



Group work summary

RESILIENCE



2021 - 2022

Made for the World Urban Forum, Katowice (Poland), June 2022
"Transforming our cities for a better urban future"



Editorial

We know very well the ecologic consequences induced by the exponential growth of human activities that we've witnessed since the beginning of the Industrial Revolution: natural resource depletion, destruction of ecosystems and biodiversity, global warming and climate disasters, disruption of great cycles (water, nitrogen, phosphorus), irreversible chemical pollutions of environments needed for human life, etc. The situation is more serious than ever. Scientists are warning us that if our development model doesn't change quickly and significantly, disruptions will intensify and reach points of no return: increasingly difficult access to vital resources, food crisis, health situations, catastrophic climate events, socio-economic inequalities, forced migrations, increased political tensions, competition to access land and rare metals, etc. Without a clear shift of our economic activities, the sustainability and durability of our societies will be threatened in the short and mid runs. In the face of so many challenges, urgent action needs to be taken. When it comes to climate particularly, the Intergovernmental Panel on Climate Change (IPCC) gives us no more than about a decade.

Starting with a definition of what a "sustainable" pathway is

Sufficiency (reasoned use of energy and land), resilience, inclusion, creativity: these words have become the new French reference points for all sustainable territories. We must use a more systemic, rational framework, and stop designing and trying to achieve our goals in a fragmented, thematic way. We should take instead into account interdependencies and interactions.

This is the reason why this group went for a holistic approach that aims to strengthen and go beyond the UN's SDGs (Sustainable Development Goals) and include the now mandatory concept of "boundaries": physical planetary boundaries first, and social boundaries also. The priority is then to agree on a method: since we can't afford to waste anymore time, we need to identify what already works, meaning tools and achievements already compatible with boundaries, so we can better spread them and replicate them.

France Ville Durable does so by bringing together the State's service competences, companies, experts, local authorities and a broad range of partners. Together, they identify and exchange methodologies and experiences to inspire public and private territorial actors prior to them defining their collective projects, so to accelerate the tran-

sition toward more virtuous pathways. "To inspire" is the core idea of this booklet, focused on territories' resilience. It was done by France Ville Durable and Engie and springs from several work sessions that brought together public and private actors with complementary profiles and ambitions. Its goal is to define the main principles to lead this shift of paradigm, using concrete examples of achievements. Habitat, mobility, food, economy and gover-

nance are some of the fields that need rethinking if we want to implement more sustainable policies.

To inspire also means to feed a positive and realistic collective imaginary. We gave this exercise a try by sketching a resilient living environment for Léa, a 10 year old girl in 2050. The future starts today.

Sébastien Maire, General Delegate, France Ville durable
Sylvain Chapon, Head of operational marketing and external relations, Engie



Contributors

Piloting and animation

- Sébastien Maire, France Ville Durable
- Marion Gonzales, France Ville Durable
- Sylvain Chapon, ENGIE group



Participants

- Bruno Bessis, Ministry of Ecological Transition
- Elsa Favreau, Bouygues Construction
- Philippe Garnier, CRAterre
- Françoise Ged, City of Architecture and Heritage
- Marlene Ghorayeb, Habitat Research Centre
- Anne Lise Piotrowski Hugon, European Metropolis of Lille
- Stéphane Pouffary, Energies 2050
- Arnaud Rayar, Ministry of Europe and Foreign Affairs
- Aude Sartre, Comité 21
- Sarah Schonfeld, Comité 21
- Nathalie Sement, Alliance HQE-GBC

Coordination

- Brigitte Bariol-Mathais, FNAU/PFVT
- Marianne Malez, FNAU/PFVT
- Adeline Fauré, FNAU/PFVT
- Marie Donoso-Banderas, FNAU/PFVT

Proofreading

- Olivia Barbet-Massin

Translation

- Marie Medeville

INDEX

CHALLENGES

7

The SGDs that this workgroup on Resilience focused on
Reminding the main observations and evolutions after the adoption of the 2030 Agenda in 2015
Challenges

2050 SCENARIO

10

The life of Lea, a resilient child in 2050
Introduction: Life on Earth in 2050
The resilient home of Léa, a 10 year old kid in 2050
For consumption habits to become compatible with planetary boundaries
Active or low-carbon travels
Resilience in school
Well-being and health in 2050

PATHWAYS

18

1. Including resilience and moderate uses of resource in the 2030 pathways
2. Diversifying funding means and ensuring an efficient allocation of public money meant for transitions
3. Strengthening the monitoring and the performance assessment of projects and of public policies
4. Organizing competence development and education
5. Granting technology a reasonable place
6. Promoting a positive vision of no-carbon future

CONCLUSION

23



© Unsplash - Markus Spiske



CHALLENGES

The 17 United Nations Sustainable Development Goals (SDGs) were created as part of the UN 2030 Agenda. They give a framework to face the challenges of the 21st century.

Drawing from their predecessors, the Millennium Development Goals (MDGs), SDGs are more specifically focused on ending poverty and on fostering socio-economic progress with the perspective to fight inequalities worldwide, although more environment-focussed goals also define a lot of the SDGs - not just the 11th ("Sustainable Cities and Communities") and the 13th ("Climate Action").

SDGs are directly related to objectives of economic growth. As such, they are automatically related to non-renewable energy consumption and to the production of negative externalities. They remain vague and prescriptive in terms of concrete and measurable goals to be reached to stay below the 2 degrees Celsius limit induced by global warming.

The SDGs that this workgroup on Resilience focused on:

7 ÉNERGIE PROPRE ET D'UN CÔTÉ ABORDABLE

Ensure access to affordable, reliable, sustainable and modern energy

8 TRAVAIL DÉCENT ET CROISSANCE ÉCONOMIQUE

Promote inclusive and sustainable economic growth, employment and decent work for all

9 INDUSTRIE, INNOVATION ET INFRASTRUCTURE

Build resilient infrastructures, promote sustainable industrialization and foster innovation

11 VILLES ET COMMUNAUTÉS DURABLES

Make cities inclusive, safe, resilient and sustainable.

13 MESURES RELATIVES À LA LUTTE CONTRE LES CHANGEMENTS CLIMATIQUES

Take urgent action to combat climate change and its impact

Ever since 2009, scientists produced data to map out planetary boundaries. This data was used by economists to build economic models focussed on the living and on the Earth system instead of on growth indexes – such as Kate Raworth's "Doughnut Economics".

This approach highlights vital social needs – food, housing, access to health services, to education, to social justice – and on the ecological boundaries of the Earth – as reminded by the "Global Overshoot Day" which is set to happen each year a little earlier.

Using a prospective method and the idea of territorial resilience, we want to redefine the way we see "sustainable" urban development and to question the 2030 Agenda framework, so we can find and choose pathways that are compatible with the planetary boundaries that condition livability on Earth.

Efficient systems already exist. We need to get them used massively and support people and organization that use them, especially vulnerable populations, through actions that limit climate change and help adapt to its consequence and to other consequences of the Anthropocene.

Reminding the main observations and evolutions after the adoption of the 2030 Agenda in 2015

- Pathways defined by the Paris Agreement to limit global warming below 2 degrees Celsius are still not respected

- Collective awareness and new data appeared: adaptation, resilience, systemic approach, planetary limits, reasonable use of energy and land, better knowledge of the realities of the current

and the next energetic mix, increased awareness on rarefying access to fossil resources in the shorter term

- Quick evolution and deployment of new technologies and norms (ISO, Afnor, etc.)

- Increasing role of local authorities: necessity to choose the relevant scale to ensure efficient development and implementation of resilient ecosystems

- Resilience: a more holistic approach of the challenges and the sectors related to international cooperation.

- A new position for humans: involvement, co-construction, inclusiveness, service access

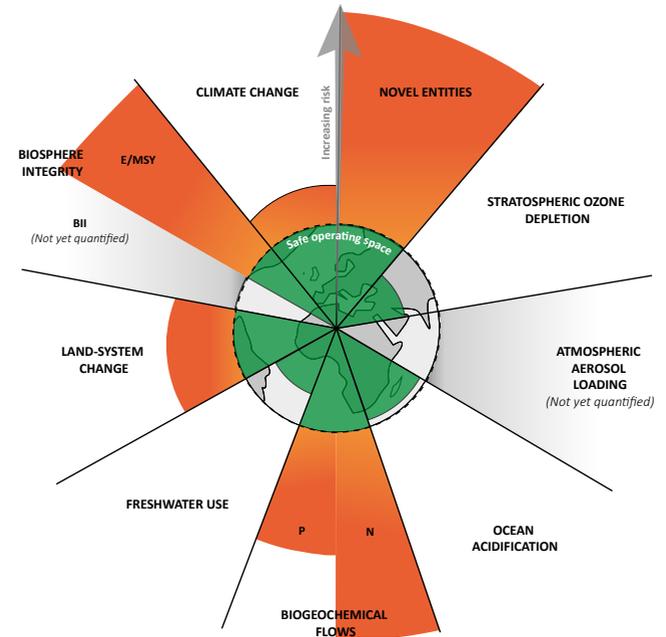
Challenges

- Strengthen and complete the 2030 Agenda framework for a better awareness of planetary boundaries and of sufficiency in pathways set for 2030 and 2050

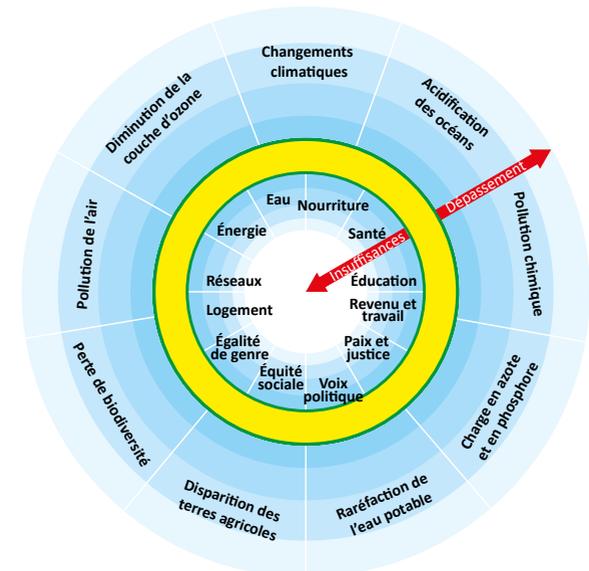
- Foster the carbon transition worldwide, though in a differentiated way. In the North and in economically developed countries, particular attention should be paid to using land and energy reasonably so that emerging and developing countries can meet life's essentials.

- Define a positive and collective vision for the future, one that embraces new challenges of tomorrow

- Identify directions for improvement and tools, methodologies and rational frameworks that can be used to implement operational solutions at local scales.



© Planetary boundaries - Stockholm Resilience Center



© Illustration théorie du donut - Kate Raworth



2050 SCENARIO

The life of Léa, a resilient child in 2050

Introduction: Life on Earth in 2050

In 2050, global warming has been limited to 2,5 degree Celsius compared to the preindustrial era thanks to drastic regulations taken in 2022, in line with new fundamental principles set and used by sustainable territories: limited ecological footprint, resilience, inclusion, creativity. Climate hazards have increased over the past thirty years, but we've managed to stop climate change disruptions by reaching carbon neutrality at last.

Together with companies and citizens, public authorities have created a real collective awareness. Given that challenges and risks are global, international organizations found ways to compromise, and states and local authorities alike have changed the way they approach the economy, consumption and urban planning.

Projects of renovation and adaptation (those related to urban planning and energy among others) have become systematic opportunities to accelerate the shift toward a more carbon-neutral economy that is much more respectful of the environment. Investments are now assessed based on their "social and environmental costs". This assessment method has progressively become the norm, reinforced by the pressure from public opinion and by suitable regulations implemented around the world.

Resilience and planetary boundaries are the new framework for public policies and school programs, for private and public accounting, and for financial institutions. Economic theories have changed a lot. They've let go of the idea that natural resources are infinite, though this idea previously served as their basis for more than 200 years.

People and decision-makers chose for a new way of life, more resilient, inclusive and creative, one that uses resources moderately.

New awareness and adaptation worldwide made it possible to go back under certain planetary boundaries which were previously crossed and threatened the survival of our species, although some changes are irreversible and still carry a lot of consequences – chemical pollution, ice loss and sea levels rising.

The resilient home of Léa, a 10 year old kid in 2050

Léa lives in a small building that was originally used by service companies but got renewed and rehabilitated 10 years ago to be used for collective housing (thanks to a building conception that anticipated the possibility to change the building's function along the line).

A detailed diagnosis and a climate resilience audit of the building and the land were done to adapt the building's situation to bioclimatic conditions and maximize its resistance to local risks and vulnerabilities. The building has natural ventilation and is well isolated from temperature and sounds thanks to its tailored and contextualized construction that uses bio-based materials (wood, hemp, etc.) and mineral-based materials (earth, stone, etc.). The building doesn't have individual heating and AC systems. It is connected to a local loop of energy that collects the heat and the cold to ensure comfort in both Winter and Summer. It also has enough solar panels to answer small daily electricity needs. Up until a few weeks ago, Léa lived in a 3-bedroom apartment. She just moved to a new, bigger apartment located in the same building, because she and her parents were beneficiaries of a program that allows people to switch apartments based on the evolutions of their households.

Monique, a retired grand-mother who lost her husband recently, freed up the apartment where Léa and her family now live because Monique was able to move to a studio more suited to her needs, located on the ground floor. The studio is connected to an extra room that Monique can access on demand, where she often enjoys hosting her grand-children when they visit her. Only elderly live on the ground floor, with access to care services that allow them to stay living

Focus

Ivry-sur-Seine, France

Evolutive, adaptive and groupable housing: 1 lot 3H project in Zac Ivry Confluence steps away from standard housing operations. Instead, it develops tailored housing and plays on intermediary spaces to adapt to each family's diversity and to modern ways of life.

<https://tinyurl.com/2p9fnn2r>



in their home for as long as possible. People collectively decided to encourage proximity between grand-parents, children and grand-children. Léa is happy: in 2 or 3 years, her grandparents will also be able to come and live close to her!

In the building, shared spaces and mutualized services limit living costs and support cohesion (laundry room, childcare, shaded gardens, food gardens, coworking spaces).

On days of particular heat or in case of emergencies, people can take shelter inside the building, in a dedicated room. The area has AC, keeps water out, is energetically sufficient, has its own communication means and is connected to the building's emergency exits. During and after school hours and holidays, Léa plays in the building's garden or enjoys a freshness island with her parents and her friends in the neighborhood's oasis-schoolyard open to the public. If people considered to be vulnerable aren't seen, the building's active solidarity network makes sure that someone checks on them.

In the weekend, Léa gets emergency first aid training. She is used to do rounds in the neighborhood with her parents to check on her neighbors and let them know they can ask for her help if they need. Lea also commits to providing school support and connecting with young climate migrants whose families are hosted in apartments meant especially for them.

All essential businesses and services that Lea needs are reachable within a 10 minute walk. The building is directly connected to a bike path network that connects them to any point of the city within less than 30 minutes. The building is also connected to networks of buses which ride on electricity, bio-emission or hydrogen, meant for people with limited mobility and for mid-distance travels between a city and another one nearby.

Overall, great work was done in Lea's neighborhood to improve the way buildings are isolated, sometimes improved step by step throughout the years following technical innovations. Besides, homes are equipped with low-tech digital devices that signal energy or water losses. Since AC will still be needed in cities for a few more decades, AC gets created more and more with cooling urban systems inspired

Focus

Bègles, France

La Ruche: Collective, cooperative and social housing project. This social experimentation of cooperative and collective living space suggests going back to basics by supporting local and renewable resources and by trying to integrate itself to natural fabrication and end of life cycles.

<https://tinyurl.com/2p8v474e>

Copenhagen, Denmark

Urban Village Project: project offering a broad range of house configurations that are based on the different ways people live, both individually and as families.

<https://tinyurl.com/msbcva8x>

Focus

Lille, France

"Tast'in Fives – Transforming Areas with Social Talents: Feed, Include, Value, Educate, Share": project funded by the EU to tackle poverty and unemployment thanks to a place dedicated to food and to cooking activities.

<https://tinyurl.com/3y8u9hxw>

by Canadian wells or through distributing iced local water, and through mutualizing, as much as possible, building maintenance means.

Lastly, Lea's building is located in a neighborhood where life is enjoyable. People walk around feeling safe on shaded streets. They can play, meet up with neighbors in other buildings, go grocery shopping, pick up their organic basket. They can even contribute to maintaining the vegetable and fruit garden they share. Parties, barbecues and games are organized several times a year. Léa loves it here!

For consumption habits to become compatible with planetary boundaries

Léa and her parents consume local, organic and seasonal goods produced on farmlands near their town. They chose for a flexitarian diet, getting more protein intake from vegetables and less from red meat, a meal only kept for big occasions. This change was fostered by many actions developed to support health and local food (stricter regulations on advertising, food education, vegetable and fruit gardens in public parks, collective kitchens, open spaces dedicated to food); this transition was also made possible through the coordination of shorter supply chains and through reaching the "zero land artificialization" goal.

The family also committed to fight waste and they contribute to the circular economy by bringing their broken equipment to one of the neighborhood's "fablabs" before buying new ones – since the production of new products decreased greatly anyway after the interdiction to produce or market products that can't be repaired or reclaimed. In 2050, reusing products is the new normal, and recycling is an exception - a shift that consumers and economic actors enabled, supported by financial incentives.

The economy and work are primarily organized to answer people's essential needs, to make repair possible, and to reuse and reevaluate all products. Information guides consumers' daily habits as to what and how to buy ("planetary boundaries" standards are now listed along with nutritional facts and other quality standards).



Léa's parents live their lives using resources moderately and they are happy doing so. They didn't see nor experience these evolutions as restraints or limitations because they saw right away the benefits for their health and their quality of life. Besides, territories manage carbon emission jointly and they are collectively responsible for the protection of biodiversity as well as for great scale water and soil depollution programs that had to be implemented everywhere on Earth. Local life happens in better accordance with the seasons, with biological human rhythms, and workdays are more adjusted to seasonality.

Active or low-carbon travels

In 2050, children like Léa live mostly in mid-size cities where jobs and essential services are located close to living area – a configuration that greatly limits daily commutes. New jobs have developed, related to services, social cohesion, short supply chains and to local activities created in the neighborhood and neighboring areas. This way, city life is organized around short distances that people can travel by foot or bike for their daily needs. Long distance travel happens with carbon-neutral transportation means that use little energy thanks to significant technological progress in the field. In rural areas, people can access ultra-light electric, biogas or hydrogen vehicles that use resources moderately. Users share these vehicles self-sufficiently. Inhabitants receive a carbon budget meant for long distance travels, just like they do for their daily supplies. For international leisure travels, a new kind of sailboats was developed.

In 2050, logistics and supply infrastructures are resilient, meaning they ensure that essential services get maintained even through climate hazards or socio-economic crisis, thanks for instance to a systemized use of analysis such as life cycle assessment (LCA) material and energy flow analysis (MEFA).

Resilience in school

In 2050, "school streets" are sacred space for kids and families. They are entirely pedestrian and green, to ensure better air quality and ensure the existence of places to cool down in the city.

Focus

Dharavi, India

In Asia's greatest slum, example of informal waste management thought as a ecosystem copying natural circularity.

<https://tinyurl.com/3uzwdfv>

Focus

Ottawa, Canada

"15-Minute Neighborhood" strategic plan: new official plan designed to shape city growth over the coming 25 years and to push the idea of the "15-Minute city". The plan targets various goals of densification, economic growth, energy and climate change, gender equality and culture.

<https://tinyurl.com/mryvjv4>

Focus

Sailcoop, voyageur sans polluer

Sailcoop: sailboat travel cooperative that suggests building an innovative network of sailboat connections relying on cooperative fleets. The goals are to decrease carbon emissions and to travel differently.

<https://sailcoop.fr/fr/>

Focus

Pédagogie par la nature

French network for education through nature: a network that facilitates and implement "forest schools" practices.

<https://tinyurl.com/383zv56>

Active pedagogy serves as a teaching guideline. It helps Léa to become more independent and allows her to live in a safe environment that respects her learning rhythm. All kids in her school are taught nonviolent communication methods, as part of a peace education project.

History school programs include the idea of Anthropocene and they question progress and the evolutions of societies in the light of disruptions they've implied and the impact they've had on climate change during the 21st century.

Children are made aware at a very young age of their relation to nature and of how their daily activities impact the environment. This way, they get used very early on to environment-friendly behaviors which they consider as a norm. Oftentimes they go into the forest or in nature to spend time outside, play and develop various skills and knowledge: learning about plants, wood sculpture, animals, etc.

Manual education is mandatory. It teaches children the skills they need to complete basic repair: sewing, fixing, mechanics, etc. Without neglecting the mastery of technology and digital technology for the older students, the training courses are refocused on essential activities that promote human, cultural, social and economic progress. Farming and technical educations are more valued now and they provide the youth with stable employment that cannot be relocated.

Well-being and health in 2050

The safety of people and goods remains one of the main challenges of the resilient city. Regarding health, life expectancy has significantly improved in 2050 thanks to new public policies and to people changing their consumption habits to prevent risks – particularly by decreasing behaviors causing cancer. In territories, health houses ("maison de santé") are key places to keep track of people's health and of their well-being.

Active commuting means that ways of life are less sedentary. Food habits are healthier and more balanced. The development of agroecology ended the use of non-natural inputs. Education about products components and their quality resulted in people buying more eco-friendly products that are better for their health. Air quality has also significantly



improved, which made chronic diseases decrease. Innovation and research in the health sector have led to better medical treatments for serious illnesses.

The redevelopment and protection of spaces dedicated to biodiversity and to natural habitats (forest and wet areas among others) prevent contact between wildlife and domestic fauna and they prevent mosquitos from proliferating. Pandemics are mostly under control, but health and environment agencies work very closely to prevent potential new hazards.

Summary

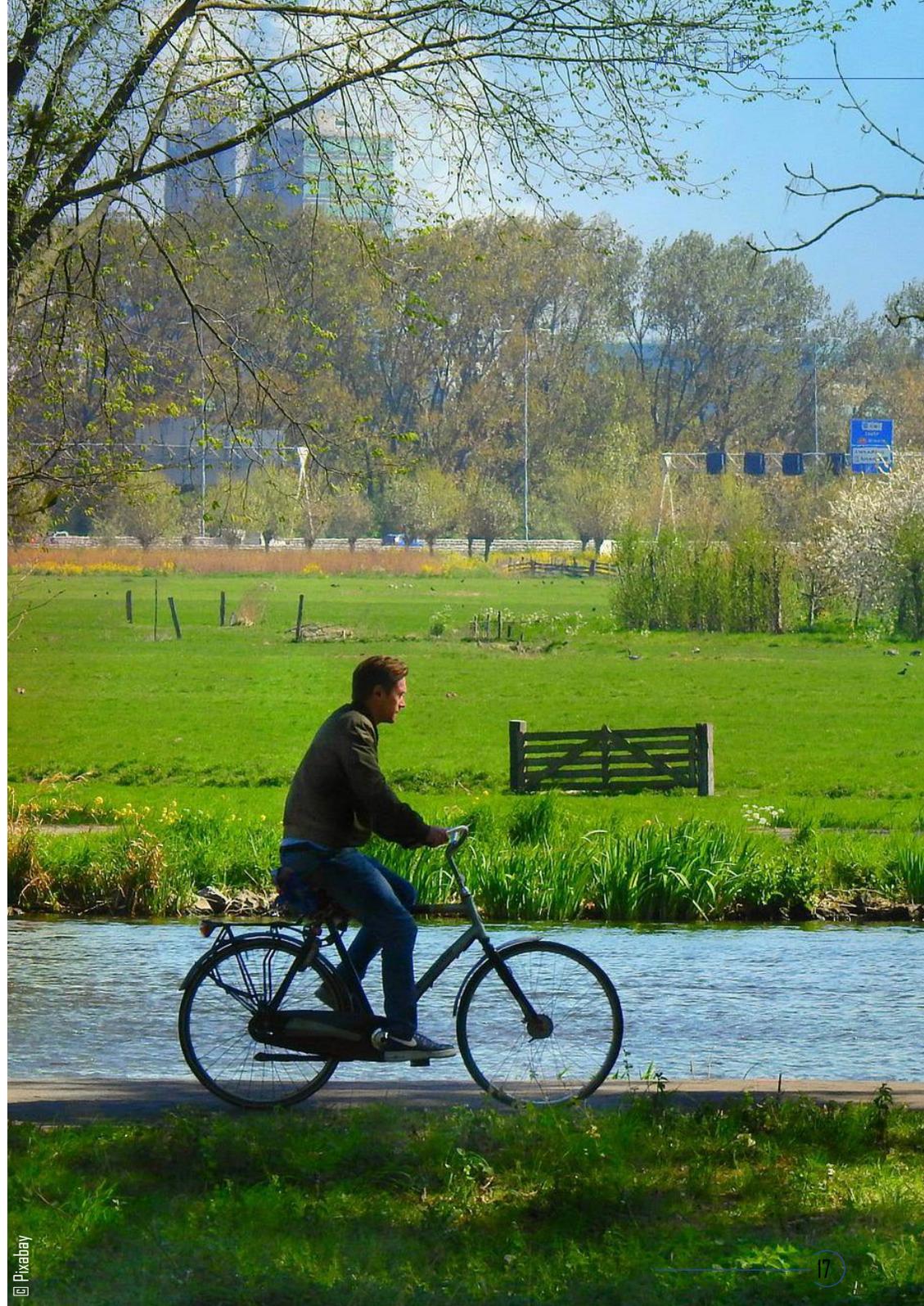
In 2050, Léa leads the life that every child could be living as early as 2030 if our collective awareness keeps growing and being encouraged by the kind of public policies needed to implement transitions.

Focus

Lyon, Rhône-Alpes Region

Health and well-being in Lyon Confluence area: included an innovative local health center designed to be a care center as well as crossroad for health and wellbeing matters, to serve the needs of people in the neighborhood.

<https://tinyurl.com/2mwd5v5m>



PATHWAYS

I. Including resilience and moderate uses of resource in the 2030 pathways

- Reinforce territorial planning and diagnosis at early project stages
- Make the moderate use of resources a goal that applies to the economy, to consumption and to territorial action :
 - Encourage a frugal approach (“right materials in the right place”) and avoid abusive oversizing by encouraging solutions that use resources sustainably, such as biobased and mineral-based materials
 - Encourage innovations that support energetic efficiency, reuse and the reclaim of building materials
 - Develop decentralized local sectors (electric or water-based energy production, reuse, repair, etc.) that help implement virtuous and cooperative ecosystems at all scales.
- For local projects, encourage the systematic use of life cycle assessment (LCA), flux-matter-energy analysis (AFME) and circular economy processes
- Promote local authorities' right to try



© Sailcoop Coopérative de voyage en voiliers

Focus

Abidjan, Ivory Coast

The city uses innovative planning tools to tackle the need for resilience in projects' early stages. The 360 City Scan method enables the mapping of performances on a territory, to monitor the strengths and weaknesses through 6 different angles: circularity, inclusion, attractiveness, productivity, resilience, connectivity. <https://tinyurl.com/57cju3cm>

Plaine Commune, France

“rêve de scène”: Industrial Demonstrator for the Sustainable City (DIVD) that proposes a singular approach of cooperation bringing together public and private urban actors to experiment and create innovating urban solutions on in ever changing territory. <https://www.scenesurbaines.fr/>

Immaterra

Immaterra: cooperative company of general interest that brings together public and private actors to support the development of sustainable economic models for both businesses and territories. <https://tinyurl.com/yc2wddx8>

Marcoussis, France

Marcoussis solar farm, biggest photovoltaic farm in that area: set on a former embankment wasteland, this place provides electricity to 10 000 people. Close to 1.4 billion euros were raised with eco-investors – inhabitants of the town, of the metropolitan area and of the department, who could contribute starting 10 euros. In less than a day, all payment obligations made available exclusively to people living in Marcoussis were sold. <https://tinyurl.com/mrwyypken>

Saint-Etienne, Auvergne-Rhône-Alpes, France

“Planetary boundaries”: innovative exercise implemented in Sud Loire (by the urban planning agency of Saint Etienne partnering with Écoles des Mines of Saint-Etienne). It showed that climate change and the increasing Particulate matter reached a dangerous level, like the erosion of biodiversity and the cycle disruptions of drinkable water and nitrogen. <https://tinyurl.com/yc3mzxy>

Local workshops :

facilitated by France Ville Durable and meant for elected representatives and service leaders to update their knowledge of new paradigms and of the action means available to advance the economic, social and environmental transitions. <https://tinyurl.com/3hbkzm9p>



2. Diversifying funding means and ensuring an efficient allocation of public money meant for transitions

- Supporting efficient local finances by saving up on projects that do not impact the sustainability transition positively and by ensuring that budgets are allocated rightly and get monitored to serve local transitions.
- Support cities' fiduciary capacity and new kinds of partnerships: public-private and cooperative citizen organizations

3. Strengthening the monitoring and the performance assessment of projects and of public policies

- To run projects efficiently, create indexes to monitor and assess territorial policies based on planetary boundaries landmarks; include studies of their long term impact (water stress, geological effects, impact on biodiversity, etc.)
- Implement Nationally Determined Contributions (NDCs) at the local level while monitoring the national strategy based on 5-year horizons on the 2030-50 period
- Share and spread the "measure, report, monitor" methodology for all actors to keep track of initiatives and to help them consolidate and copy resilience strategies.

4. Organizing competence development and education

- Massify knowledge exchange on the Anthropocene, on "Donought Economics" and on planetary boundaries, through initiatives designed to grow awareness and to train the representatives and leading teams of local authorities and businesses.
- Push to adjust competence assessment methods and to accelerate the training of facilitators
- Encourage methodological innovation and new processes, in order to foster transitions and to overcome cognitive resistances.
- Develop participative approaches of project governance to improve the acceptability of projects

5. Granting technology a reasonable place

- Systematically question the relevance and opportunity of new technologic developments, especially with digital technologies, based on how they will use polluting matter and rare lands and on whether or not these innovations will increase energy consumption and green-house emissions.
- When the project's utility and impact is deemed relevant, implement solutions that enable and ensure the project's energetic sufficiency



Focus

Dunkirk, France

"Halle aux sucres", living place of transition: a unique place in France, set in a former harbor warehouse that was rehabilitated to bring professionals from the field and inhabitants together. The public can access exhibition spaces and places of expression, a platform dedicated to digital innovation, a playful area where they find explanations about urban sustainability, and two floors dedicated to the evolution of local public policies.
<https://www.halleauxsucres.fr/>

Serious game Caléac :

a serious game (made by Linkcity, LAET Laboratory, Lyon 2 University and its students) that approaches urban logistics as a tool to develop and improve shorter food supply chains. By playing the role of various key actors (producers, local authorities, freight carriers, mass retailers), players work together to improve the food sufficiency levels of their territory.
<https://tinyurl.com/yspxvd75>

La Rochelle, France

La Rochelle Urban Community and Suez implemented a sustainable digital strategy. The local authority established a diagnosis and created a guideline to define and limit the effects of digital technologies on the territory thanks to carbon assessment, life-cycle assessments, et.
<https://tinyurl.com/mrx4xj55>

Astuce & Tic

Digital twins (geographic info systems – SIG) created to improve the planning and resilience of water infrastructures. Using models of spatial and dynamic simulation of the environment, Astuce & Tic considers prospection as a study component, it being an essential aspect to design decision-making processes tools and needed to anticipate and limit climate changes' predictable effects. This tool makes it possible for people to test various scenarios and to have a prospective idea of how resources will evolve - especially water and land.
<https://tinyurl.com/2p93ky25>

Des data centers moins énergivores

Toward less energy-hungry data-centers: to head toward carbon neutrality, Engie implemented various processes and optimization targets in data-centers, relying on ambitious

Santiago, Chili

Santiago Des3aDo: 3D platform developed by a French consortium to build urban projects that include innovative solutions, both technical and environmental, based on projections made to assess the project's impact.
<https://tinyurl.com/4ndaswmw>

Environmental labeling:

Environmental labeling: experimentations done by Ademe (Agency for ecological transition) in the food and textile industries.
<https://tinyurl.com/32mfd4p>

- Take into account the ideas of critical infrastructures and of the continuity of activities to answer vital needs (operators of vital importance - OIV, identification of vulnerabilities induced by digital technologies and by dependencies related to utilities and mobility fluxes, etc.)

6. Promoting a positive vision of no-carbon future

- Connect transparency and pedagogy: establish carbon transparency and carbon labels for consumers to be informed and be able to make choices and change their habits.
- Recall the differentiated responsibility between the North and the South: the North must use land and energy moderately so that the South can develop sustainably
- Spread knowledge about the challenges related to adaptation and transitions, leaning on scientific research and on the arts as vehicles of social unity, pedagogy and transformation.



© Unsplash - Markus Spiske

Conclusion

The 17 UN SDGs adopted in 2015 brought citizens together globally around common goals: fighting poverty and inequalities, fighting climate change, protecting the environment, fighting for prosperity, for peace and for justice for all – with the hope to build a “better and more sustainable future” by 2030.

Today though, the fact that such challenges grow quicker and become greater while we still haven’t been able to stop global warming nor the draining of natural resources, means that we need to question this framework, particularly the idea of “unlimited” growth being exclusively indexed on national gross products growth. Questioning this conception is crucial if we want to find and choose more resilient pathways that align with the targets set by the Paris agreement on climate change.

The reflections and considerations above draw from scientific knowledge and from new data on the “9 planetary boundaries” which condition livability on Earth. They also draw from “Doughnut Economics”, a model that suggests framing human activities between social boundaries, to answer life’s essential, and planetary boundaries, to protect and preserve natural resources. Below is a summary of the 6 directions that led to the formulation of about 15 recommendations:

1. Including resilience and the moderate use of resource in the 2030 pathways
2. Diversifying funding means and ensuring an efficient allocation of public money meant for transitions
3. Strengthening the monitoring and performance assessment of projects and of public policies
4. Organizing competence development and education
5. Granting technology a reasonable place
6. Promoting a positive vision of no-carbon future

These propositions come along with concrete examples of projects and actions that are already started and implemented, and with methodology tools. They put forward possible operational directions to expand and strengthen the 2030 Agenda and to foster the development of resilient and inclusive creative lands that aren’t too hungry for resources, and target truly sustainable pathways.

Although challenges are alarming, our conclusions remain optimistic: solutions do exist and some are already in place. It is now time to accelerate their development and to encourage ambitious public policies that will enable us to take proper action.



Started in 2011, the **French partnership for cities and territories (PFVT – Partenariat Français pour la Ville et les Territoires)** is a platform meant for the exchange and valorization of the French urban actor's expertise at the international level. It is a multi-actor partnership headed by Hubert JulienLaferrière, Member of Parliament, supported by the Ministry of Europe and of foreign affairs, the Ministry of territorial cohesion, the Ministry of the ecologic and fair transition, and the Ministry of culture. It brings together close to 200 organizations representing the diversity of the French expertise, contributing to the construction of a shared French vision based on a capitalization of exchanges and of innovative and sustainable experiences. <https://www.pfvt.fr/>

Food



International and cross-border cooperation



Informal City



Affordable housing



Mobilities



Digital technologies



Resilience



Health



Cities and Biodiversity



Creative city



Women and city

Cover : © Unsplash - Markus Siske

ISBN : 979-10-90777-16-3

Realisation :

