" Food systems are one of the main reasons we are failing to stay within our planet's ecological boundaries " *

**António Guterres, Secretary-General of the United Nations, nov. 2021*

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"Sustainable urban food systems : a foresight 2035 study to bring out the research priorities"

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Scenarios for future urban & social changes :

scenarios for future urban change:

- Concentration in mega-cities.
- City networks
- Cities in decline

scenarios for future food system change:

- Globalization
- Green growth
- Local, social & inclusive

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« business as usual » scenario :

scenarios for future urban change:	scenarios for future food system change:
•Concentration in mega-cities.	•Globalization
•City networks	•Green growth
•Cities in decline	•Local, social & inclusive

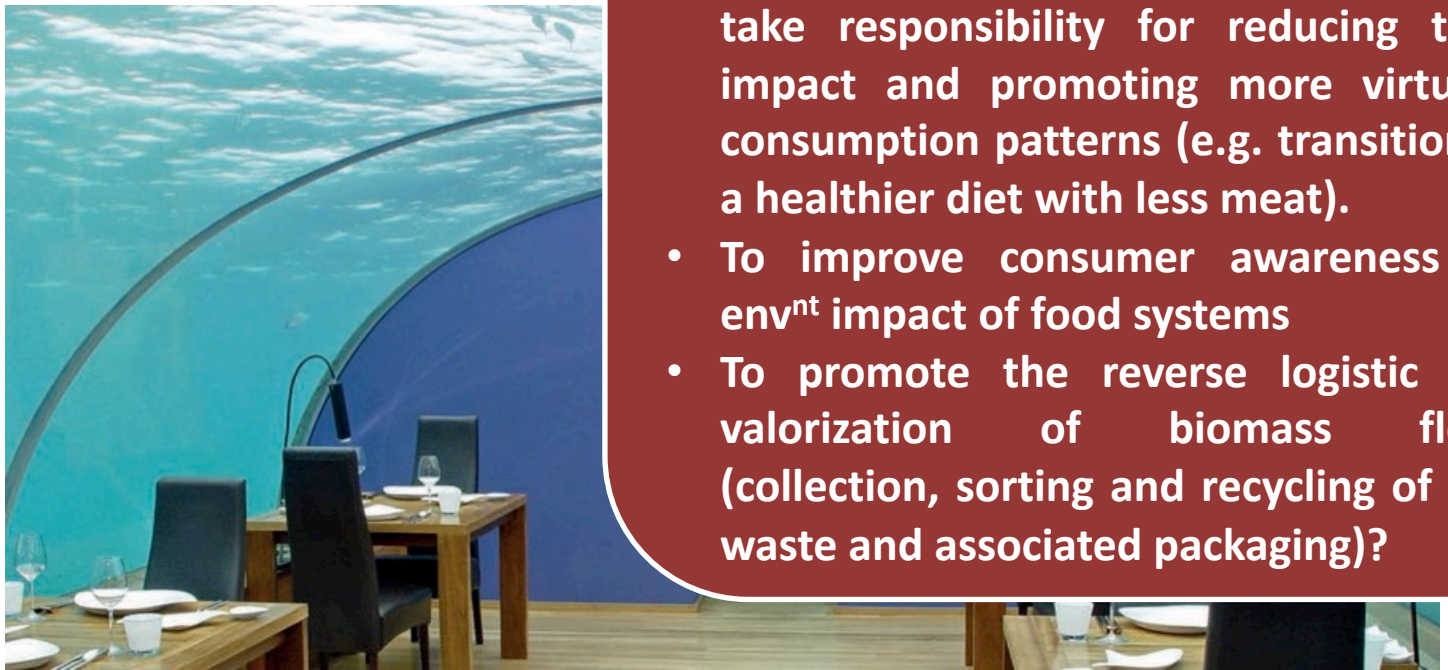
Business as Usual

Scenario 1

How to make this « business as usual » scenario more sustainable?

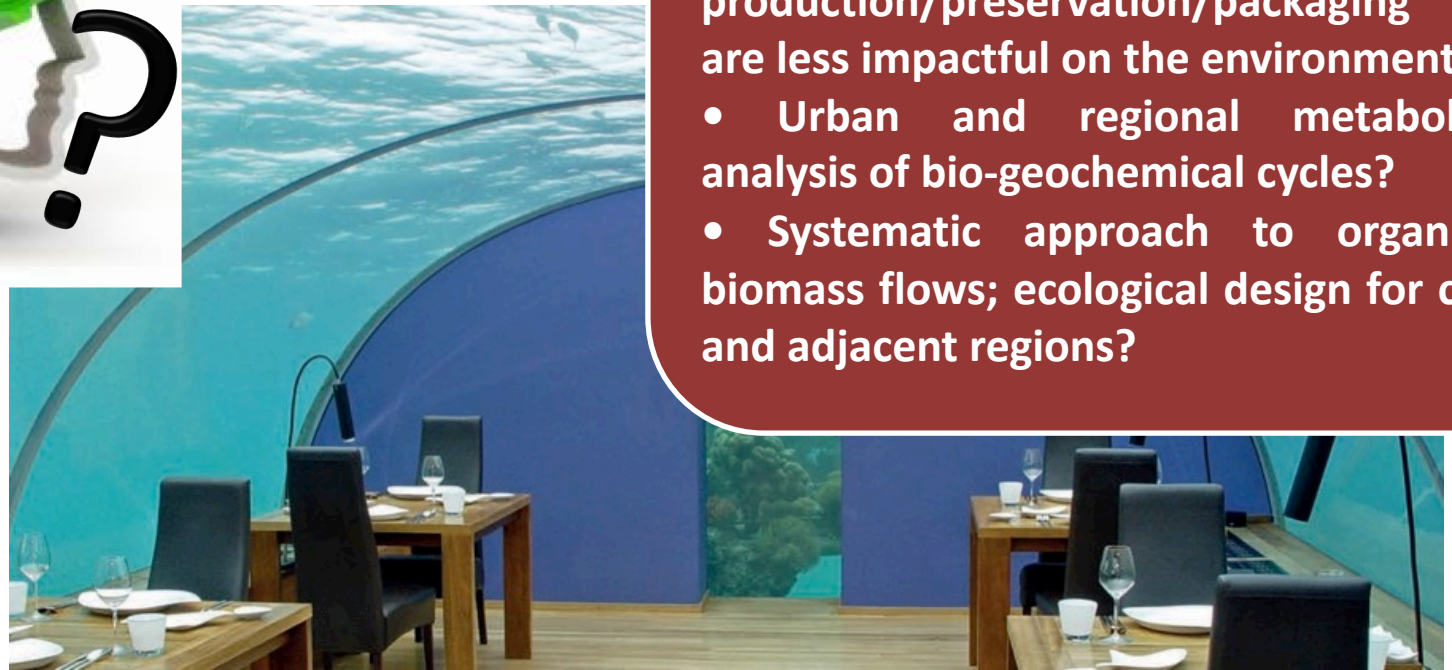
Public policies are crucial :

- **To support urban growth and rural desertification**
- **Encourage globalized private actors to take responsibility for reducing their impact and promoting more virtuous consumption patterns (e.g. transition to a healthier diet with less meat).**
- **To improve consumer awareness on env^{nt} impact of food systems**
- **To promote the reverse logistic and valorization of biomass flows (collection, sorting and recycling of bio-waste and associated packaging)?**



Knowledge requirements / Research priorities

- Identification, use and methods for information sharing among actors ?
- Developing new technologies for food production/preservation/packaging that are less impactful on the environment?
- Urban and regional metabolism: analysis of bio-geochemical cycles?
- Systematic approach to organizing biomass flows; ecological design for cities and adjacent regions?



« Green » scenario:

scenarios for future urban change:

- Concentration in mega-cities.
- City networks
- Cities in decline

scenarios for future food system change:

- Globalization
- Green growth
- Local, social & inclusive

Green

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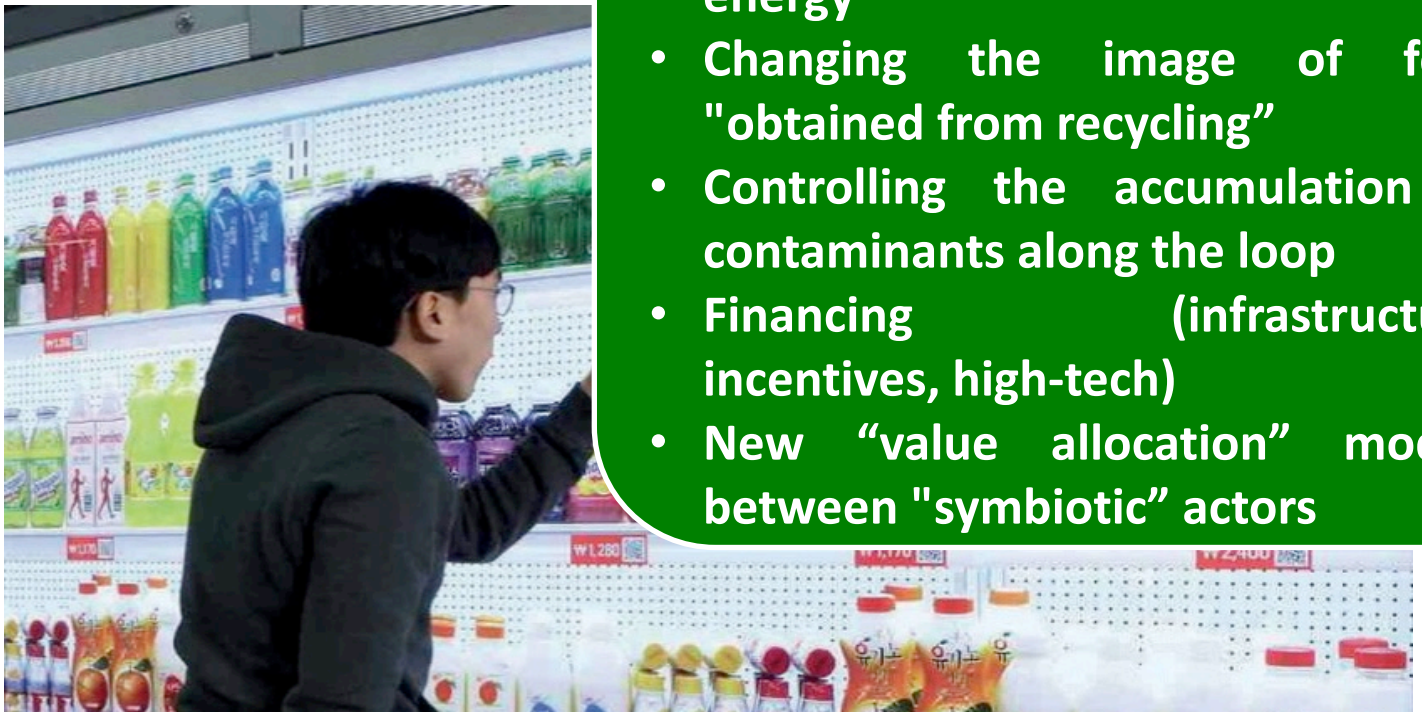
How to foster a circular bio-economy within the urban/hinterland space?



- Securing the access and quality of bio-resources and renewable energy
- Changing the image of food "obtained from recycling"
- Controlling the accumulation of contaminants along the loop
- Financing (infrastructure, incentives, high-tech)
- New "value allocation" models between "symbiotic" actors

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Knowledge requirements / Research priorities

- Increased productivity and reduced energy requirements in soil-less / cellular food factories ?
- Environmental bio-refineries: economic models, control of bio-ressources, facility size, input, etc.?
- Identification, use and methods for information sharing among actors?
- Urban and regional metabolism: analysis of bio-geochemical cycles?
- Health risks linked to the exchange of materials and the accumulation of contaminants along the cycle?

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« Alternative world »scenario:

scenarios for future urban change:

- Concentration in mega-cities.
- City networks
- Cities in decline

scenarios for future food system change:

- Globalization
- Green growth
- Local, social & inclusive

Alter

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Scenario 3

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How to make this breaking scenario with current lifestyles, safer?

- Securing informal systems
- Food safety in an informal context
- Investment in awareness or community facilities to support new food practices

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Knowledge requirements / Research priorities

- Changing standards and perception of food and bio-waste?
- Zoning and territories planning, development of collective infrastructures?
- Control the risk of pathogen and contaminant spread?

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Conclusion :
The foresight approach is exploratory

1. Future food systems = coexistence of the actual and emerging systems
2. Scenario 2 may be more attractive but requires extremely high investment and infrastructures
3. Whatever the scenario, promotion of a more sustainable urban food system requires new knowledge on:
    - Circular urban bio-economy (high tech AND low tech) ?
    - Soil-less food factories (high tech AND low tech) ?
    - Emergence of new solidarities ?
    - Optimization of food, bio-waste, energy and information flows with the support of TM, ICT, mobile applications ?

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Thank you for your attention!

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