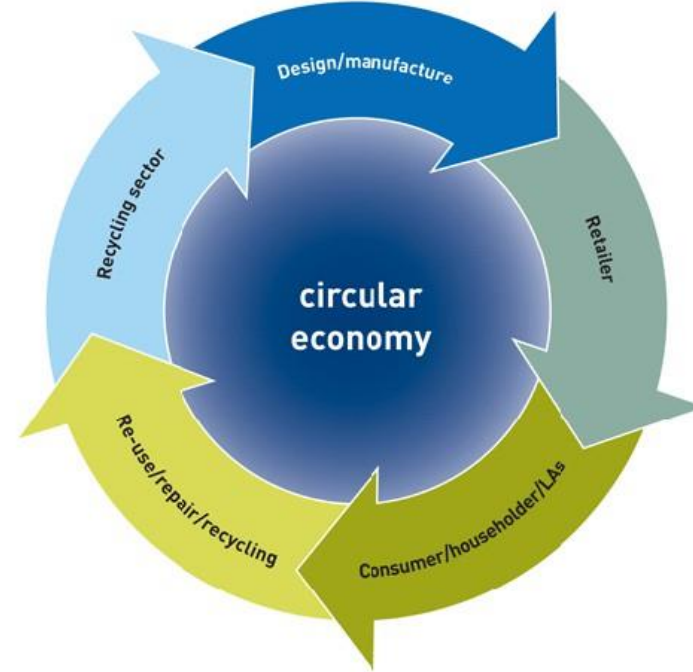
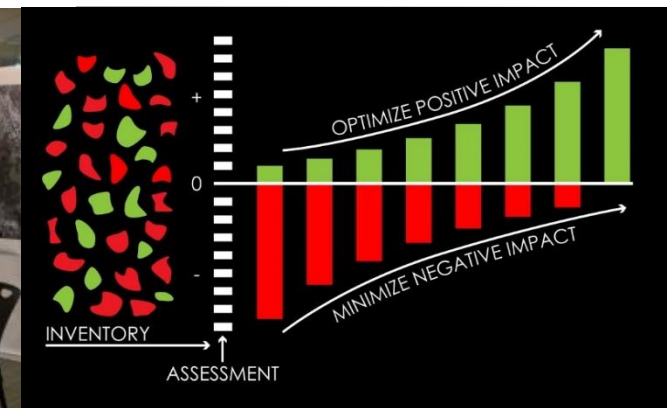


Steven Beckers



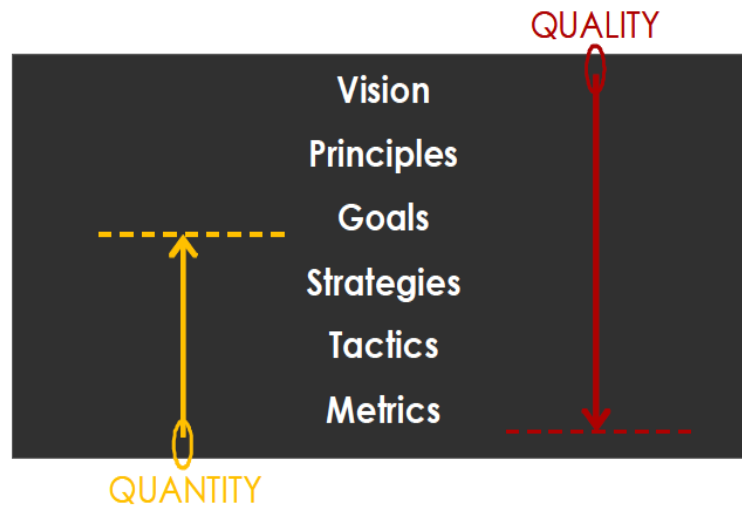
AGILITY IN ARCHITECTURAL DESIGN TOWARDS REGENERATIVE CITIES... and obstacles

SBE19 BAMB-CIRCPATH Feb. 7th 2019

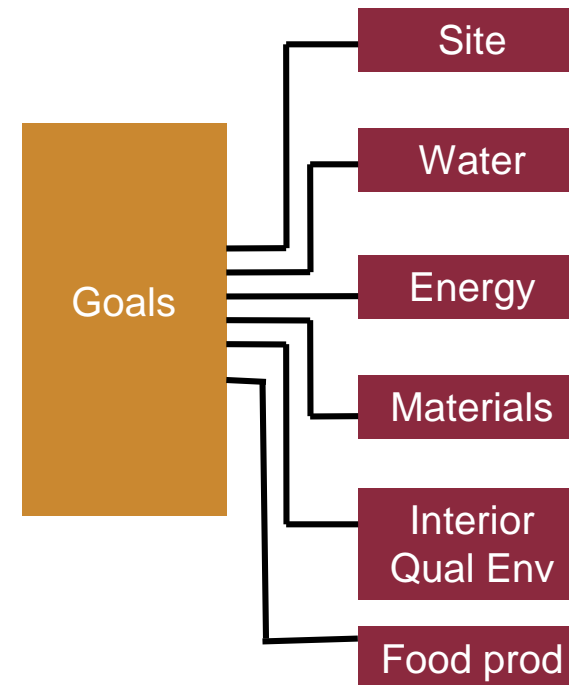


Regenerative & Positive Impact Circular Economy

Beyond Sustainability

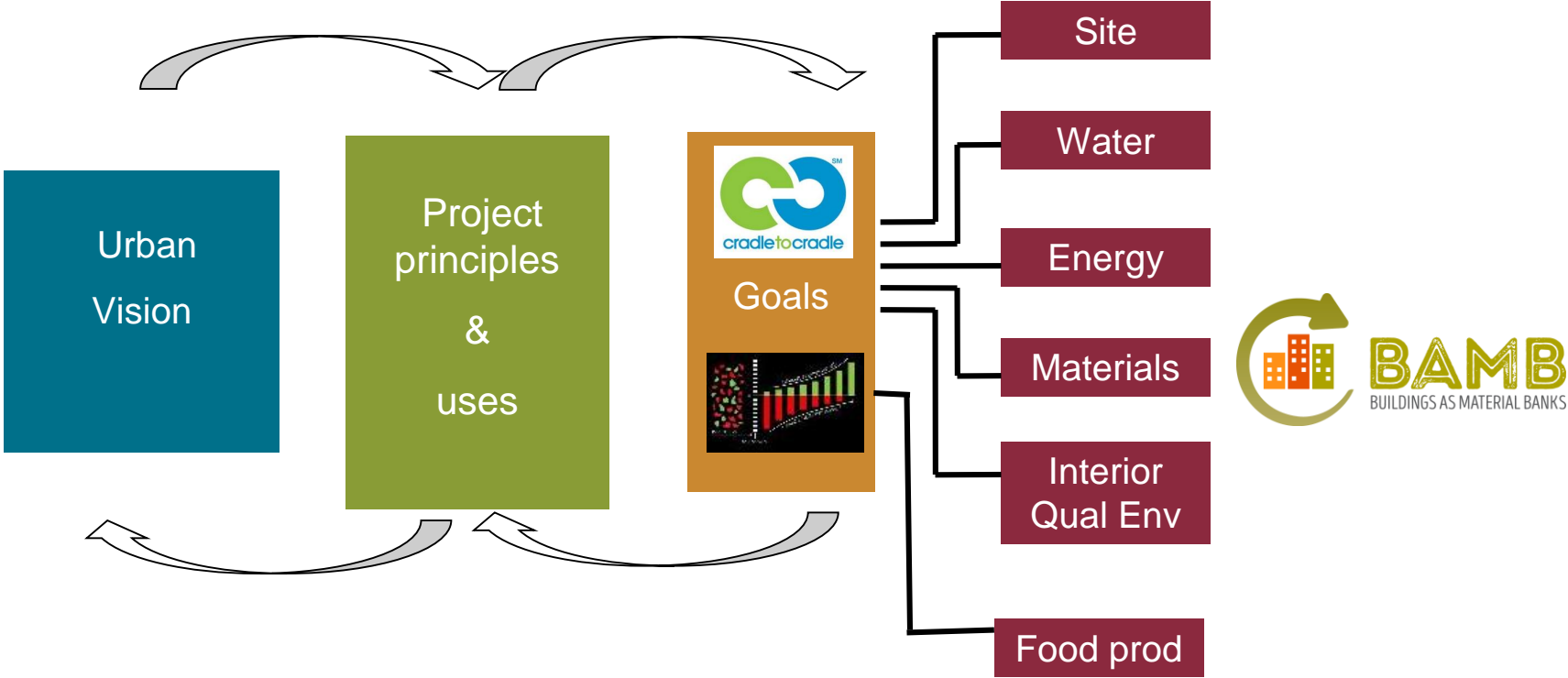


Sustainability minded



Regenerative & Positive Impact Circular Economy

Beyond Sustainability



COOPETITION ON PERFORMANCE BASED URBAN DESIGN



Renovate with Regenerative & Positive Impact Circular Economy

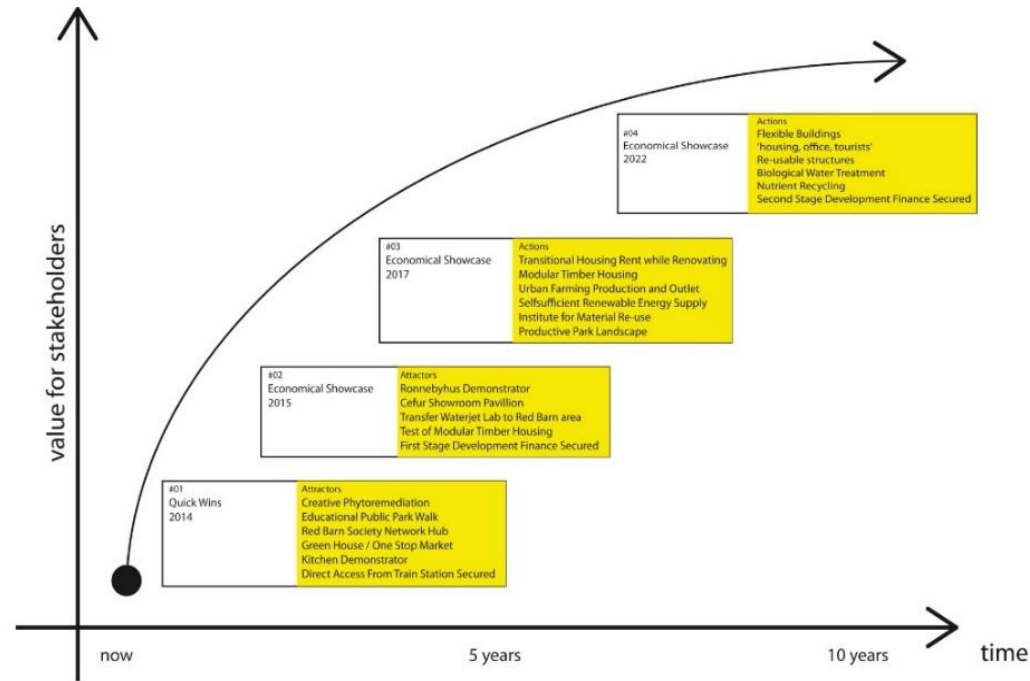
Summary

Healthy & inspiring

- Tox-free
- Building-ecological materials
- Healthy for environment
- Healthy for Human Beings
- Increasing productivity
- Increasing creativity

Added-value for society

- Active role in society
- Urban Farming, air cleaning
- Good public perception and image
- Productive <> Passive

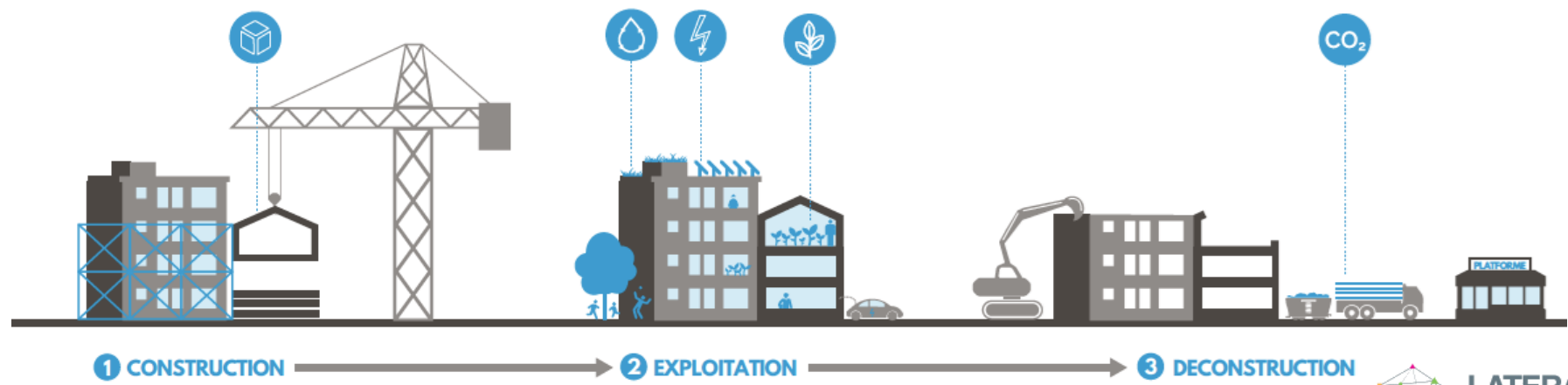


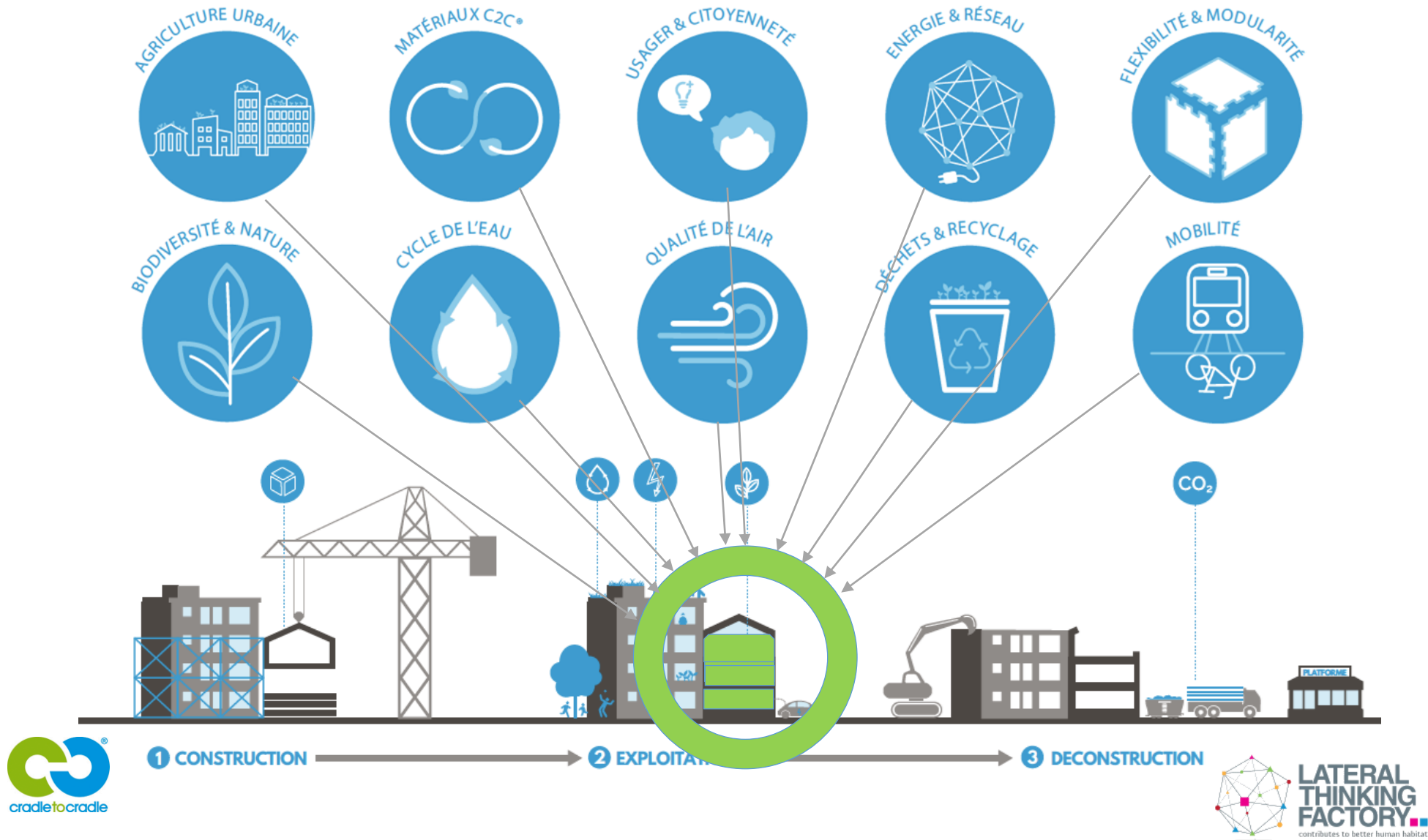
Building as raw materials bank & power house

- Recyclable building and infrastructure
- Local energy production
- Material cycles for all utilities like heat, cold, electricity, water, waste, industrial raw materials, ...

Flexible & convertible

- Adaptable infrastructure
- Convertible utilisation concepts
- Demountable, modular, upgradable
- Waste free





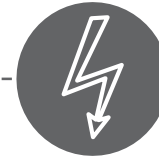
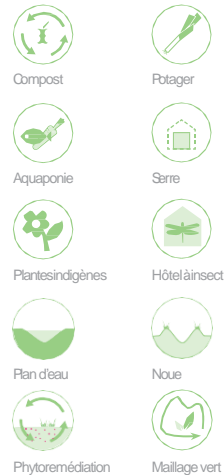
Improving resources circularity



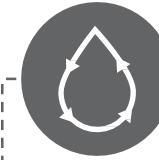
TECHNOLOGICAL MATERIAL



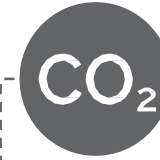
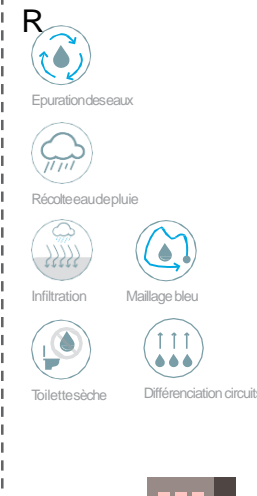
BIOLOGICAL MATERIAL



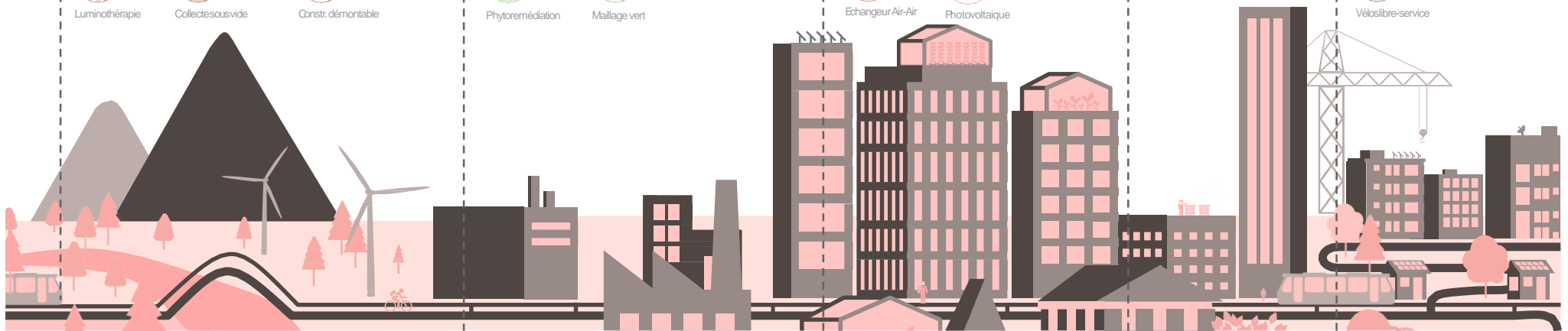
ENERGY



WATER



CO2



- **Building like trees should produce more than they use:**



- **Healthy materials for the future (Upcycling)**
- Spatial agility, plasticity and upgrading capacity
- Quality renewable energy
- Capture CO₂ to produce Food and materials
- Clean water and nutrients/ humus
- Clean air and reduce fine particles
- Diversity (Bio diversity, Social and cultural)
- Well being, inclusiveness and safety





Local labor



Local Materials



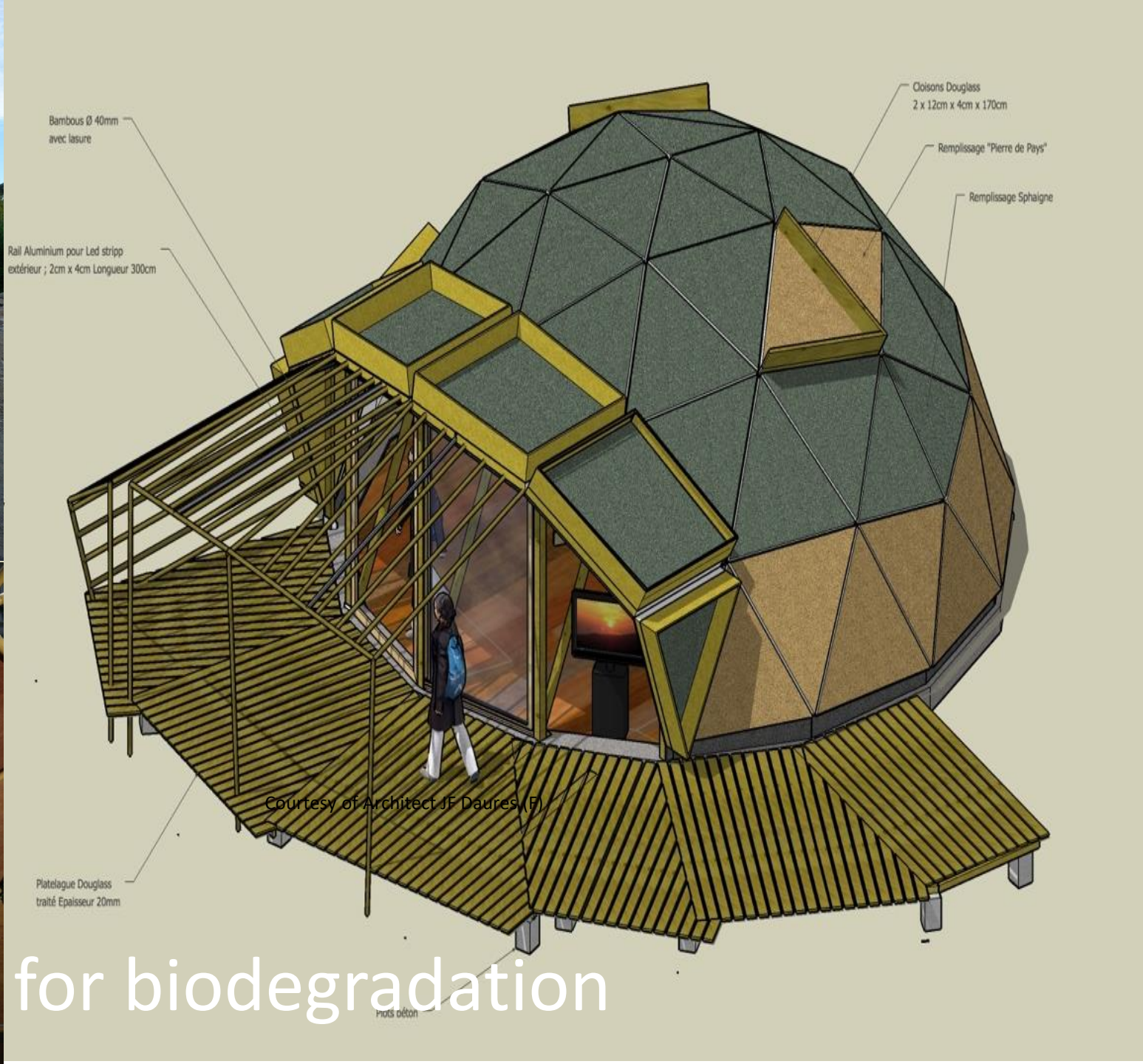
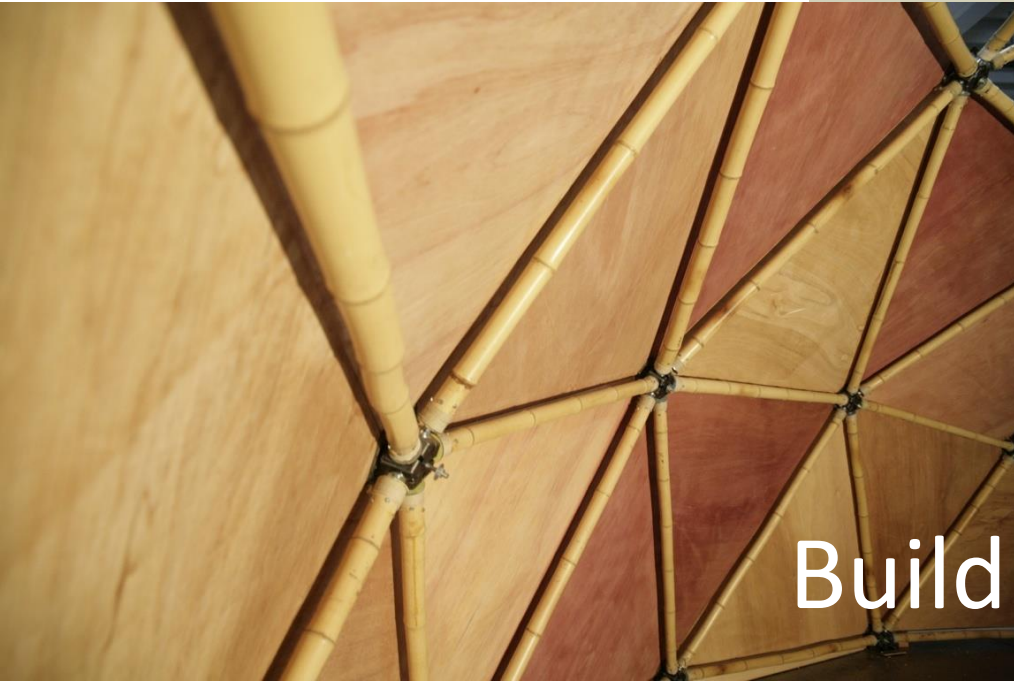
Local means



Build for & with the community

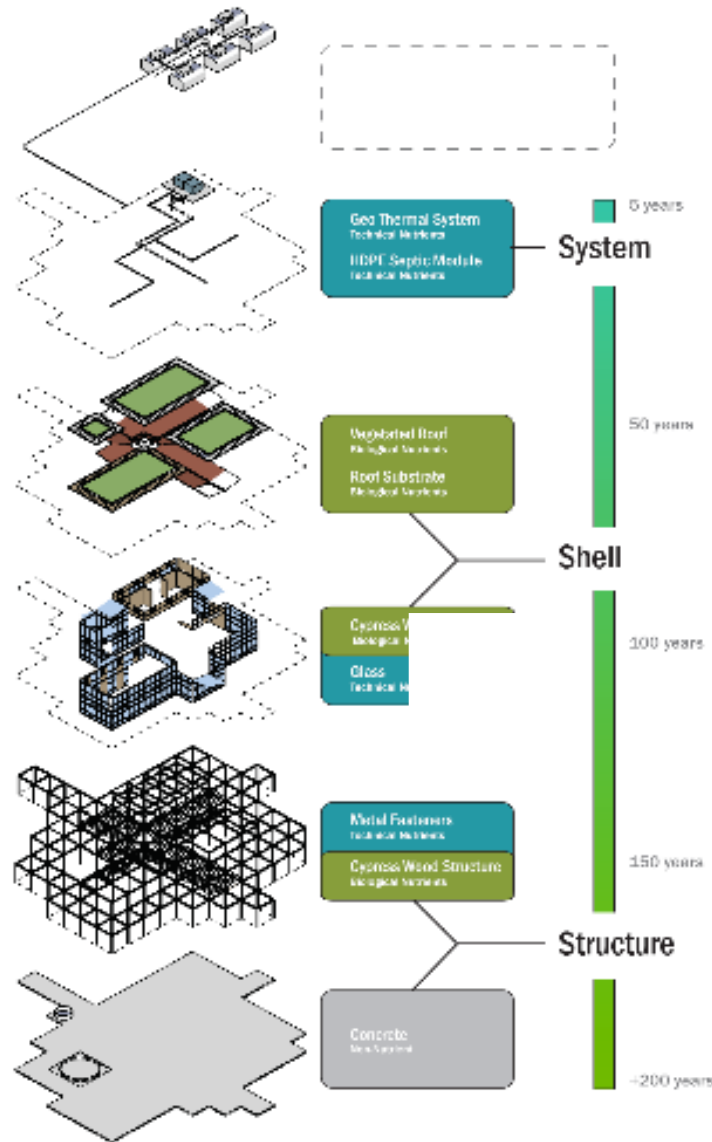
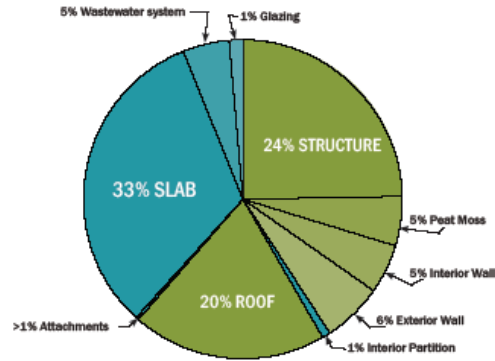


JF Daures Architecte, office
du tourisme du Gard



Build for biodegradation

McDonough & partners

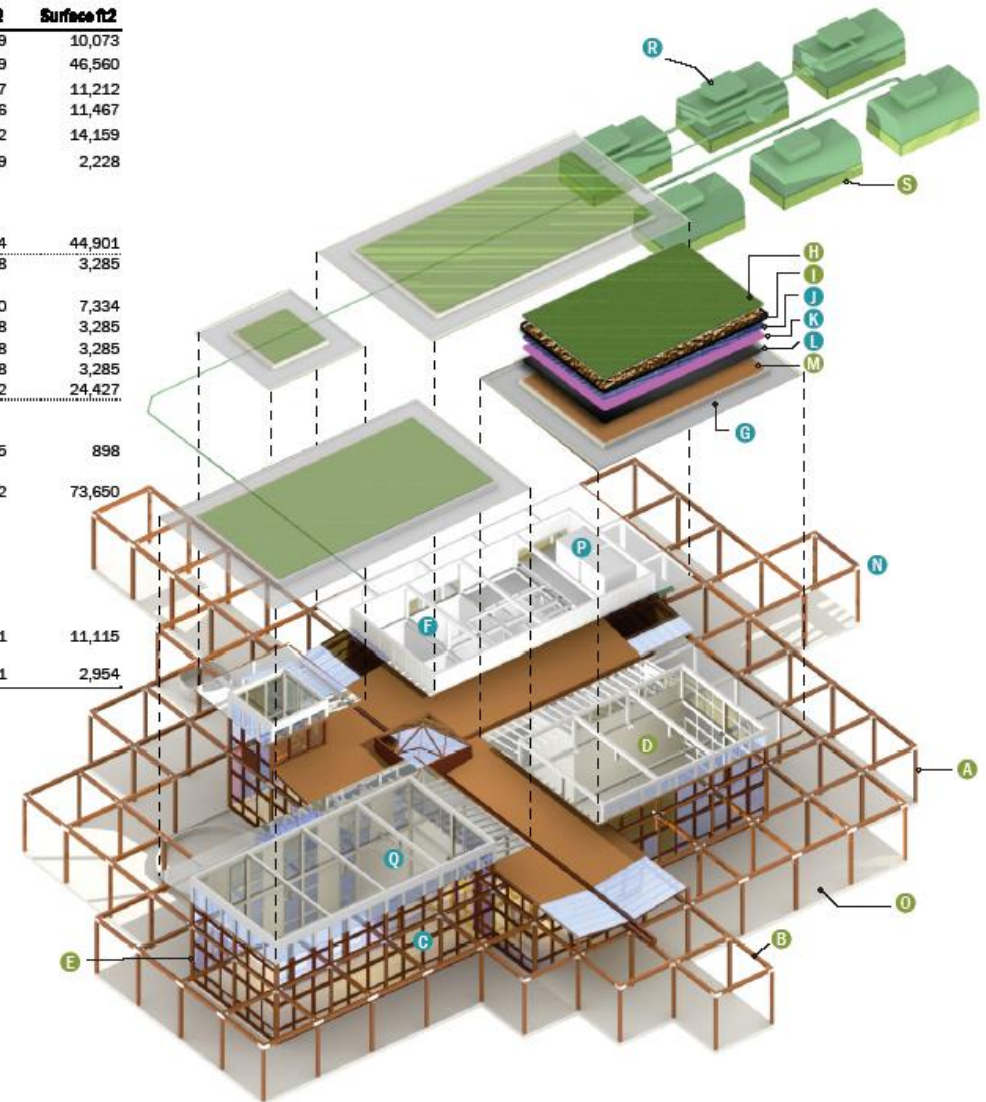


ca ft ²	Surface ft ²
50,559	10,073
34,609	46,560
14,527	11,212
51,256	11,467
38,882	14,159
20,789	2,228

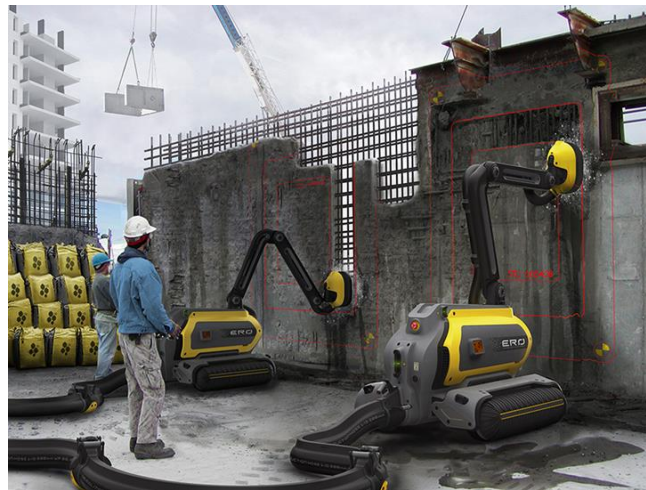
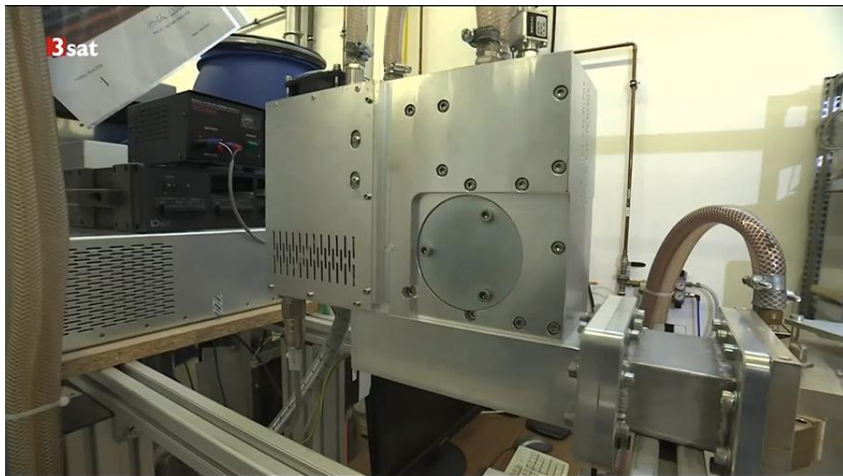
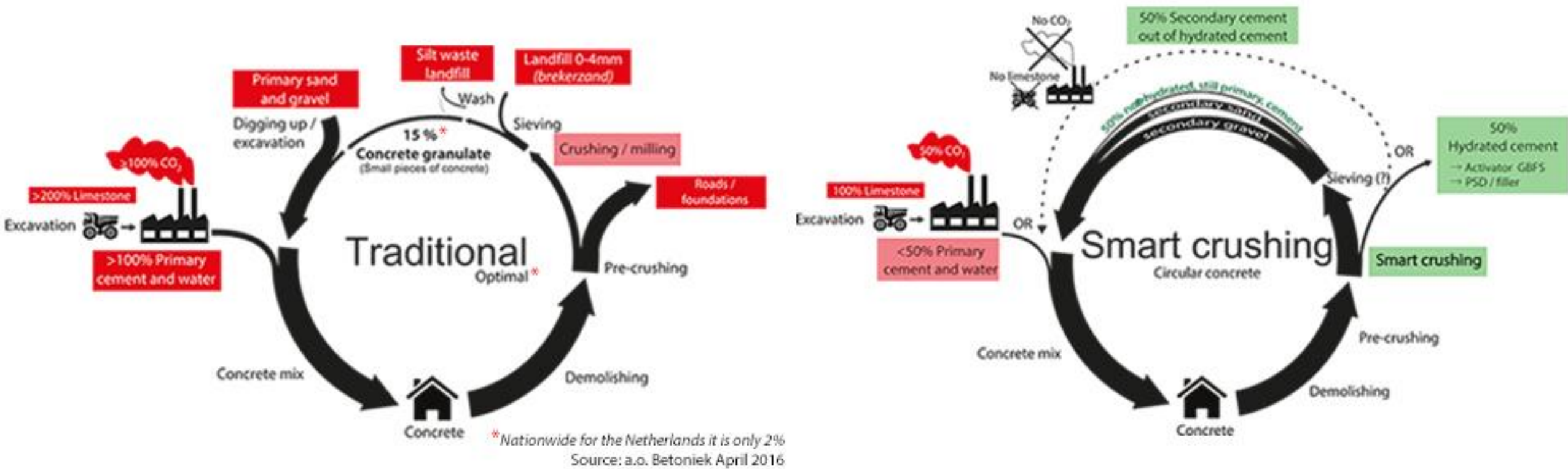
65,714	44,901
73,038	3,285
56,110	7,334
73,038	3,285
73,038	3,285
73,038	3,285
17,452	24,427

29,305	898
35,602	73,650

30,591	11,115
25,411	2,954



Build with Techno and Bio cycles

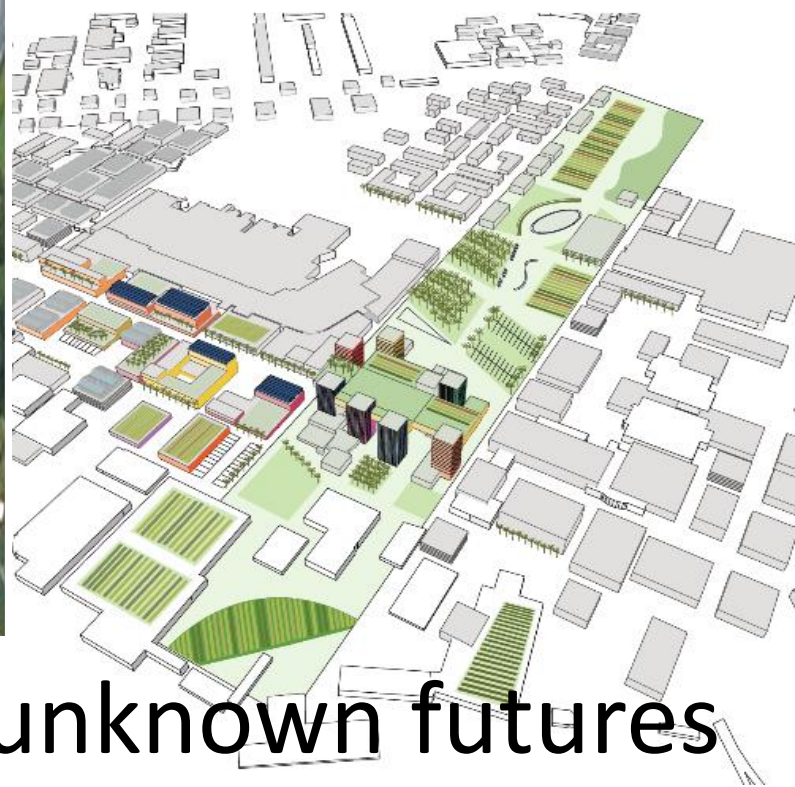


Regenerative & Positive Impact Circular Economy

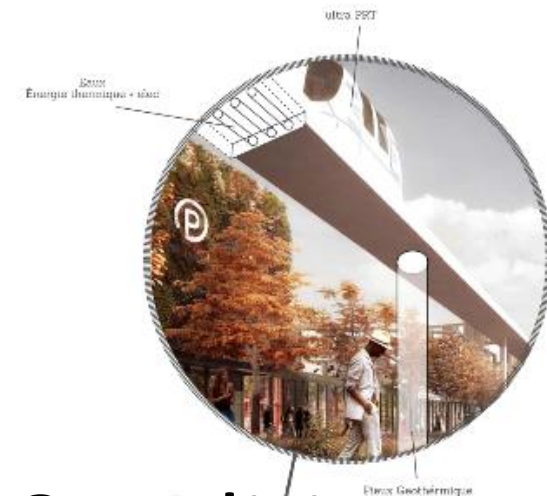
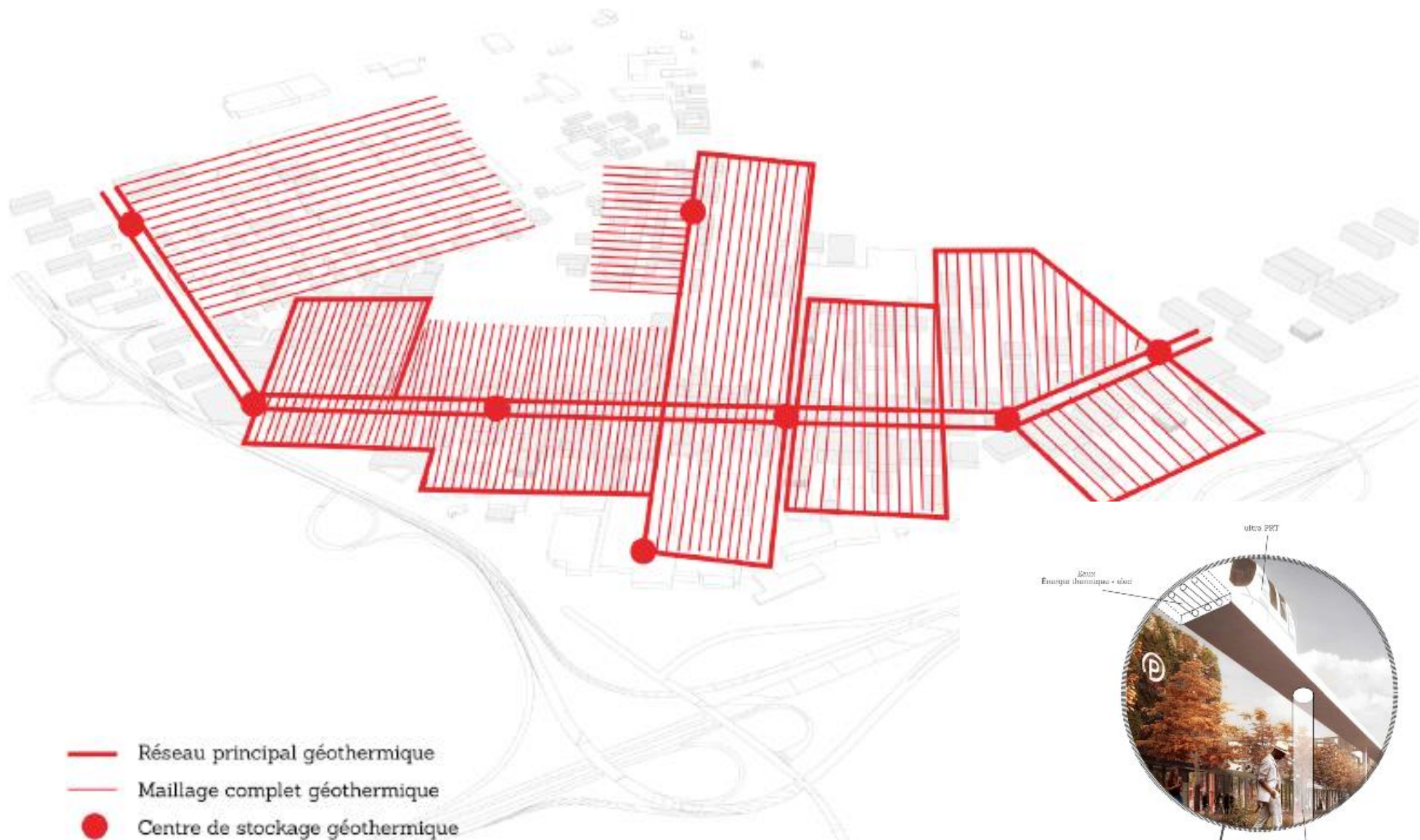
- Think of agile Construction Mixed Systems

- Prefabricate.
- Build for disassembly.
- Design spatial generosity >< obsolescence



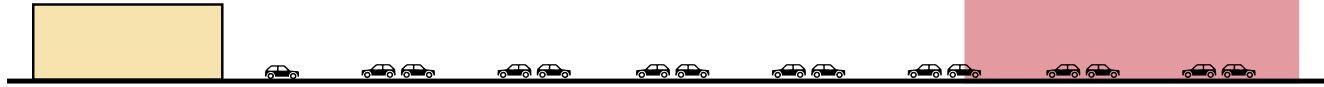


Responding to unknown futures

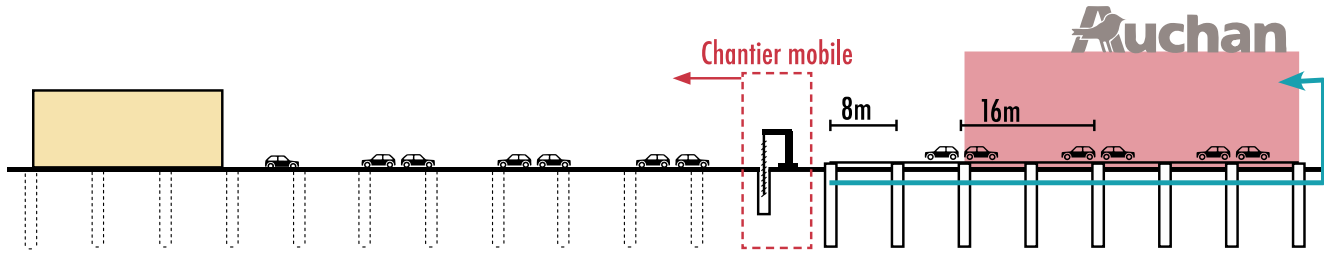


Building allowing for hesitation & politics

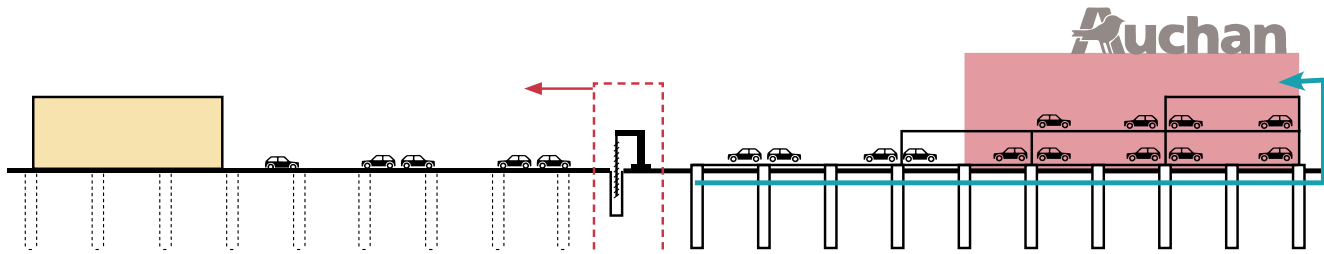
Principe Général



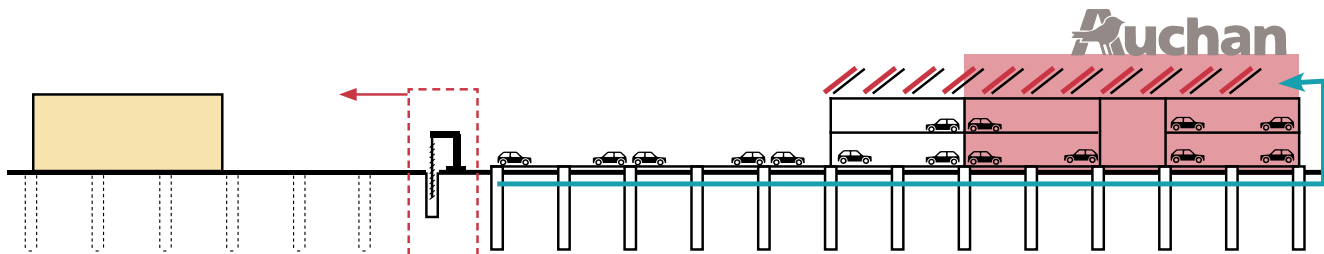
Situation existante



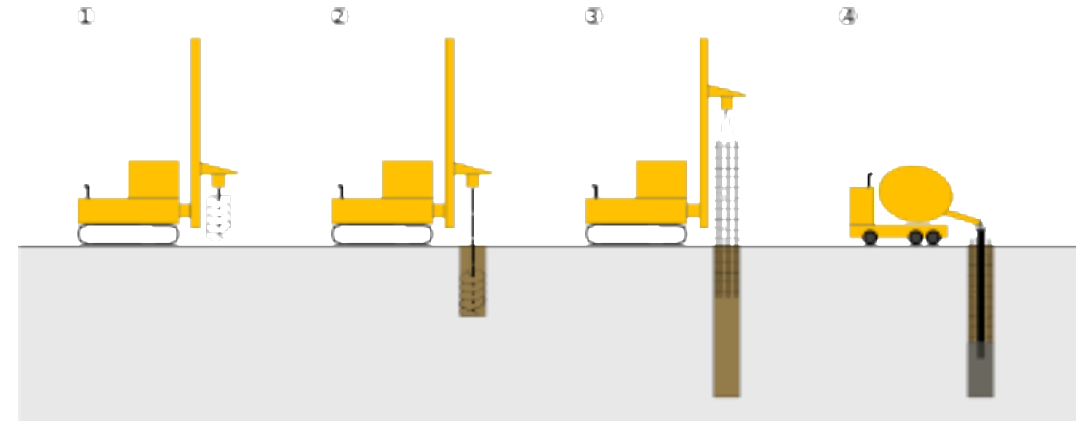
Mise en place pieux+ géothermie

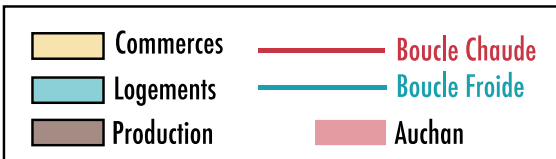
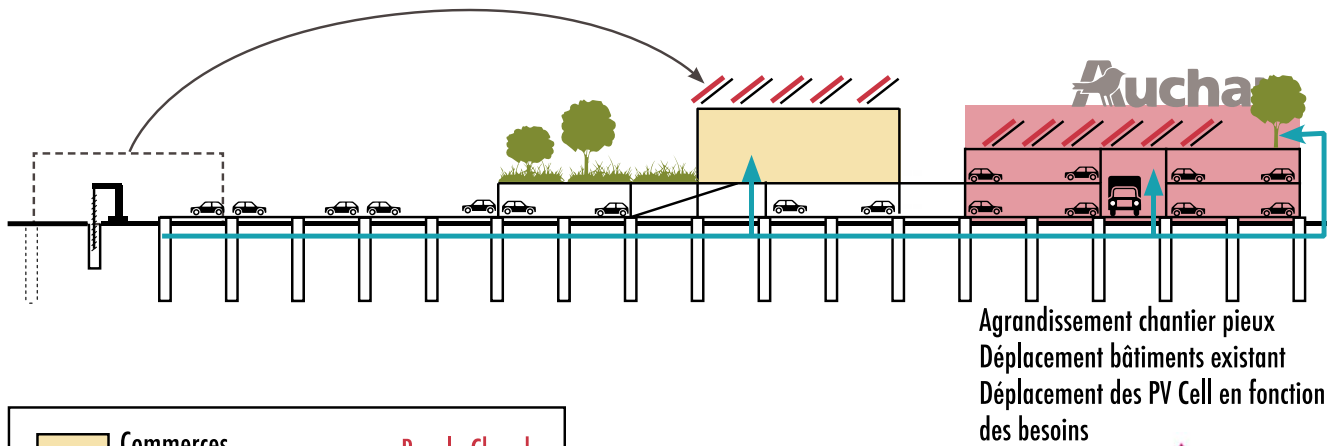
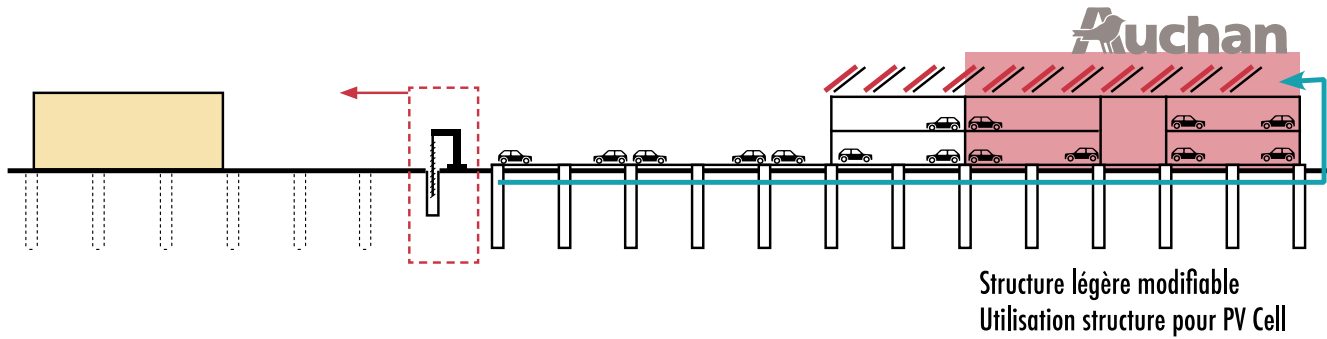
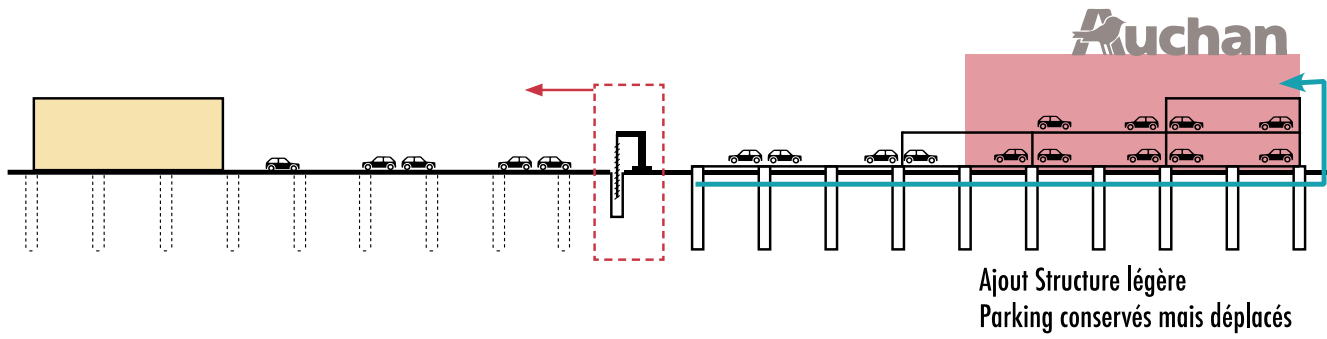


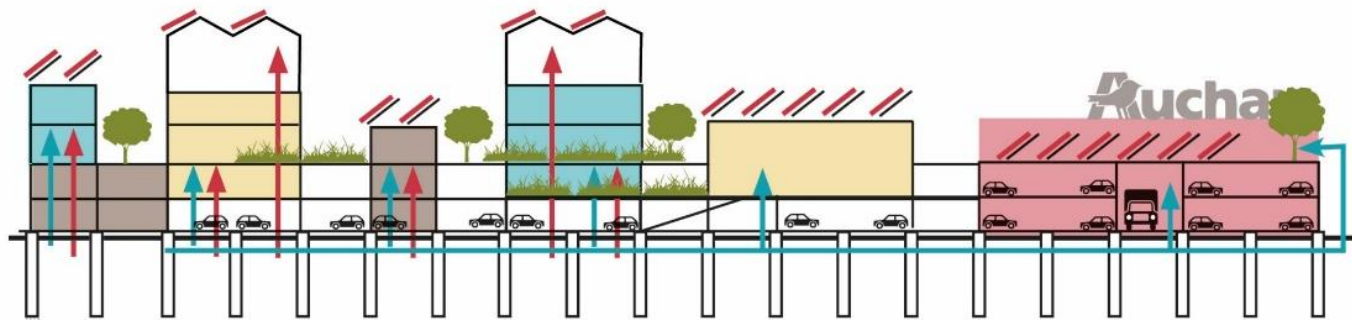
Ajout Structure légère
Parking conservés mais déplacés



Structure légère







Coupe Scénario possible 2025



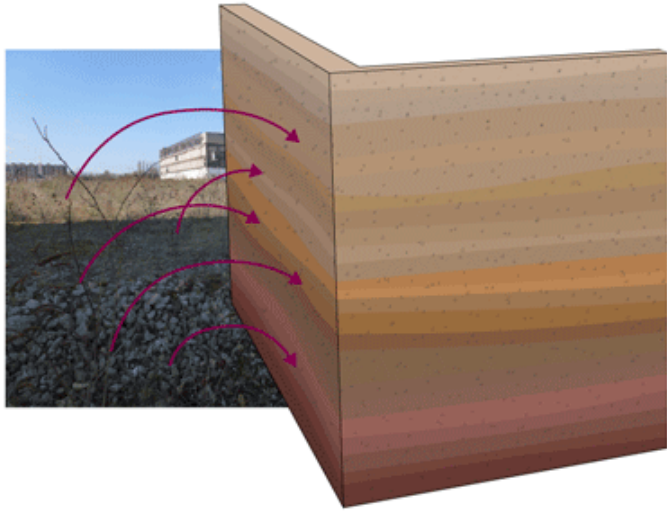
Carlos Arroyo +EKOA architects



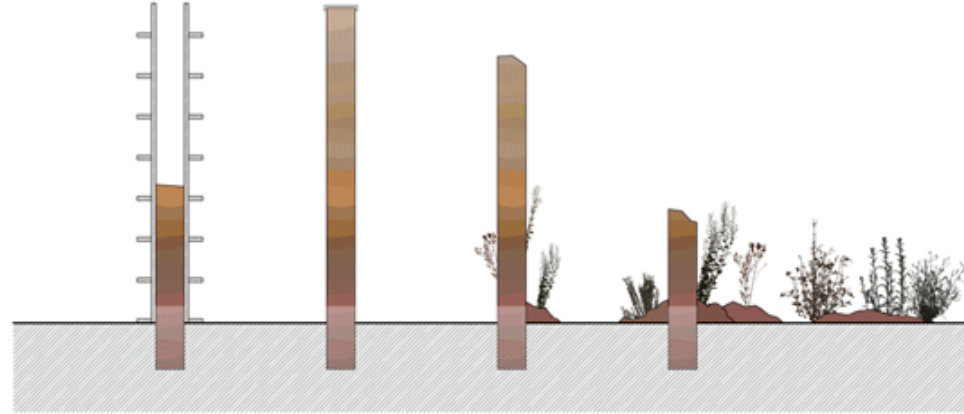
Build exemplarity in Roubaix



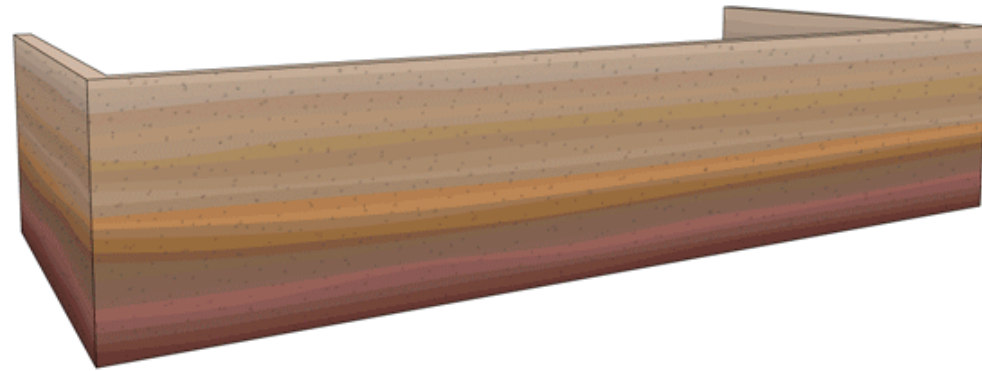
1. Memory



2. From Building to Park



3. Park



Carlos Arroyo +EKOA architects



Build the best possible compromise

Carlos Arroyo +EKOA architects



MAISON



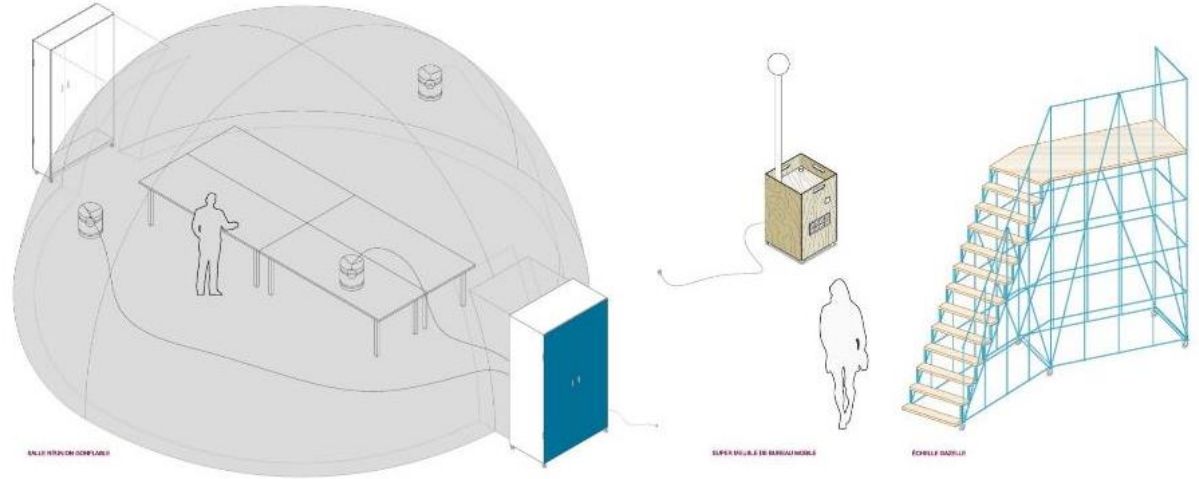
ELEVATION 1



ELEVATION 2



VUE PERSPECTIVE



PLAN INTERIEUR DOMO

SUPER PILEE DE BARRIUMORE

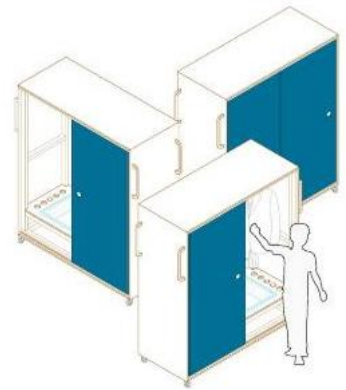
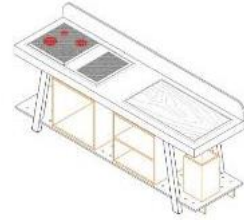
FORME D'ARRE



SET DI RISPARMIO MOBILI



COCCHE ADAPTABLE



VESTIARE

Build for the best re-use & up-cycle



Synergy Intl architects for BIA



Refurbish for the best re-use & up-cycle

ESPACE PUBLIC
+
PERMACULTURE URBAINE

HEBERGEMENT
BUREAUX NOMADES

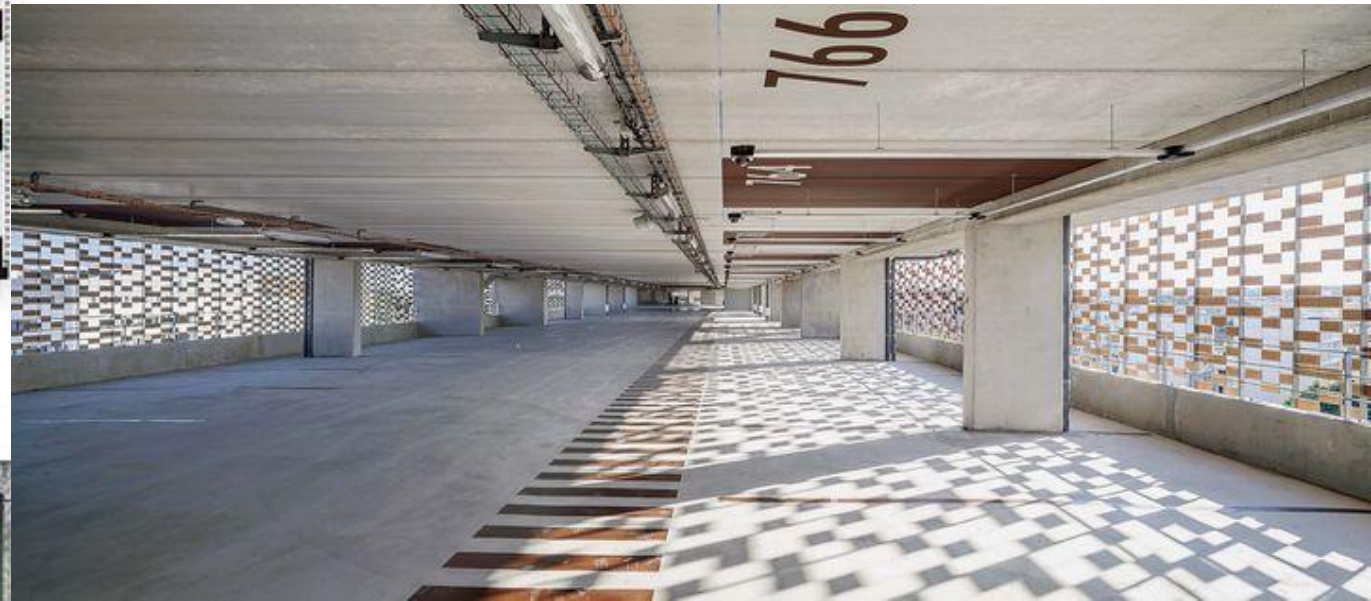
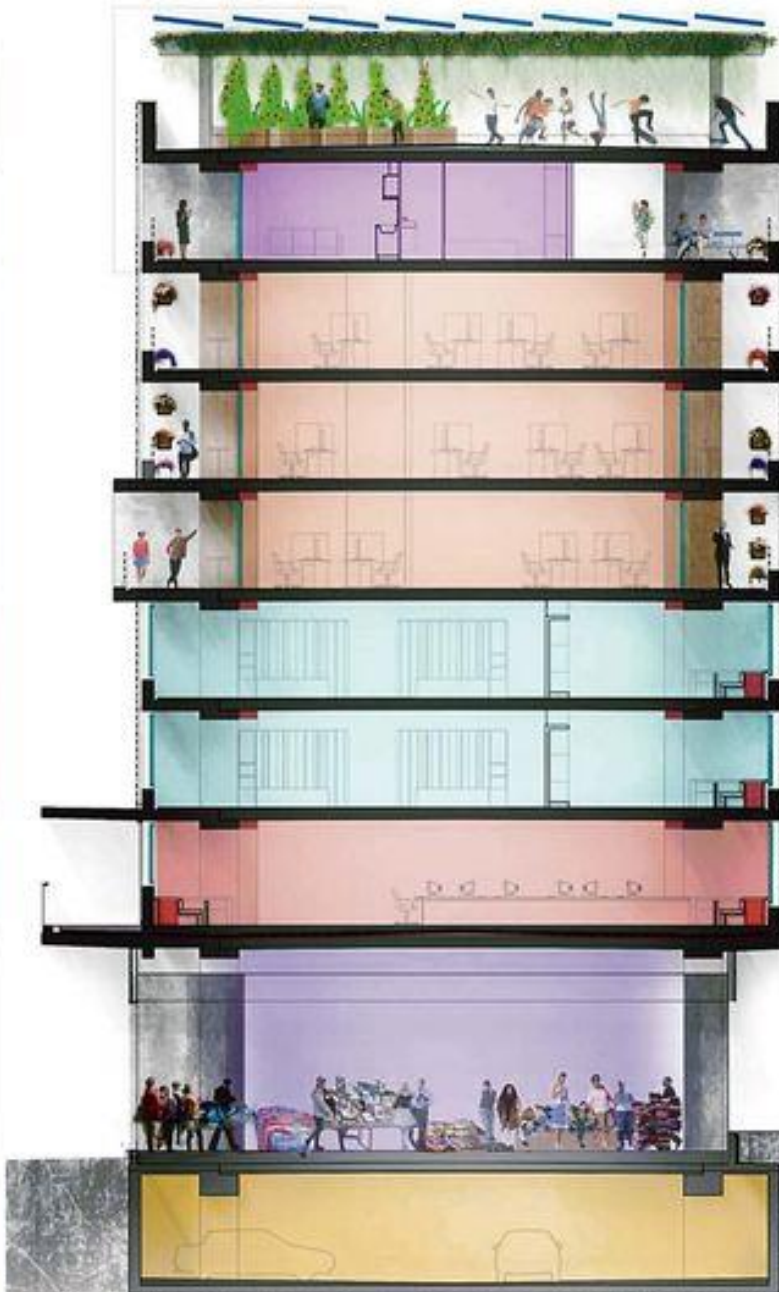
BUREAUX NOMADES

ESPACE POUR LA DIGNITE HUMAINE

SERVICES SOCIAUX
+
ESPACE D'EXPRESSION LIBRE

MARCHE DU TROC
+
STOCKAGE LOGISTIQUE

STOCKAGE VOITURE ELECT. UTILITAIRES
+
TOURISMES
+
AUTOPARTAGE

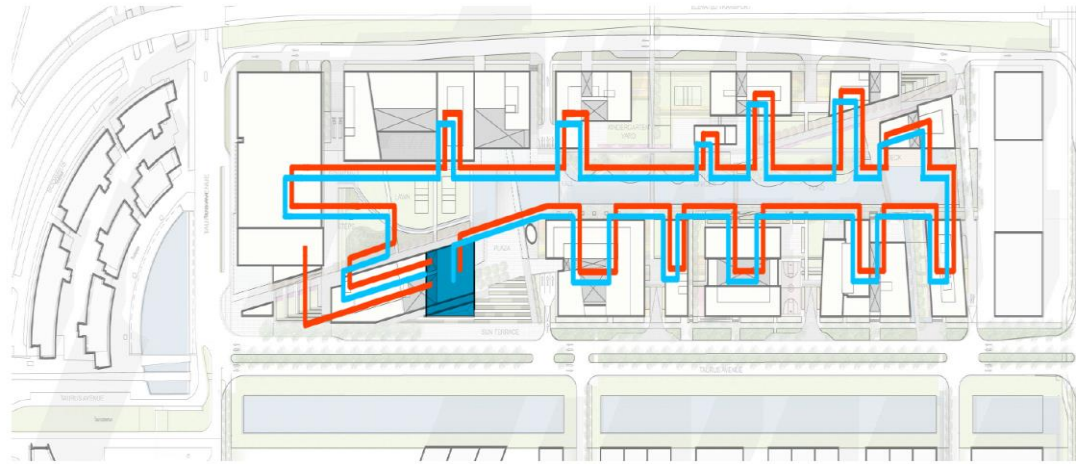


ARCHIKUBIK architects



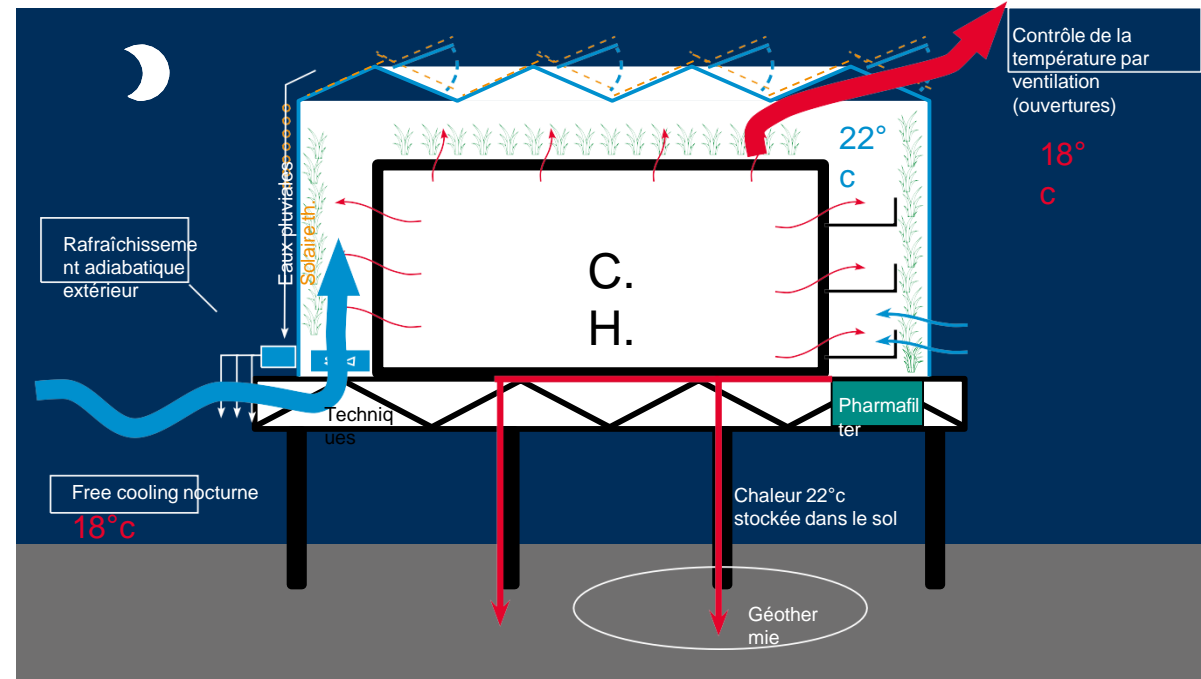
De Alzua architectes

• Mutualise infrastructure elements

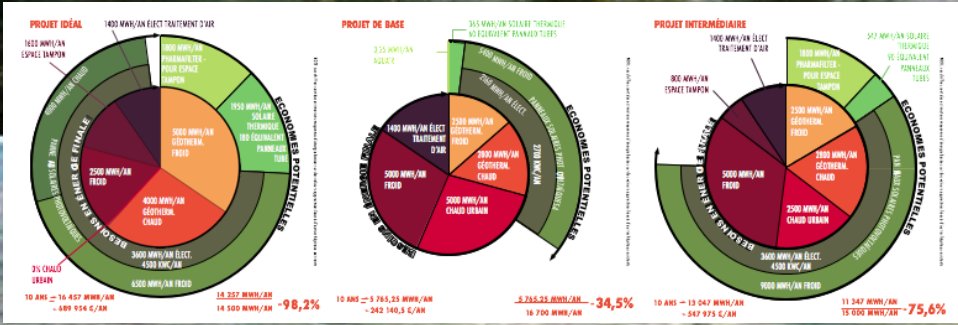


Waste, Heat and Power

- Mutualise, share and multiply functions
- Combine innovative technologies and outputs
- Design the building as a complex system of simple things.
- Integrate technology and aesthetics



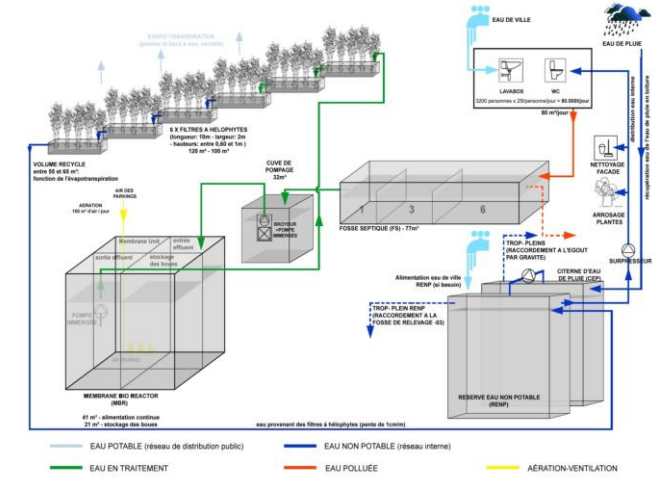
Michel Beauvais Associés architectes French Hospital of the future: LENS



Contrôle de la température par ventilation (ouvertures)

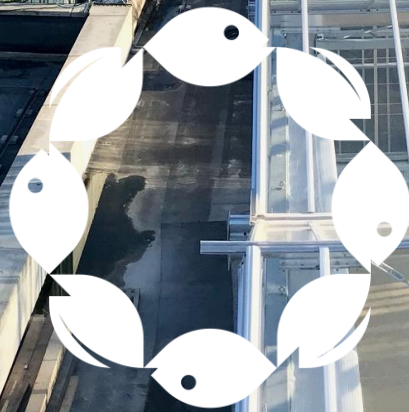
Make your building productive

- Produce Energy
- Produce clean Water
- Produce clean air
- Produce Biodiversity & humus
- Produce healthy materials
- Use CO2 as raw material
- Produce food



=



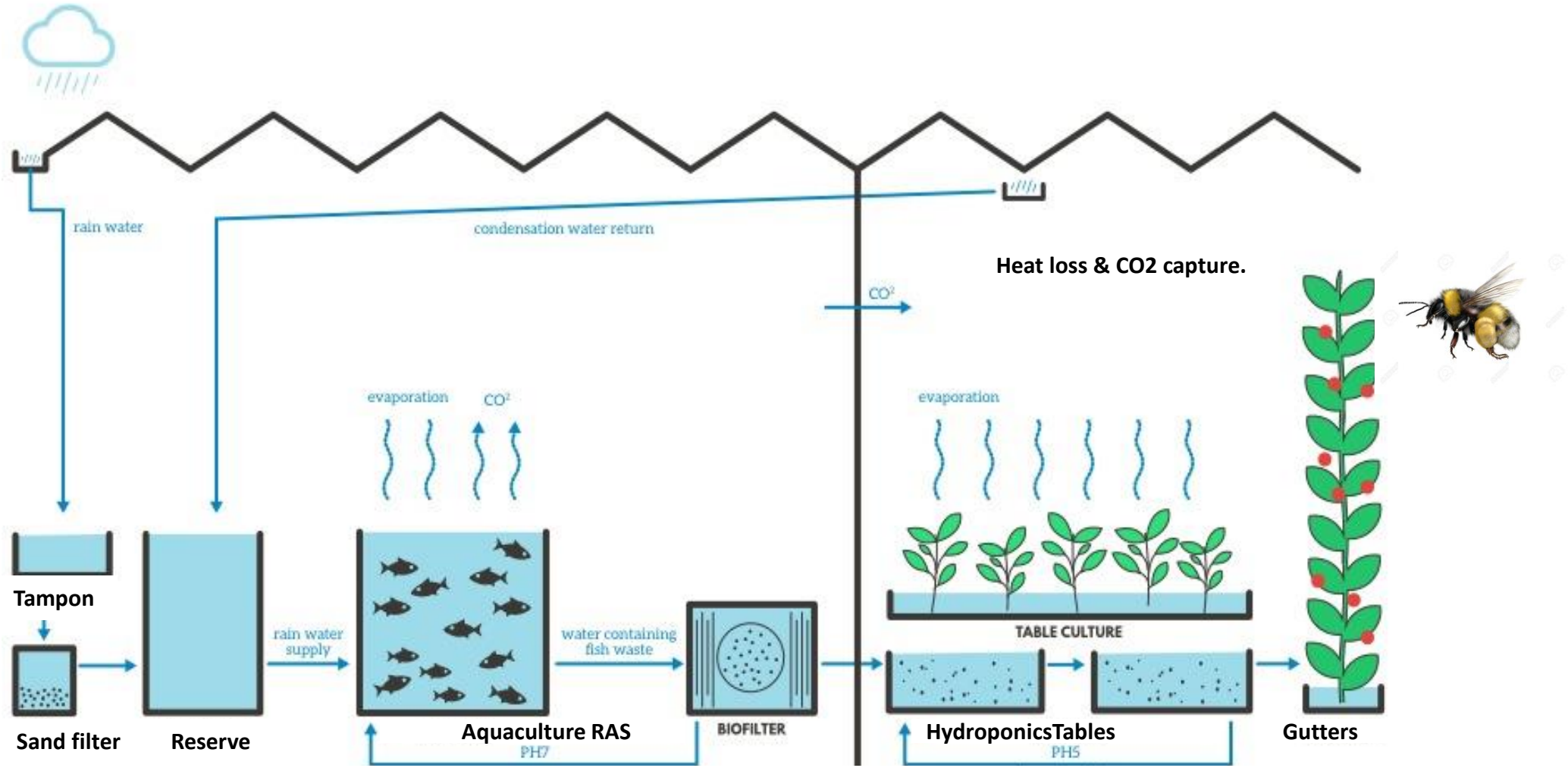


BIGH

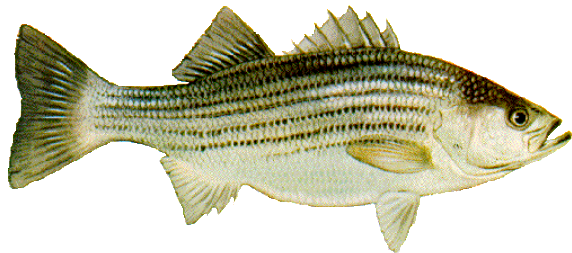
BIGH – Ferme abattoir



AQUACULTURE & HYDROPONICS = AQUAPONICS



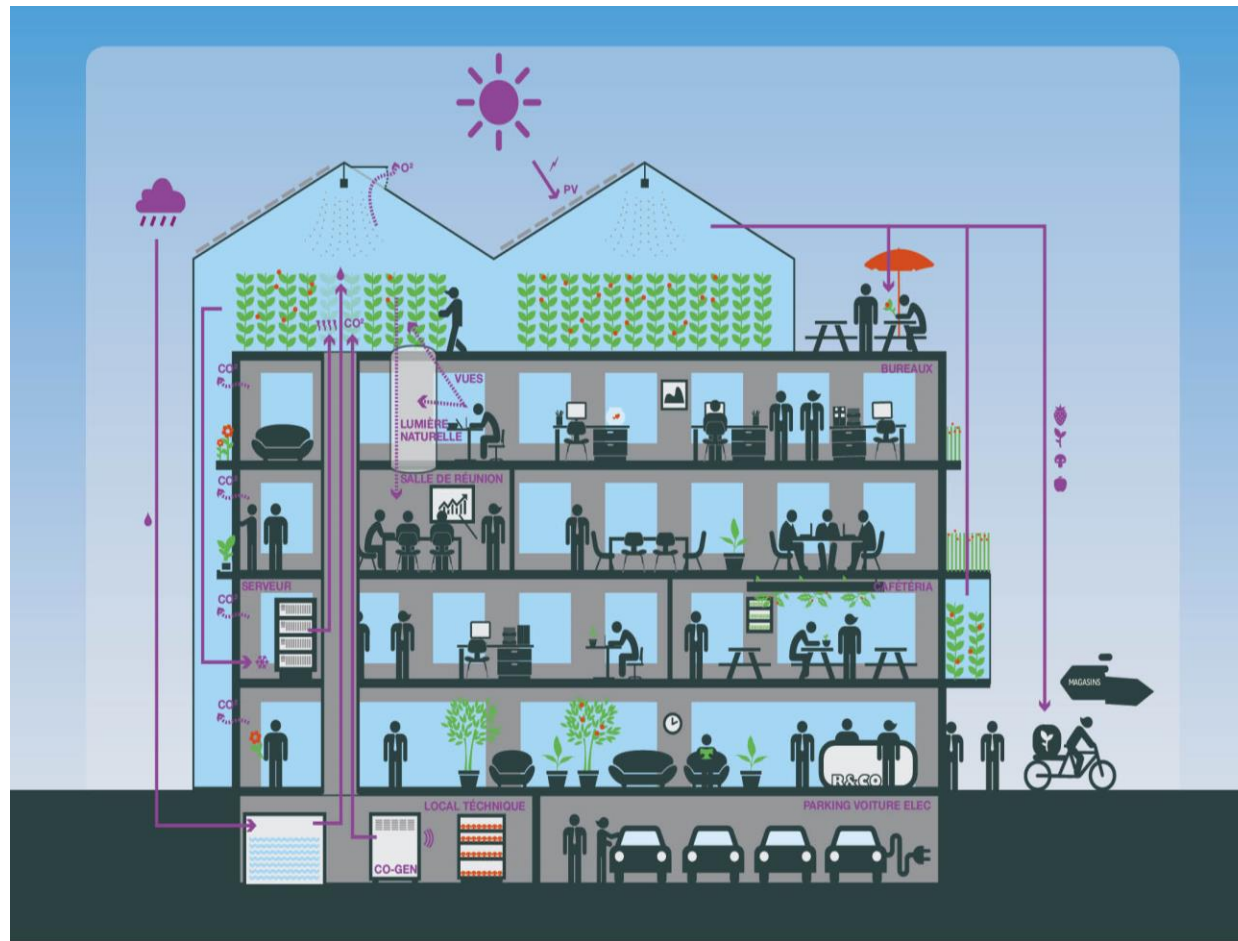
Striped Bass,
Zander,
Barramundi,
Trout
Tilapia



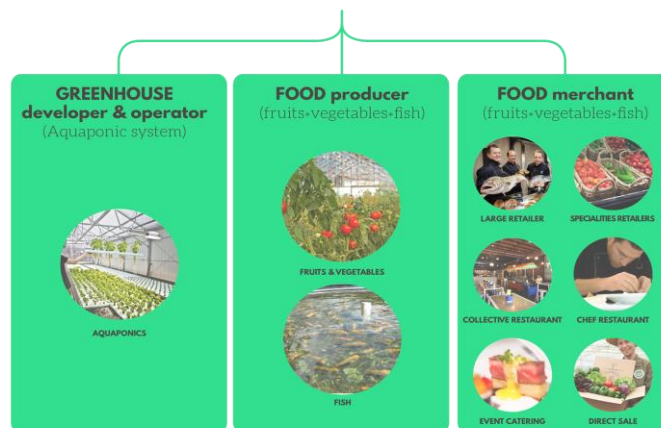
Ammoniac to nitrite to
nitrate + Solids as
natural fertilizers.



Assimilation by
plants and
natural pest
control with
beneficials



- Zero waste healthy Fish & Veg production
- Ultra-local affordable quality fresh food
- Water collection & re-use >< flooding
- Building energy & environmental performance
- CO2 capture by plants
- Up-cyclable materials (C2C) & BAMB
- Humus + natural fertilizers + biomass
- Biodiversity, Microorganisms+ Beneficials
- Local climate control reduce Heat Island Effect
- Social economy local jobs & access to healthy food
- Education & sensitization & training
- Short distribution channels & urban resilience
- Clean agriculture influencer & demonstrator





Break the rules to allow for BAMB and Productive Cities by:

- **Planning regulations agility...**
- **Financing ownership to service products...**
- **Allowing for innovations insurance...**
- **Mortgages for mobile construction >< land bound...**
- **Zero Carbon to Carbon positive ...**
- **Long term PV roof lease to built for disassembly BIPV...**
- **Water recycling and nutrient valorization going untaxed...**
- **Electricity smart grid and distribution deregulated...**
- **New business models for material, water, energy exchange...**
- **Organic labels extended to new post organic agriculture...**

Allow for reusing

- **Don't tax GAFAs, oblige them to invest in these good business changes locally**



Thanks

Break the rules to allow for BAMB and Productive Cities by:

- Planning regulations agility...
- Financing ownership to service products...
- Allowing for innovations insurance...
- Mortgages for mobile construction >< land bound...
- Zero Carbon to Carbon positive and CO2 as raw material ...
- Long term PV roof lease to built for disassembly BIPV...
- Water recycling and nutrient valorization going untaxed...
- Electricity smart grid and distribution deregulated...
- New business models for material, water, energy exchange...
- Organic labels extended to new post organic agriculture...
- Allow for reusing Upcycled Materials
- Don't tax GAFAs, oblige them to invest in these good business changes locally