



Sustainable development in modern societies

The case of the State of Vaud

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13th October 2012



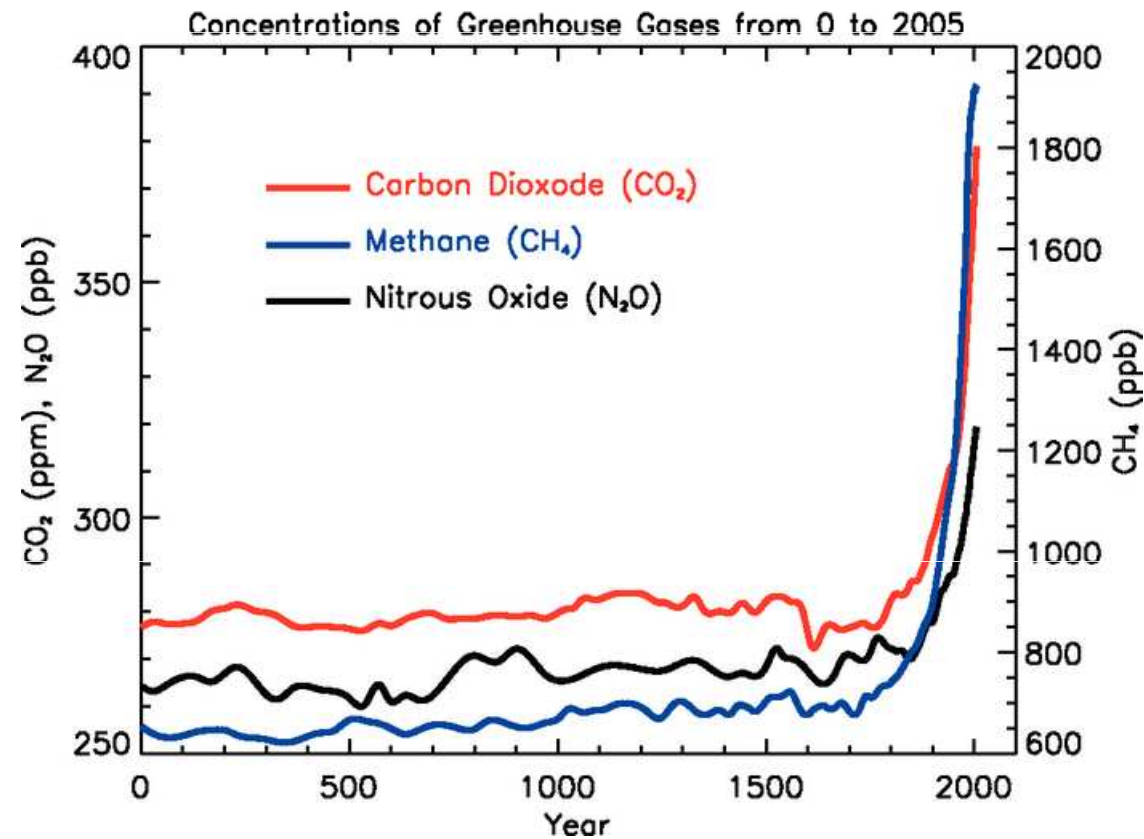
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Presentation

- Global warming context and limitation of non renewable resources
- Example of the real estate management of the Canton of Vaud

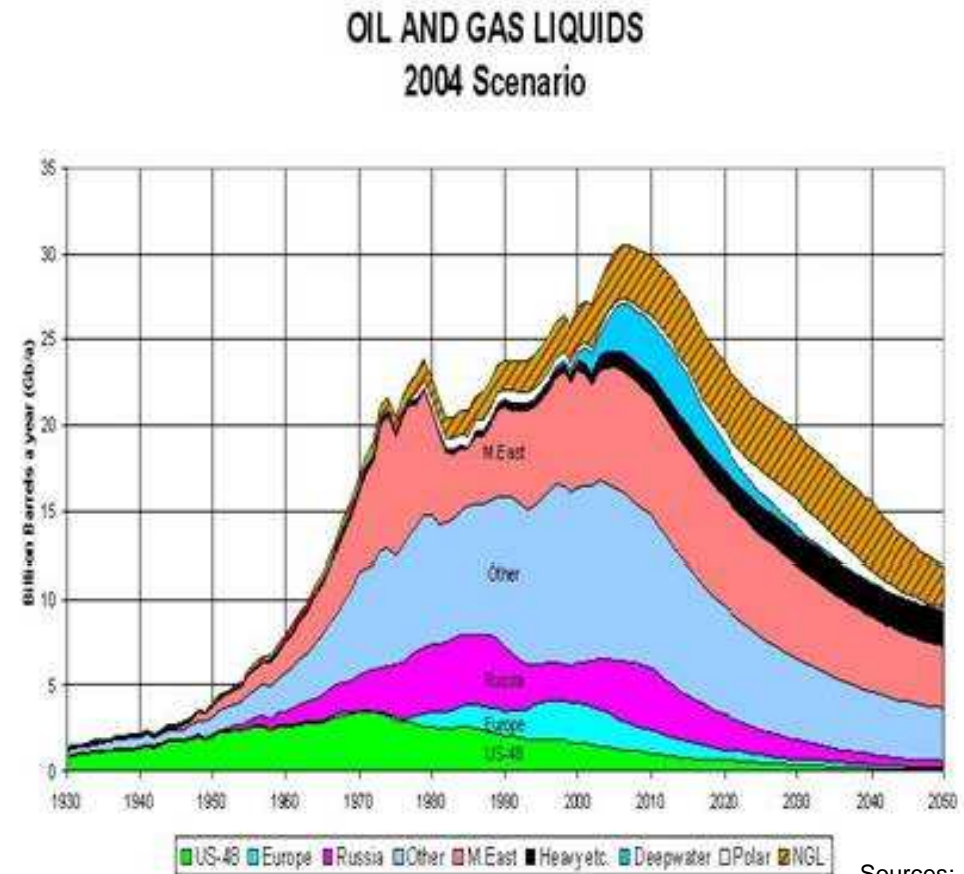
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Where we are...



Source : GIEC/2007

Atmospheric concentrations of important long-lived greenhouse gases over the last 2,000 years.



Sources:

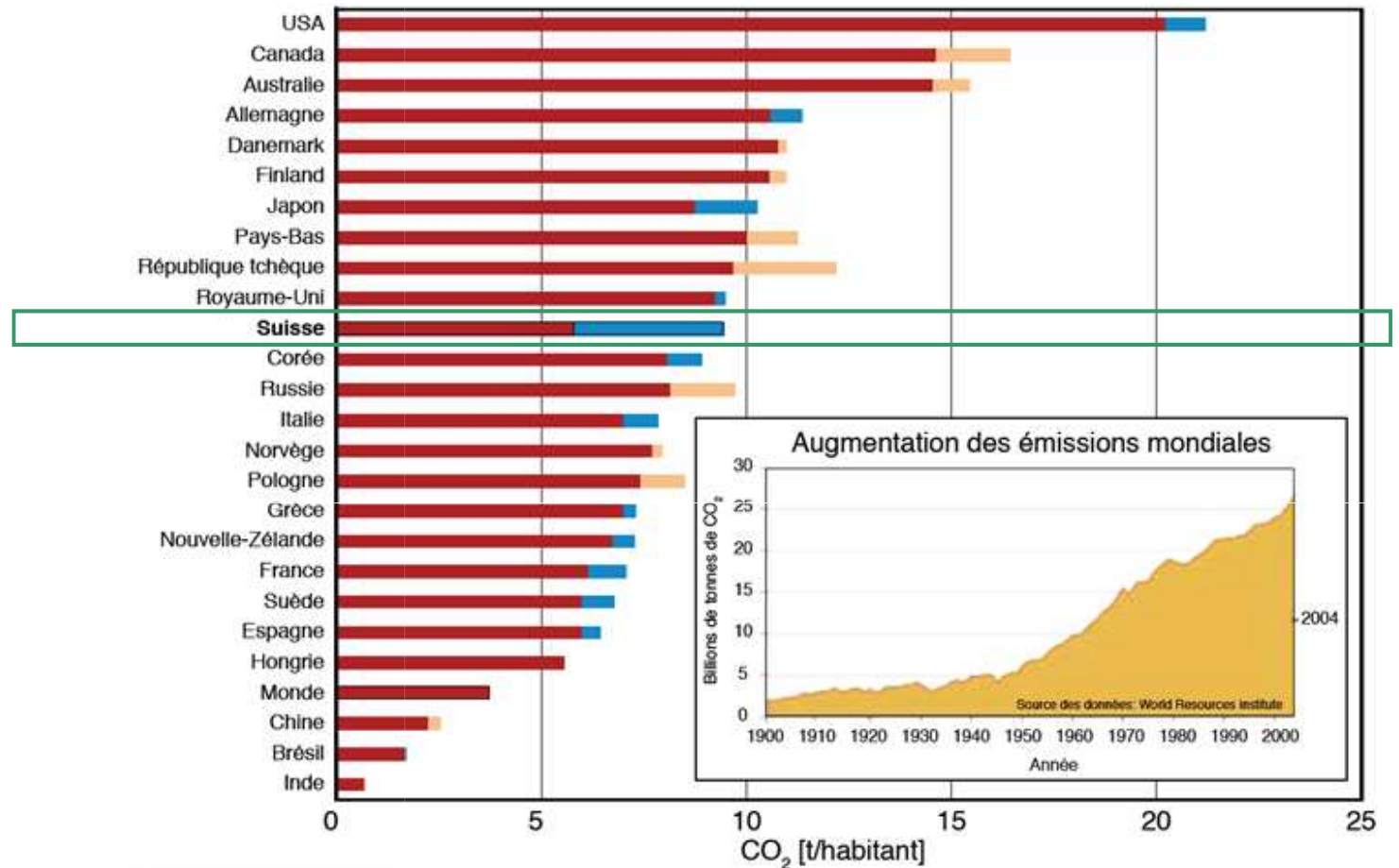
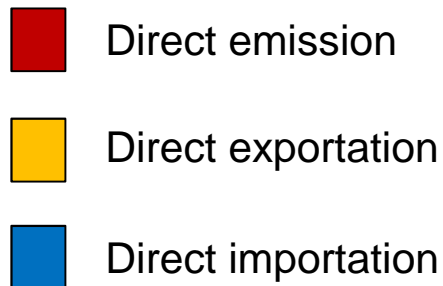
Assocaiton for the peak oil, 2008

<http://aspo-spain.org/aspo7/presentaciones.html>

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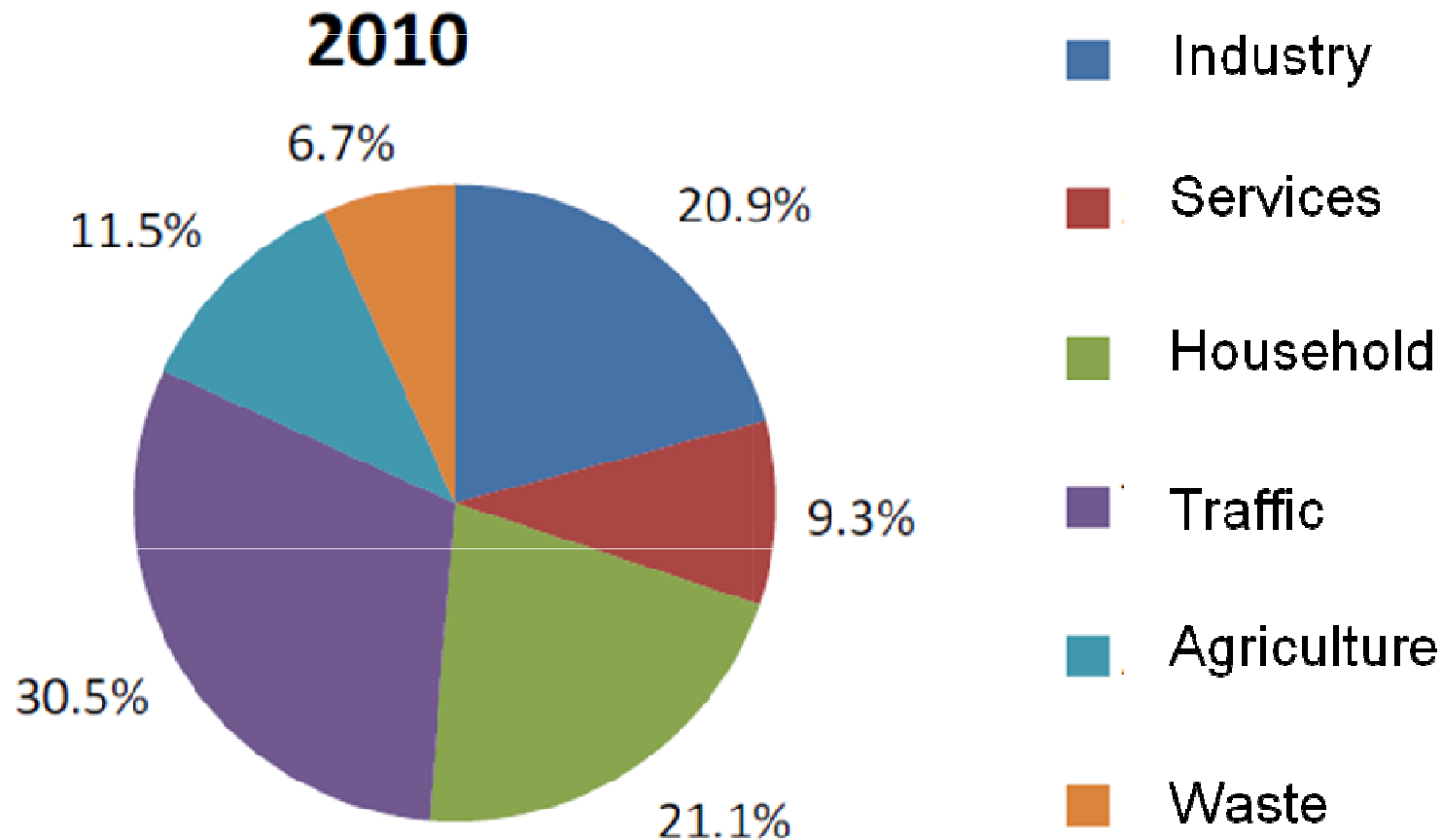
Greenhouse gases : carbon dioxide

an average of
6 tons per capita



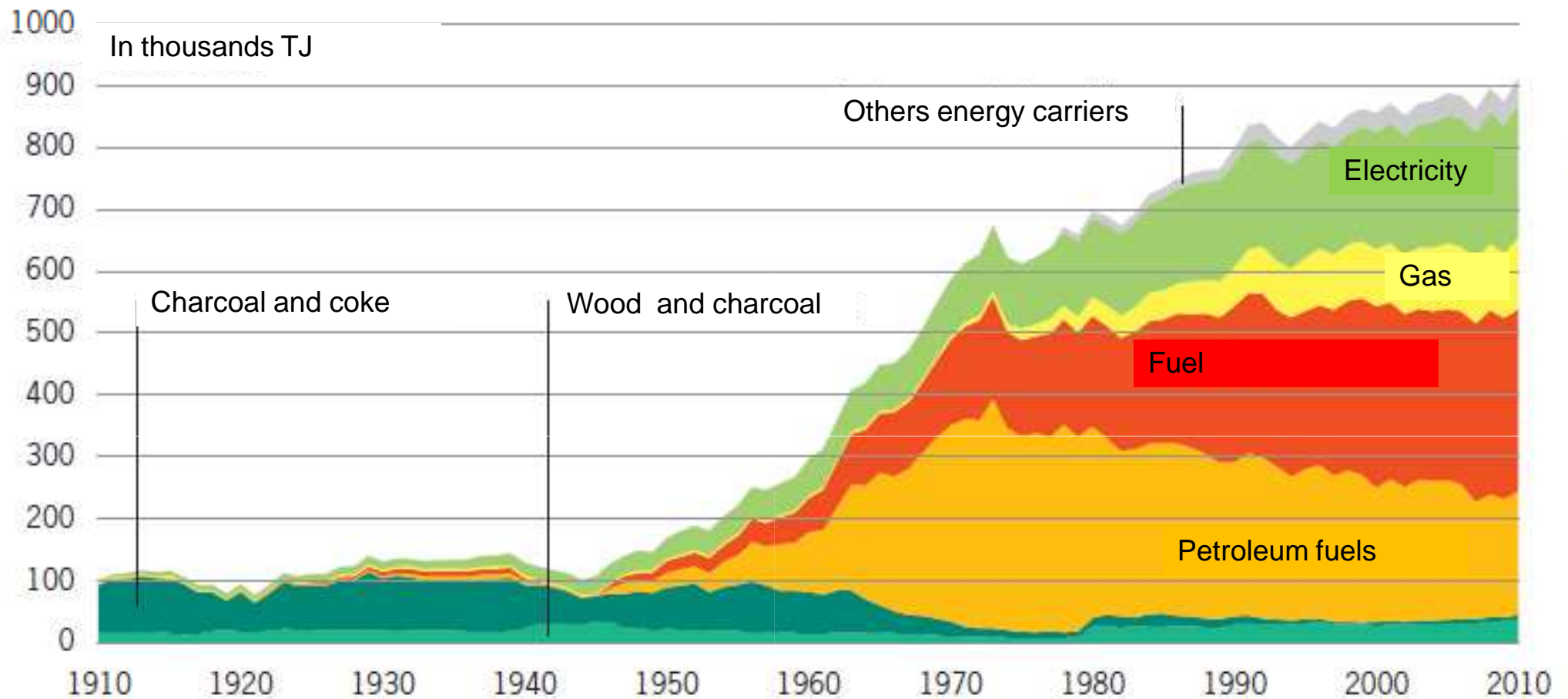
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Greenhouse gases in Switzerland by sector



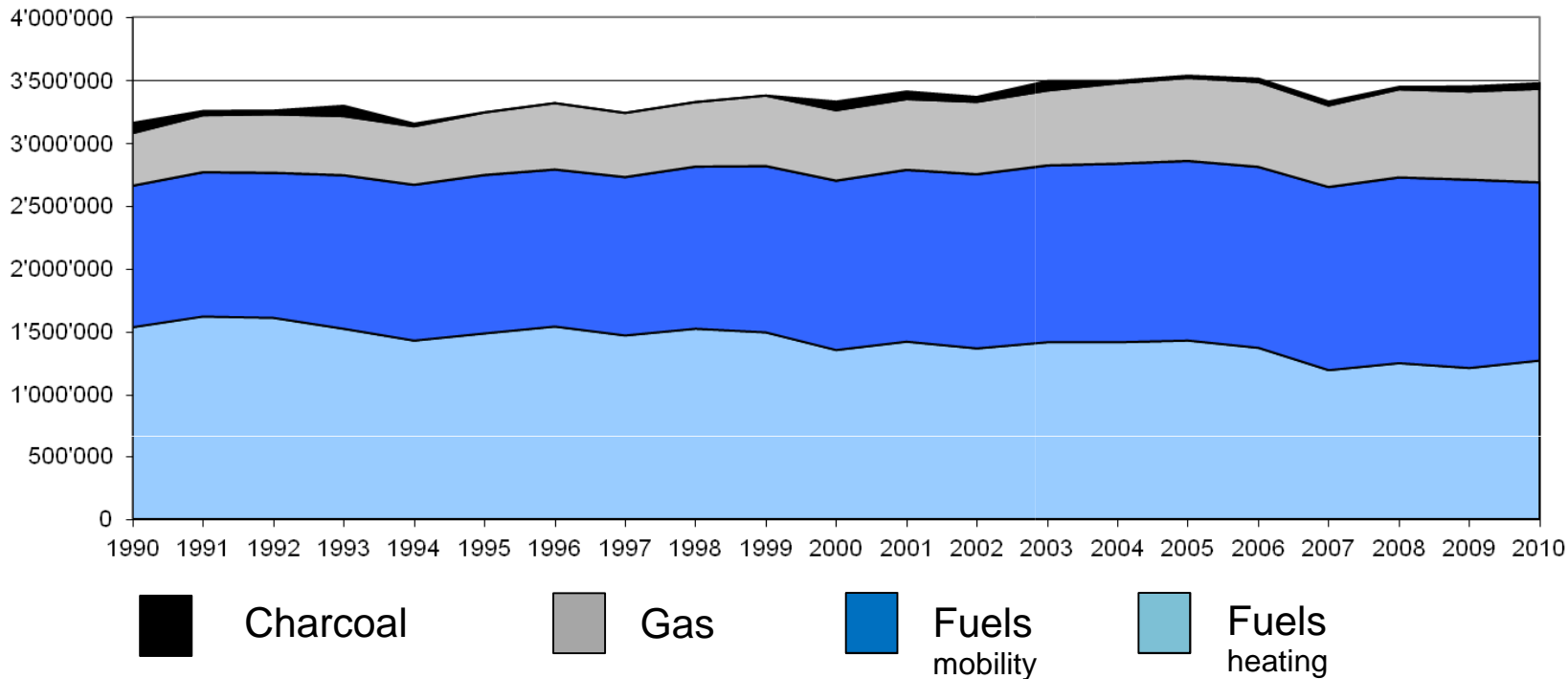
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Final swiss energy consumption, by energy source



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Carbon dioxide emissions, Canton of vaud



2000 – 2010 :
 an average of
 5.7 tons per capita

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Commitments to reduce CO₂ emissions and energy consumption and to promote renewable energy sources

National commitments :

- > Agenda 21 at the Earth Summit, 1992 (Rio) and 2002 (Johannesburg)
- > Kyoto protocol (8% reduction of GHG emissions between 2008 and 2012 in relation to 1990 levels)
- > CO₂ legislation – Taxes
- > Energy strategy 2050 - Environmental taxes
- > Rio+20 commitment – Strategy for the green economy



Cantonal commitment :

- > Agenda 21 –Tackling global warming
- > Energy Act
- > Urban planning

The State as an exemplary model / acting in an exemplary manner :
 Management of real estate to reduce GHG emissions
 High standards for new buildings
 Green criteria in public procurement
 Professional mobility



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.... Fukushima happened



25th May 2011 – Federal decision to close all nuclear power plants ... date yet no decided (~ 2035)

Political emergency to develop renewable energies and reduce all kind of consumptions

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Example of the State of Vaud

State of Vaud :

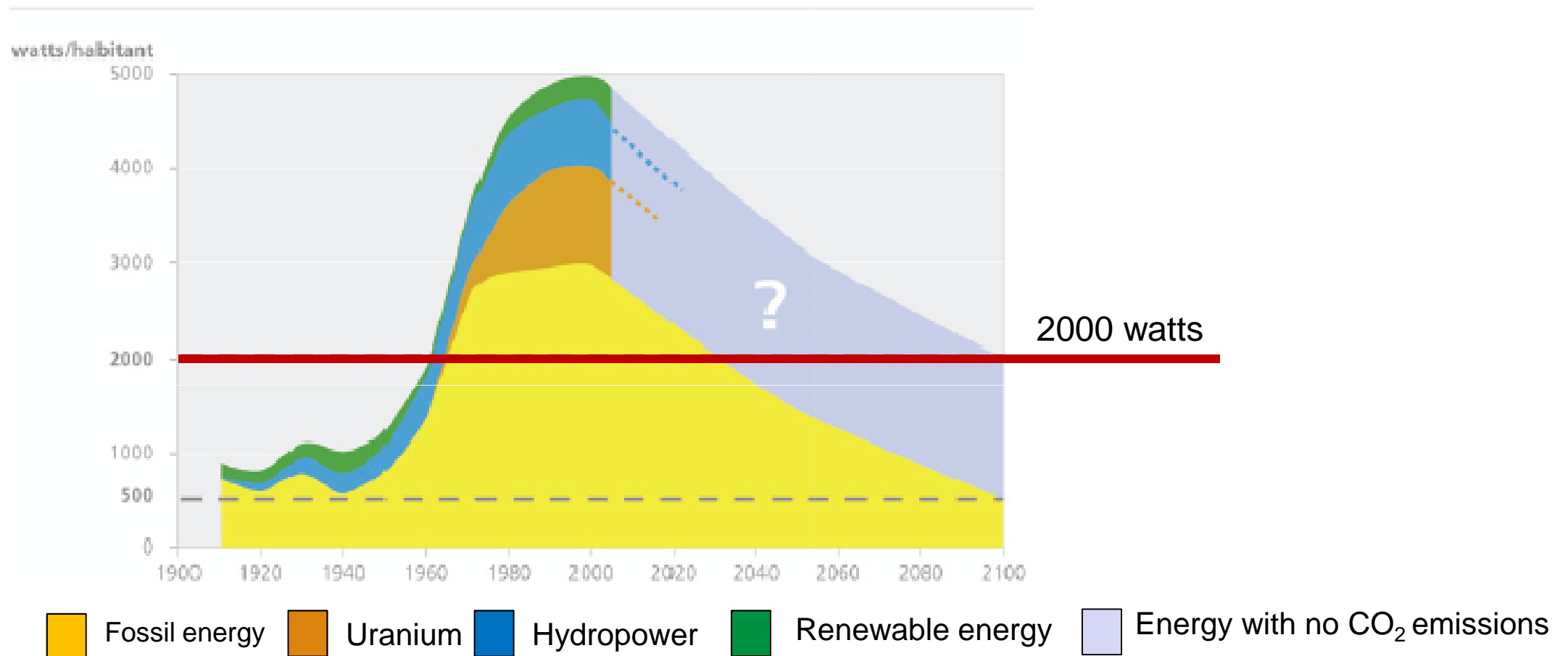
- 20'000 employees
- 16'000 full time jobs
- 2'000 buildings
- 35'000 computers
- 83'000 students in compulsory school
- Annual state budget: 8 billions
- Population : 708'000 habitants

2'000 buildings :

- Schools
- Churches
- Prisons
- Administration offices
- Tribunal
- etc.
- Some of these buildings are high energy consumers
- The priority is given to their renovation

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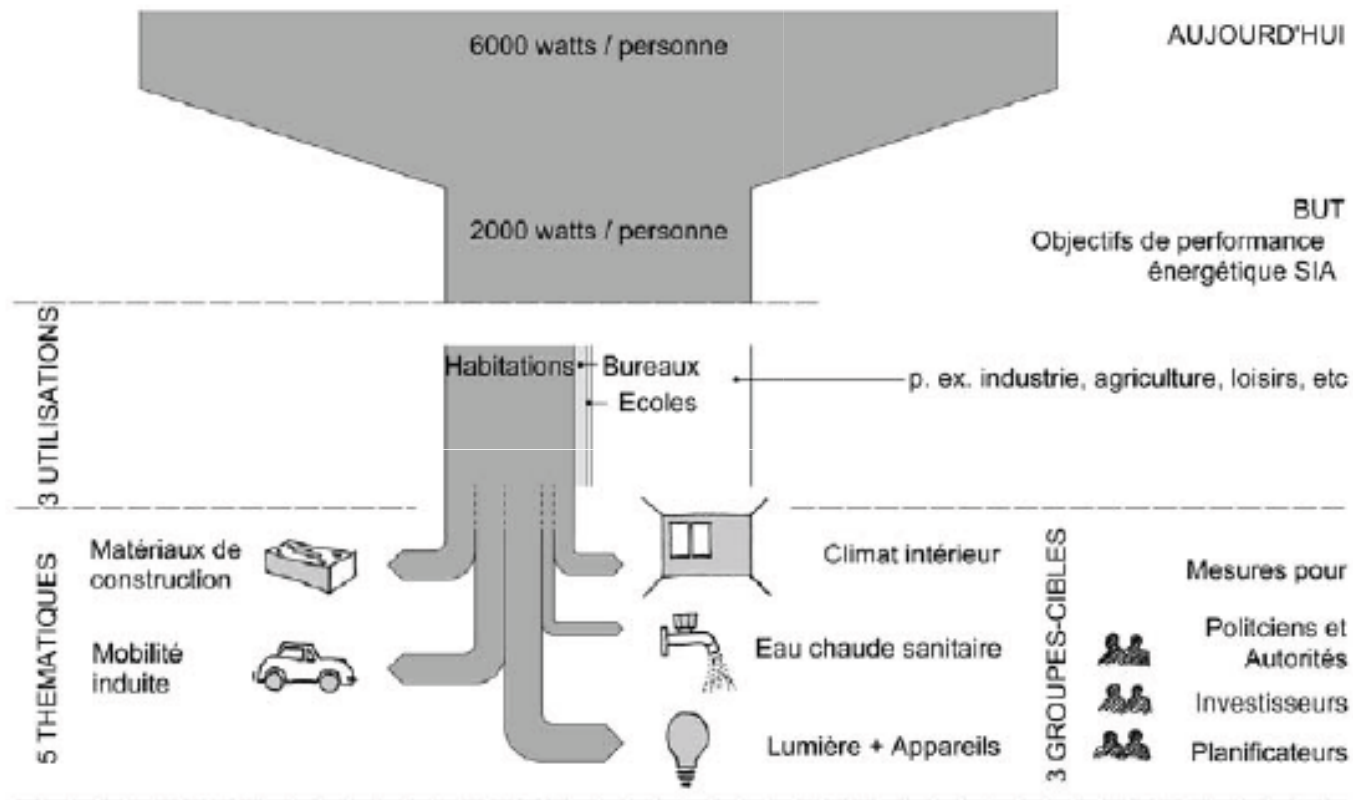
Objectives : 2'000 Watts in 2050



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What does it concerns?

Objectives : 2'000 Watts in 2050



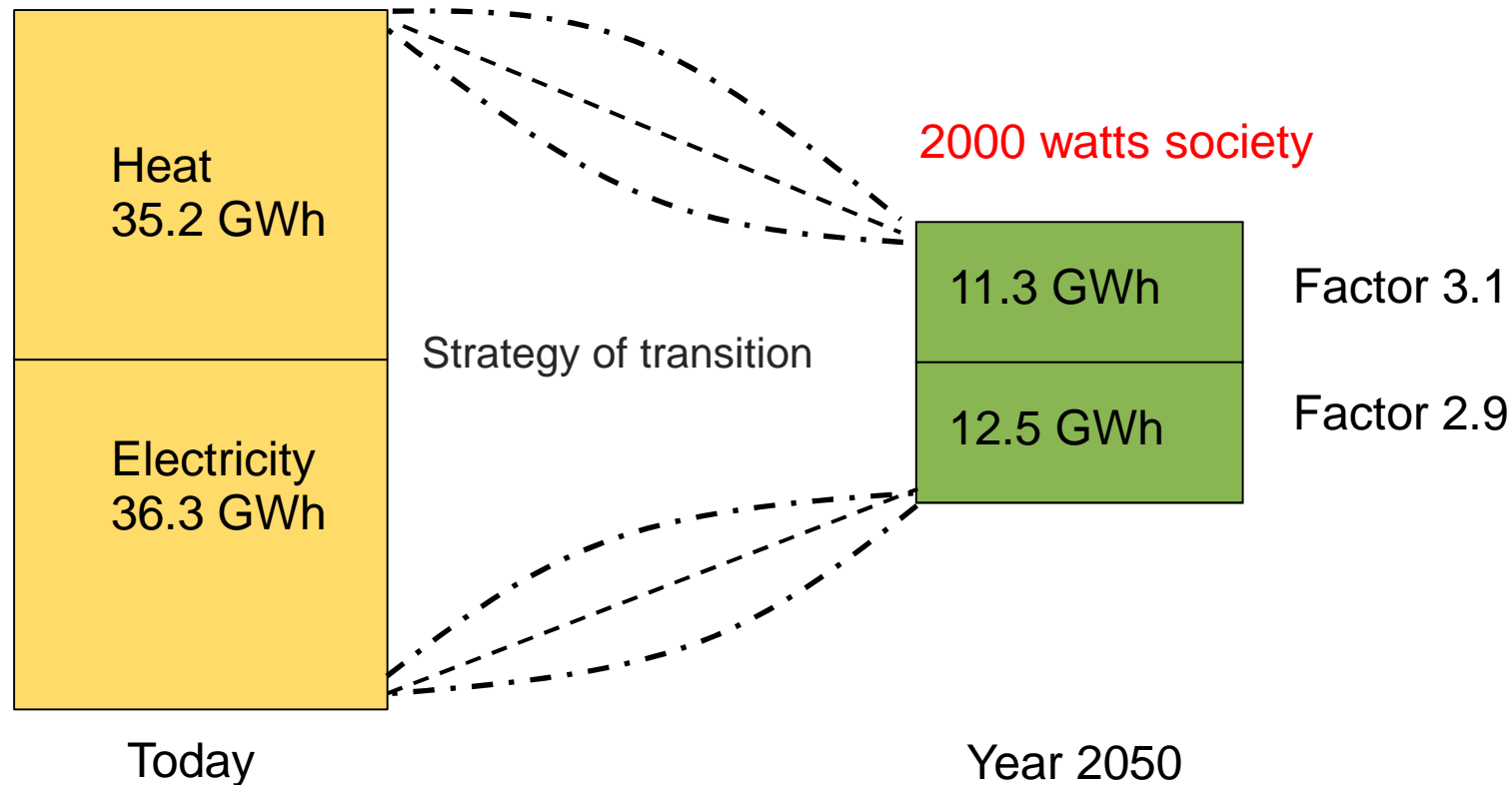
Areas :

- > Mobility
- > Urbanism
- > Energy
- > Buildings
- > IT
- > etc.

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Way to achieve this goal

6000 watts society



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Multiple actions : clear objectives

Objectives 2011 – 2016

Energy consumption index (MJ/m² of the energy reference area) :

- thermal energy - 20 %
- water consumption - 10 %
- electricity - 10 %
- CO₂ equivalent - 20 %

Development of renewable energy :

- thermal energy a 25 % increase
- electricity 5 % of certified electric current

Theses objectives and targets are approved by the Government

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Multiple actions : improve the effectiveness



Rational

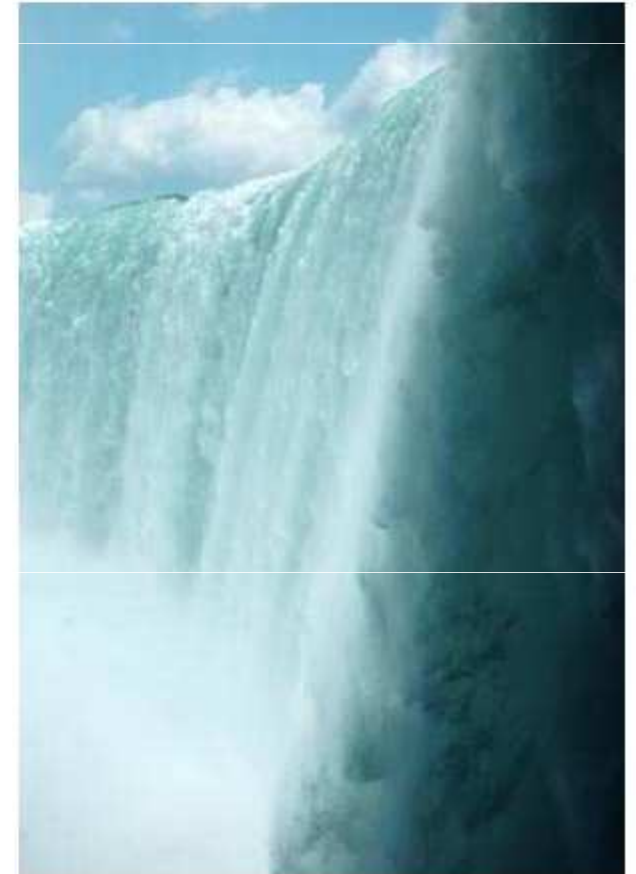
Simple



Smart

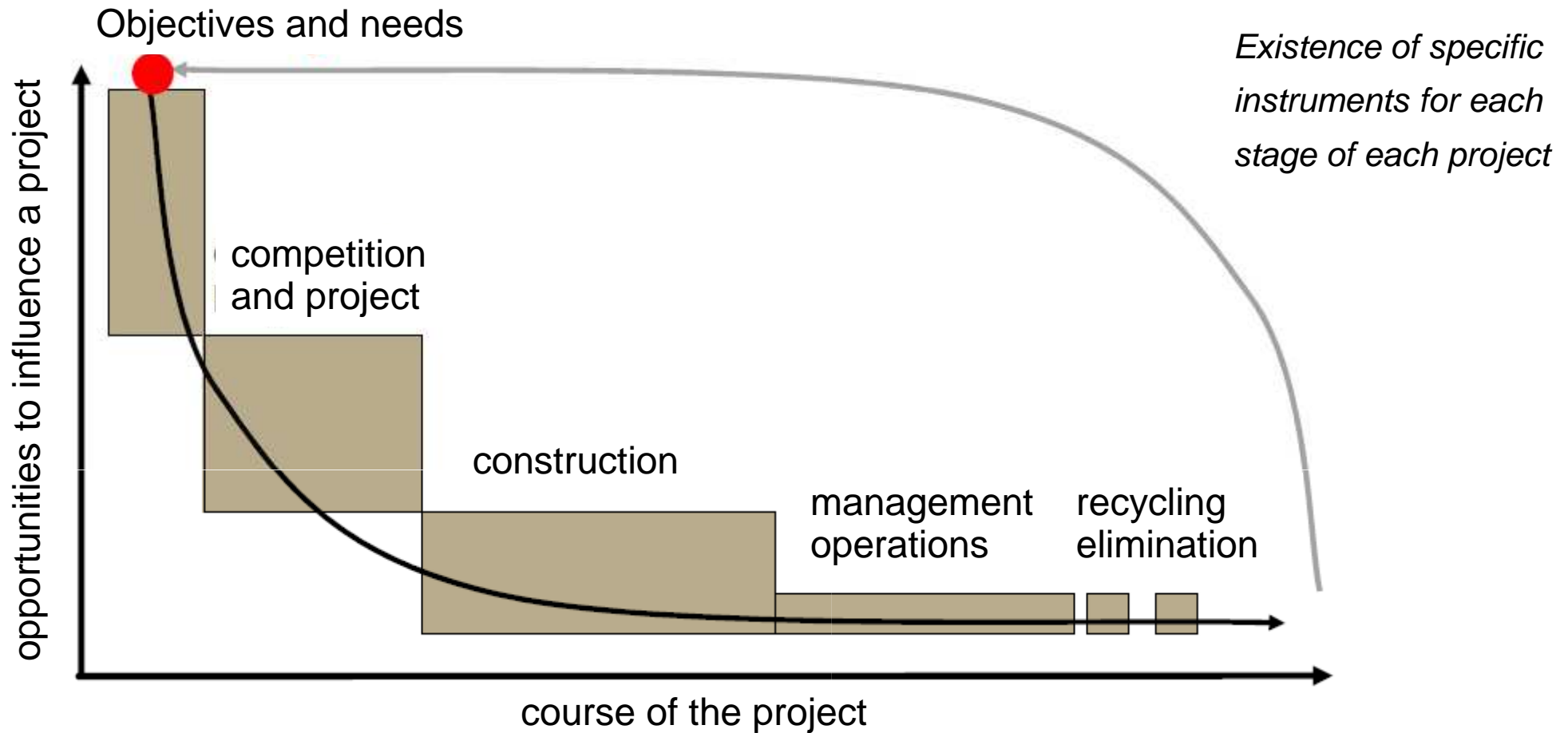
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Multiple actions : promotion of renewable energy



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Multiple actions : act upstream of the project



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Instruments : Smeo – monitoring of projects



* Le cycle de vie du projet en 5 étapes :

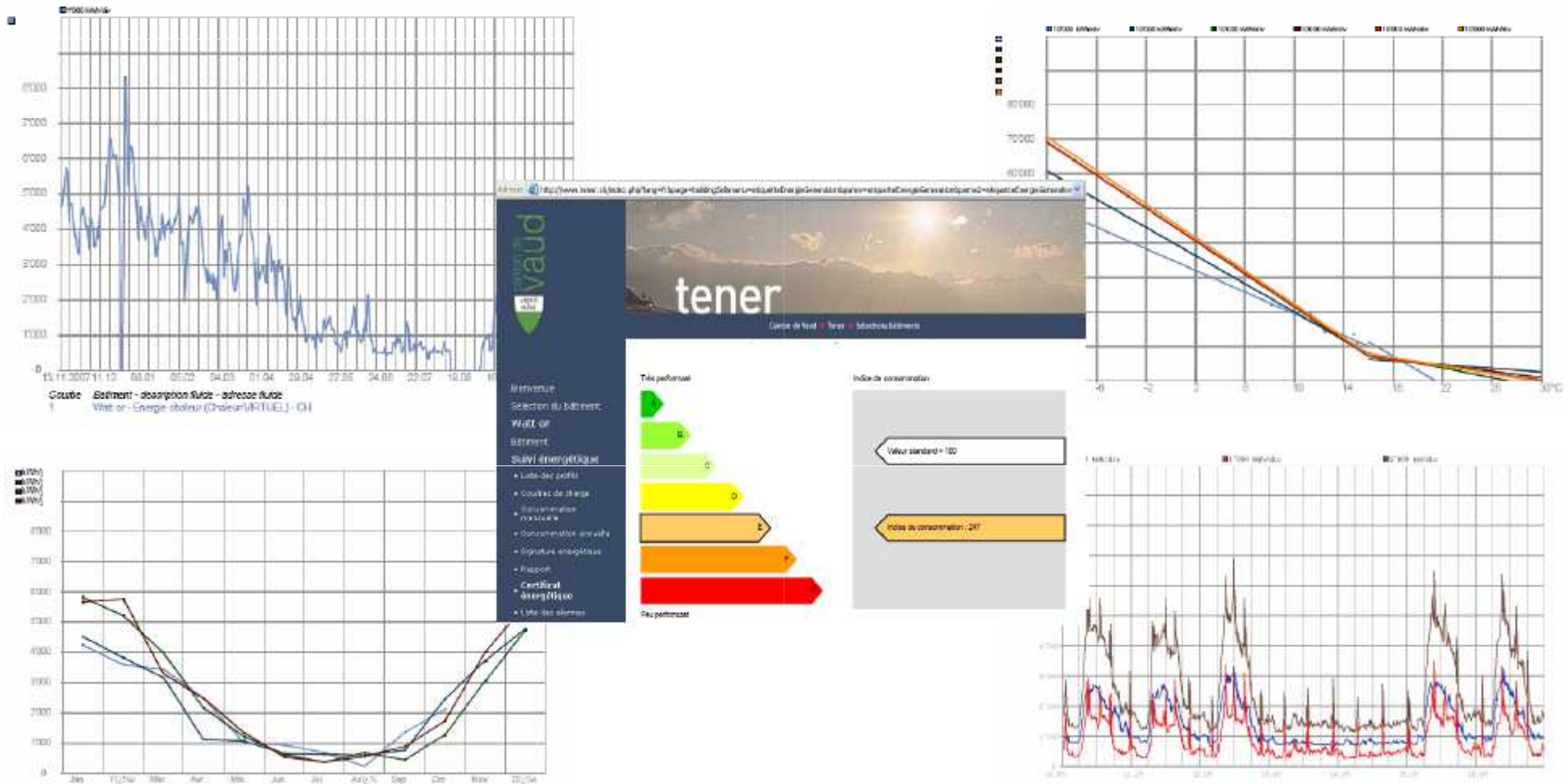
-  **Genèse**
-  **Matérialisation**
-  **Utilisation**
-  **Entretien**
-  **Déconstruction**

* Le développement du projet en 5 phases :

-  **Programmation/Planification**
-  **Concours**
-  **Avant projet / Projet**
-  **Appel d'offres / Exécution**
-  **Réception / Gestion**

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Instruments : tener – energy management



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Results



Thank you !