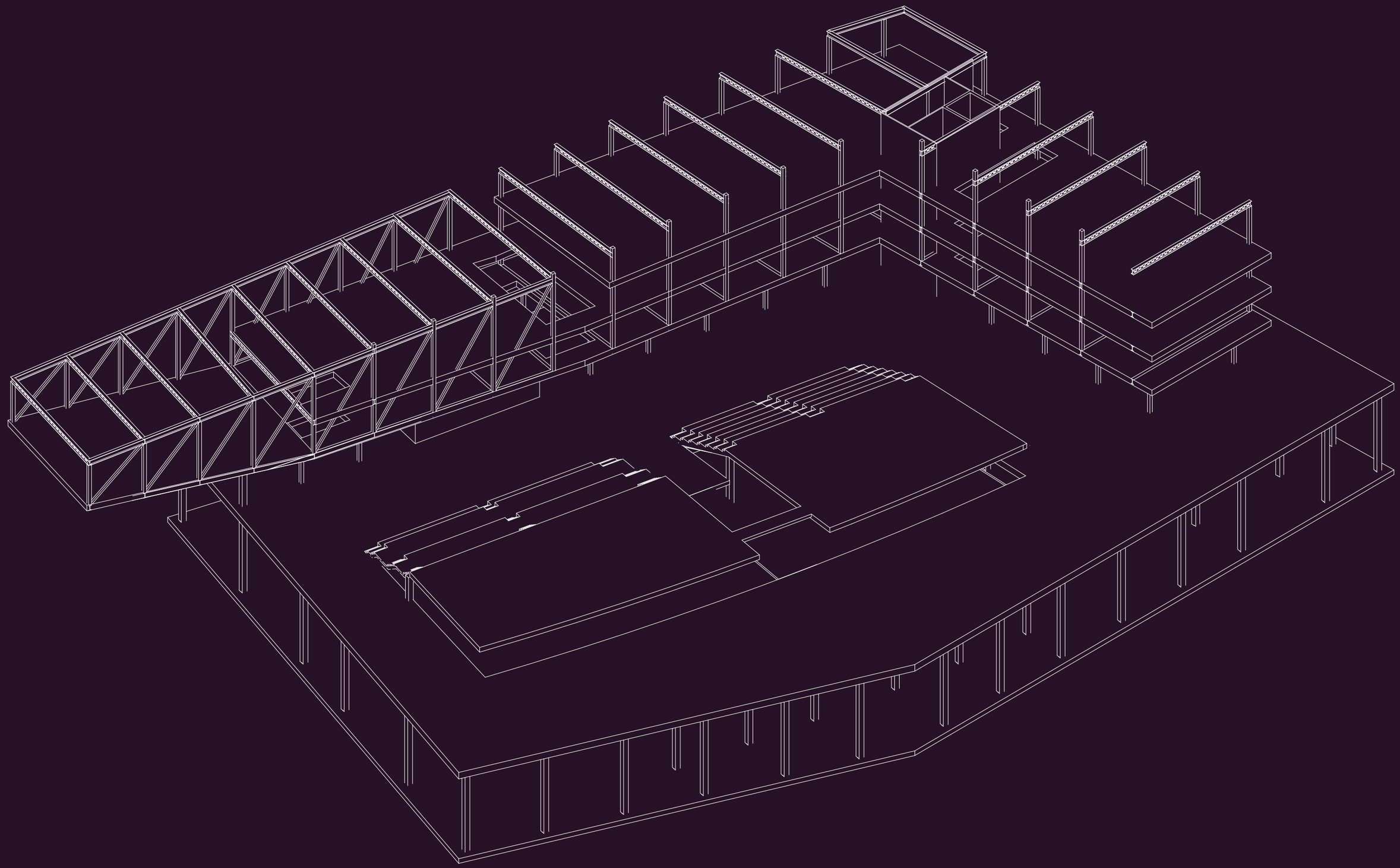
POWER TO AMMONIA PROCES

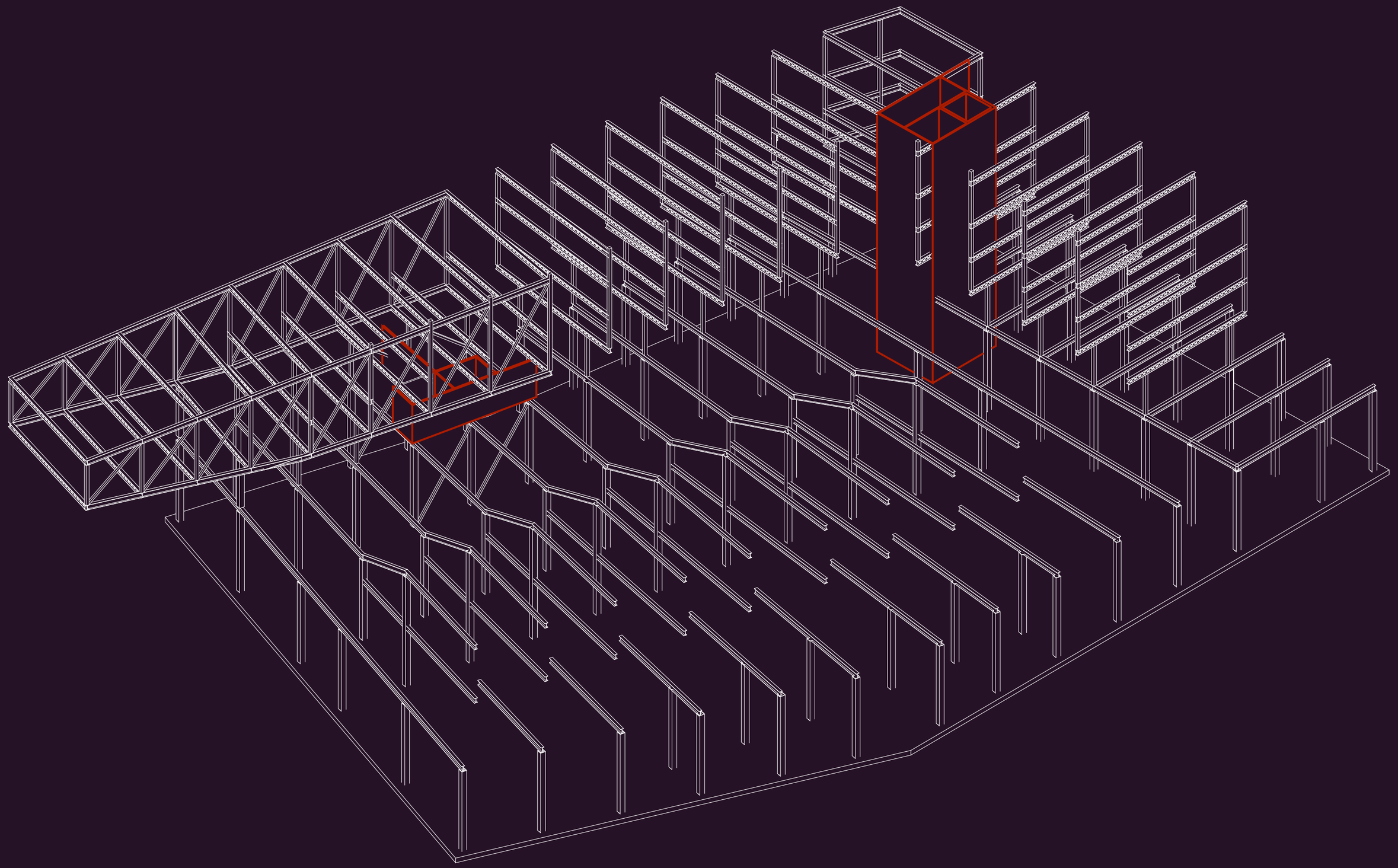






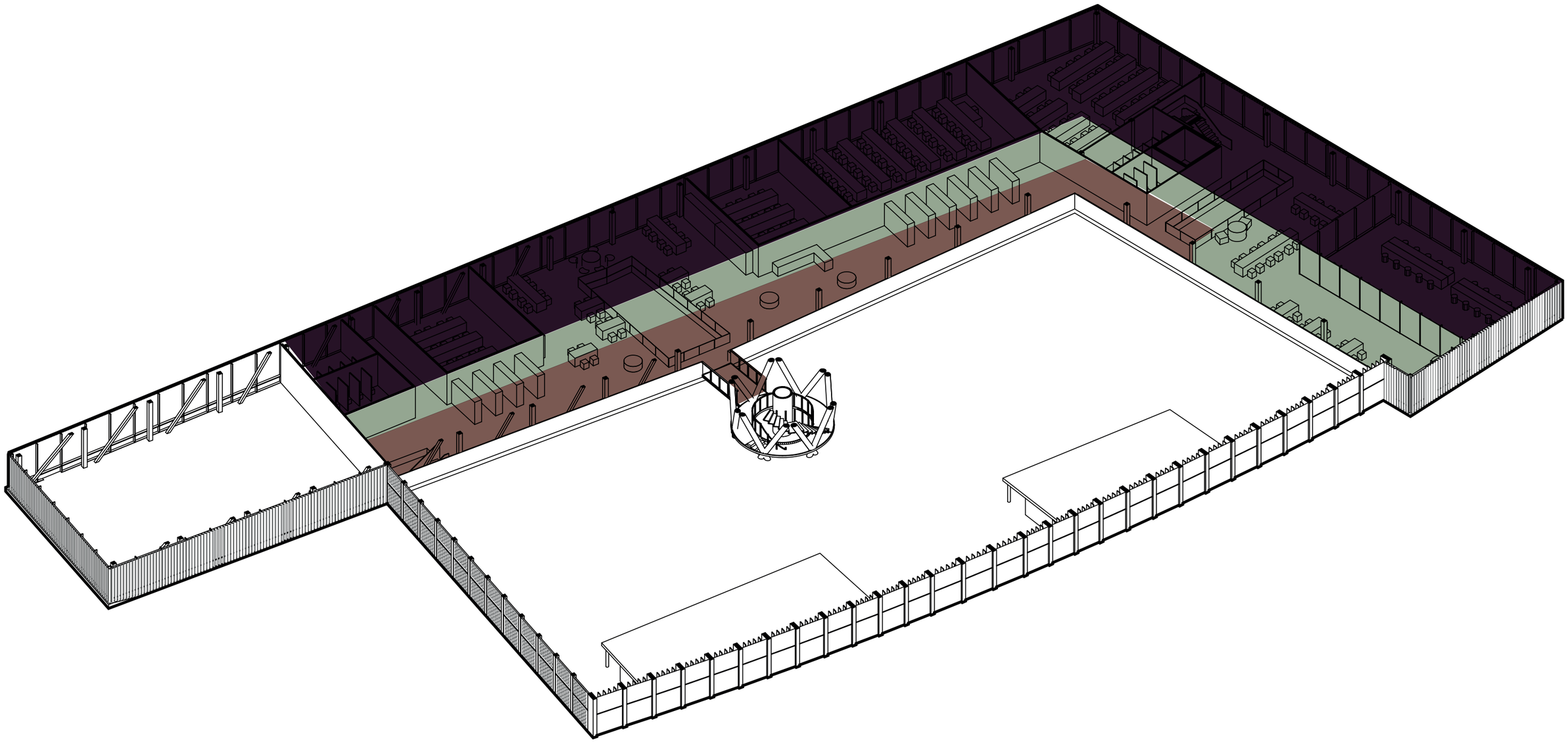


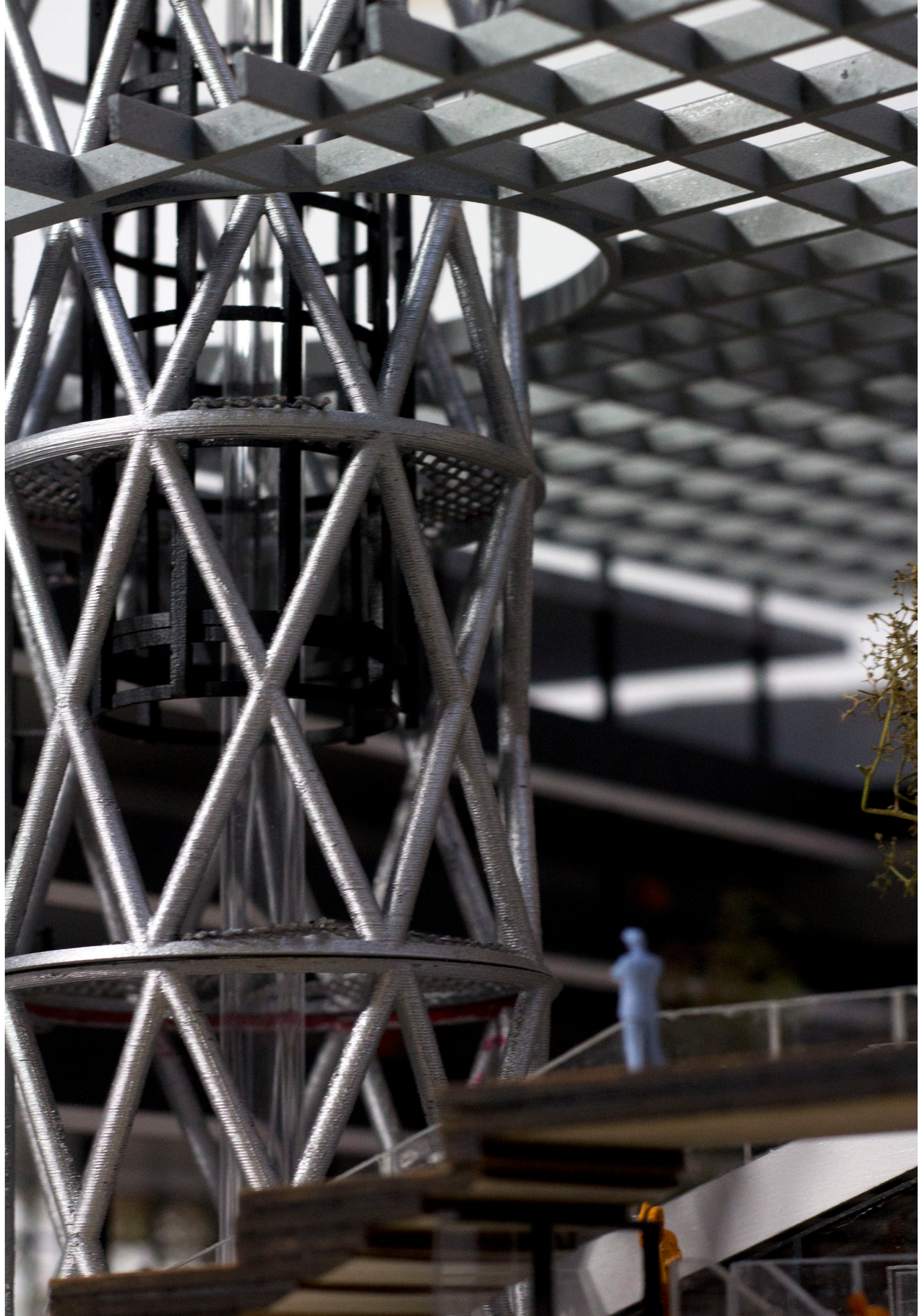




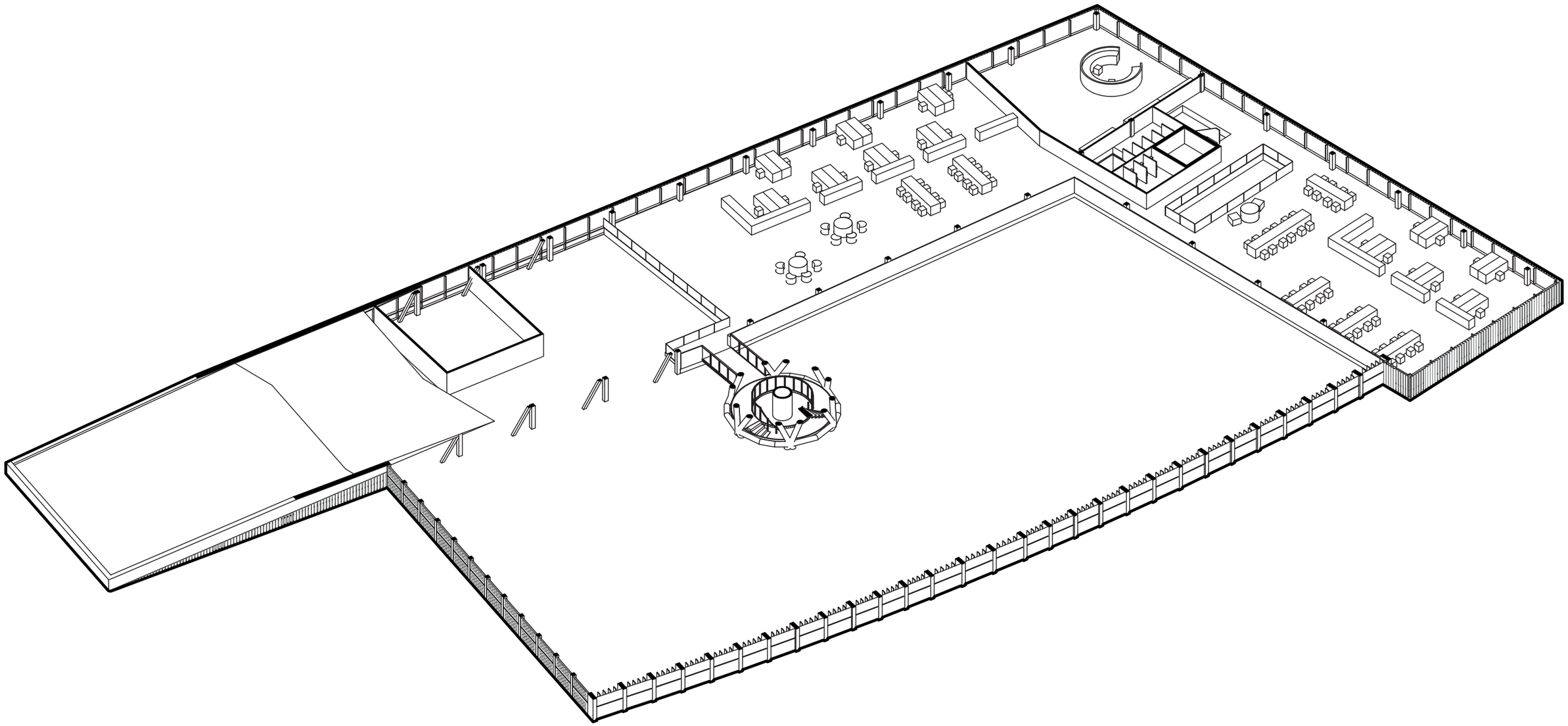
STABILITY

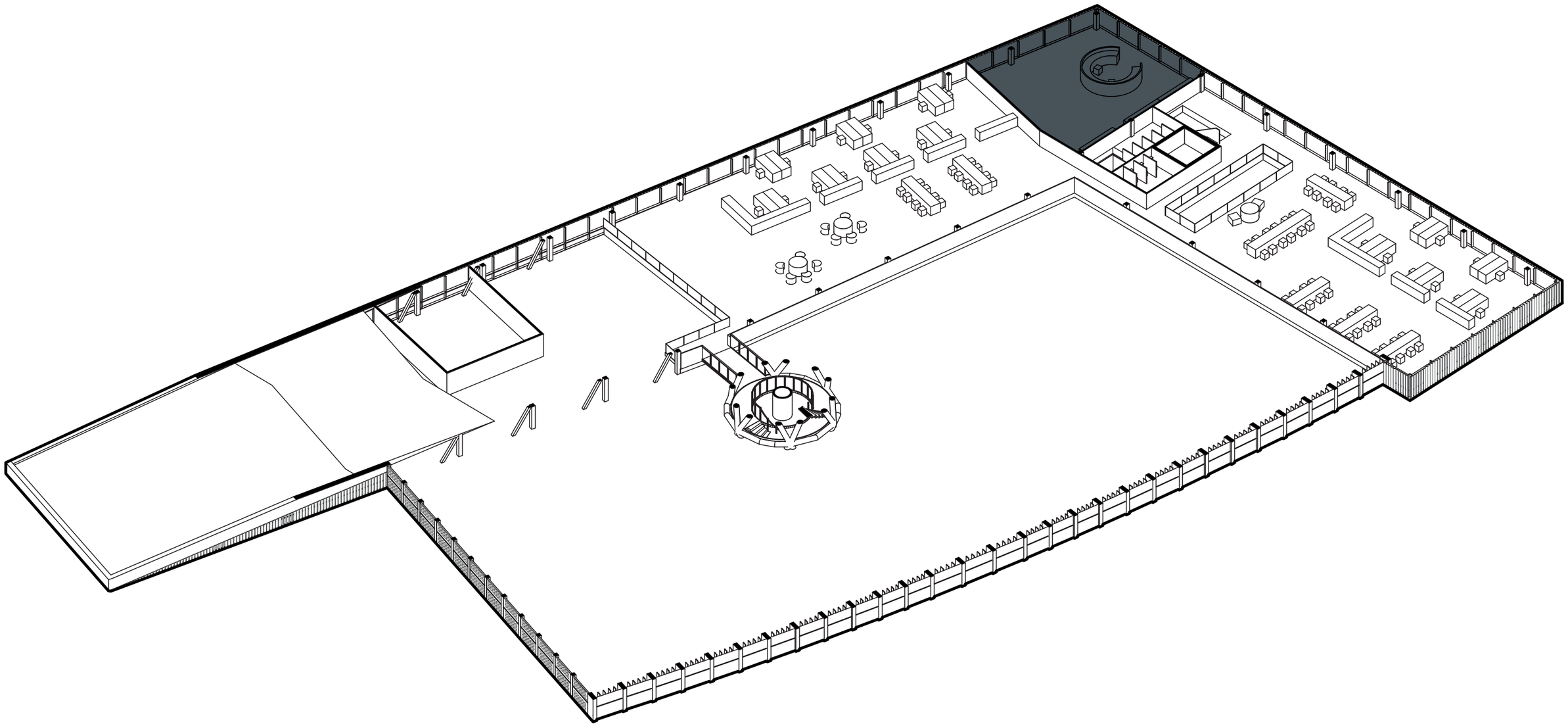
2. Education

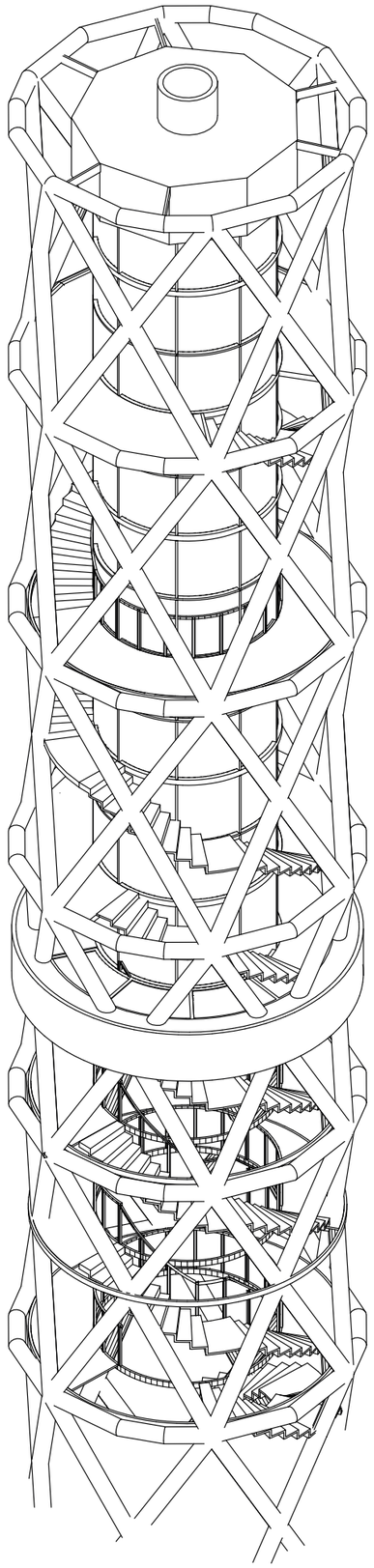




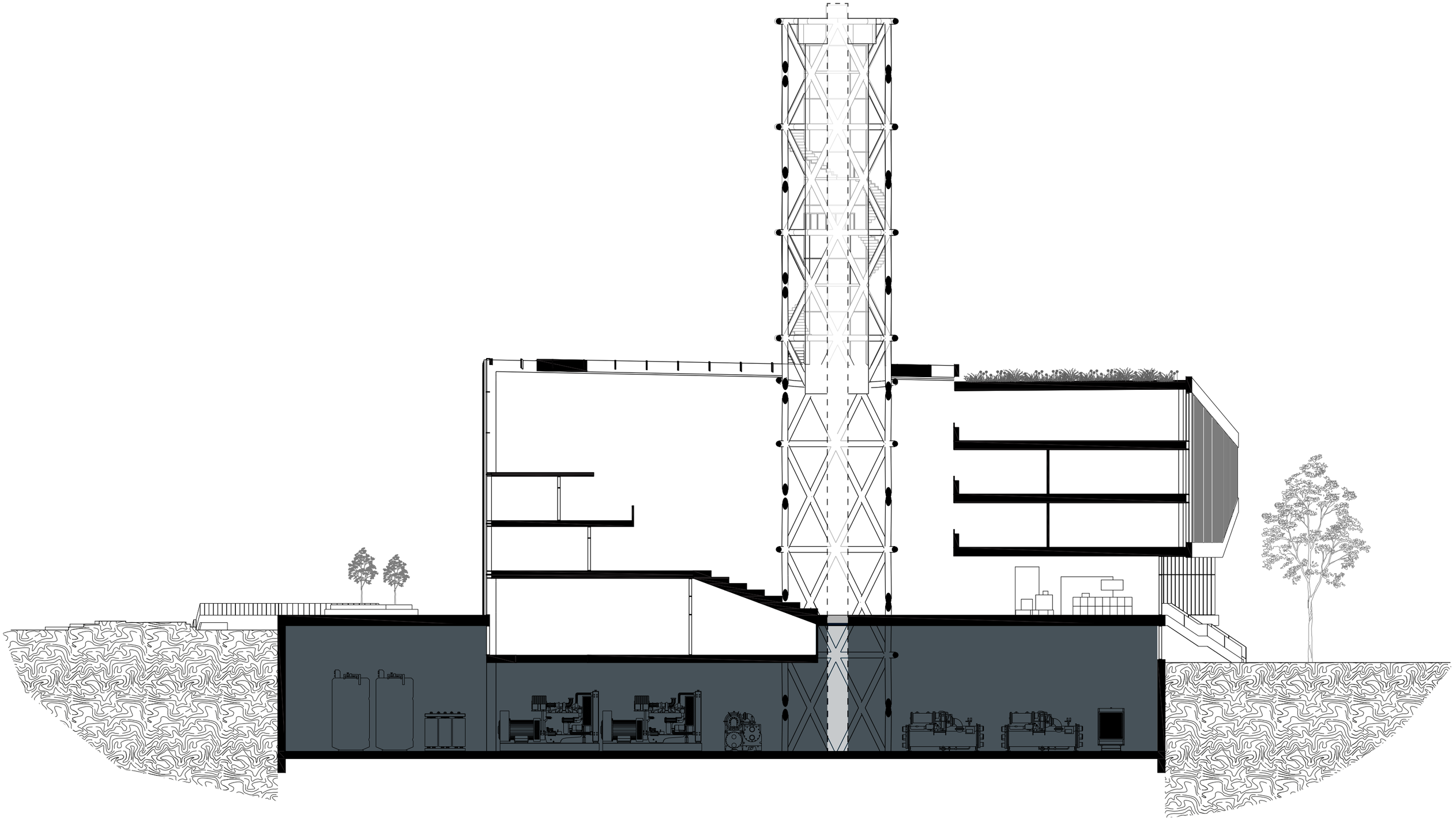
3. Offices



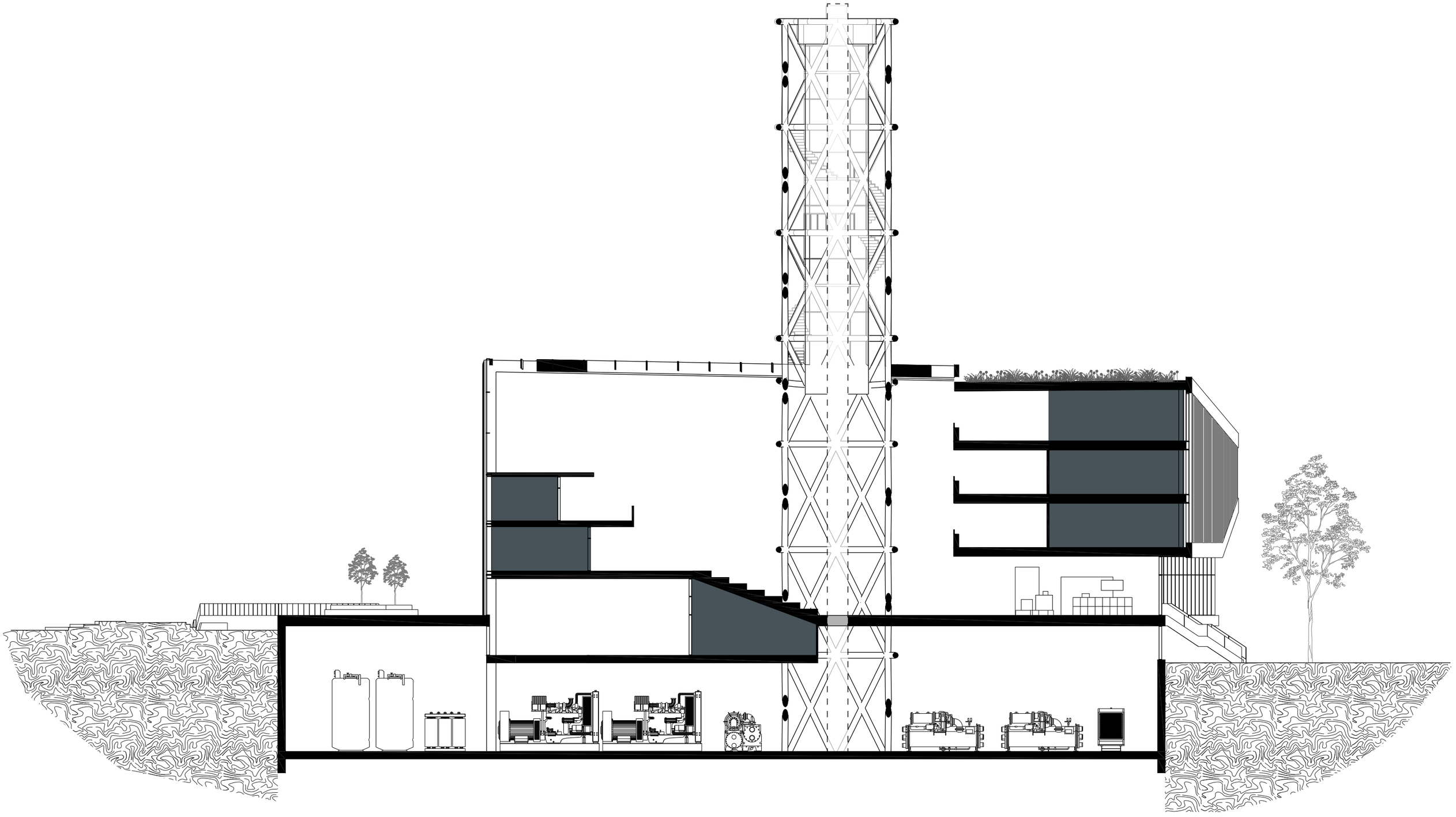




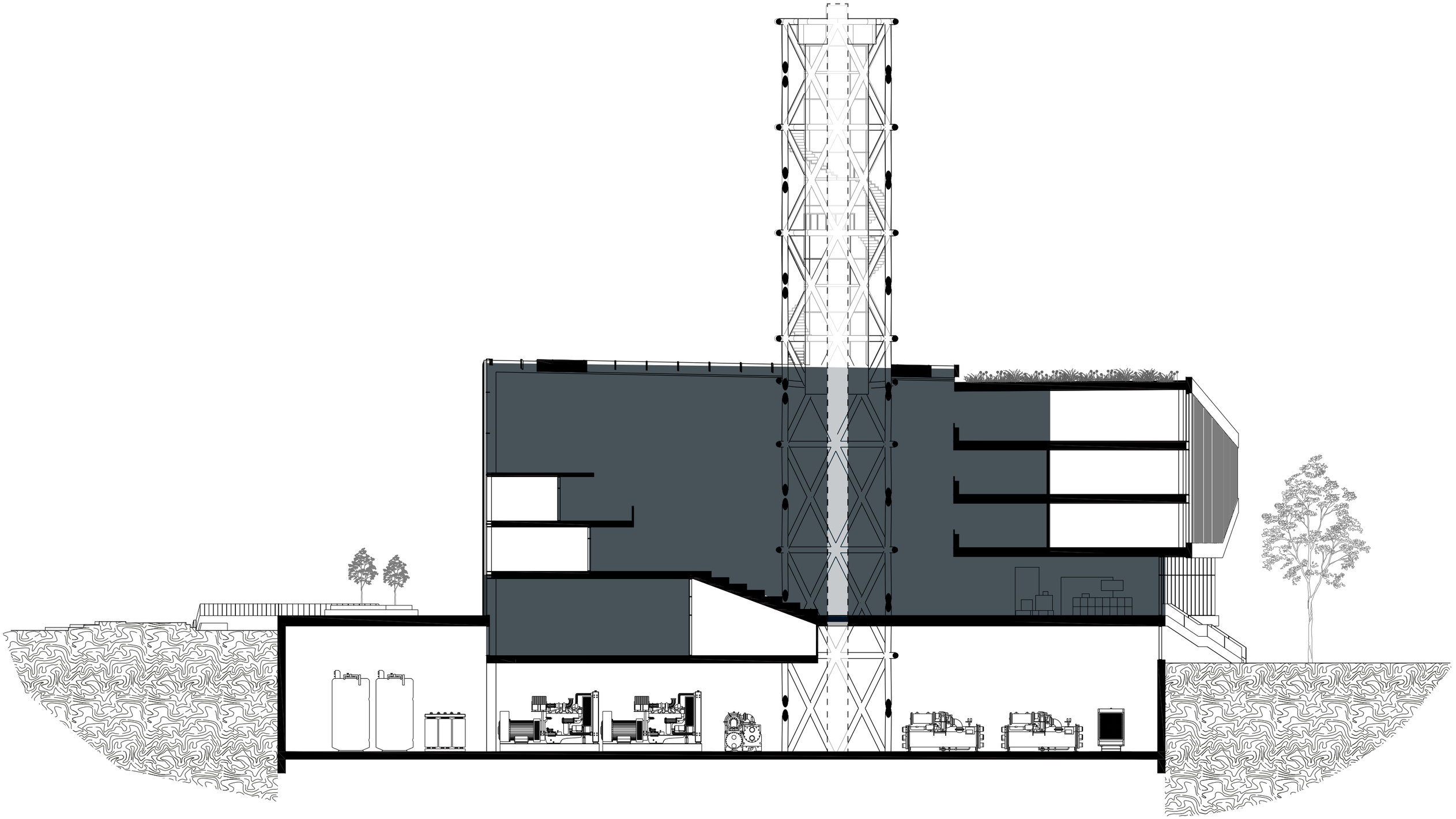
Zone 1. High climatisation



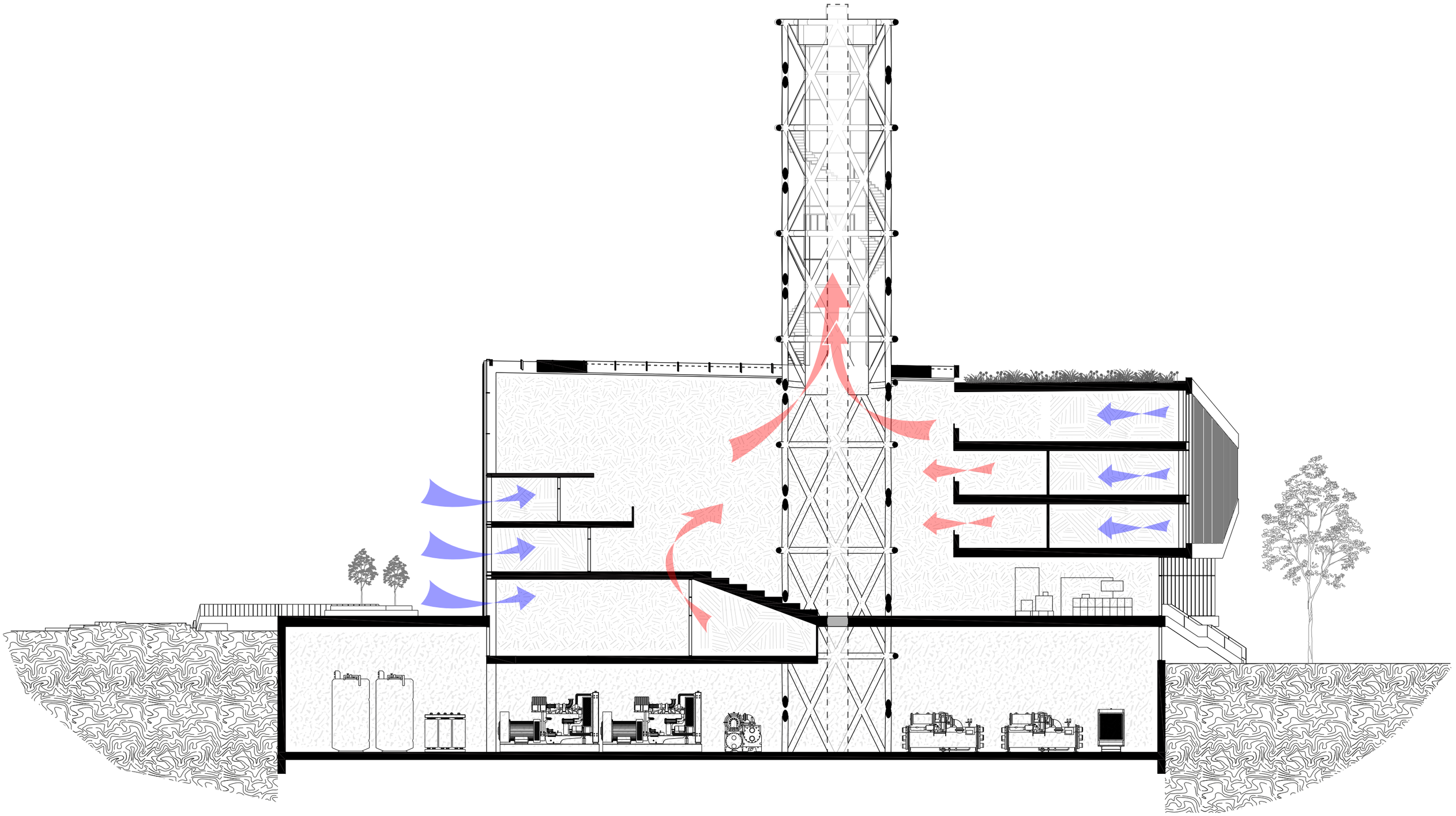
Zone 2. Medium climatisation



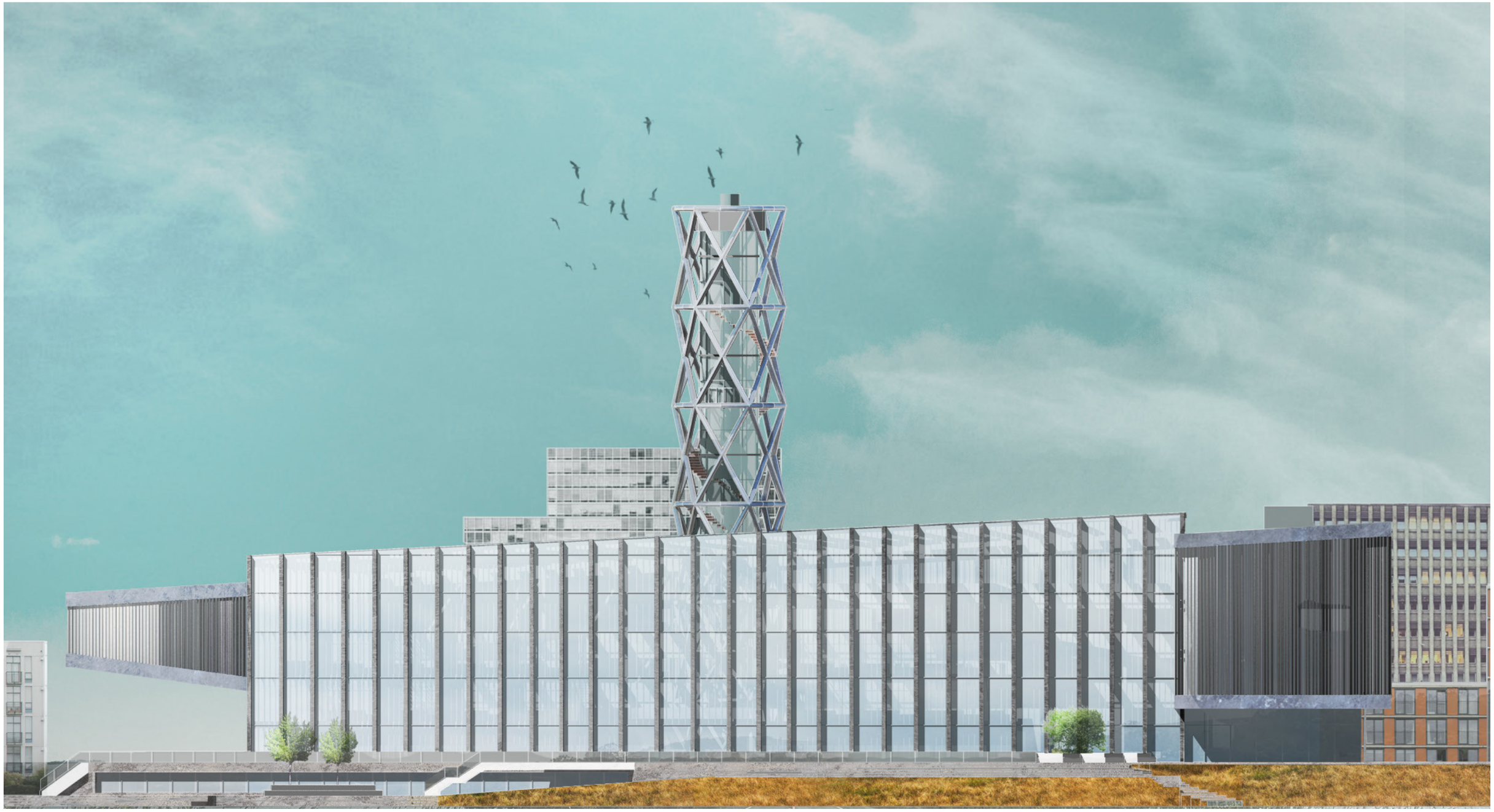
Zone 3. Low climatisation



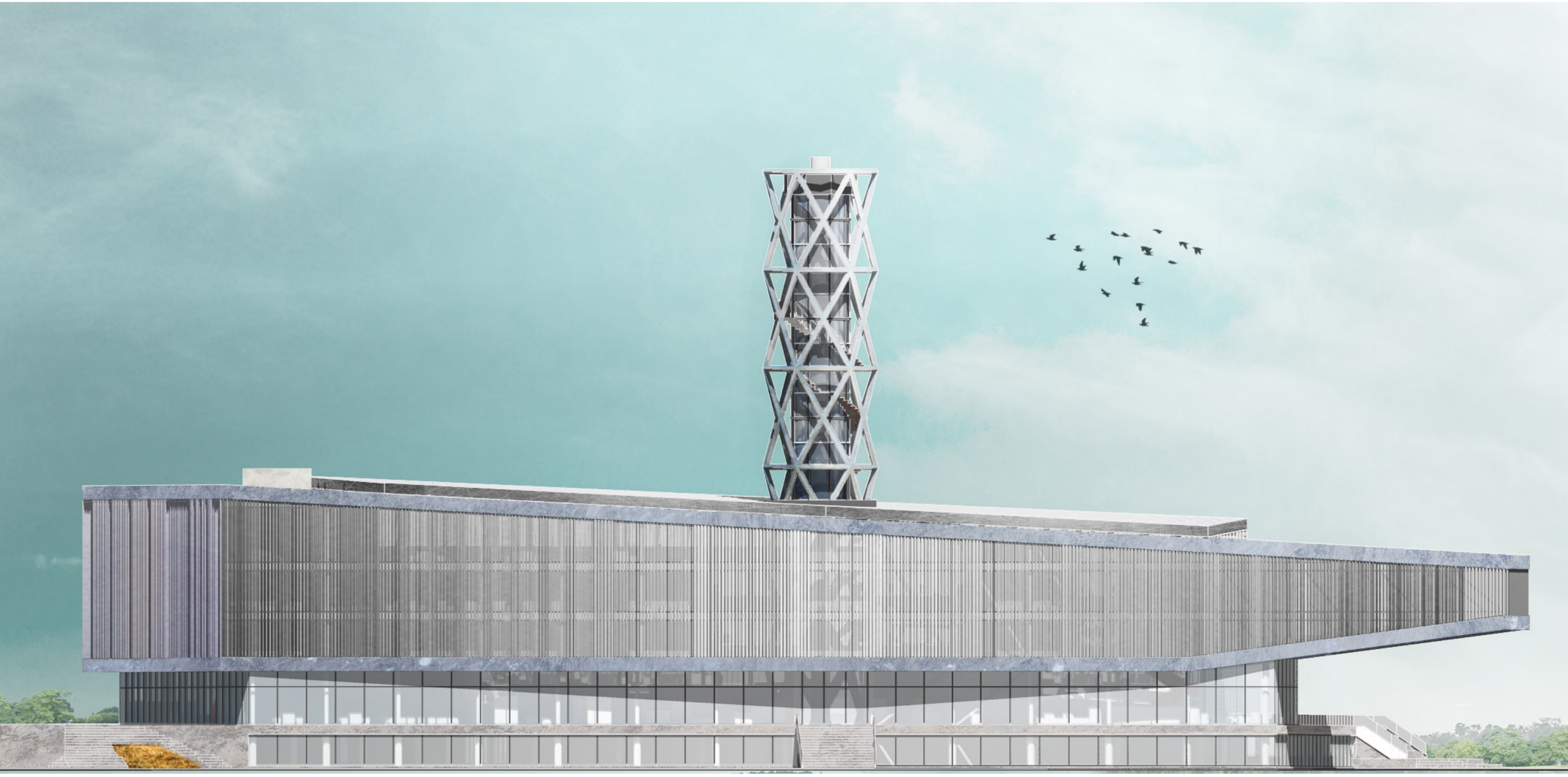
Ventilation principle



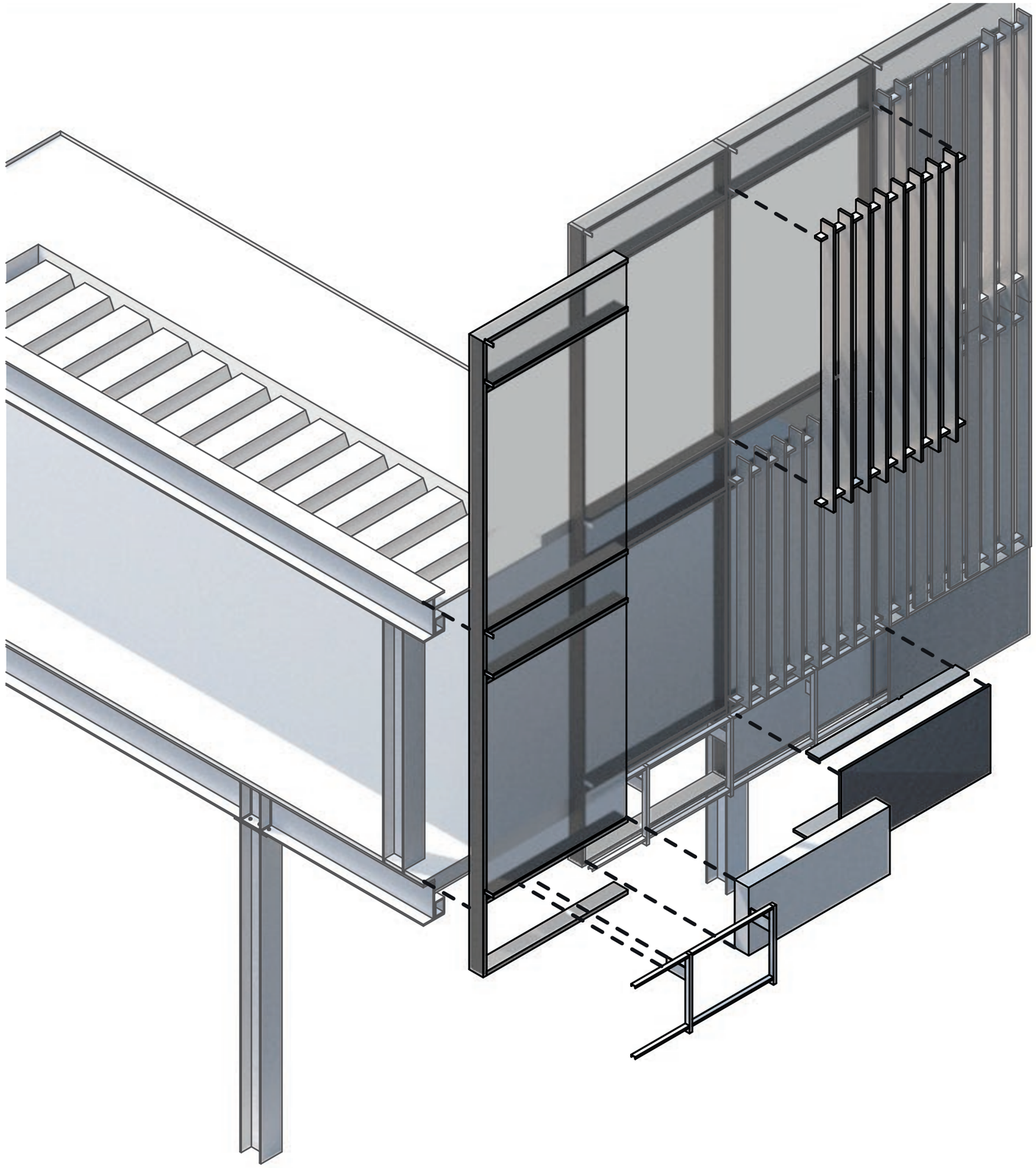
East facade - Park

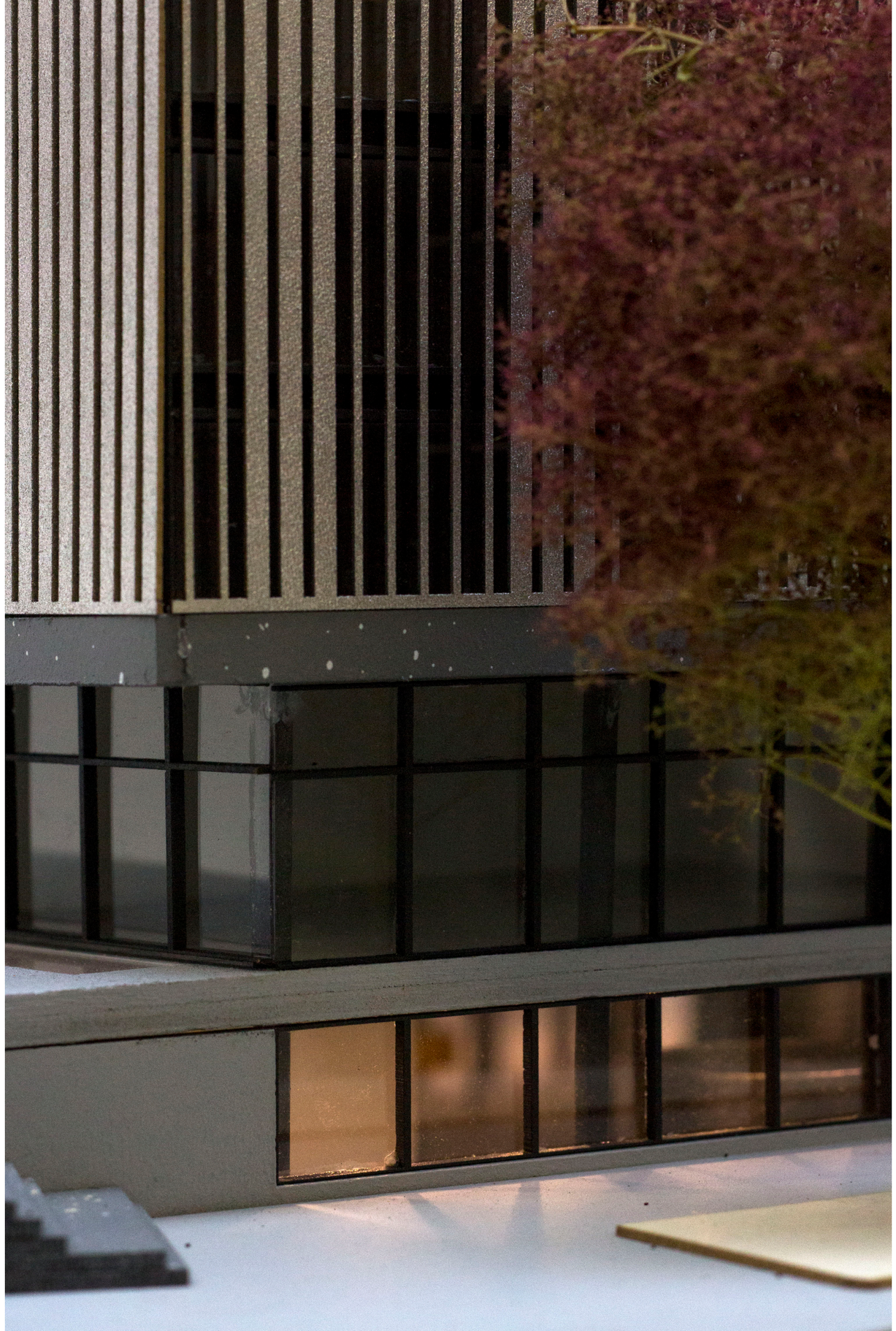


West facade - City



Materialisation





AMBITIONS

involve community

clean, reliable and affordable energy

provide education on energy

act as example for future ideas and development