REIMAGINE

Sustainable Alpine Architecture & Tourism:
Reimagining through Circular Strategies

P2 PRESENTATION
RESEARCH & DESIGN
Catherijne Schot
11-06-2024

CONTENT

FASCINATION

PROBLEM STATEMENT

RESEARCH
- OBJECTIVE
- QUESTIONS
- METHODOLOGY
- RESULTS

DESIGN
- INPUT & RULES
- CONTEXT
- CONCEPT

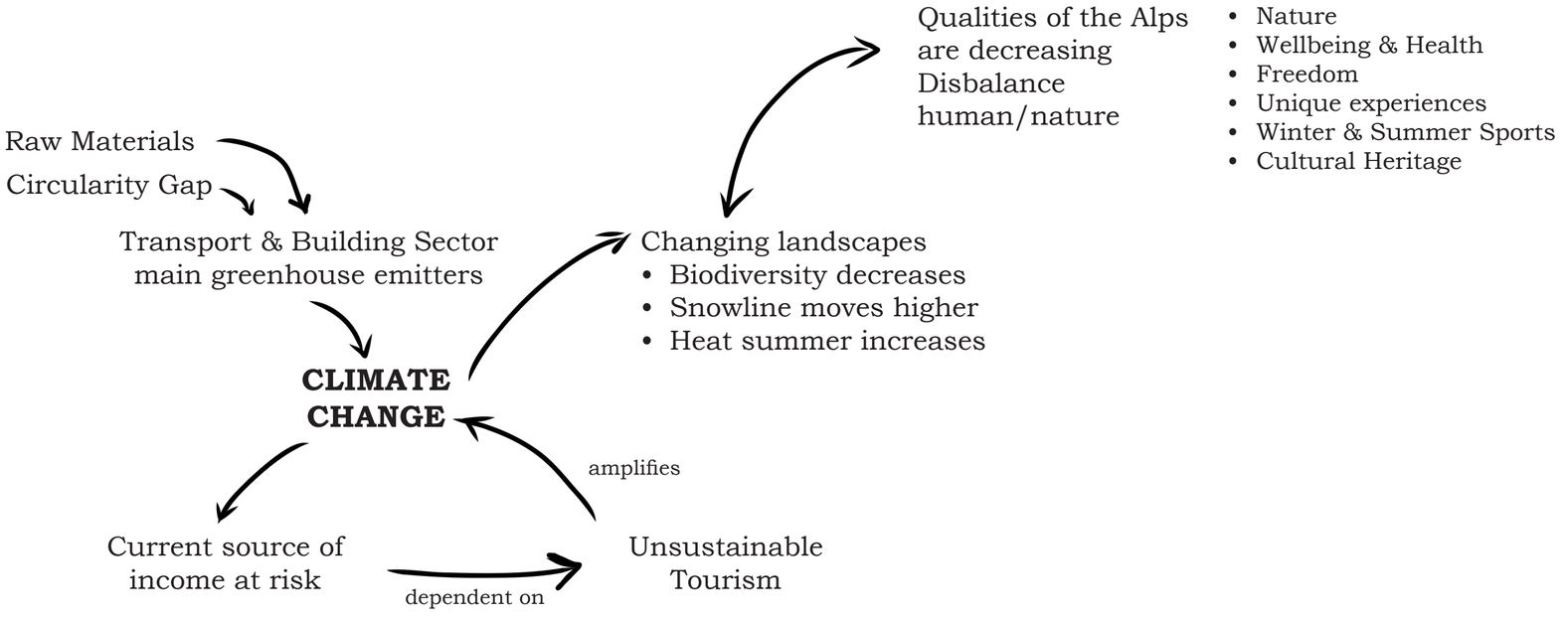
AFTER P2


FASCINATION

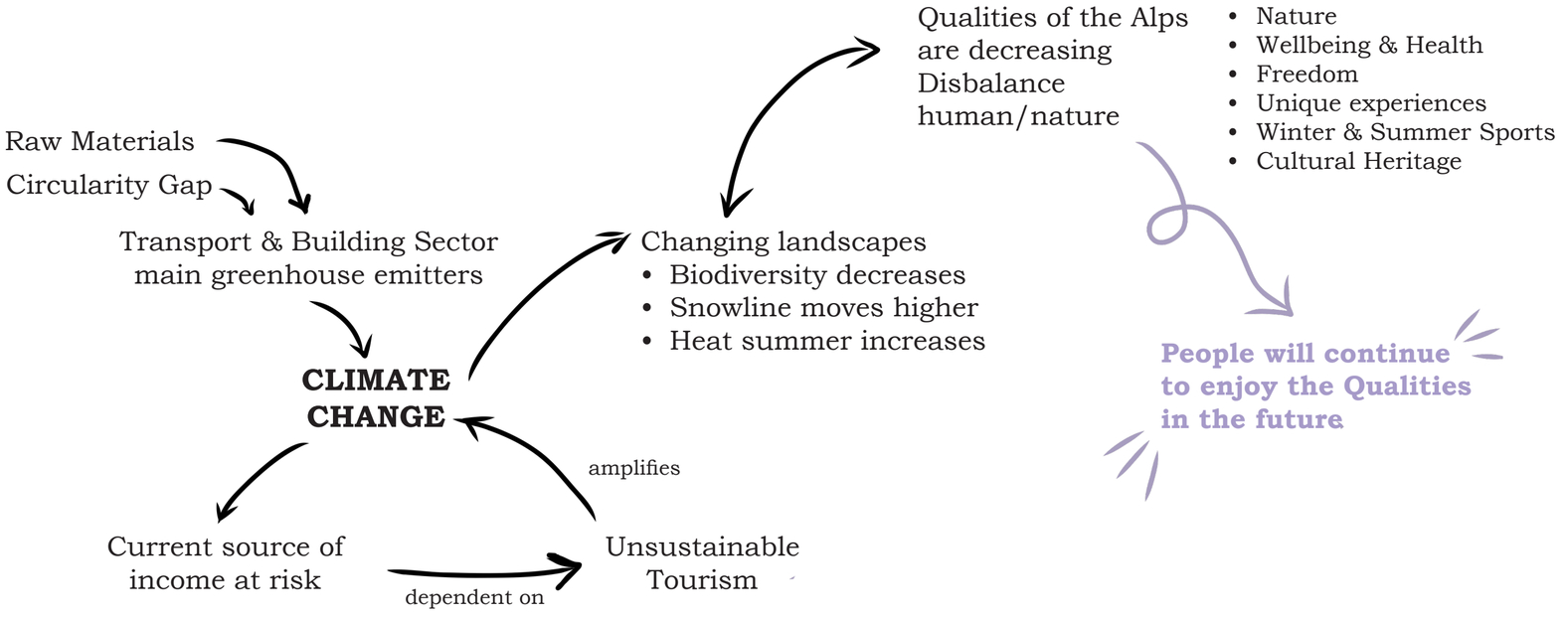
PRIORITIES OF THE ALPINE CONVENTION

"Goal: The Alps shall be a model region for a sustainable future worth living in for humans and all other species in 2030 and beyond." (The Alpine Convention, 2022)

CHALLENGES IN ALPINE REGIONS: CLIMATE



CHALLENGES IN ALPINE REGIONS



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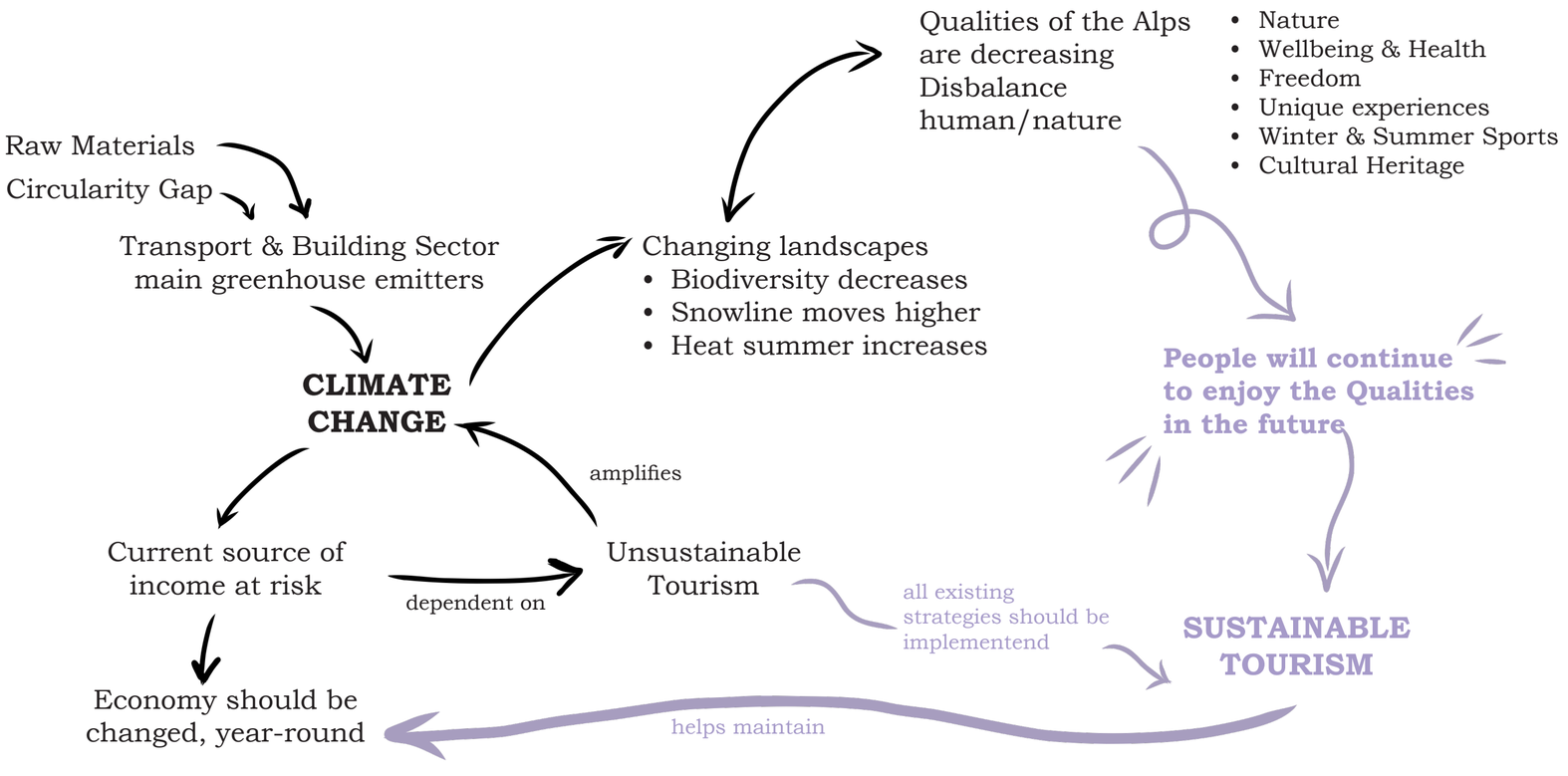

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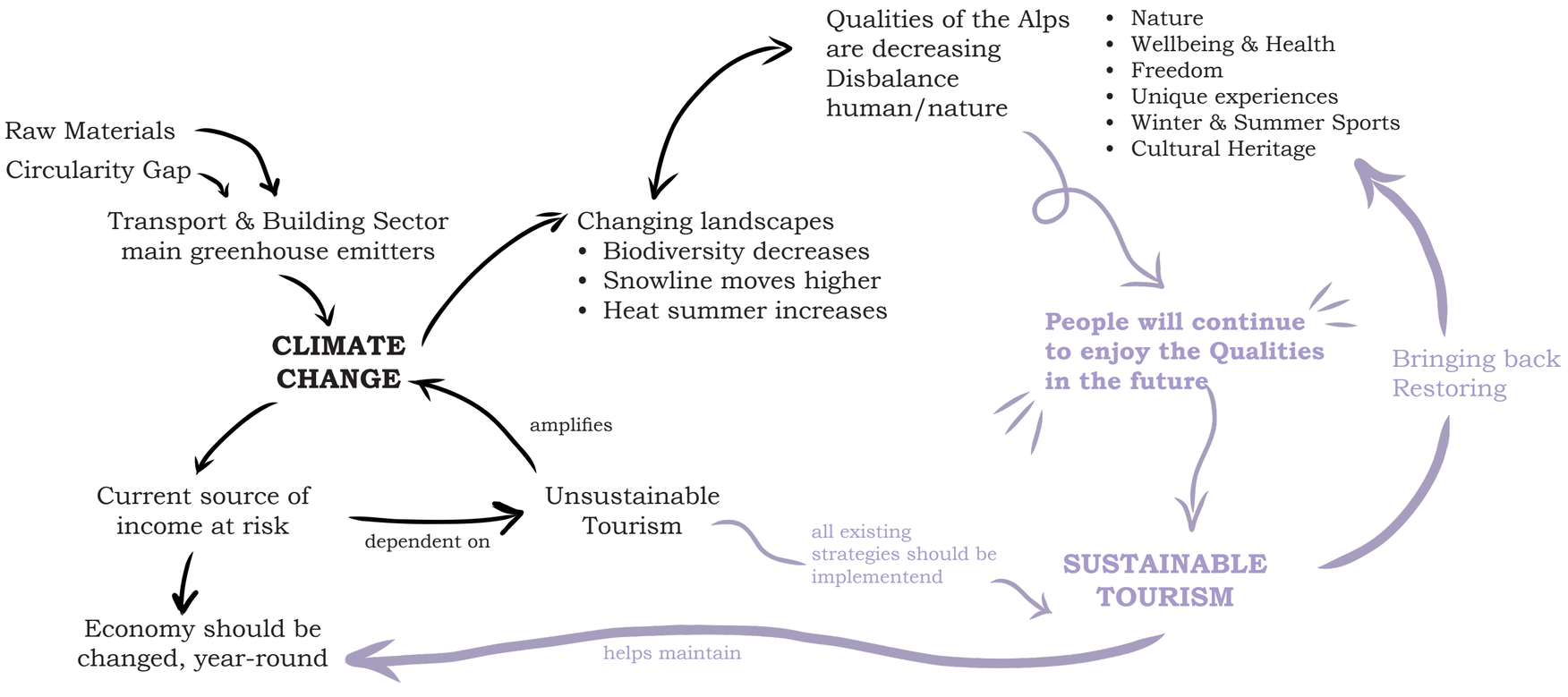
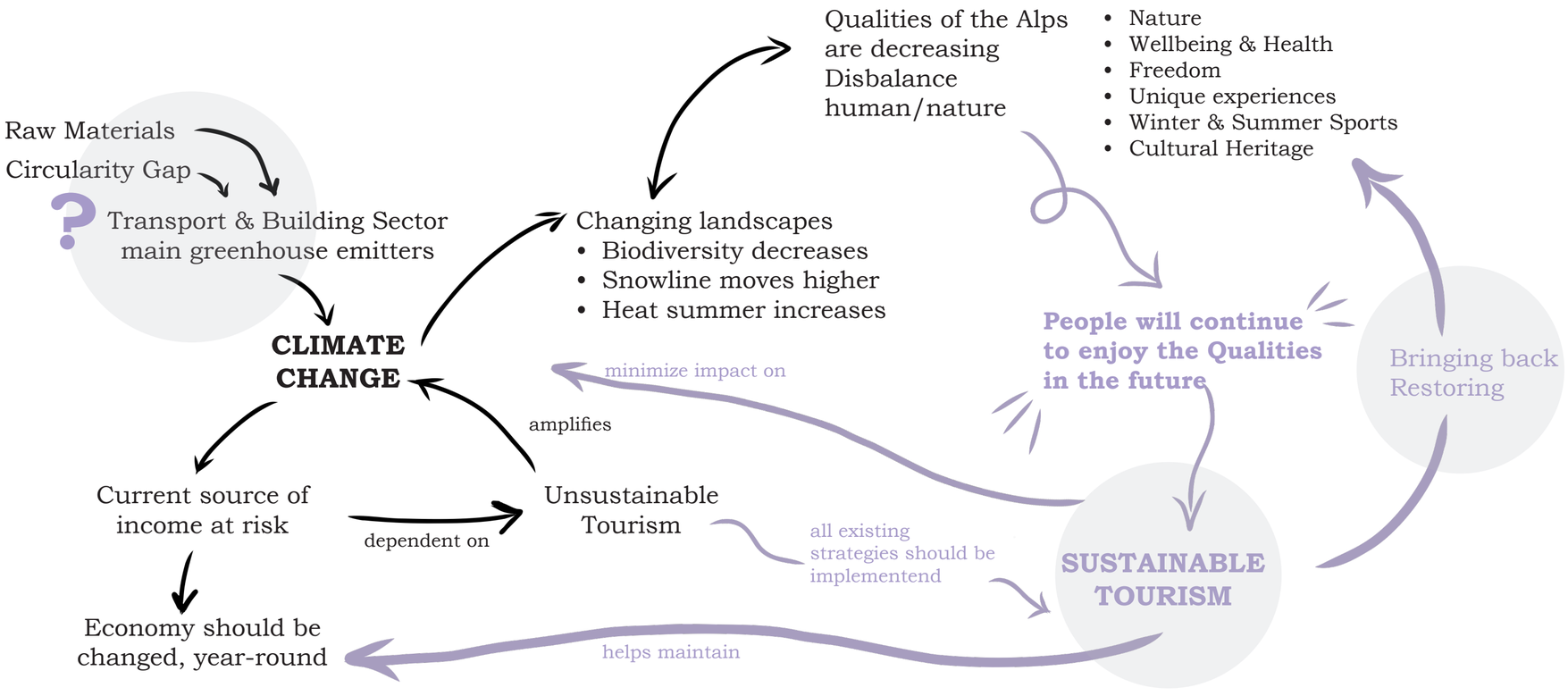


CHALLENGES IN ALPINE REGIONS



THEN…

Laboratory of Modernism

Sledge lift del Lago Nero by Carlo Mollino 1946-47

Les Arcs, Charlotte Perriand, 1960

THEN…

Laboratory of Modernism

Building in Alpine Regions felt
like an Accomplishment

THEN…

Laboratory of Modernism

Building in Alpine Regions felt like an Accomplishment

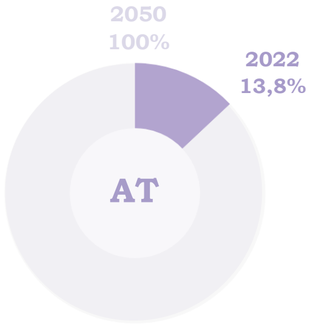
NOW!

Laboratory for Circular Building Methods

Contributing to closing the material loops is the Accomplishment

THEMATIC RESEARCH **OBJECTIVE**

Develop/find effective design solutions and/or strategies *to help bridge the Circularity Gap of Austria while aligning with sustainability goals for tourism in the Austrian Alps.*



Circularity Gap Austria
Ambitious

Current source of income at risk due to climate change

Changing landscapes
- Biodiversity decreases
- Snowline moves higher
- Heat summer increases

Room for improvement
Fulfilling ambitions

Economy should be changed, sustainable tourism

Qualities of the Alps should be brought back, restore disbalance

THEMATIC RESEARCH **QUESTION**

How can circular solutions be integrated into the design process of reimagining Architecture in the Austrian Alps to enhance ***the Sustainability of Tourism*** *and contribute to* ***closing the Circularity Gap in Austria?***

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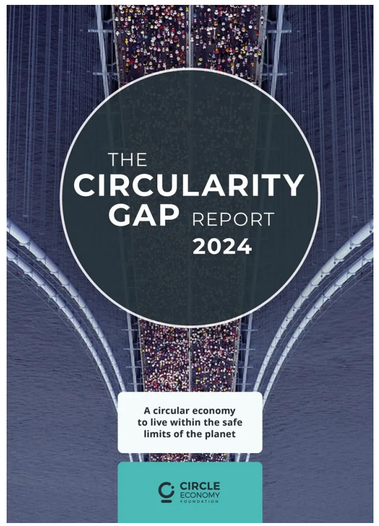
Which (combination of) circular solutions contribute to **closing the Circularity Gap in Austria?**

How (and in what forms) can **circular solutions be integrated (optimally)** within the design (process)?

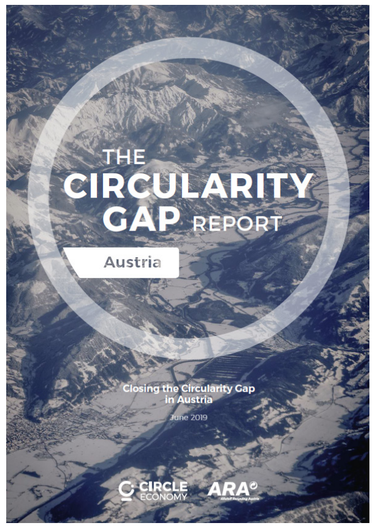
Which (material) flows should be prioritized to enhance **the Sustainability of Alpine Tourism?**

Which (combination of) circular solutions contribute to
closing the Circularity Gap in Austria?

LITERATURE

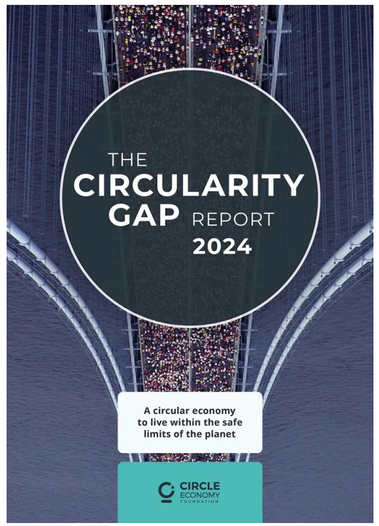


GCGR (2024)



ACGR (2019)

LITERATURE



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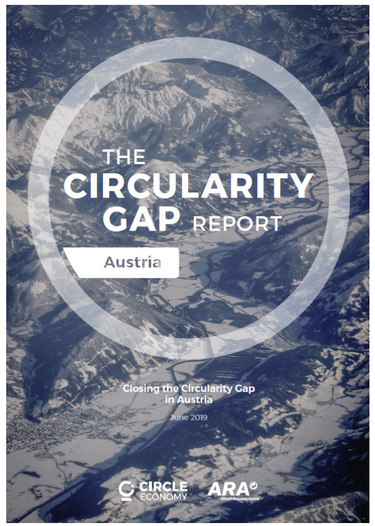

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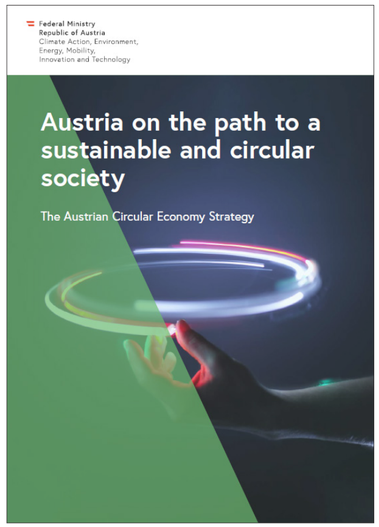
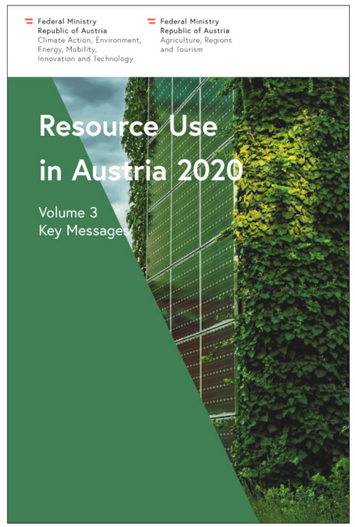


ACES (2022)

RMM (2021)

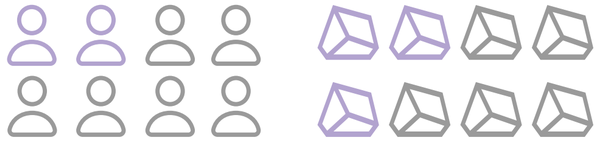


RU (2020)

The Global Circularity Gap Report (GCGR)

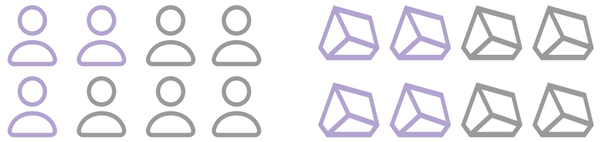
SHIFT COUNTRY

High-income countries in the Global North, the Gulf, Australia.



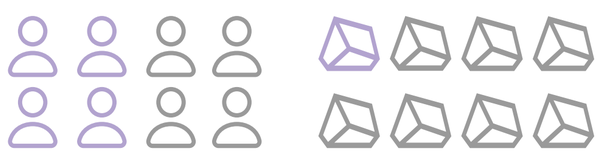
GROW COUNTRY

Southeast Asia, Latin America, Northern Africa, Eastern Europe, the Caucasus and Central Asia.



BUILD COUNTRY

Sub-Saharan Africa and South Asia



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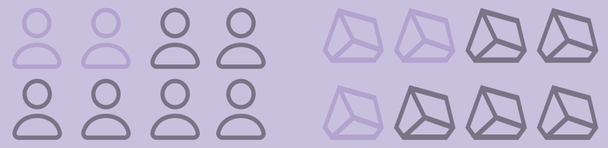
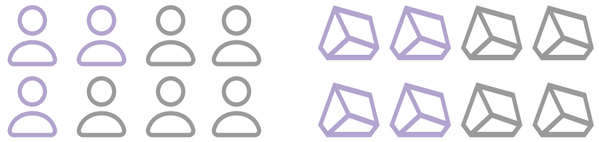


RM largely imported, offshoring environmental impacts

17% of the world's population
More than one-fourth of Global Raw Materials

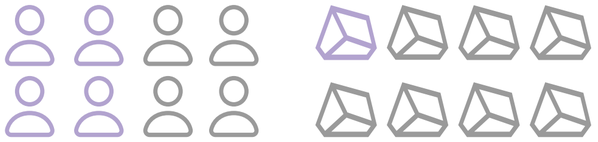
GROW COUNTRY

Southeast Asia, Latin America, Northern Africa, Eastern Europe, the Caucasus and Central Asia.



BUILD COUNTRY

Sub-Saharan Africa and South Asia



AUSTRIA AS SHIFT COUNTRY

“RADICALLY REDUCE MATERIAL CONSUMPTION AND UPHOLD WELLBEING”

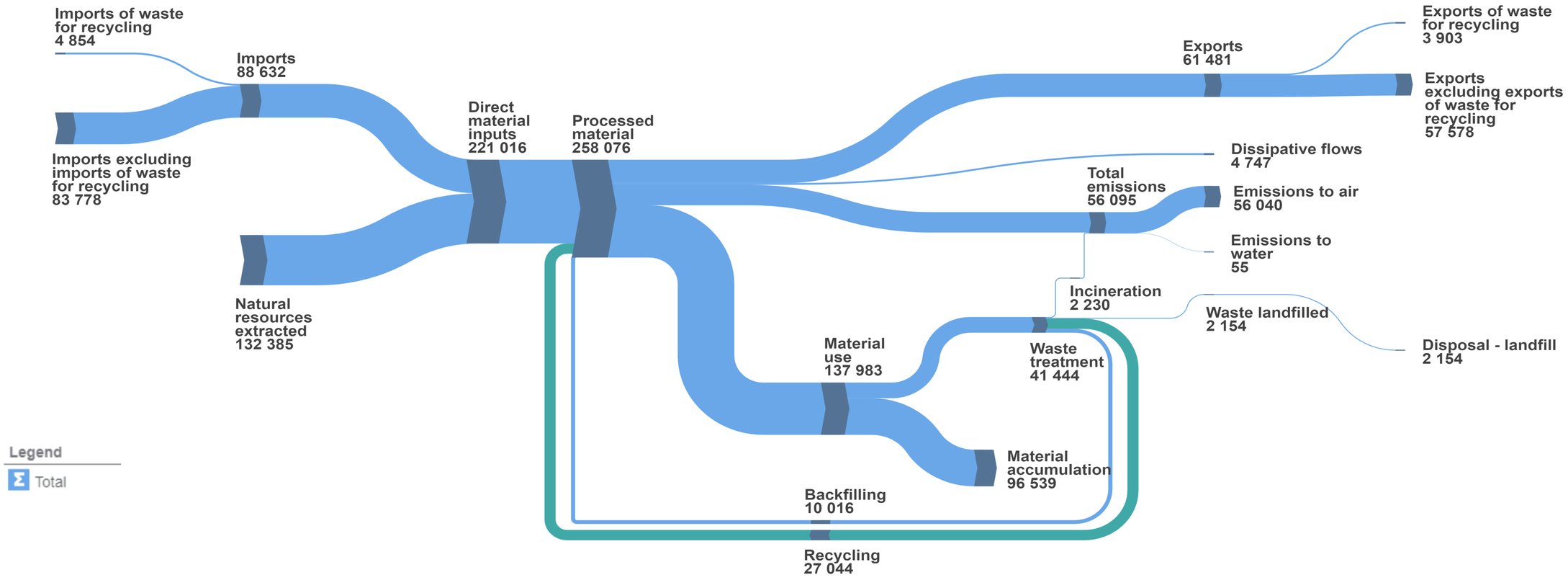
- **Extend the lifetime of machinery, equipment and goods**
- **Rethink consumption pattern**
- **Decrease import of raw materials (out of grow countries), lessen impact on planetary boundries**
- **Make the most of what already exists and prioritise circular materials and approaches**
- **Applying circular solutions to the already built-up environment is key to reduce**

STATUS MATERIAL FLOW AUSTRIA

Material flow diagrams

Austria - year 2022

Thousand tonnes



Source: Eurostat (env_ac_mfa; env_ac_sd; env_wassd)

eurostat

STATUS MATERIAL FLOW AUSTRIA

Material flow diagrams

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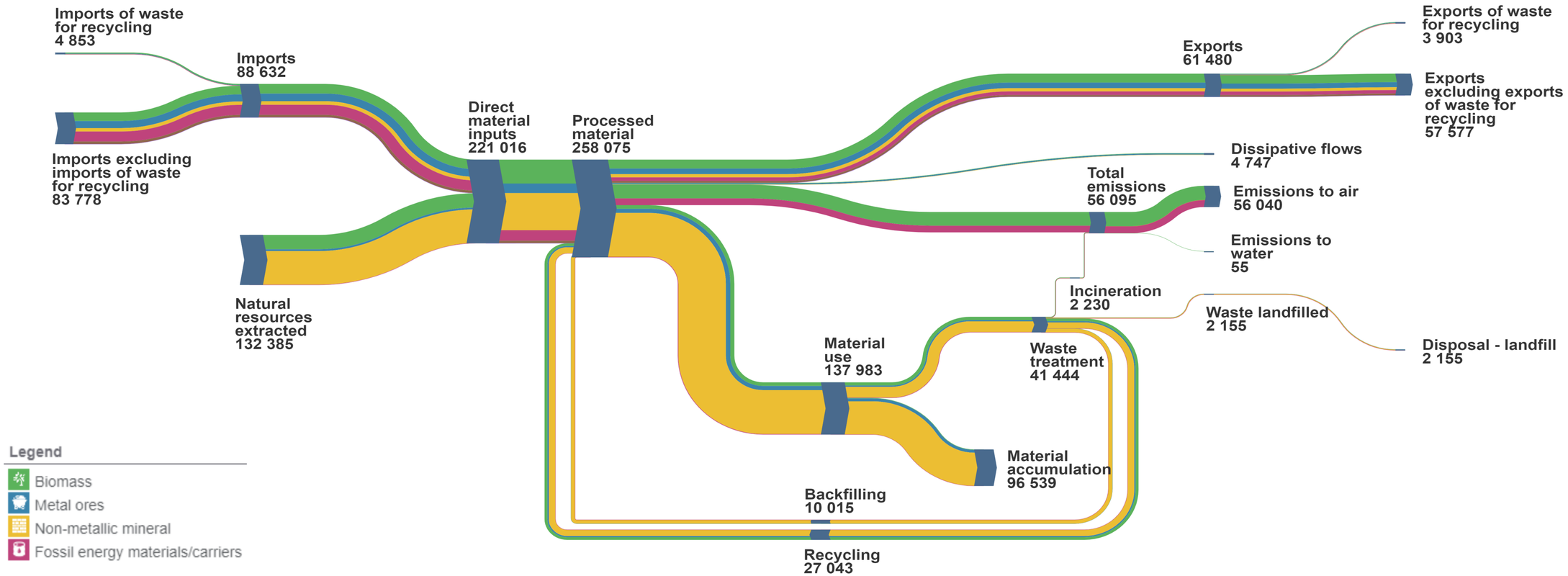
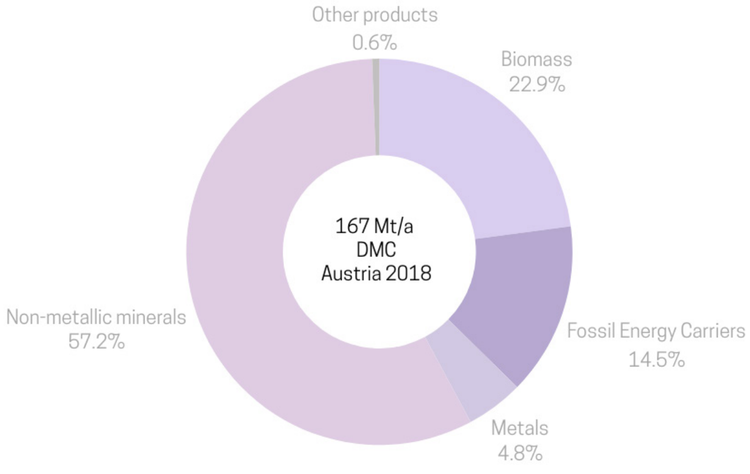


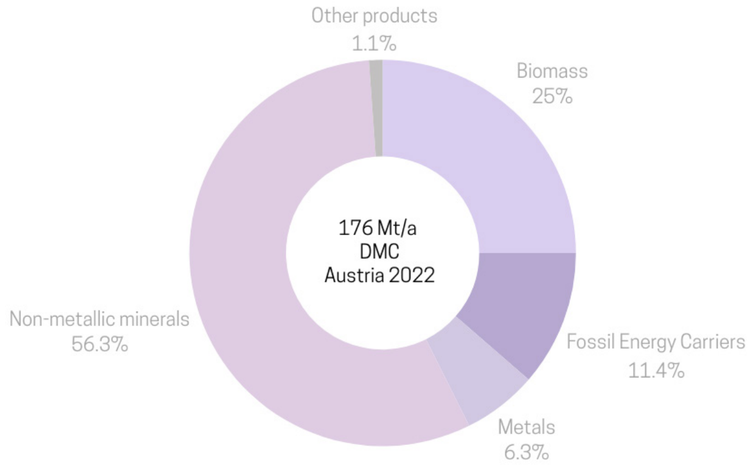
Source: Eurostat (env_ac_mfa; env_ac_sd; env_wassd)

eurostat

MATERIAL USE IN NUMBERS



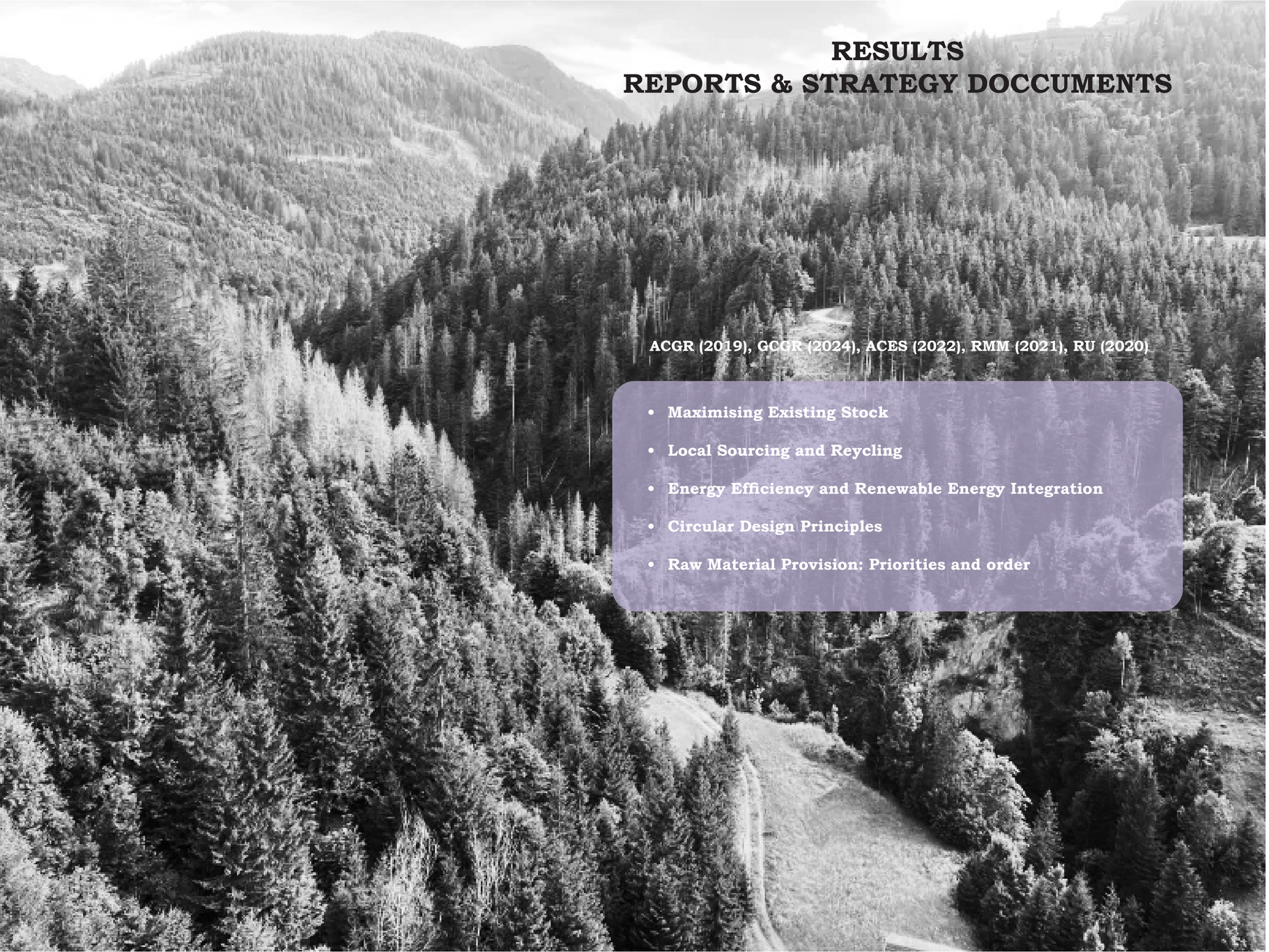
BEFORE PUBLICATIONS



AFTER PUBLICATIONS

Increase in total Domestic Material Consumption
Increase of 4 Mt/a of non-metallic minerals

Decrease of 4 Mt/a in the use of fossil energy carriers



RESULTS
REPORTS & STRATEGY DOCCUMENTS

ACGR (2019), GCGR (2024), ACES (2022), RMM (2021), RU (2020)

- **Maximising Existing Stock**
- **Local Sourcing and Reycling**
- **Energy Efficiency and Renewable Energy Integration**
- **Circular Design Principles**
- **Raw Material Provision: Priorities and order**

CIRCULAR STRATEGIES

Context Austria

Assessment of Sustainable Use of Material Resources in the Architecture, Engineering and Construction Industry – a Conceptual Framework Proposal for Austria

***Stefan Schützenhofer*[*1], *Iva Kovacic*[1], *Helmut Rechberger*[2]**
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[2]Institute for Water Quality and Resource Management, Vienna University of Technology, Karlsplatz 13, 1040 Wien, Austria

Cite as: Schützenhofer, S., Kovacic, I., Rechberger, H., Assessment of sustainable use of material resources in the Architecture, Engineering and Construction industry - a conceptual Framework proposal for Austria, J.sustain. dev. energy water environ. syst., 10(4), 1090417, 2022, DOI: https://doi.org/10.13044/j.sdewes.d10.0417

ABSTRACT

Circular economy in Architecture, Engineering, and Construction requires consideration in the design, deconstruction-planning, and waste management. This paper aims to develop a Framework to evaluate the material sustainability of buildings by comparing the proportionality of costs to environmental impacts of construction waste flows. Therefore, an extensive literature review was conducted to find parameters needed, such as building certification, life cycle assessment, or material passports. Next, a distillation process was conducted to reduce the large number of parameters found to be manageable. Following the applicable legislation, procedures to be carried out at different stages, from dismantling to recycling or treatment, were defined. Practical applications were derived, such as support for deconstruction management, resource management, and conclusions for planning. The final parameters were assigned to these processes. Due to a lack of data, data collection and public data provision are essential for applicability.

KEYWORDS

Circular economy, Sustainability evaluation, Waste management, Construction waste, Building demolition, Built environment.

Proposal for Austria, Schützenhofer et al. (2022)

- **Prioritising Material Reuse and Recycling**
- **Implementing Resource Efficiency Measures**
- **Incorporating Life Cycle Perspective**
- **Promoting Data-Driven Decision Making**
- **Regional Customisation of CE Practices**

CIRCULAR STRATEGIES

Context South Tyrol, Italy

Supporting a regional strategy for circular economy in South Tyrol, Italy

M. Rizzari[1], E. Agosti [1], G. Grazieschi[2], C. Hoffmann[1], J. Bastos[2]

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[2]Institute for Renewable Energy, Eurac Research, Bolzano, South Tyrol, 39100, Italy
Authors' emails: matteo.rizzari@eurac.edu; elisa.agosti@eurac.edu; gianluca.grazieschi@eurac.edu; christian.hoffmann@eurac.edu; joana.bastos@eurac.edu

Abstract
The project *Strategy for Circular Economy in the Autonomous Province of Bolzano* aimed at promoting and supporting the transition to a more circular economy (CE) in the region of South Tyrol, Italy. The project focused on the potential synergies between the bioeconomy and the built environment; in particular, it addressed potential opportunities for improving the prevention and management of waste, through the recovery and use of by-products and waste from bioeconomy sectors (namely forestry and agriculture) in construction materials. An integrated approach merging quantitative and qualitative analyses was applied: specifically, the paper addresses the combination of quantitative tools, including geographic information systems (GIS), material flows analysis (MFA) and life-cycle analysis (LCA), with a stakeholder engagement process grounded in semi-structured interviews (SSIs). The integrated approach resulting was oriented to support the public administration in the design and implementation of strategies to enable the transition to a CE in South Tyrol. The findings emerged in terms of (i) harmonizing local legislation and provincial strategies for circularity with market needs of the organizations, (ii) adopting new and improved product design, and (iii) strengthening the inter-sectoral cooperation as far as knowledge sharing, data on material flows and dissemination of good practices are concerned. By combining different tools in an integrated approach, the research contributed with concrete results to supporting the public administration, while also increasing the awareness and the promotion of CE opportunities to key stakeholders - which is crucial to successfully develop and implement effective policies and strategies in the region.

Keywords
Circular economy, regional development, stakeholder engagement, insulation materials, LCA, GIS.

Strategy for South Tyrol, Italy, Rizzari et al. (2023)

- **Waste prevention**
- **Synergie between bioeconomy and built environment**
- **Promote Recovery and use of by-products and waste from forestry and agriculture**
- **Biomass by-products: Wood fiber, branches**
- **Reusing CDW**

RESULTS LITERATURE

ACGR (2019), GCGR (2024), ACES (2022), RMM (2021), RU (2020)

- **Maximising Existing Stock**
- **Local Sourcing and Reycling**
- **Energy Efficiency and Renewable Energy Integration**
- **Circular Design Principles**
- **Raw Material Provision: Priorities and order**

Strategy for Austria, Schützenhofer et al. (2022)

- **Prioritising Material Reuse and Recycling**
- **Implementing Resource Efficiency Measures**
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- **Regional Customisation of CE Practices**

Which (combination of) circular solutions contribute to **closing the Circularity Gap in Austria?**

Strategy for South Tyrol, Italy, Rizzari et al. (2023)

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- **Biomass by-products: Wood fiber, branches**
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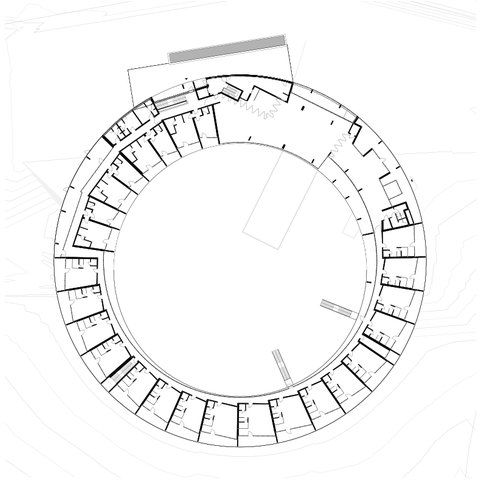
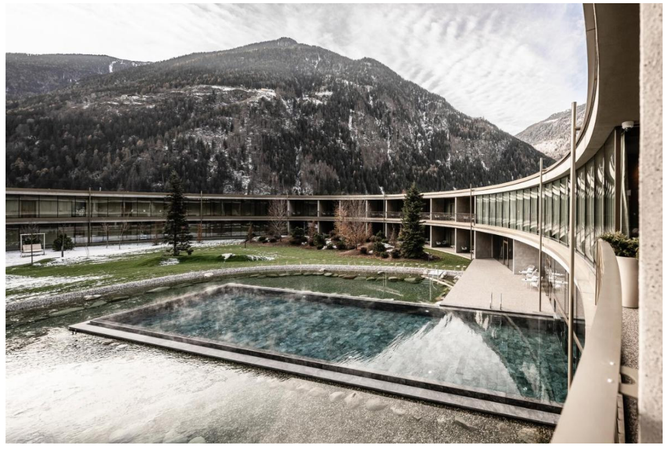
How (and in what forms) can **circular solutions be integrated (optimally)** within the design (process)?

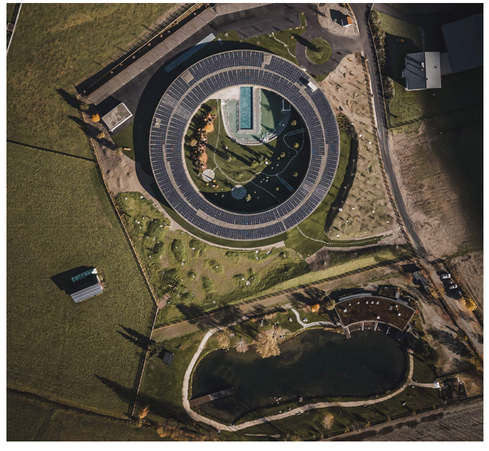
CASE STUDIES

OLM Nature Escape – Andreas Gruber Architekten

Location	Sand in Taufers, South Tyrol, Italy
Year	2019-2023
Maximising Existing Stock	No, newly built
Material Resources	Biological, Technical materials
Local Sourcing – distance to site	Larch wood (2nd most common tree in South Tyrol)
Energy Efficiency and Renewable Energy Integration	Self-sufficient: 126 geothermal probes (125 m deep, 15000 m^2), solar energy systems (800 kW PV)
Circular Design Principles – Design Approaches	Design for Longevity
LCA: Skin, Structure, Services, Space plan, Stuff	Skin: natural mineral surfaces in the form of natural plasters and stone surfaces Structure: static structures (solid wood) are relocated inwards (the circle). Services: Slots and ceiling openings for building services, fire prevention. Water management through water-efficient fittings, greywater recycling and rainwater harvesting systems. Space plan: efficient utilisation of space & planning of the building.
Label/Certification	CasaClima Nature

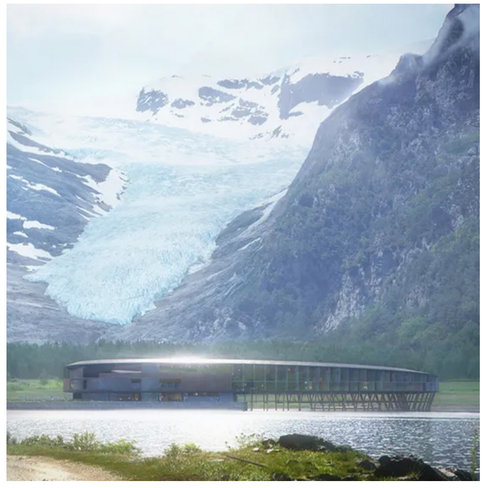


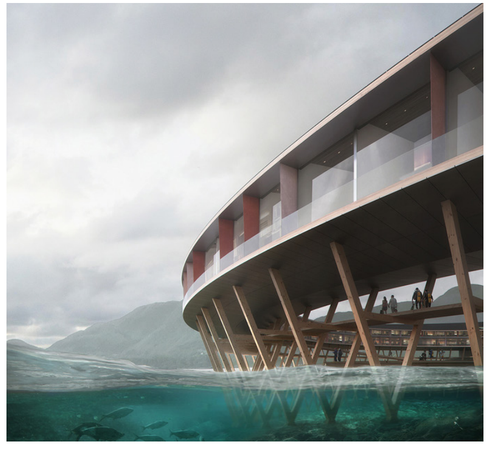




Svart – Snøhetta (Concept)

Location	Svartisen Glacier, Norway
Year	2017-2019
Maximising Existing Stock	No, newly built, still concept
Material Resources	Biological, Technical materials
Local Sourcing – distance to site	unknown
Energy Efficiency and Renewable Energy Integration	Self-sufficient. Aim to reduce 85% of energy consumption. Norwegian solar panels produced with clean hydro energy. (Solar mapping determined form of design)
Circular Design Principles – Design Approaches	Design for Longevity, Regenerative Design
LCA: Skin, Structure, Services, Space plan, Stuff	Skin: predominantly Glass Facades Structure: Wood (minimal footprint), Concrete? Services: no details Space plan: multifunctional design elements (e.g. boardwalk & structure) efficient utilisation of space & planning of the building.
Label/Certification	-



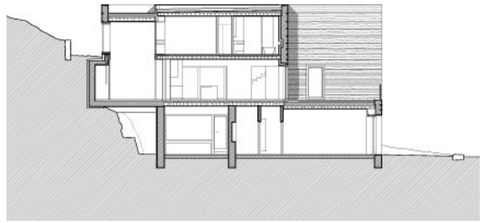


Hotel Ryttergården – 3XN, GXN

Location	Bornholm, Denmark
Year	2021
Maximising Existing Stock	No, newly built
Material Resources	Biological materials
Local Sourcing – distance to site	CLT prefabricated, tiles of upcycled glass from local sources
Energy Efficiency and Renewable Energy Integration	Rooftop Solar Cells
Circular Design Principles – Design Approaches	Design for Longevity, Design for Standardisation, showcase for material innovation
LCA: Skin, Structure, Services, Space plan, Stuff	Skin: Timber Cladding Structure: CLT Services: Natural ventilation, Solar cells, water recycling Space plan: Standardisation of units, efficient utilisation of space & planning of the building.
Label/Certification	-

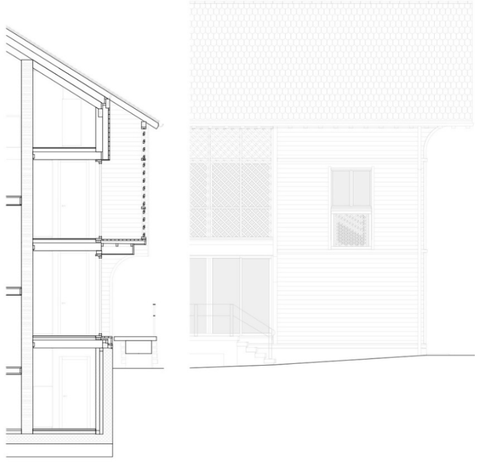
Haus Rauch – Lehm Ton Erde Baukunst

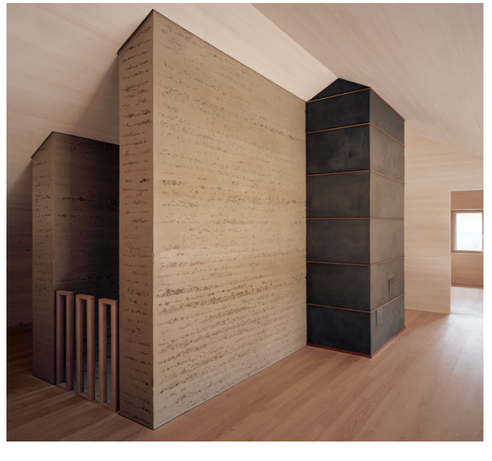
Location	Schlins, Austria
Year	2005-2008
Maximising Existing Stock	No, newly built
Material Resources	Biological
Local Sourcing – distance to site	Own excavation pit, 0 km
Energy Efficiency and Renewable Energy Integration	Thermal mass, acts as heat buffer
Circular Design Principles – Design Approaches	Design for Longevity, Regenerative Design
LCA: Skin, Structure, Services, Space plan, Stuff	Skin & Structure: Solid rammed earth Space plan: Efficient, Rectangular
Label/Certification	-



House K - Seiler Linhart

Location	**Alpnach, Switzerland**
Year	2018
Maximising Existing Stock	No, newly built
Material Resources	Biological
Local Sourcing – distance to site	Earth, own excavation pit, local spruce/silver firs
Energy Efficiency and Renewable Energy Integration	Thermal mass, heat distribution, wood-burning stove
Circular Design Principles – Design Approaches	Design for Longevity, Regenerative Design, Disassembly
LCA: Skin, Structure, Services, Space plan, Stuff	Skin: Untreated solid wood elements Structure: Solid wood, Rammed earth, concrete pedestal (reinforced with bamboo) Services: Stove Space plan: Efficient, Rectangular, Open around core
Label/Certification	-





CONCLUSIONS CASESTUDIES

Practical examples of implementation

Category	Circular Solution	Design Input	Potential
Material Sourcing and Use	Local and Natural Materials	Use wood, earth, natural plasters, and stone.	Promotes sustainability and reduces environmental impact.
	Elimination of Chemical Additives	Avoid adhesives, composites, and chemical materials.	Reduces pollution, ensures healthier living environments.
	Rammed Earth	Use for its thermal mass properties, regulating indoor temperatures and humidity.	Provides natural temperature and humidity regulation, reducing energy consumption.
Energy Efficiency and Renewable Integration	Self-Sufficiency	Implement geothermal, solar, and other renewable energy systems.	Achieves energy self-sufficiency and reduces reliance on fossil fuels.
	Design for Energy Optimisation	Use design strategies that maximise energy efficiency and minimise consumption.	Lowers energy consumption and operating costs.
Circular Design Approach	Design for Longevity	Ensure durability and long-term performance of buildings.	Extends building lifecycle and reduces need for frequent replacements.
	Efficient Use of Resources	Optimise space and material use to minimise waste.	Enhances resource efficiency and lowers costs.
	Repurposing Waste	Reuse material offcuts and other waste in construction or furniture.	Reduces waste and promotes a circular economy.
Water Management	Innovative Water Systems	Integrate water-efficient fittings, greywater recycling, and rainwater harvesting.	Enhances water conservation and reduces utility costs.
Efficient Space Plans	Maximising Space Efficiency	Plan spaces to optimise functionality and minimise material use.	Ensures efficient use of space and materials, reducing waste.
	Multifunctional Design Elements	Incorporate elements that serve multiple purposes to enhance efficiency.	Increases functionality and reduces the need for additional materials.

SOLUTION - INPUT - POTENTIAL

Circular Solutions	Design Input	Potential
Maximising Existing Stock	Prioritise adaptive reuse, renovation, and retrofitting of existing buildings to preserve resources and cultural heritage.	Reduces demand for new materials, decreases waste, and maintains historical and cultural continuity.
Local Sourcing and Recycling	Use locally sourced, renewable, recycled, or reclaimed materials in construction.	Promotes resource efficiency, reduces transportation emissions and offshore environmental impacts
Energy Efficiency and Renewable Energy Integration	Incorporate energy-efficient features and renewable energy sources into building designs.	Reduces energy consumption, minimises reliance on fossil fuels, and contributes to a positive energy balance.
Circular Design Approaches	From the initial design stages apply modularity, material transparency, and lifecycle thinking.	Ensures efficient resource use throughout the building's lifecycle, facilitating future reuse and recycling.
Prioritising Material Reuse and Recycling	Emphasise the reuse of materials and recycling of construction and demolition waste (CDW).	Substitutes primary resources, reducing environmental impact.
Implementing Resource Efficiency Measures	Adopt practices that minimise waste generation and optimise material use.	Enhances sustainability by reducing resource consumption and environmental impacts.
Incorporating Life Cycle Perspective	Consider the entire lifespan of buildings, using Life Cycle Assessment (LCA) indicators to evaluate environmental impacts.	Provides a holistic understanding of a building's sustainability, informing better design and material choices.
Promoting Data-Driven Decision Making	Develop digital environments for data collection and analysis, implement Material Passports (MPs) and Building Certification systems.	Enhances transparency and informed decision-making in resource management.
Regional Customisation of CE Practices	Tailor CE strategies to regional specifics, considering local construction practices and waste management systems: bioeconomy (forestry, agriculture) and by-products.	Addresses unique regional needs, improving the effectiveness of CE strategies.

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CONCLUSION

MATERIAL STRATEGY

Raw Material Provision: Priorities and Order

1. **Sustainable Secondary Sources**
2. **Sustainable Renewable Sources**
3. **Only the rest from Non-renewable Sources**

CONCLUSION

MATERIAL STRATEGY

Raw Material Provision: Priorities and Order

1. **Sustainable Secondary Sources**
2. **Sustainable Renewable Sources**
3. **Only the rest from Non-renewable Sources**

Architecture in Austrian Alps

Reuse Strategies are important, but lacking?

Possibilities to Contribute in Design Project

Are there materials to reclaim?

CONCLUSION

MATERIAL STRATEGY

Raw Material Provision: Priorities and Order	Architecture in Austrian Alps	Possibilities to Contribute in Design Project
1. **Sustainable Secondary Sources**	Reuse Strategies are important, but lacking?	Are there materials to reclaim?
2. **Sustainable Renewable Sources**	Traditional Building Methods using wood	(Certified) Timber, rapidly renewable materials, Biobased
3. **Only the rest from Non-renewable Sources**		

CONCLUSION

MATERIAL STRATEGY

Raw Material Provision: Priorities and Order	Architecture in Austrian Alps	Possibilities to Contribute in Design Project
1. **Sustainable Secondary Sources**	Reuse Strategies are important, but lacking?	Are there materials to reclaim?
2. **Sustainable Renewable Sources**	Traditional Building Methods using wood	(Certified) Timber, rapidly renewable materials, Biobased
3. **Only the rest from Non-renewable Sources**	Traditional Building Methods using stone, concrete	Sourcing with high ecological standards, find alternative solutions for insulation material

Which (material) flows should be prioritised to enhance **the Sustainability of Alpine Tourism?**

TOURISM FLOWS

Monitoring Sustainability of Alpine Destinations
Environmental Issues:

- Transport and soft mobility
- Management of energy and resources
- Snowmaking and the management of large facilities
- Protection of natural heritage and remarkable and ordinary biodiversity
- Action against the artificialisation and degradation of natural ecosystems
- Impact of climate change (mitigation and adaptation)
- Waste management

Economic Issues

- Enhancing local production
- Spatial development and land planning
- Seasonality

A lot is changing, due to climate change, one thing will remain: **In the Alpine regions people will continue to enjoy tourism and winter sports in the future, striving for health, freedom and unique experiences.** This will only be possible in the future in harmony with society and the environment. Therefore, tourism must be developed with **low sustainability risks.**

CONCLUSIONS

Choices in Programm & Use

PROGRAMM & USE

Program of Requirement ***circular building project*** *in the Austrian Alps contributing to* ***sustainable tourism***

Program of Requirements

Total Area: ~2500 square meters

1. Systems & Sustainability
- Modularity - expanding or downsizing?
- Design for standardisation
- Energy-efficient systems (heating, cooling, lighting)
- Greenhouse - Foodproduction (?)
- Waste management and recycling facilities
- Water management

2. Hotel Components

2.1. Entrance and Lobby Area – 150 sqm
- Reception desk
- Seating area
- Luggage storage
- Information kiosk
- Restrooms

2.2. Guest Rooms ~ 600 sqm

Total Rooms: 25-35 rooms
- Standard Rooms: 20-25 rooms (20-25 sqm each)
- Double Rooms: 5-10 rooms (30-35 sqm each)

2.3. Common Areas
- Lounge area (with fireplace?)
- Small conference/meeting room (outside space?) 30-40 sqm)

2.4. Bathhouse & Wellness ~ 250 sqm
- Douches, baths
- Small fitness center
- Sauna and spa area

2.5. Back of the House
- Laundry room
- Housekeeping storage
- Maintenance room
- Staff break room
- Staff changing rooms

3. Restaurant Components ~ 550 sqm

3.1. Dining Area
- Main dining room (150-200 sqm, 50-80 seats)
- Outdoor terrace (50-75 sqm)
- Breakfast area (part of restaurant)

3.2. Bar Area
- Bar counter (20-30 sqm)
- Seating area (20-30 seats)

3.3. Kitchen and Support Areas
- Main kitchen (100-150 sqm)
- Prep kitchen (50-75 sqm)
- Cold storage (20-30 sqm)
- Dry storage (20-30 sqm)
- Dishwashing area (20-30 sqm)
- Staff restrooms and changing rooms

4. Recreational Areas
- Children's play area
- Ski & Bicycle storage
- Changing Rooms

DESIGN QUESTIONS

*How to design a **circular building project** in the Austrian Alps that not only contributes to **sustainable tourism,** but also to **closing the Circularity Gap in Austria**?*

How can the design serve as a **manifestation of circular innovation?**

How can the design **restore the qualities of the mountains**, emphasize them and let people (inhabitants & tourists) **continue to enjoy** them?


Hintersteiner See
Scheffau am Wilden Kaiser
Weißache
Golfclub Wilder Kaiser
Kufstein
Kitzbühel
Ellmau
Going am Wilden Kaiser
Sperten
Kitzbüheler Ache
Söll
Oberndorf in Tirol
Kufstein
Kitzbühel
Kufstein
Kitzbühel
Reith bei Kitzbühel
Münichau

VN

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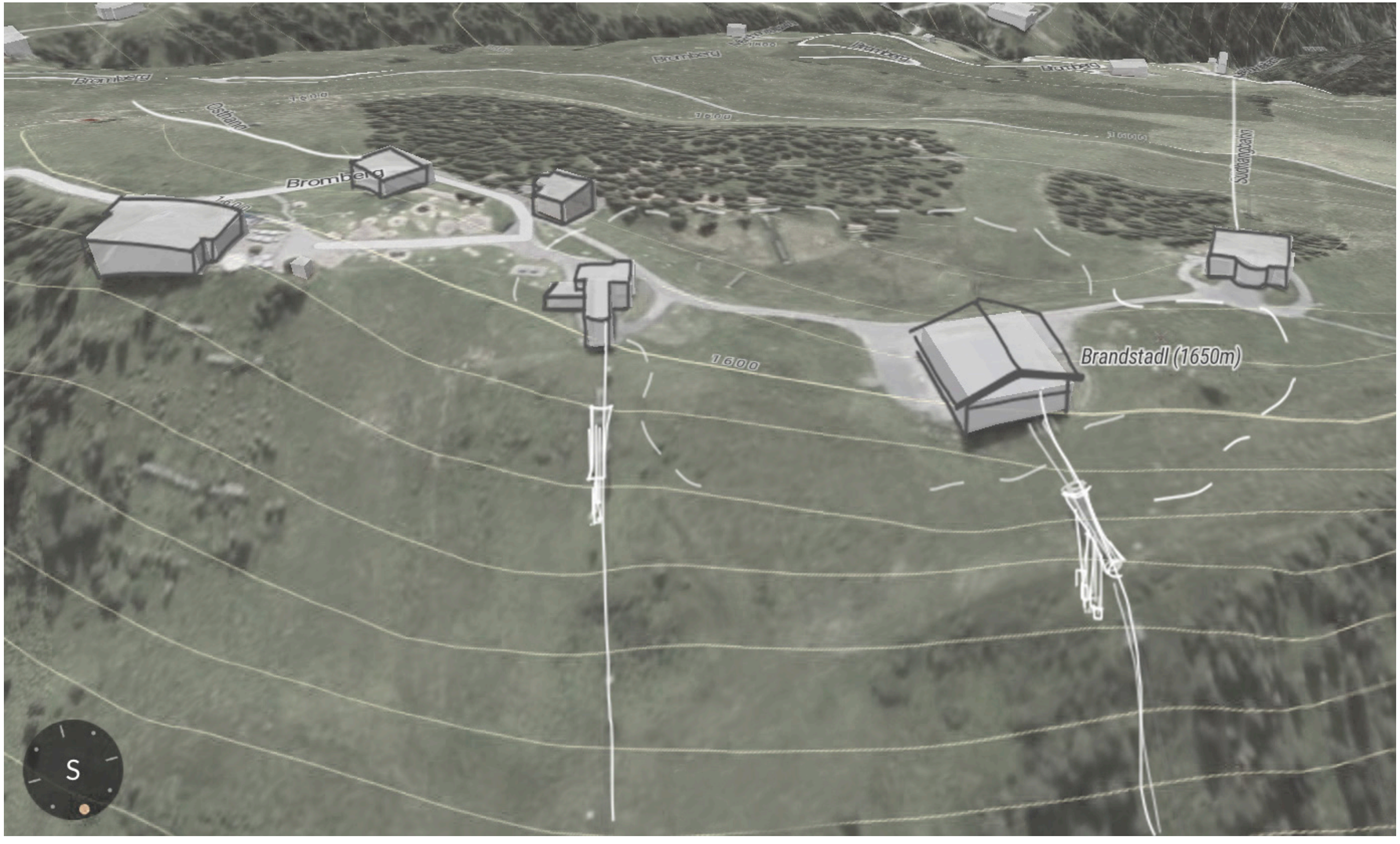
Brombeig
1600
Brandstadl (1650m)
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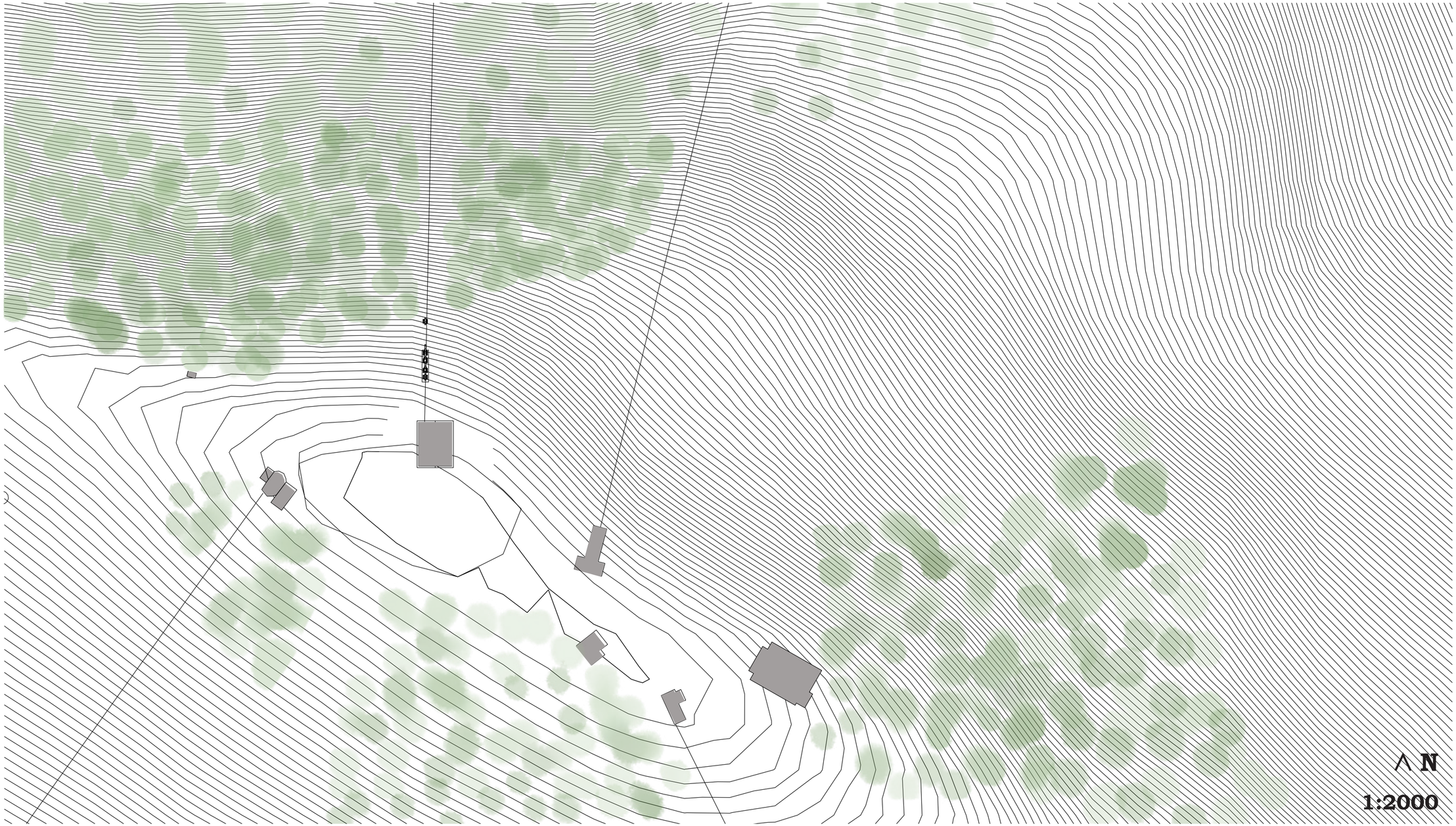
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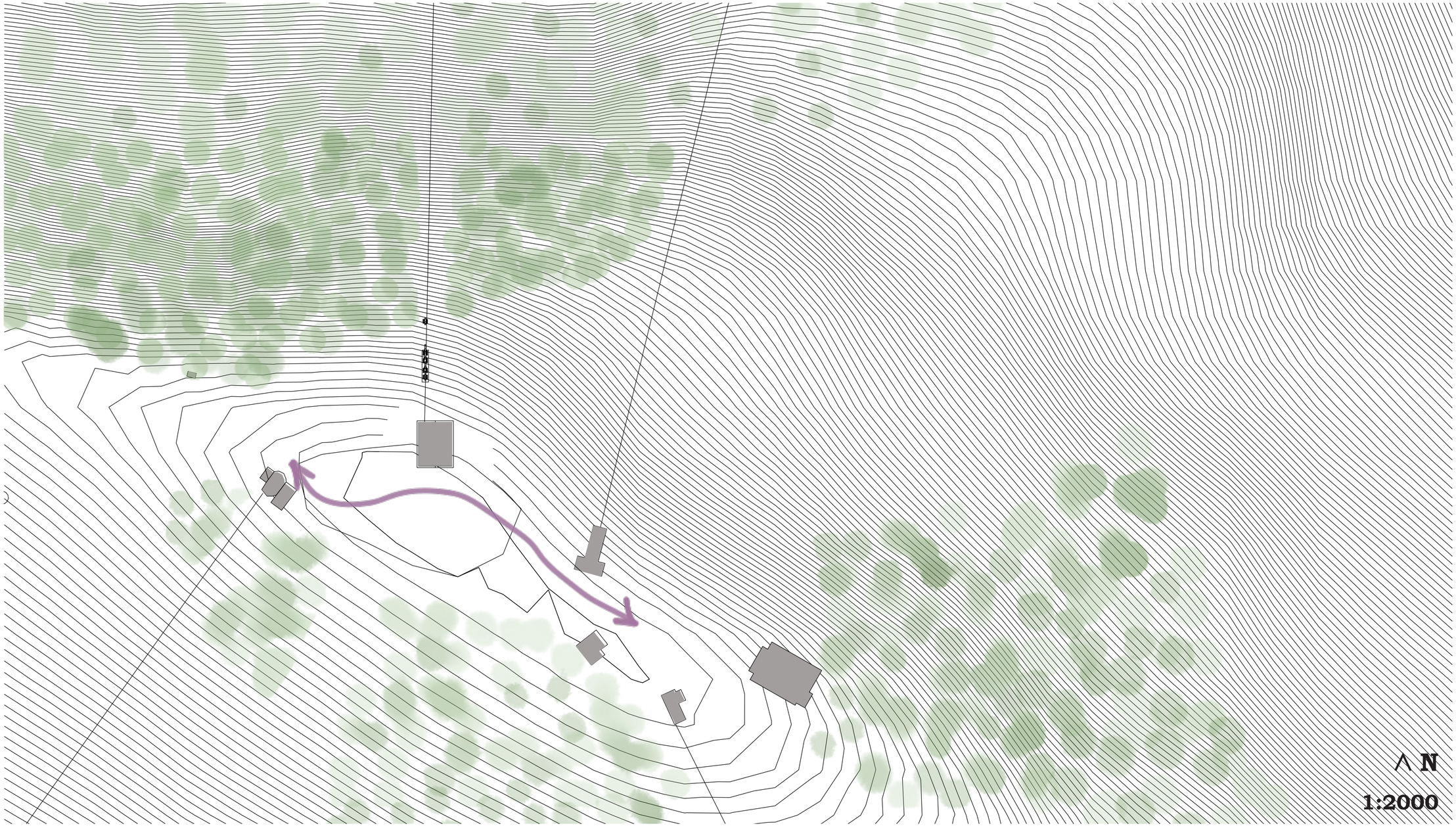
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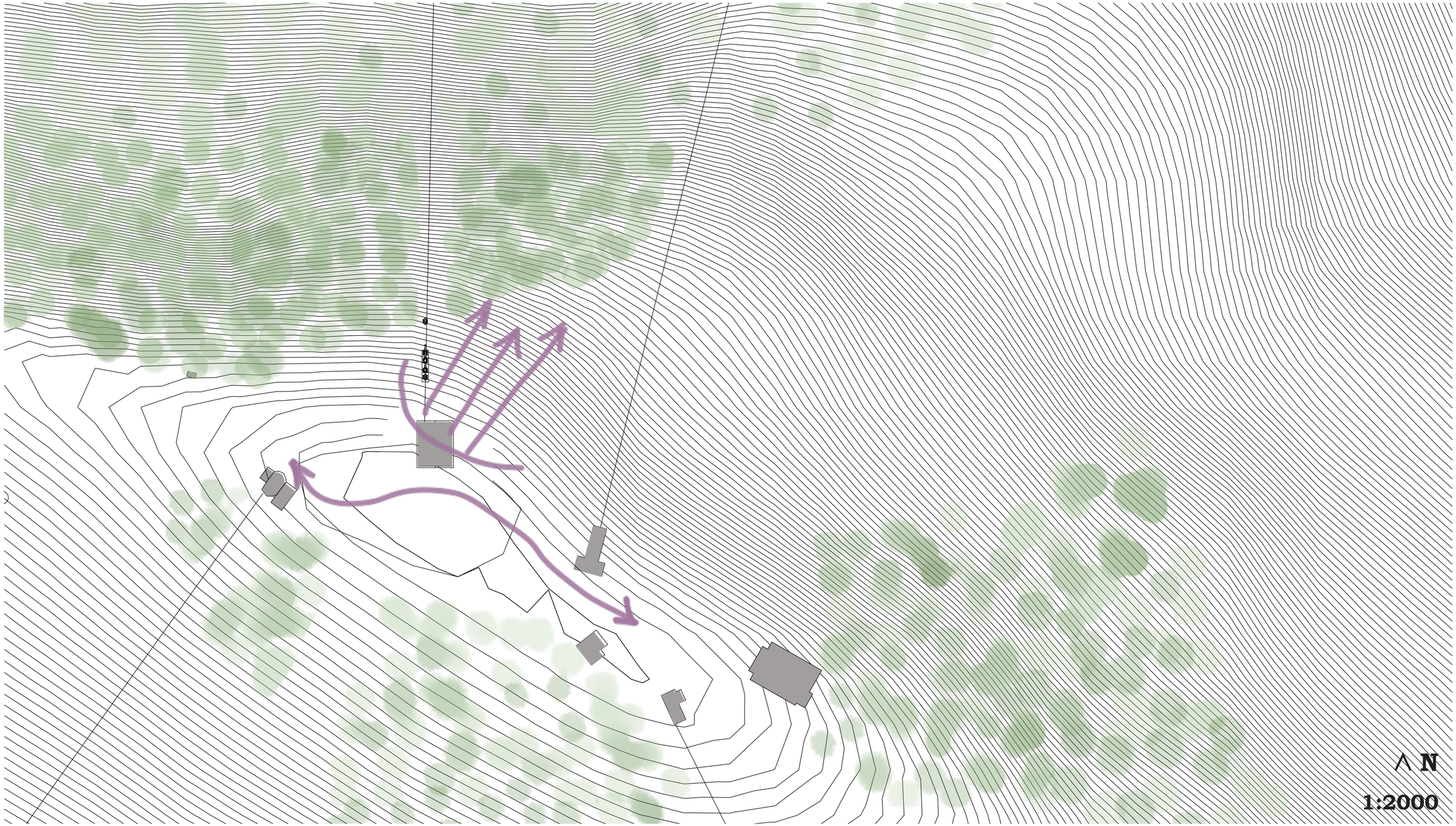
SCHEIDEGG


Brandstadlbahn
SCHEFFAU
1650 m


143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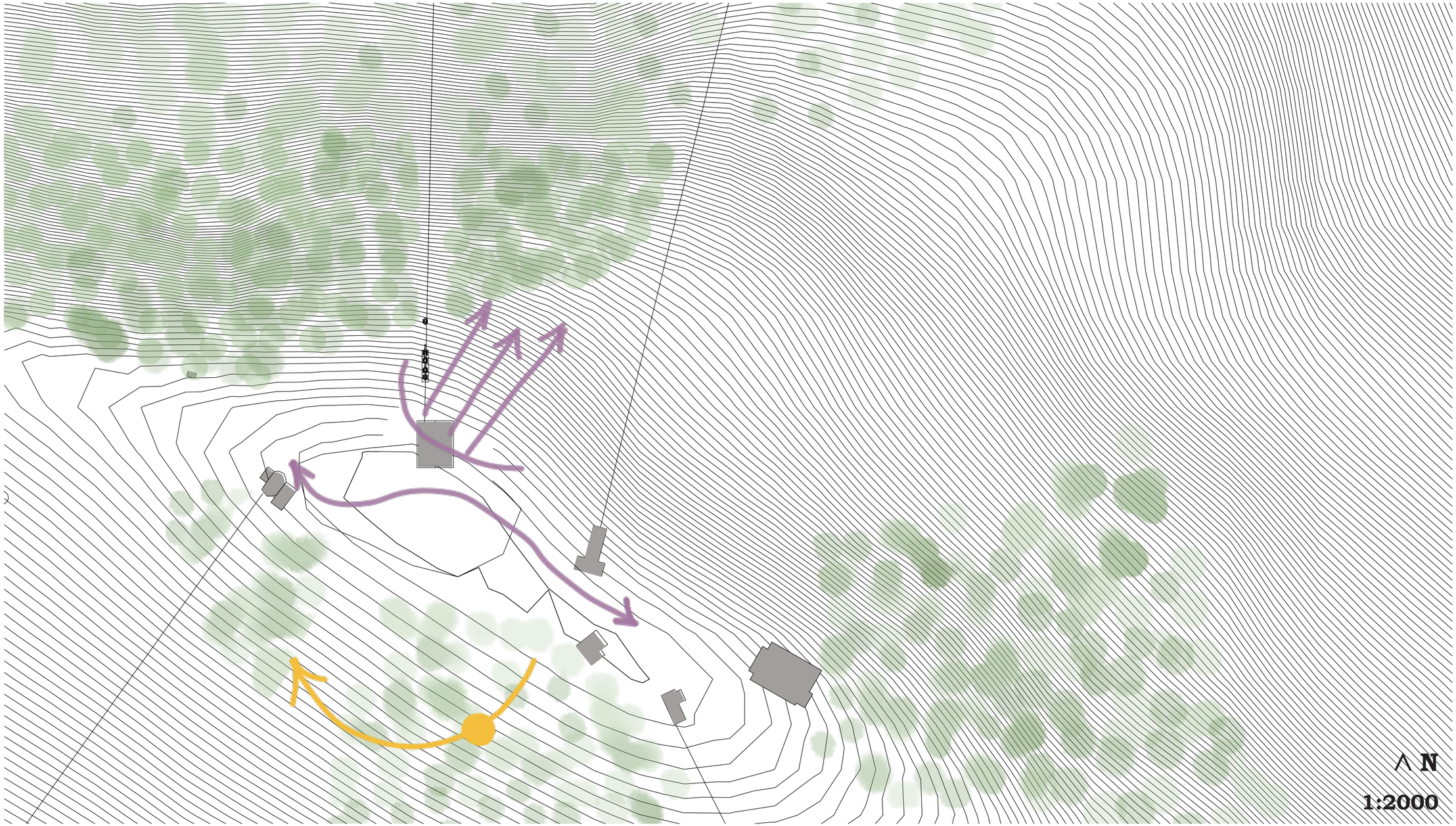
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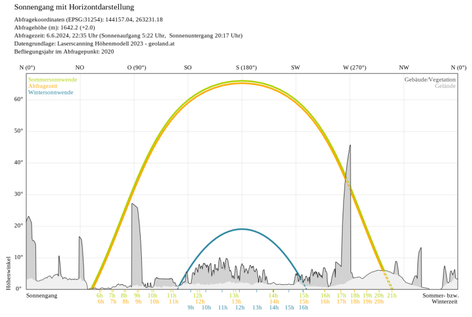
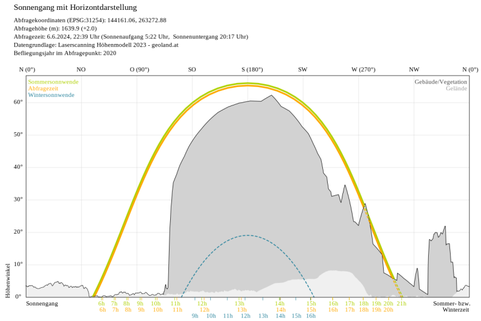
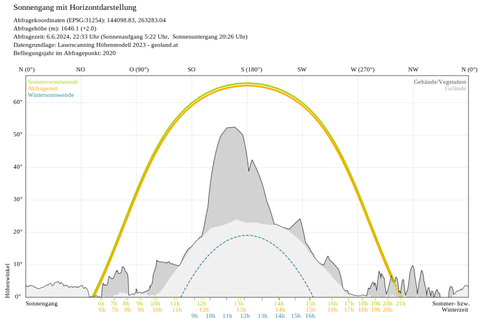
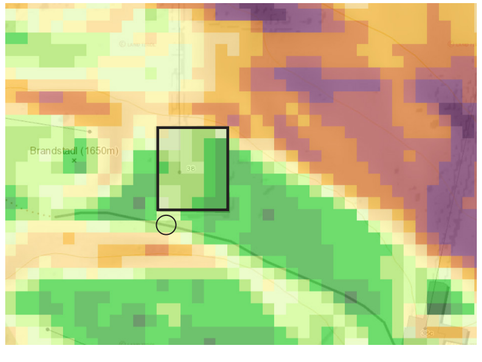
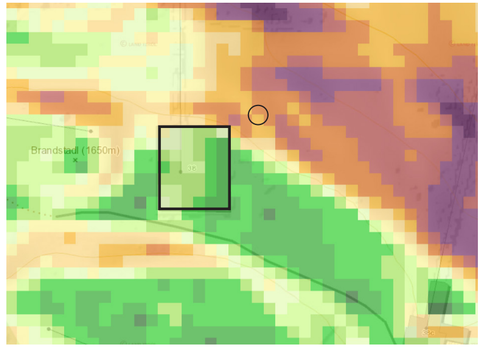
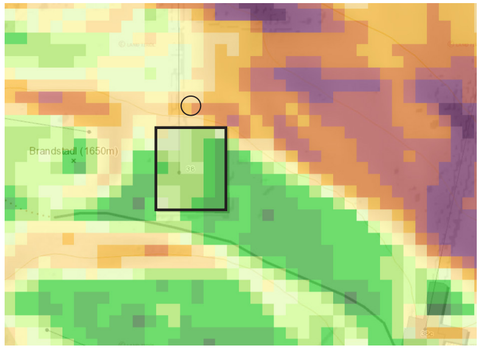












DESIGN RULES & STEPS

START: WHAT IS ALREADY THERE?
WHAT ARE THE REGIONAL CE STRATEGIES?

1. 

MAXIMISE STOCK

INVENTORY - POTENTIAL STOCK

2. 

STRUCTURES TO REUSE?

INVENTORY - WHAT CAN BE USED, MATERIALS TO RECLAIM?

CONTRIBUTE TO CLOSING MATERIAL LOOPS

3. 

LOCAL MATERIALS - KEEP WITHIN RANGE

RAMMED EARTH, IF EXCAVATION

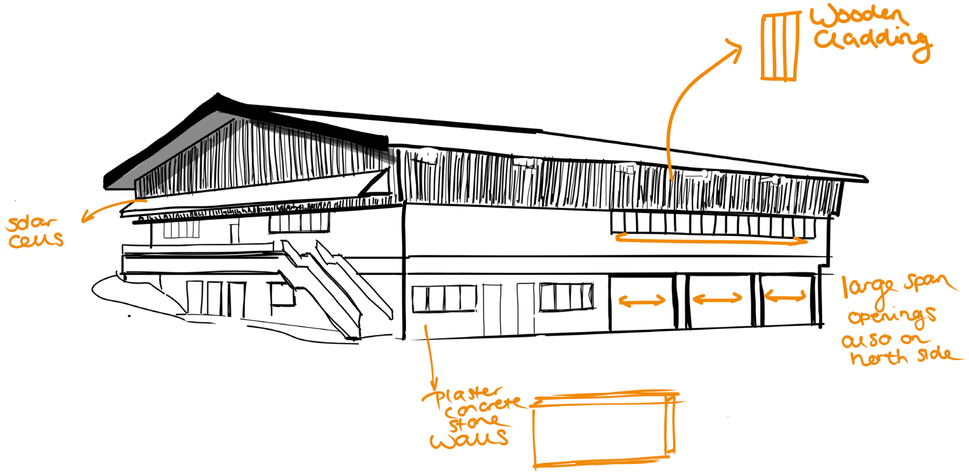
CERTIFIED WOOD

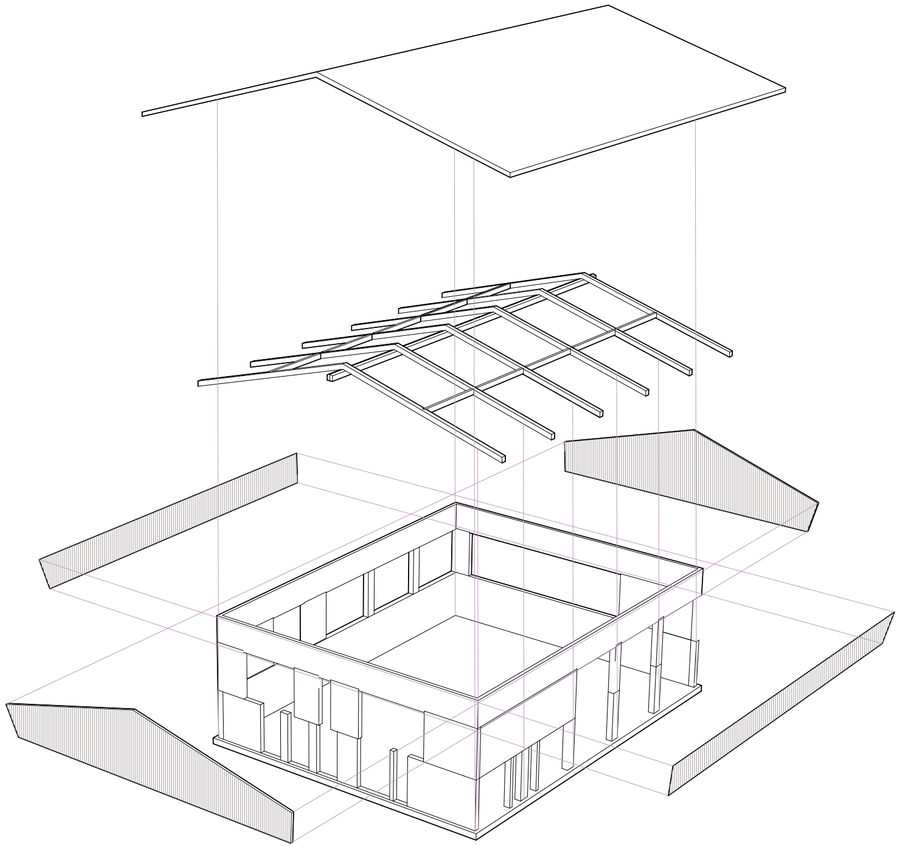
BY-PRODUCTS FORESTRY, AGRICULTURE

1.

INVENTORY

EXISTING

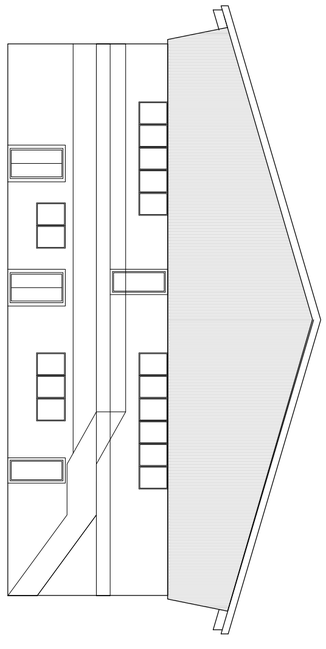


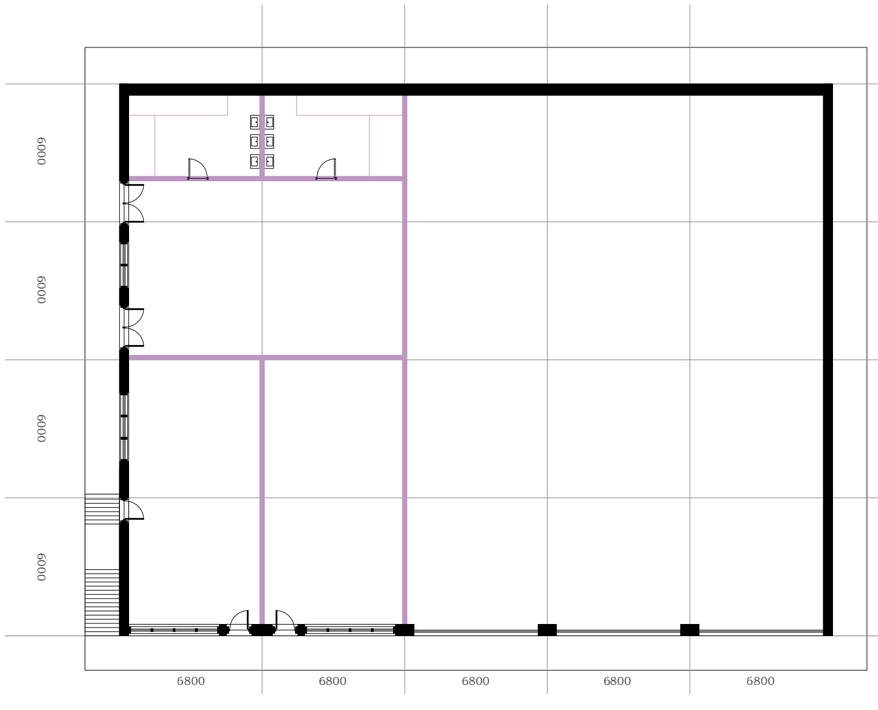


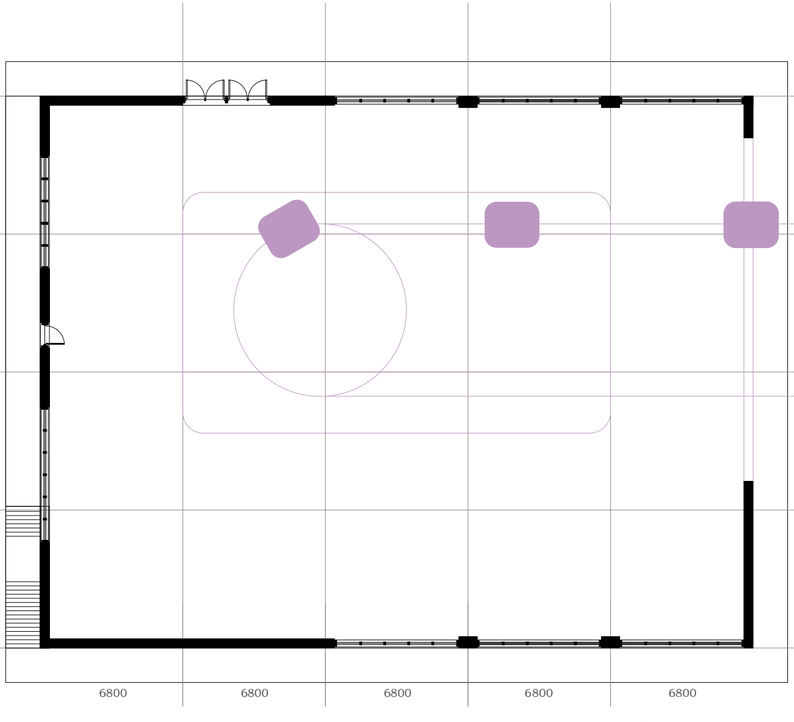
1.

INVENTORY

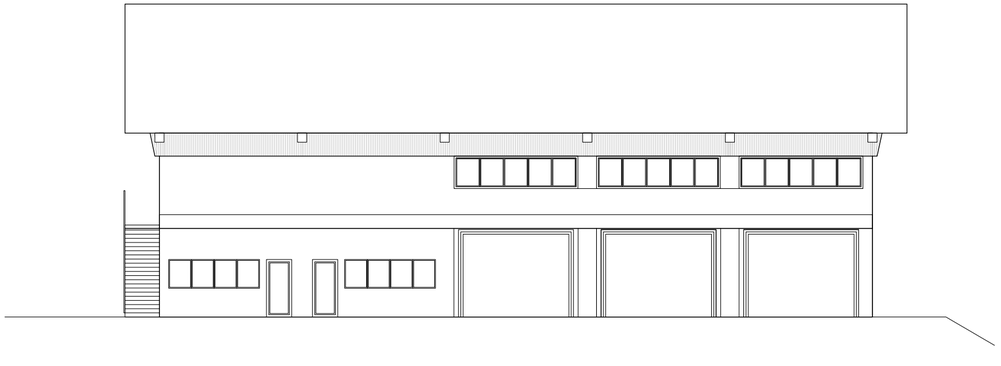
EXISTING







1ST FLOOR



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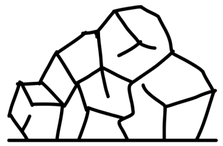
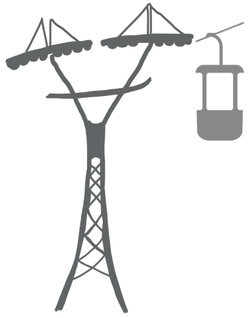
2.

INVENTORY
CONTRIBUTE TO CLOSING MATERIAL LOOPS



ORE, STEEL PRODUCTION



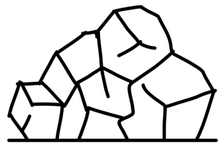
30 YEARS

TRANSPORT - 2ND LIFE

END-OF-LIFE

2.

INVENTORY
CONTRIBUTE TO CLOSING MATERIAL LOOPS



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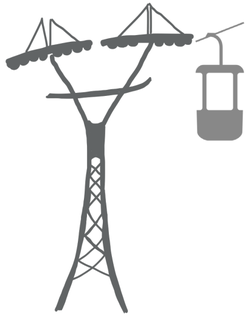


30 YEARS

TRANSPORT - 2ND LIFE

END-OF-LIFE

SLOW

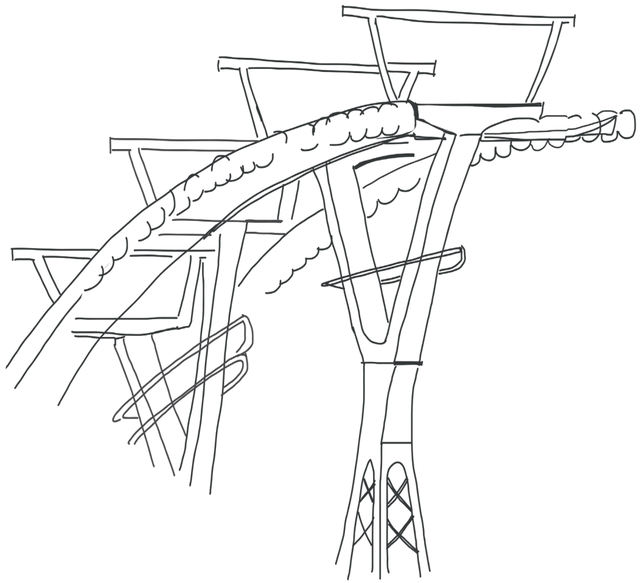
DISSASSEMBLY
NEW USE?

REUSE STRUCTURES

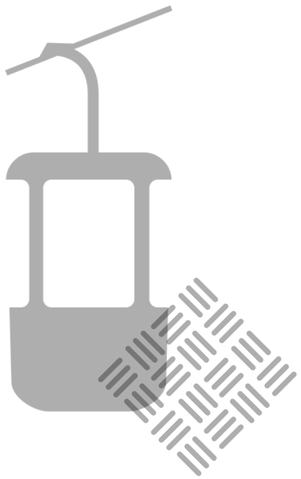
INVENTORY - MP
NO OR LESS TRANSPORT

2.

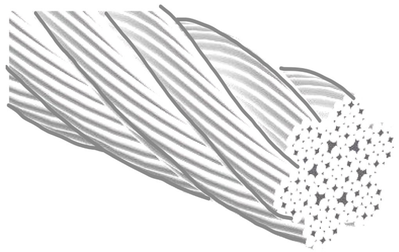
INVENTORY
STEEL - REUSE



STRUCTURE - 25 COLUMNS



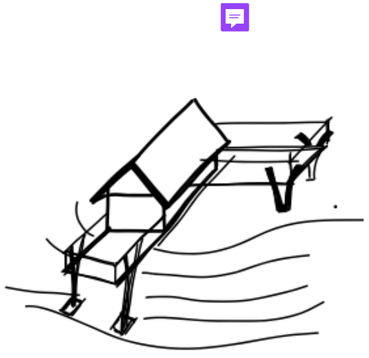
GONDOLA - SHEETS



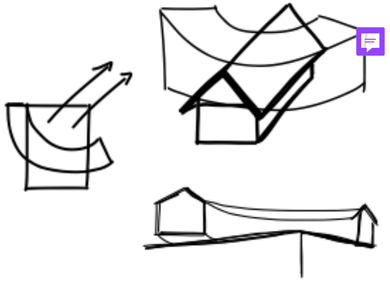
CABLE - WIRES

DESIGN CONCEPTS

HIDING IN THE WOODS

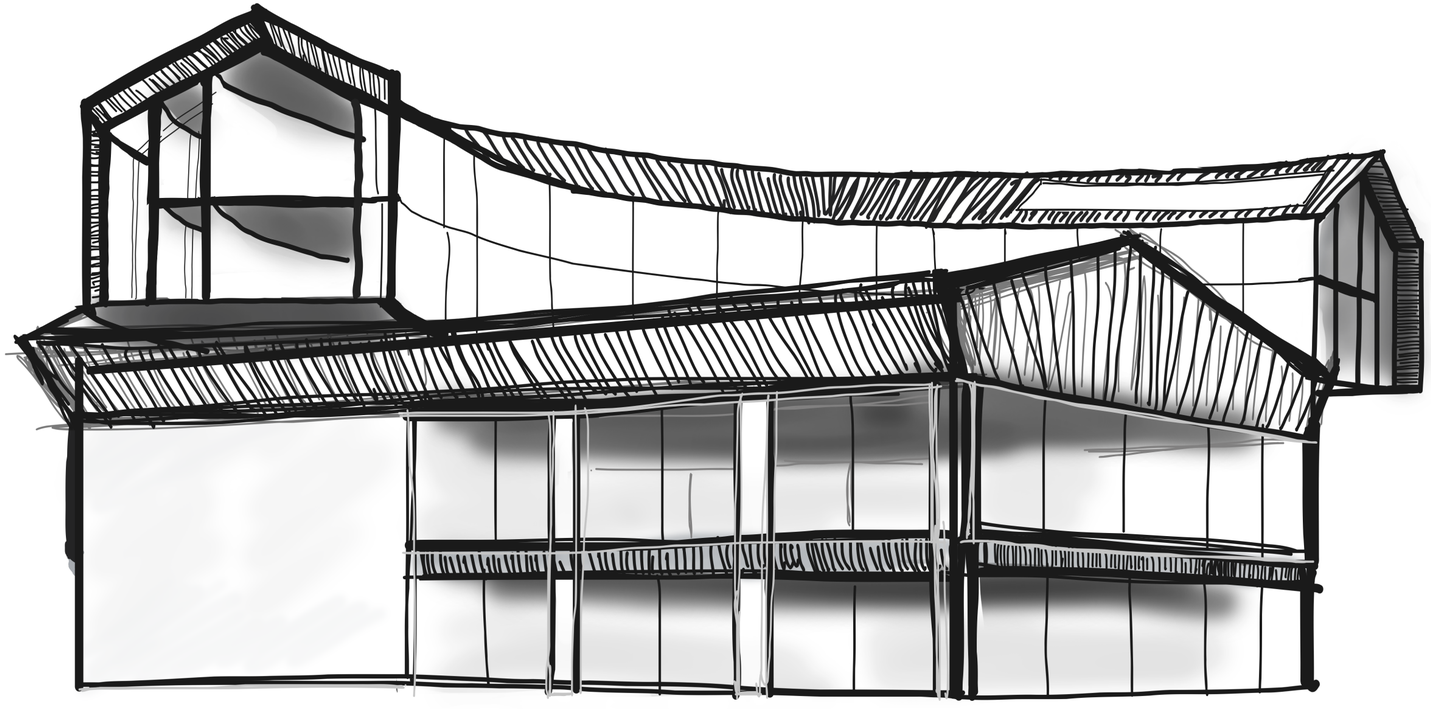


EXTEND PLATEAUS

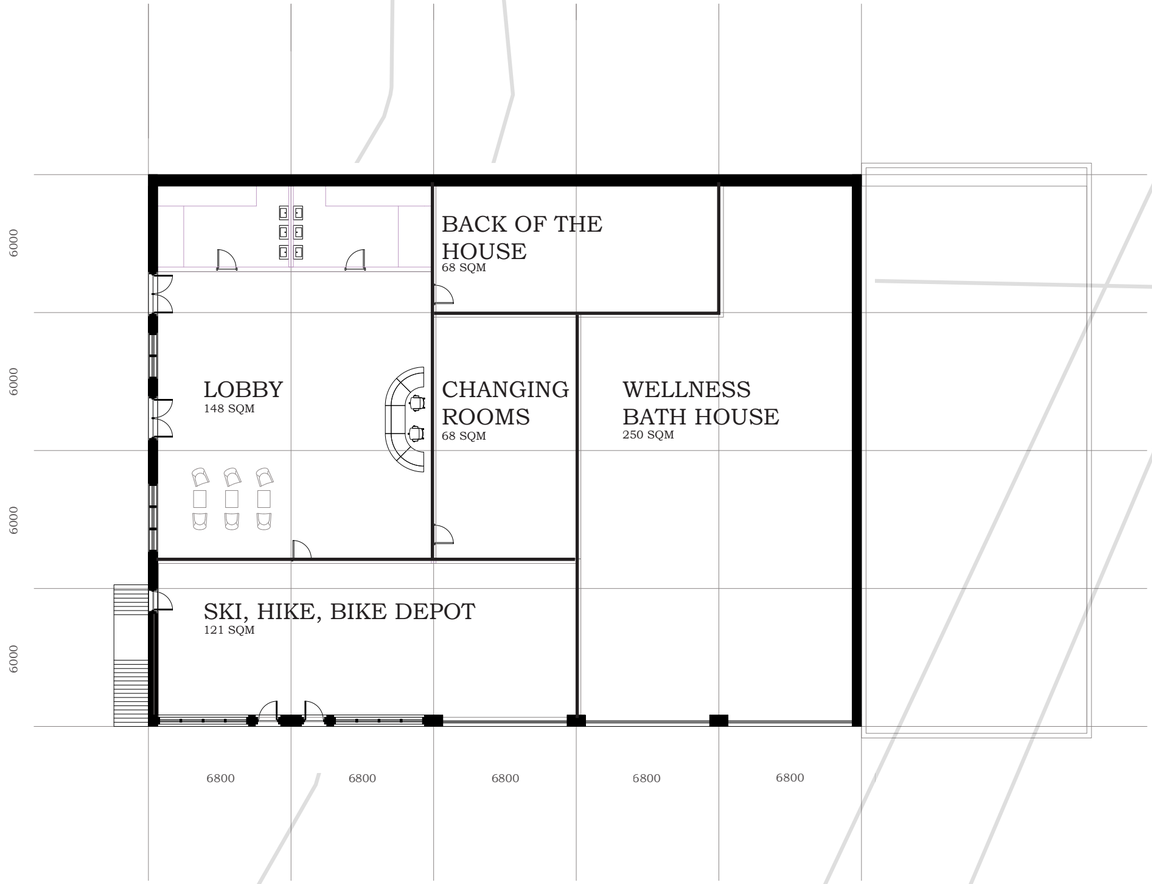


TOP-UP ON PEDESTAL

DESIGN CONCEPT



DESIGN
GROUND FLOOR



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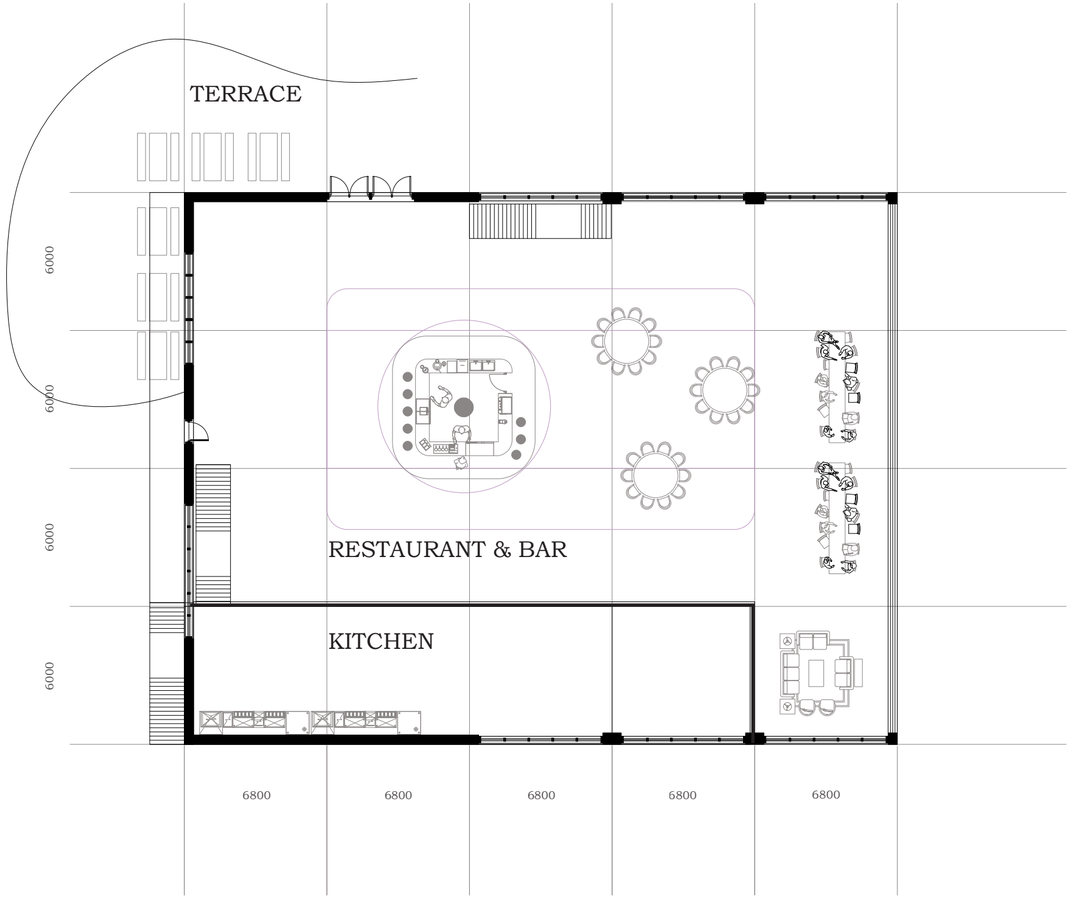
DESIGN

1ST FLOOR



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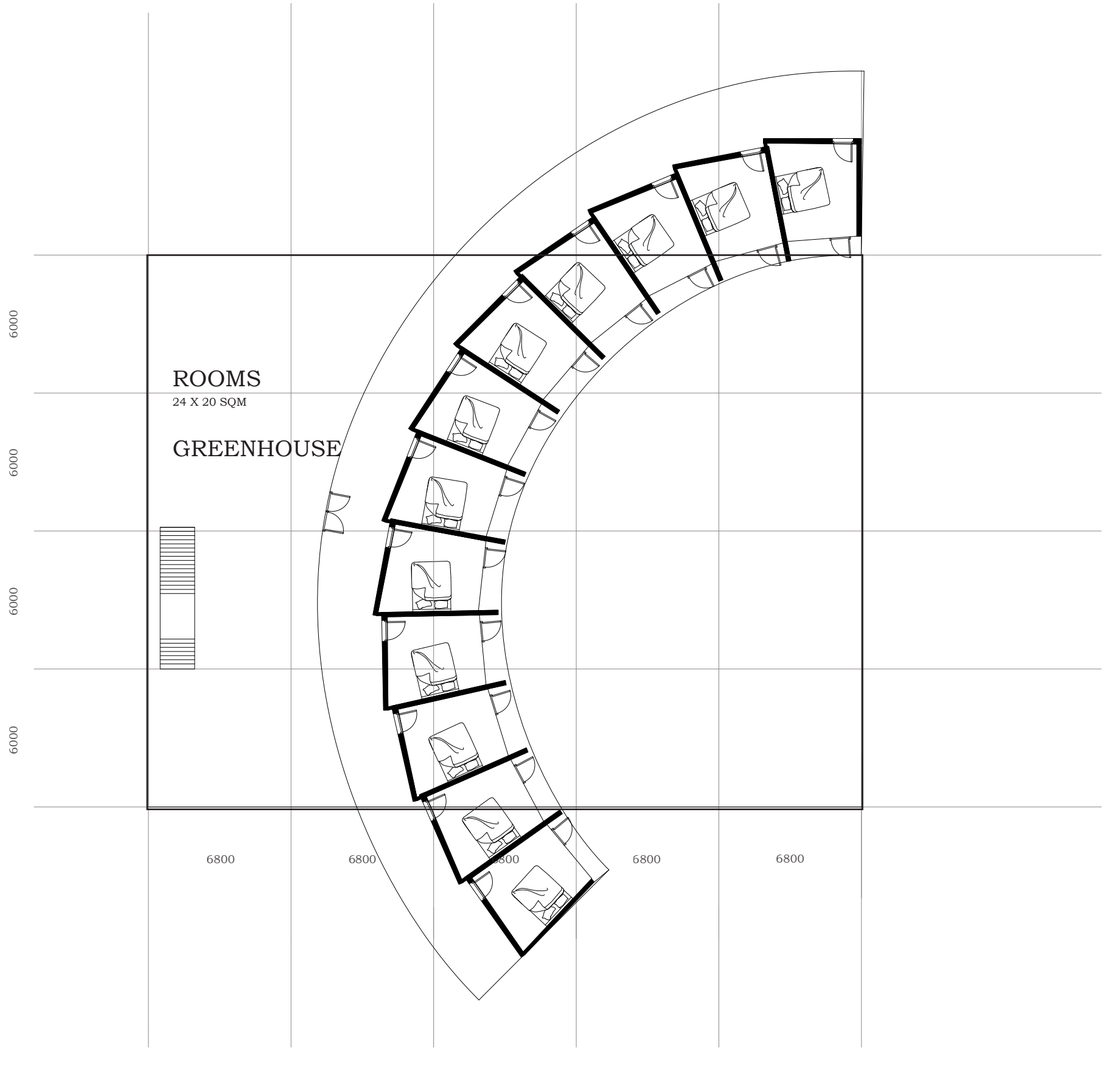
DESIGN

FLOOR 2 & 3



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DESIGN
SECTION

S-N

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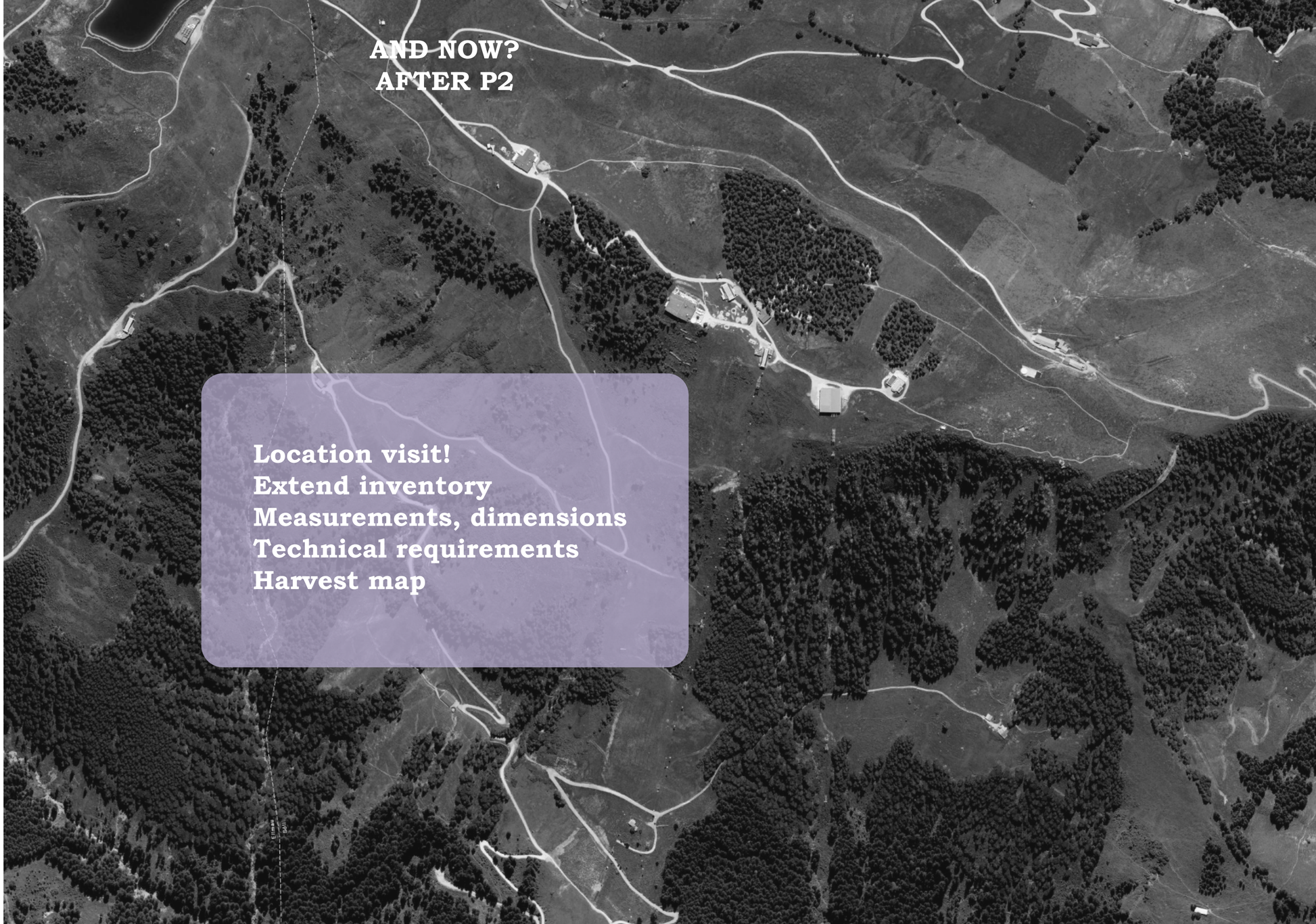

AND NOW?
AFTER P2

Location visit!
Extend inventory
Measurements, dimensions
Technical requirements
Harvest map

GOALS

Circular building project,
Sustainable way of tourism,
Closing material loops,
Letting people continue to enjoy
the qualities of the mountains,
context of Austrian Alps

MOVE MOUNTAINS

QUESTIONS?