



Energy sufficiency : How energy agencies tackle this issue? - the case of ADEME in France

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Eric Vidalenc (ADEME, France)

Dr Didier BOSSEBOEUF (ADEME, France)



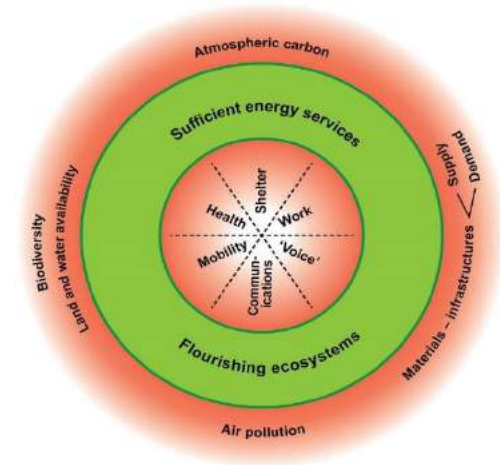
Energy sufficiency at ADEME : an Holistic approach

- 1. Institutional aspects** : Definitions on sufficiency and fuel poverty; fuel poverty Observatory (ONPE), workshops etc.
- 2. Research activities** : Support for PHD theses, watch over weak signals, demonstration projects etc.
- 3. Sufficiency scenarios** : The ADEME's 2050 scenarii
- 4. Circular economy**: Contribution of circular economy to sufficiency, the ADEME's post-COVID recovery plan
- 5. Monitoring sufficiency**: The ADEME's barometers on policies acceptances and behavioural changes, sufficiency indicators and sufficiency policies data base etc;
- 6. Communication/Information**: Practical guides for the general public, New letter on strategy etc.

1. Institutional : Definitions of sufficiency: The ADEME's contribution

The concept of sufficiency appears in Article 1 of the Law for Energy Transition and Green Growth of 2015, which aims to control energy demand through energy efficiency and sobriety


“Sufficiency is an approach which consists, within the framework of an individual or collective reflection on how to meet one's needs (individual or collective) while taking into account the limits of the planet, to adopt new moderation practices and measures in their lifestyle, thus contributing to a reduction in their consumption of resources and their impact on the environment (including the climate.) ”



Dimensional sufficiency aims to adapt equipment and infrastructure to the real needs of users; **structural sufficiency** rationalizes the consumption of space; **sufficiency of use** ensures fair use of equipment, while **user-friendly sufficiency** tends to pool the equipment and its use

1. Institutional initiatives : examples

- **1^{er} workshop : *Energy sufficiency Future reality accepted or suffered The point of view of stakeholders*** (ADEME; AFD, ECEEE), Paris May 2019) : Government and local authorities, employee's union, academics, utilities, NGOs etc.

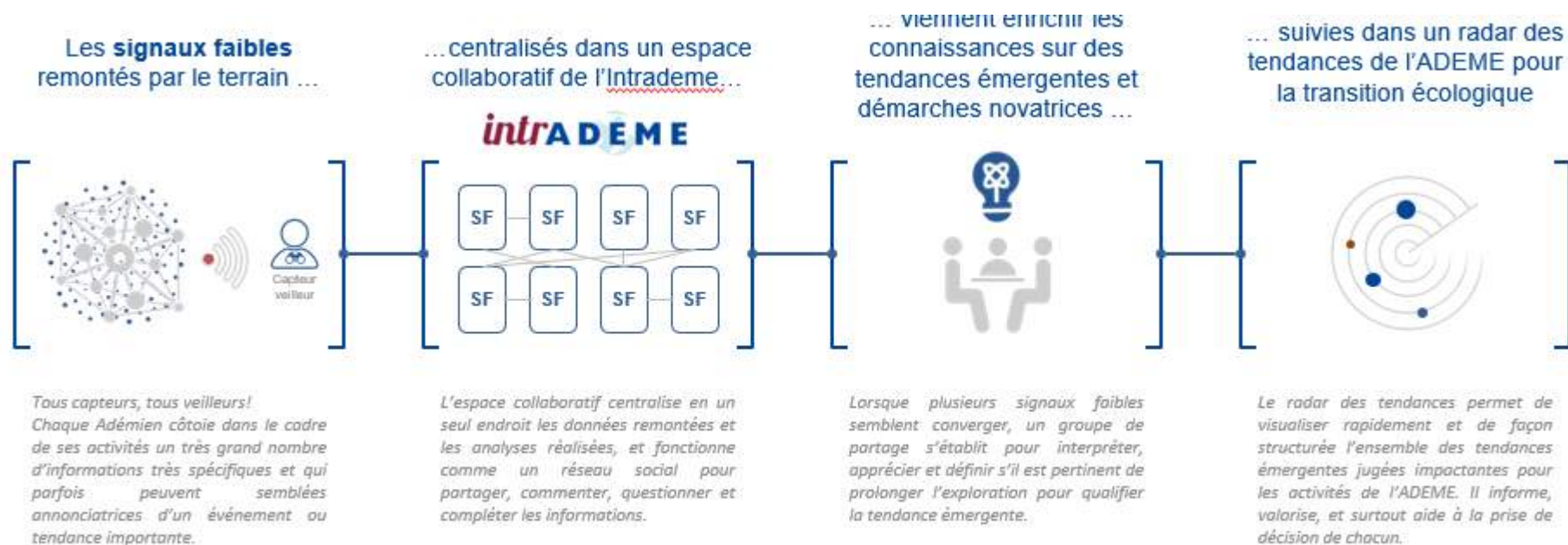
- **The national observatory on fuel poverty**

 - **Created in March 2011** (following the Grenelle 2 law)
 - **Objectives:** to have a reliable and shared knowledge of fuel poverty (1) the pooling, processing and production of data, (2) the animation of debate, and (3) dissemination of work on the subject.
 - **Gouvernance** : Chaired and managed by ADEME, 29 partners including state, national agencies, utilities, NGOs etc.
 - **Means** : 200-300000 euros/year
 - **5 Working Groups:** Households (sociological survey, qualitative aspects); Data; Territorial diagnosis; Europe; Communication Activities and productions
 - **Dissemination** : Annual monitoring dashboard), publication of studies, policies, guides, Bi-annual conference, guides

2. ADEME's Research activities on sufficiency : Elements from the PHD Thesis program

- ADEME supports PHD theses of which in the recent years **one quarter are more or less related to the concept of sufficiency**
- Clearly sufficiency concerns **many sectors** : Cities and sustainable territories; Agriculture, Urbanism; Transport; Circular economy, Building, Energy, Climate etc.
- Understanding sufficiency requires an **inter-disciplinary approach**: Sociology (22); Socio-economy (4) Industrial ecology (4); Law (4) Forecasting (5)
- **Some examples** :
 - "The micro-adventure between urban outdoor practices, negotiated sobriety and ecopoetic imaginaries: a lever at the service of ecological transition?"
 - "Propose and evaluate new food policies using a behavioral approach"
 - "Forecasting and macroeconomic challenges of a circular economy"
 - "Living on little in rural areas: exchange, repair, self-produce "
 - "The construction of the contemporary bulk market in France".
 - "Social and territorial dynamics of food transitions: Practices, representations and knowledge of low-income families"

2. Research to capture the weak signals : the ADEME's Observatory on trends

The objective is to provide ADEME with a space for exchange to nurture knowledge around emerging trends and thus help in the decision-making.



Since 2019, 12 weak signals on sufficiency detected by ADEME :

- Energy sobriety : a new oxymoron (Francis Janique, historian)
- Sobriety for digitalization and deeptech (INRIA)
- Mineral resources and energy transition (ANCRE)

3. Long term scenario of energy demand and CO2

The sufficiency scenario of the ADEME's 2050 vision

Scenario archetypes

S0 – Business as usual

S1 – Sufficiency and territorialization in emergency

S2 - Sustainability, territorial rebalancing and cooperation

S3 - Technopush and metropolisation

S4 – Technical bet for preserving modern lifestyles



Continuation of Historical trends

Consideration of measures with explicit means

Evolution driven by demand
Decrease of volumes and consumption
Sufficiency more or less constrained

Evolution driven by supply and demand

Co-construction and diversification
Sufficiency et efficiency

Evolution driven by supply

Decarbonized supply and production

Carbon sinks (biological and technical)

Supply and demand unconstrained

Capture of carbon and storage

WORK IN PROGRESS – DO NOT SHARE

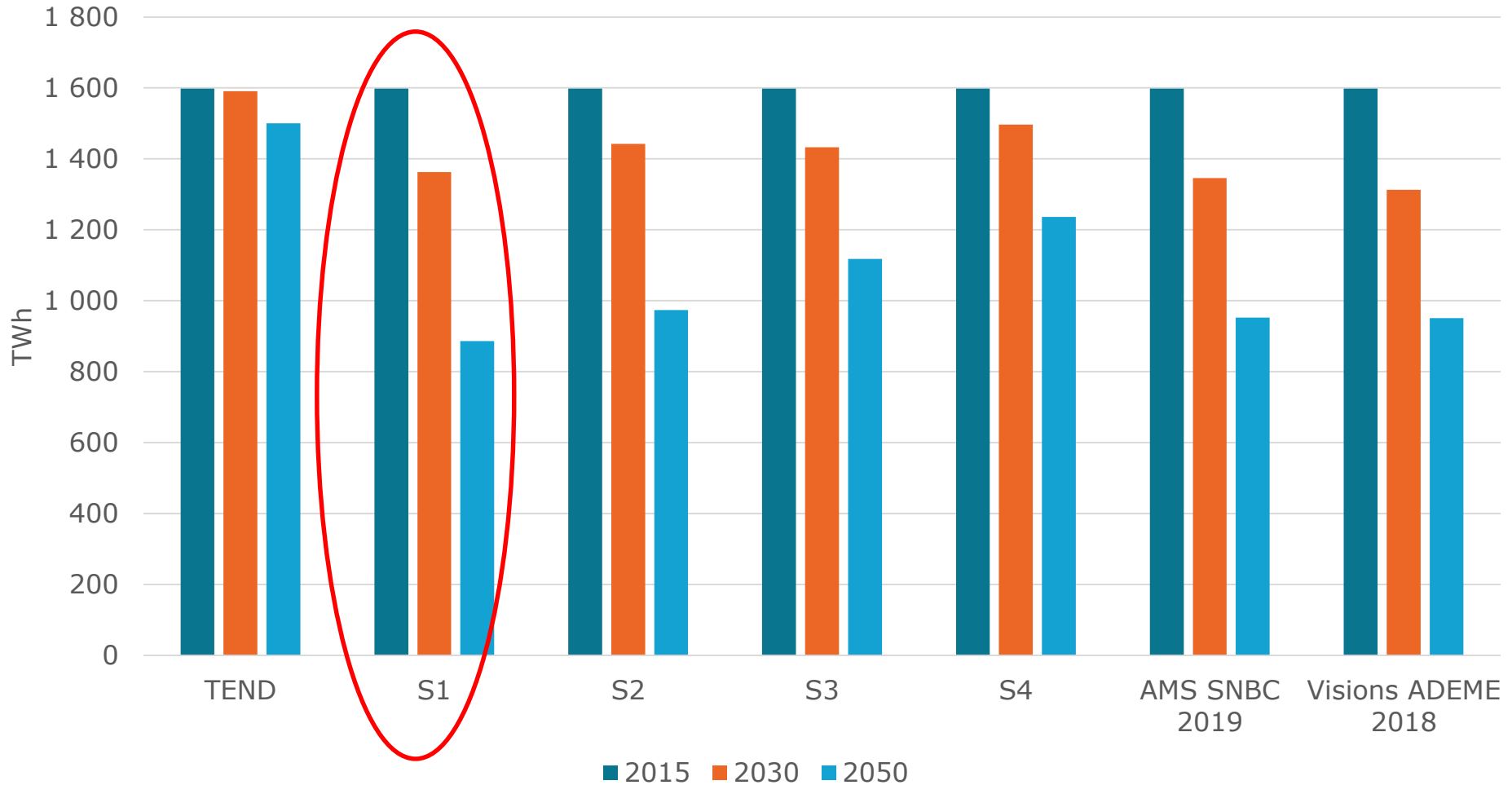
3. Long term scenario of energy demand and CO2

Key hypotheses of the ADEME's sufficiency

	Building	Transport	Industry	Food
Assumptions	<p>Housing</p> <ul style="list-style-type: none"> • 90 000 new houses /year (300 000 in BAU) • 15% of individual house (45% in BAU) <p>Tertiary</p> <ul style="list-style-type: none"> • 11,5m²/pers (17,8 in BAU) 	<p>Passangers</p> <ul style="list-style-type: none"> • -25% of km.pass • End of domestic flight <p>Freight</p> <p>↘↘ strong reduction of flow t.km (-25%)</p> <p>BtoC : proximity, short circuits, relocalisation, change in food consumption and habits</p> <p>Modal shift</p> <p>↘ HV , ↗ Trains but limited, =↗ rivermode (heavy material)</p>	<ul style="list-style-type: none"> • Reduction of raw materials (oil for plastic...) • Reduction of steel uses in cars production • Wood instead of concrete in buildings 	<p>Diet</p> <ul style="list-style-type: none"> • 75g of meat/pers/day (250g in BAU) • -50% reduction of food waste <p>Agricultural production</p> <ul style="list-style-type: none"> • 80% of organic production • Irrigation reduction (1,8Gm³ vs 4 in BAU) • No pesticides except for non-food production

3. Long term scenario of energy demand and CO2 : Preliminary results of the ADEME's sufficiency scenario

Final Energy demand by scenario (France 2030-2050)



4. Circular economy : the ADEME's activities in brief

ADEME's missions...

- **Providing financial support** to the national policy for waste management and circular economy
- **Advising government on policies and measures**
- **Providing expertise for companies and local authorities**
- **Raising public awareness**
- **Research and Innovation**

For example...

- ➔ **Waste and Circular Economy Fund and The “Investments for the Future” program (PIA)**
 Contribution to **The Roadmap for a Circular Economy, The anti-waste bill for a circular economy**
- ➔ **Developing modelling tools** to estimate (i) potential and limits of circular economy to achieve a net-zero carbon economy, (ii) economic and social benefits (GDP, employment, households' purchasing power, competitiveness...) of environmental, energy and circular economy policies

4. Circular economy

The ADEME's Post covid recovery plan



- **140 M €** - Investment for the incorporation of recycled plastics (extended ORPLAST system)
- **84 M €** - Modernization of sorting / recycling centers
- **61 M €** - Investment for reduction, reuse / repair or development of alternative solutions
- **100 M€** - Support for investment in the collection, sorting and recovery of bio-waste
- **80 M €** - Solid Recovered Fuels (SRF)
- **16 M €** - Short-term support for recycled plastics
- **10 M€** - Support for the trivialization of healthcare waste
- **5 M €** - Help with traceability in the building sector
- **4 M€** - Support for the “strategic diag” plastic sector

5. Monitoring sufficiency :

Selected ADEME's Barometers and Observatories to understand the Values changes behind sufficiency

- Social representations of climate change barometer
- Environmental Barometer
- New Energy Technologies Barometer
- The Observatory of Utopian Perspectives
- Responsible consumption barometer
- Observatory of emerging mobilities
- Observatory of emerging city uses
- **Barometer on sufficiency (2021?)**



Social representations of climate change barometer

Q: What are you ready to do for climate change?

- Sort out waste
- By local food
- Turn off heating in case of absence
- Buy local products
- Switch off stand by power
- Select lightly packaged products
- Decrease indoor T° of 3 degree
- Select eco-labelled products
- Consume less
- Limit eating meat at home
- no longer using plane for leisure
- Using bicycle rather than car
- Using public Transport rather than car
- Car-sharing & car pooling



...vous le faites déjà
 ...vous pourriez le faire assez facilement
 ...vous pourriez le faire mais difficilement
 ...vous ne pouvez pas le faire
 NSP



5. Monitoring energy sufficiency: The ODYSSEE-MURE project

ADEME with 20 energy agencies of the **EnR club** are completing the European **ODYSSEE-MURE** energy efficiency monitoring system with indicators and policies implementation on energy sufficiency.

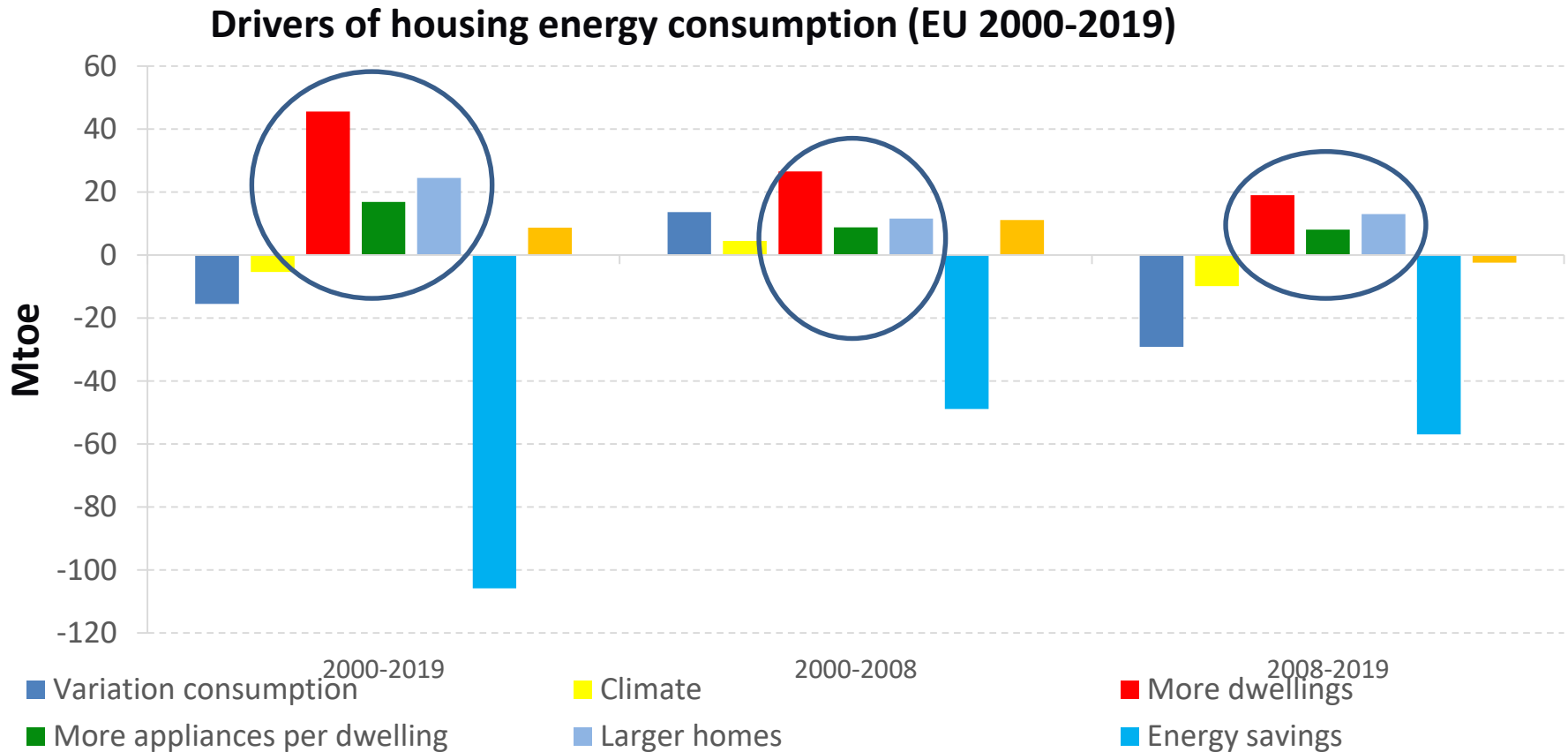
- **ODYSSEE**: database of 200 Energy efficiency indicators and **10 new indicators on sufficiency**
 - Size of homes, electric appliances ownership, Pkm and tkm in transport, modal shift towards public transports and soft modes....
 - Indicators for a shared economy (e.g. UBER, Lyft, AirBnB, Car sharing); Indicators for digitalization (building automation, interconnection of appliances) ■ Industry: indicators for a circular economy and/or low-carbon industry

- **MURE**: Data base on national energy efficiency policies (2500)
 - Integration of these measures with **a new classifier on sufficiency** (facilities) ex : Energy efficiency fund, adapted property tax; sufficiency requirement for public loans, obligation of bicycling lines and facilities

5. Monitoring sufficiency

The ODYSSEE-MURE indicators

- Between 2000 and 2019, the activity (More dwellings) and behavioural effects (more appliances per dwelling, larger homes) contributed to raise the final consumption by 87 Mtoe.
- Energy savings offset more than this increase by reducing consumption by 105 Mtoe.





6. Communicate on sufficiencies : Practical guides



Référence (In French)

- **Ref1:** <https://librairie.ademe.fr/changement-climatique-et-energie/4057-representations-sociales-du-changement-climatique-21-eme-vague.html>
- **Ref2:** <https://librairie.ademe.fr/air-et-bruit/4219-barometre-les-francais-et-l-environnement-vague-7.html>
- **Ref3:** <https://librairie.ademe.fr/consommer-autrement/407-barometre-les-francais-et-les-nouvelles-technologies-de-l-energie-vague-4.html>
- **Ref4 :** <https://lobsoco.com/observatoire-des-perspectives-utopiques-vague-2/>
- **Ref5 :** <https://librairie.ademe.fr/mobilite-et-transport/1871-observatoire-des-mobilites-emergentes.html>
- **Ref6 :** <https://lobsoco.com/observatoire-des-usages-emergents-de-la-ville/>



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Thank you for your attention

Contacts :
Didier Bosseboeuf
Eric Vidalenc