



**TERIS SPECIALITÉS**

**PROJECT : Bilan Carbone®**



## > TERIS SPECIALITES

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TERIS Spécialités' main activities : recycling, treatment and energy recovery from waste energy.

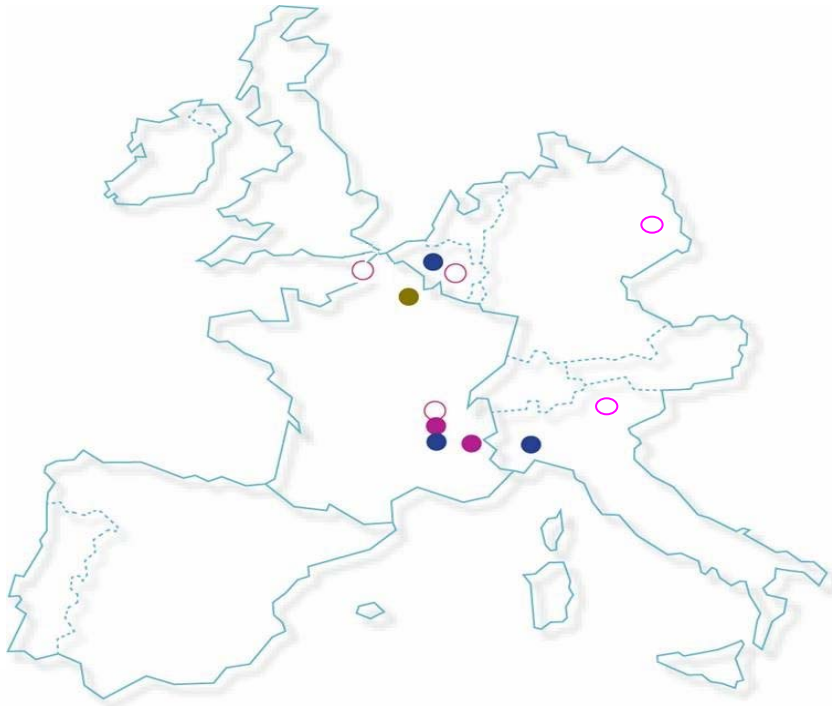
The Department is composed of 6 European sites offering specialized treatments and complete recovery, such as organic salted waters, evapo incineration, physico-chemical wastes or solvent recovery.

Originated from the chemical industry, partly-owned subsidiary of RHODIA till 2001, TERIS Spécialités maintains and develops the culture of human respect, firstly by ensuring its safety.

One of our main commitments : All hazardous wastes have to be managed under high safety conditions, in order to protect mankind and the environment.

## > TERIS SPECIALITES

### European presence



- Our business units
- Recovery of solvents
- Specific incineration
- Sulphurous waste recovery

## > TERIS SPECIALITES

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⇒ 150 Employees :

- 30 % women, 70 % men
- Training budget : 6 % of salary's cost

⇒ Company certified ISO 9001, ISO 14001 et safety certification MASE - IUC



## ➤ TERIS SPECIALITES

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### TREATMENT INCINERATION

- Adapted systems for wastes difficult to eliminate
  - liquid wastes for which specific disposal facilities are necessary such as: acids, sulphur, halogenated agents...
  - organic liquid waste, high concentrated in salt.
  - Gas (CFC, HCFC, chlorinated, fluoride...)
- ⇒ Solutions of Treatment in constant evolution to satisfy customers specific needs.
- Energy recovery of waste in 2009 :
  - Production: more than 200 000 Tonnes of vapour.



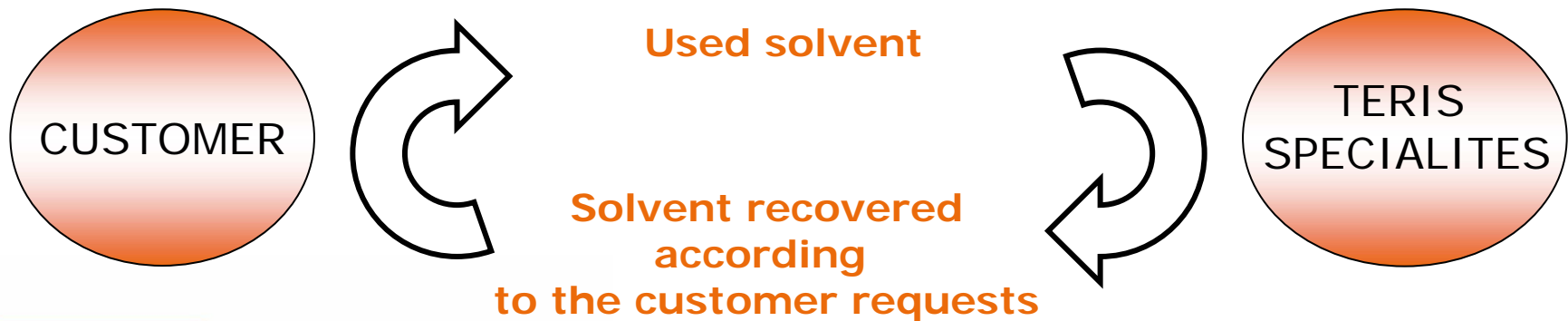
## ➤ TERIS SPECIALITES

### TREATMENT : RECOVERY

#### ➤ Two kind of offers

1 –RECOVERY according to the customer's specifications

- ⇒ Tailor made service for recycling of the used solvents.
- ⇒ A commitment of results according to specifications, answering to the customer's needs.

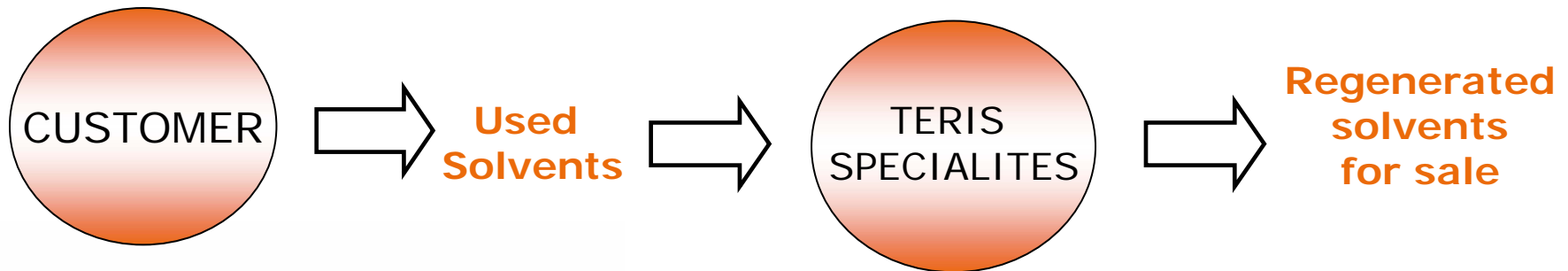


## > TERIS SPECIALITES

### TREATMENT : RECOVERY

#### 2 – RECOVERY of the solvents for sale

- ⇒ A permanent management service for the used solvents.
- ⇒ A commitment of means as a solution of a long term recovery of the wastes.



## > BILAN CARBONE<sup>®</sup>

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**The project was to establish the carbon footprint of the overall company.**

The “Bilan Carbone<sup>®</sup>” is a carbon footprint measurement of the impact our activities on the environment, and in particular climate change. It relates to the amount of greenhouse gases produced in our day-to-day lives through burning fossil fuels for electricity, heating and transportation etc.

Bilan Carbone<sup>®</sup> is a CO<sub>2</sub> impact measurement developed by the French Environment and Energy Management agency – ADEME.



## > The reason

- Anticipation of the regulation :

Nowadays, all the companies employing more than 500 people have to put into place their carbon footprint. Teris Spécialités wanted to work on the carbon footprint upstream in order to anticipate the regulations.

Beyond the European regulation, the Department meets high quality, safety and environment standards.

- To meet the requirements of our customers :

In order to meet the requirements of our customers, the Department has decided to improve our environmental standards.

More and more industrial companies want to know what the environmental impact of our activity is, our energy and emissions costs of their waste treatment ?

## > The Reason

- Measurements of our impacts/ Emissions of greenhouse gas

In 2008, it was decided to find a way to evaluate the greenhouse gas emissions of our activity.

Aim : a short term reduction of the greenhouse gas effects.

The Bilan Carbone®'s method has been chosen (i.e. the **Carbon Footprint**).

The Carbon Footprint is a greenhouse gas emissions assessment tool using easily available data, measuring the direct or indirect emissions produced by our activity in order to answer to our customer about the following matters :

- What are the emissions from the treatment of their wastes ?
- What is the impact of our activity ?
- How reduce the gHG emissions ?
- Compare the environment impact of our different process ?

## > The Reason

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The first step of the project was the study 3 treatment plants, to realize a greenhouse effect diagnostic. The different sources of emissions have been listed according to their scales, in order to determine the decrease actions.

Below the type of plants where the diagnostic has been made :

- 1 incineration plant
- 1 incineration plant with steam production
- 1 solvent recovery plant

After one month of data collection, it results that the “process” and the “energy consumption” appeared to produce more of greenhouse gases, in comparison with the other points studied.

## > The Reason

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This is the reason why a greenhouse gas emission reduction action plan has been taken into place for the three sites listed above. The mains actions have been built to :

- ⇒ reduce the energy consumption
- ⇒ reduce our raw material consumption (less chemical products, ...)
- ⇒ reduce our waste production

## **> Make our employees aware**

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An awareness campaign has been launched in parallel, in order to inform all the employees that everybody can contribute to reduce the GHG impact among the Recovery & Energy Department (for instance by making carpool).

Internal traveling rules have been determined such as :

- the prohibition of airplane travels
- promotion of travels by train
- use of videoconference / webex... limiting the travels and as consequence the gas emissions.

## > Communication to the stakeholders

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Presentation of the study to :

⇒ Local community around our plant : annual meetings

⇒ Professional exhibition :

- Pollutec (Lyon)
- 4<sup>e</sup> University Eté Environment (Lyon)



# CARBON Footprint

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The results

## THE RESULTS

## > OUR RESULTS

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- Follow up of our action plan (update, checking, improvement...)

In 2009, one year after our reduction action, a diagnostic update has been made to evaluate the efficiency our Bilan Carbone®.

The 3 sites have reduced their emissions and our objectives have been more than reached.

This is why, in 2010, Teris Spécialités has decided to set up the Bilan Carbone® (Carbon Footprint) for all the facilities and pre-treatment platforms.

## > CARBON Footprint

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### What is the Carbon footprint?

1/ A **carbon footprint** is a measure of the impact our activities have on the environment, and in particular climate change. It relates to the amount of greenhouse gases produced in our day-to-day lives through burning fossil fuels for electricity, heating and transportation etc.

2/ Set up of an action plan with goals of GHC emission decrease.

### How ?

- ❖ Study made by the ADEME (French Environment and Energy Management agency) or by a private accredited studies office.
- ❖ Set up of a spreadsheet that allow us to convert the available data (energy consumption, electricity, gas...) in greenhouse gas effect thanks to emissions criteria available on the website [www.ademe.fr/bilan-carbone](http://www.ademe.fr/bilan-carbone).

## > CARBON Footprint

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### Why ?

- to realize a diagnostic of the GHG in order to evaluate their direct and indirect impact generated by our activities.
- to make savings on the energy highly emitting (outside our activity)
- to identify the rooms for manoeuvre at long and short terms to reduce the emissions and follow up the evolution.
- to ensure the commitment of TERIS Spécialités regarding its **sustainable development policy**.
- to reply to the customers requests that want to be informed of the emissions during the services realized for the treatment of their waste.

## > CARBON Footprint

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What has been used to realize the carbon footprint of our facilities?

Data about :

- Transport
- Energy (gas, energy,...)
- Consumables (raw materials, laboratory reactive,...)
- Exhaust fumes of our facilities
- Private transportation
- waste
- Capital asset
- ...



## > CARBON Footprint

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### Plant 1

Since 2008, the carbon emissions factors have been reduced thanks to:

- Reduction of reactive consumption
- Reduction of the energy consumption (improvement of the process)
- Promotion of rail transport (transported volume multiplied by 2) (logistic improvements)

➔ In 2009 : The emission factor is of **219 kgeqC/T\*** of treated waste

\* *kgeqC/T* : kilogram of carbon by ton



## > CARBON Footprint

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### Plant 2

Since 2008, actions for the decrease of CO2 emissions have been set up:

- Follow up of the electric consumption
- Improvement/ Optimization of the processes

Since 2008, we have remarked a 11% decrease of the treated volume. Thanks to the management of the operational costs, the impact on the emission factor has been limited. (increase of 4%)

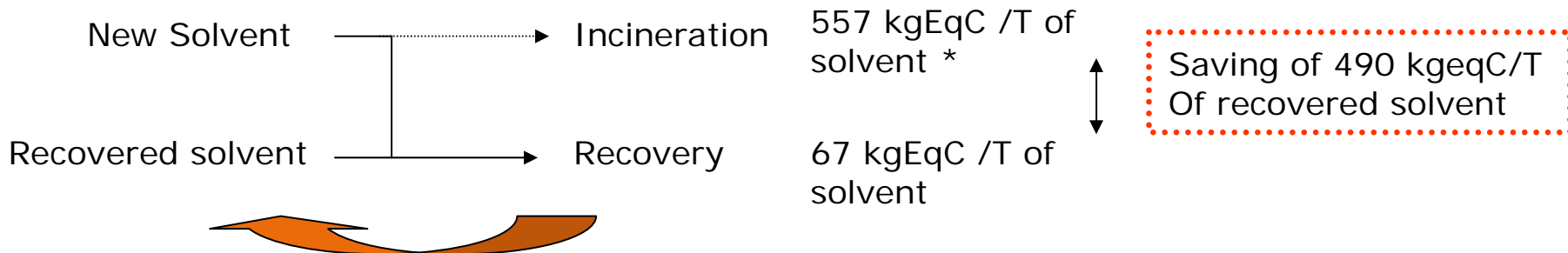
➔ In 2009 : The emission factor is of **188 kgeqC/T** of treated waste

# > CARBON Footprint

## Plant 3

Since 2008, the facility has reduced its emission factor of 16% thanks to the:

- modifications of the recovery process (increase of the recovered part in used solvents)
- choice of the treatment ways for the waste
- logistic Optimization



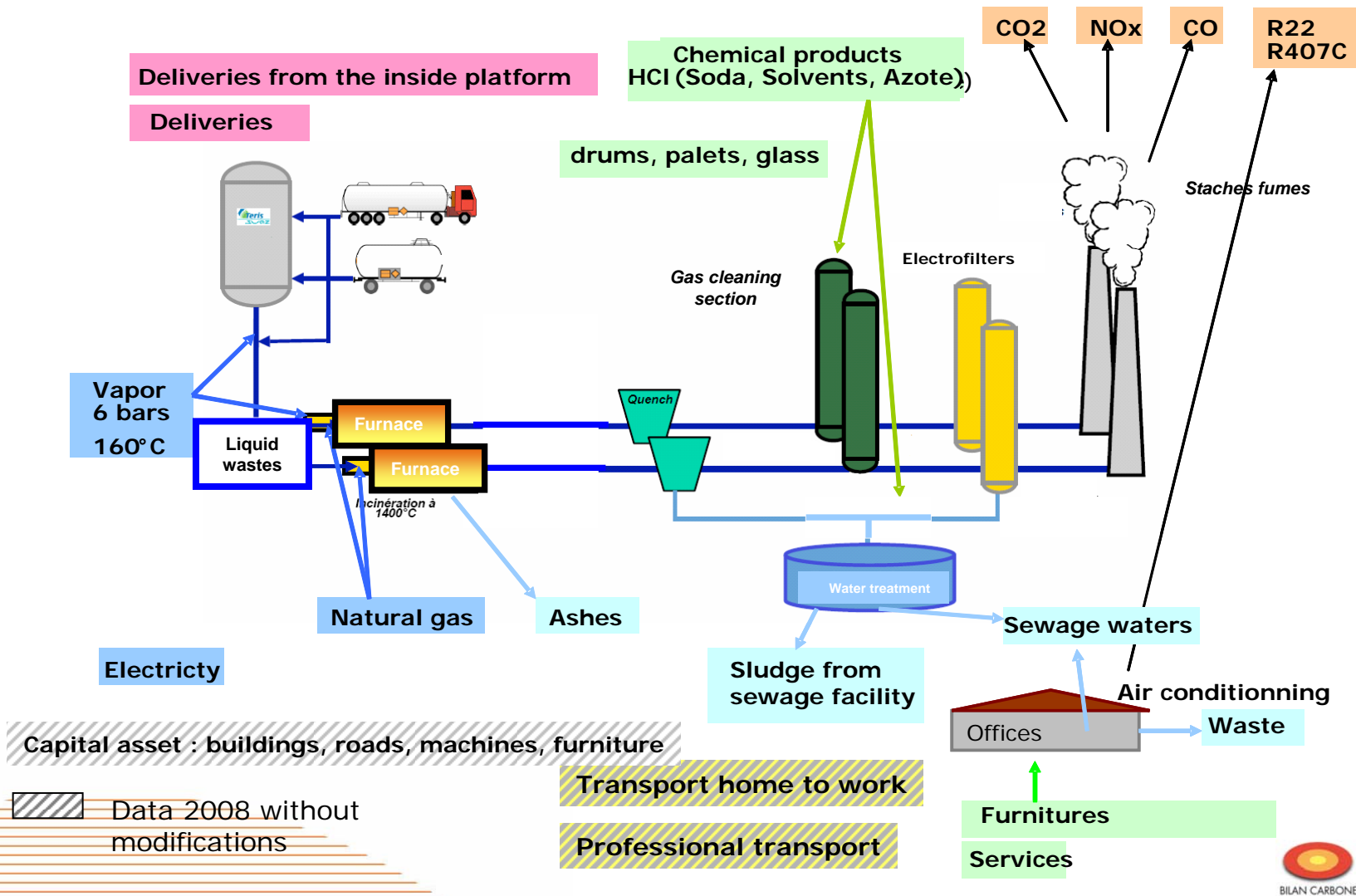
\* 557 kgEqC /T of recovered solvent = emissions for the production new solvent (357kqEqC/T) + burning emission (the average of plant 1 and plant 2 that is to say =200kgEqC/T)

\* 67kgeqC / T of recovered solvent =emissions for the production of new solvent (357kgeqC/T) + recovery emissions (-290 kgeqC/T)

# CARBON Footprint :

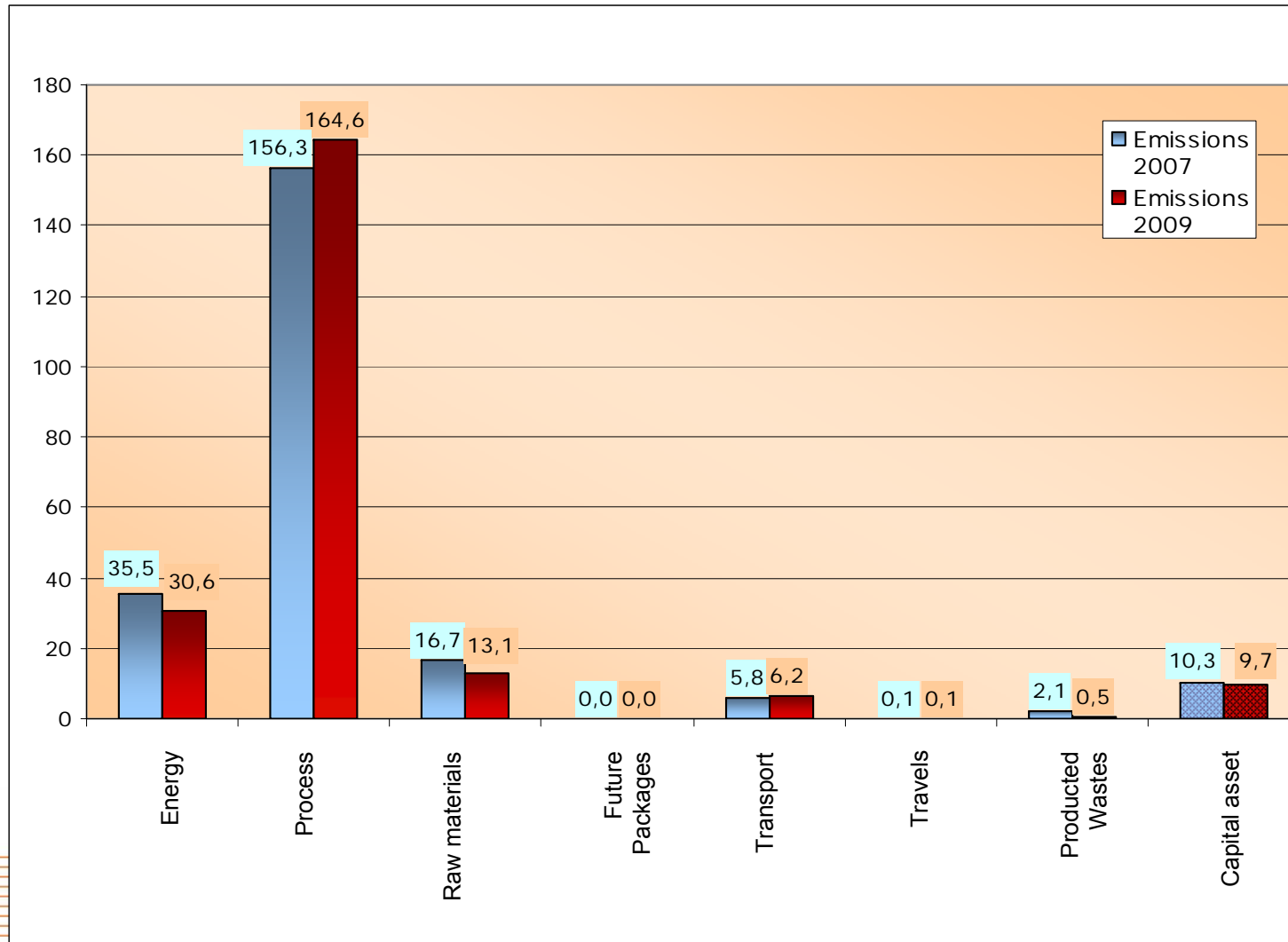
## Some examples in figures

# Exemple of Results



## > Ratio comparison

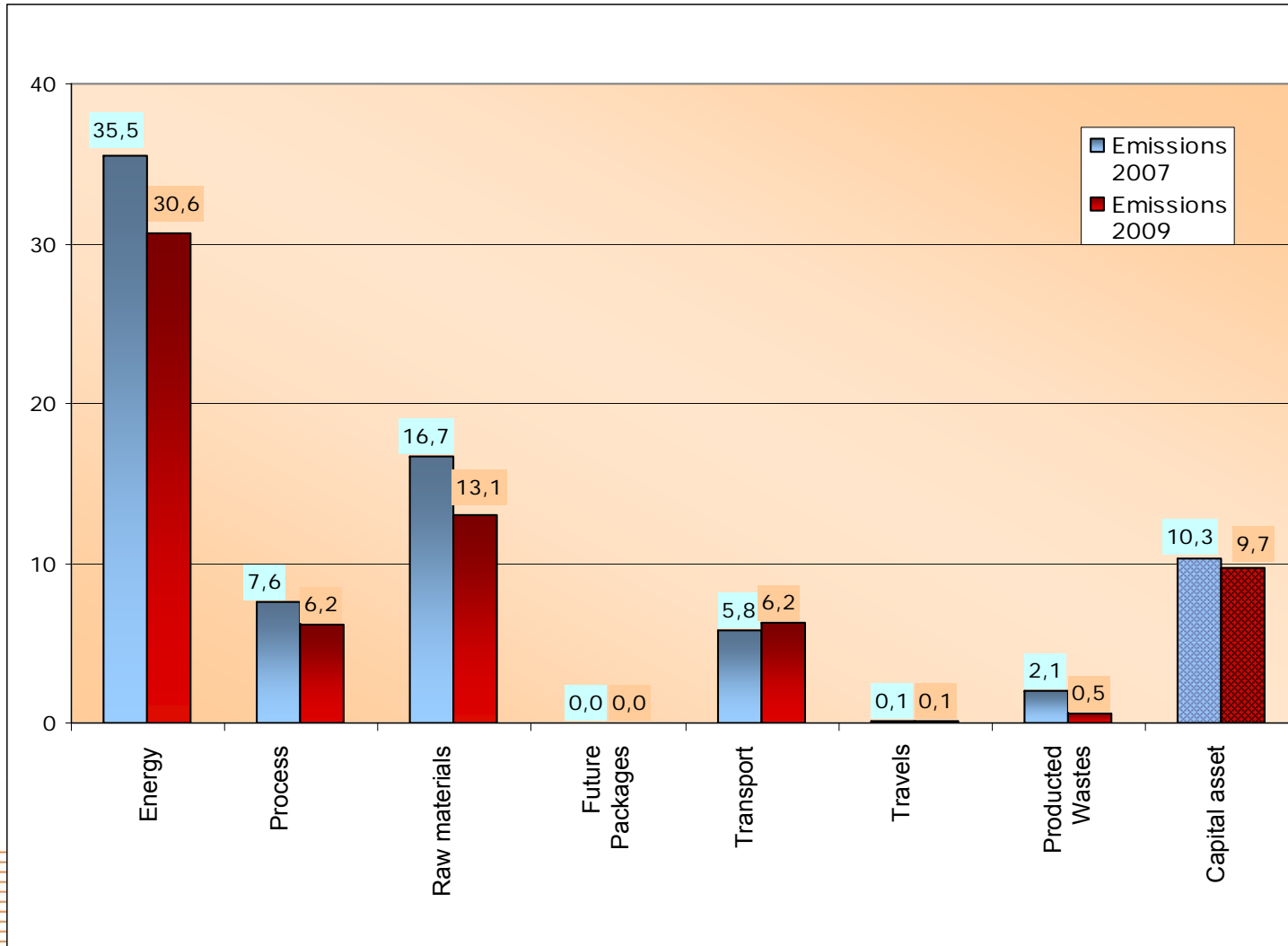
Comparison of the emissions (global)



(Kg eqC/T  
Treated waste)

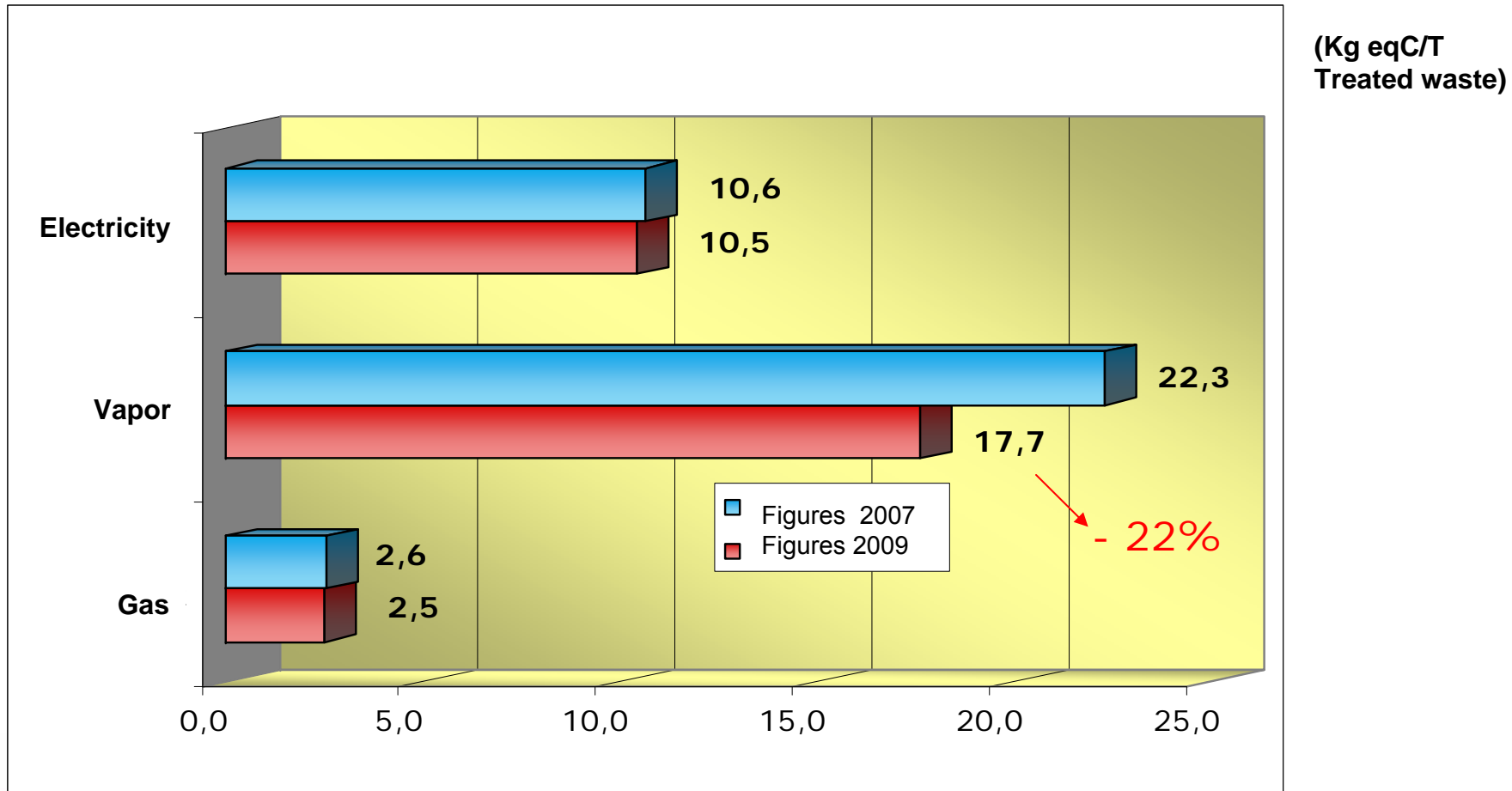
## Ratio comparison

Comparison of the emissions (combustion not included)



(Kg eqC/T  
Treated waste)

## > Energy emissions

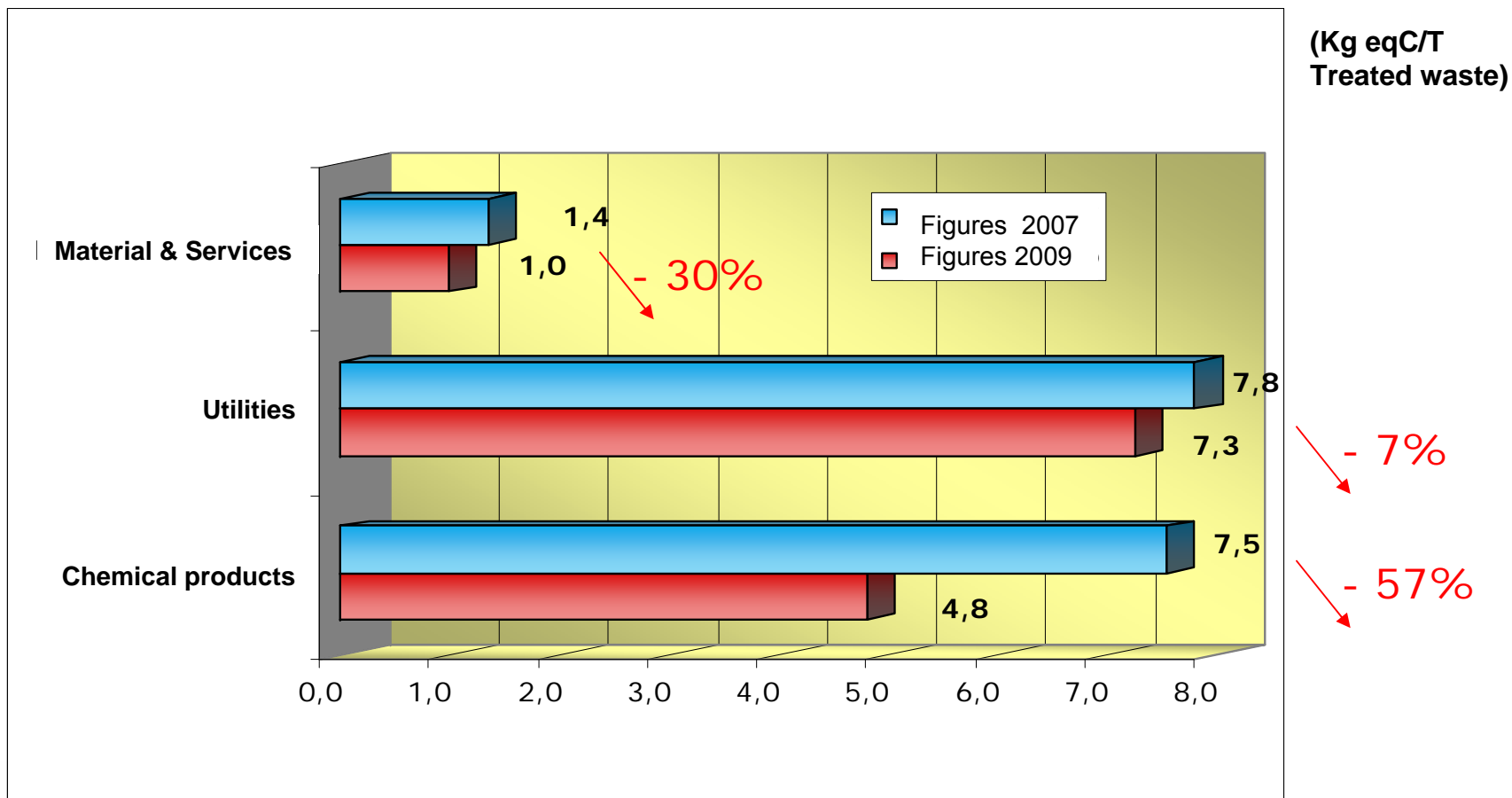


Gas: no evolution in spite of the decrease plan for the starting of the furnace.



# > RAW MATERIALS

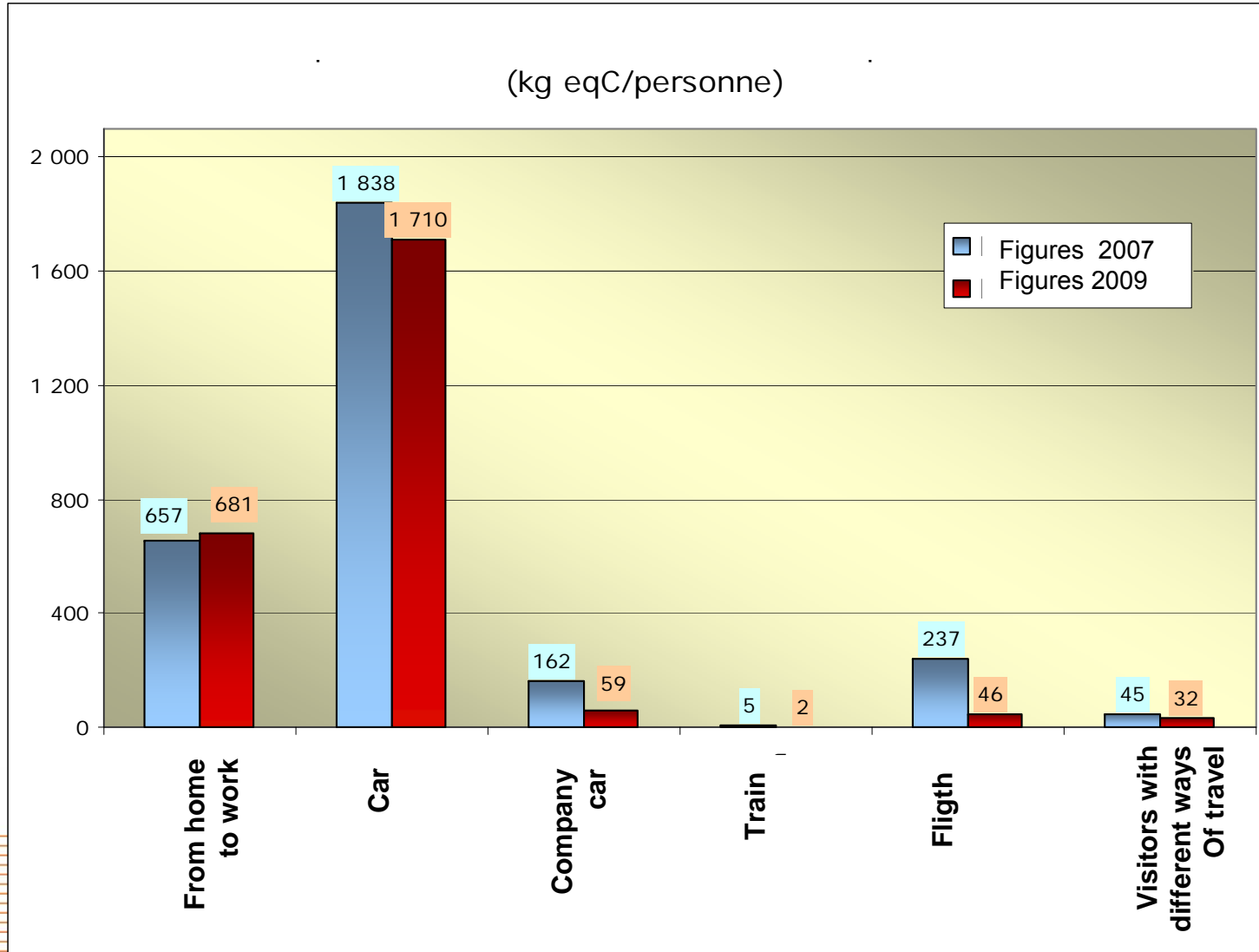
Evolution of the emissions linked to the energy



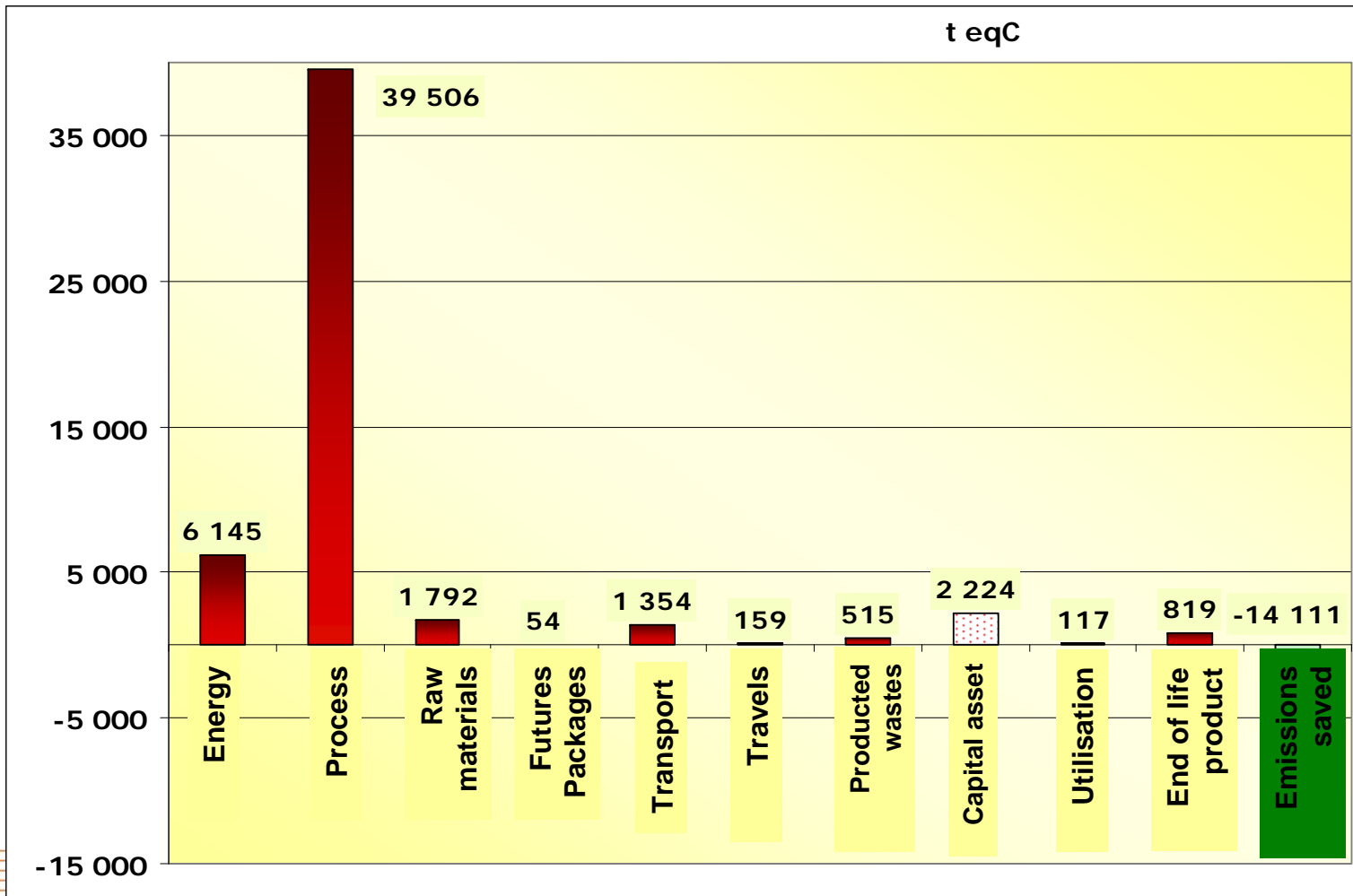
Chemical products: -57%

# Travels of the employees

## Comparison of the emissions caused by travelling



## ➤ TOTAL Emissions of TERIS SPECIALITES



## > Bilan Carbone<sup>®</sup>

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- ⇒ The diagnostic and results of our Carbon footprint will help our customer to set up their own Bilan Carbone<sup>®</sup>
- ⇒ This measurement will allow, mainly the :
  - ⇒ process classification
  - ⇒ identification of the environmental solutions
  - ⇒ awareness and involvement of all the employees
  - ⇒ strategie business evolution