

Special workshop for policy makers

“Implementing a carbon footprint programme in your country”

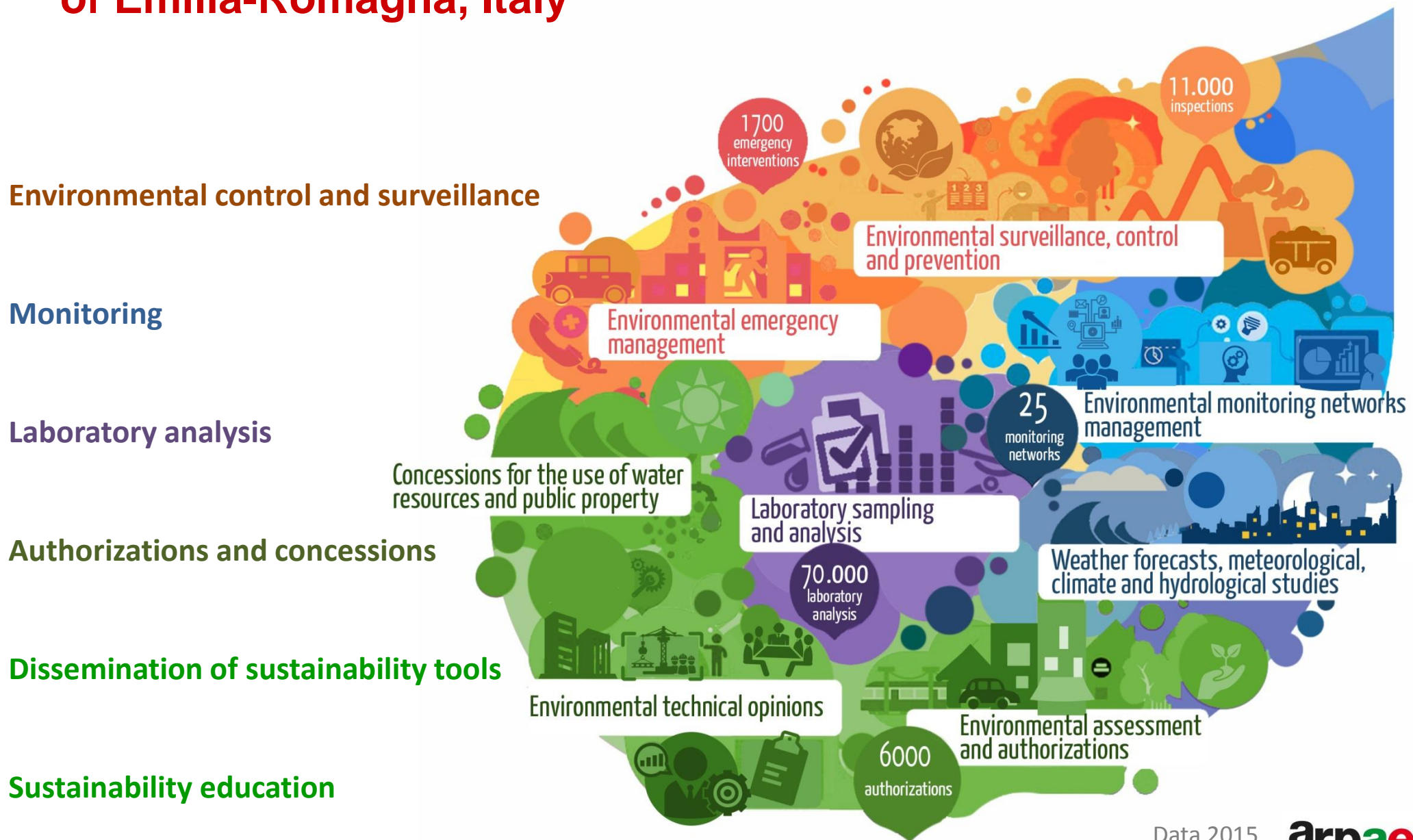


Voluntary program: Arpae-ER's carbon footprint calculations

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Arpae Regional Agency for Prevention, Environment and Energy of Emilia-Romagna, Italy



Data 2015

THE PROJECT PATH

Definition of
system
boundaries

Data
collection

Data
processing

Analysis
of the
results

GHG
reduction
approach
(*next steps*)

Arpae

Management:

General

Headquarters, staff

services and

Administrative

Department

Technical

Headquarters

DATA COLLECTION

Monitoring our impacts

Report drafting

Sustainability Integrated Report
(2013-2014)

Study for the assessing of environmental aspects
(2014-2015-2016)



COLLECTED DATA

Energy:

- Fuels (natural gas heating)
- Electricity (100% renewable sources)

Material inputs

Employees Commuting

- home-workplace travel of employees
- Business travel

Capital goods

- Buildings
- Cars
- Furniture
- IT hardware

Process waste

Sewage water



DATA COLLECTION... SOME EXAMPLES 1/2

Employees home-work transportation: data collected from a questionnaire sent to employees. The data collected was re-elaborated according to the number of employees, the average kilometers traveled and transportation types, all compared to 100 (taking into account the number of employees who answered the questionnaire)

Business travel: kilometers traveled using the different means of transport

Business travel	General Headquarters	Technical Headquarters
Car owned by Arpae – Petrol (l)	1.427,20	515,45
Car owned by Arpae – Natural gas (kg)	1.473,79	444,10
Train - passengers.km	108.290	88.735
Airplane 100-180 seats, 0-1000 km - passengers.km	3.066	10.305
Airplane 180-250 seats, 1000-2000 km - passengers.km	0	8.259
Airplane > 250 seats, 7000-8000 km - passengers.km	0	28.253

DATA COLLECTION... SOME EXAMPLES 2/2

	Water consumption (m ³)
General Headquarters	918
Technical Headquarters	306

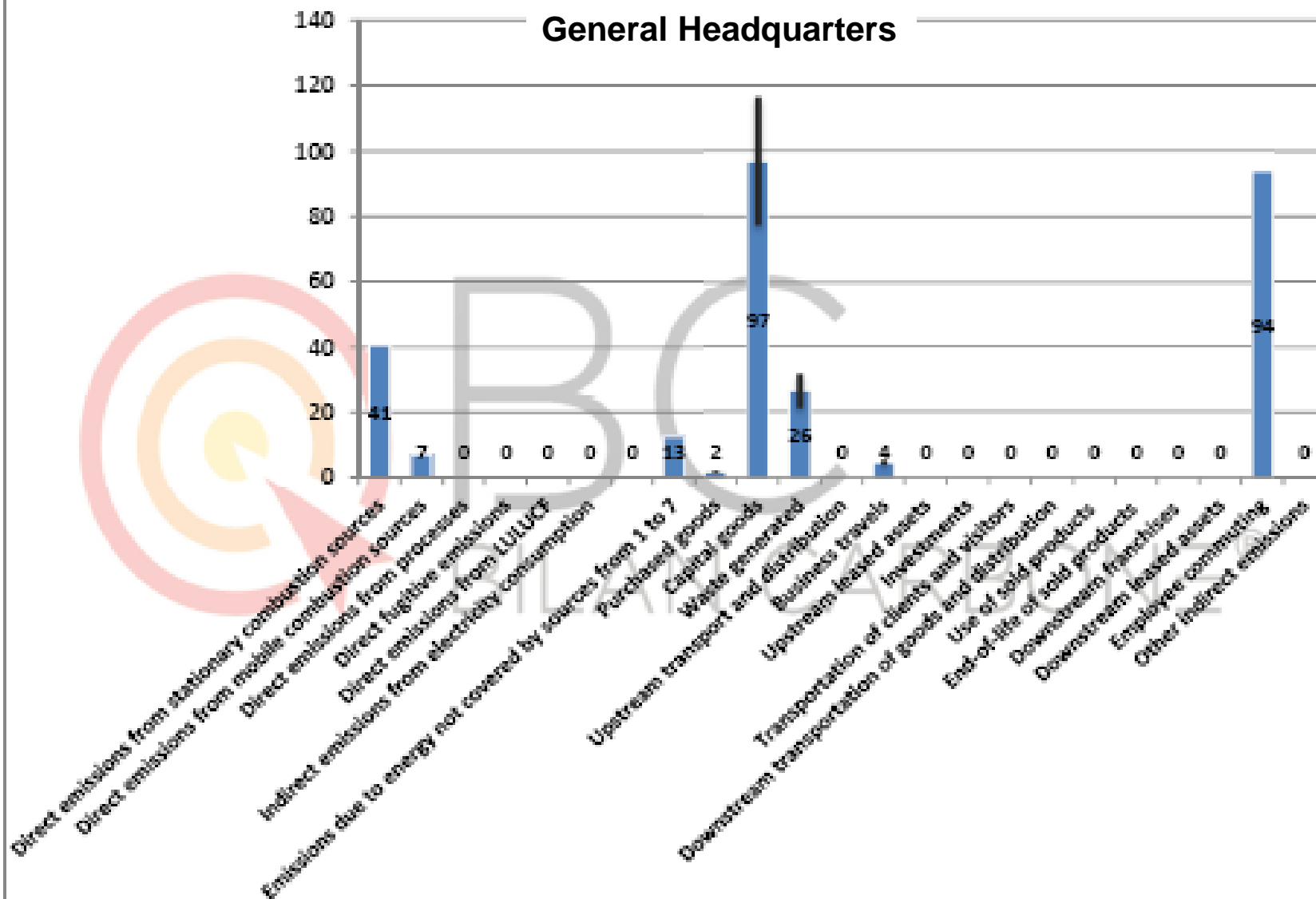
Sewage water: data refer to water consumption, assuming that drinking water corresponds to identical quantities of wastewater. For the General Headquarters, consumption was directly taken from the invoices. For the Technical Headquarters, consumption was obtained from the water supplier.

Solid waste are assimilated to urban waste (mainly paper and plastic), subject to separate collection, not subject to MUD (Unique Model of Environmental Declaration) and therefore this category wasn't directly considered.

RESULTS 1/2

ISO 14069 : GHG emissions & uncertainty by source, in tCO₂e

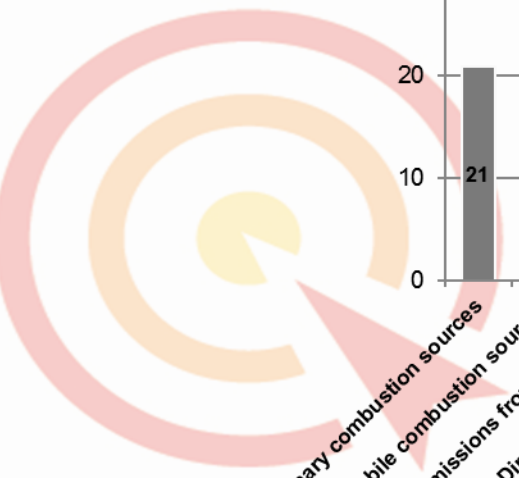
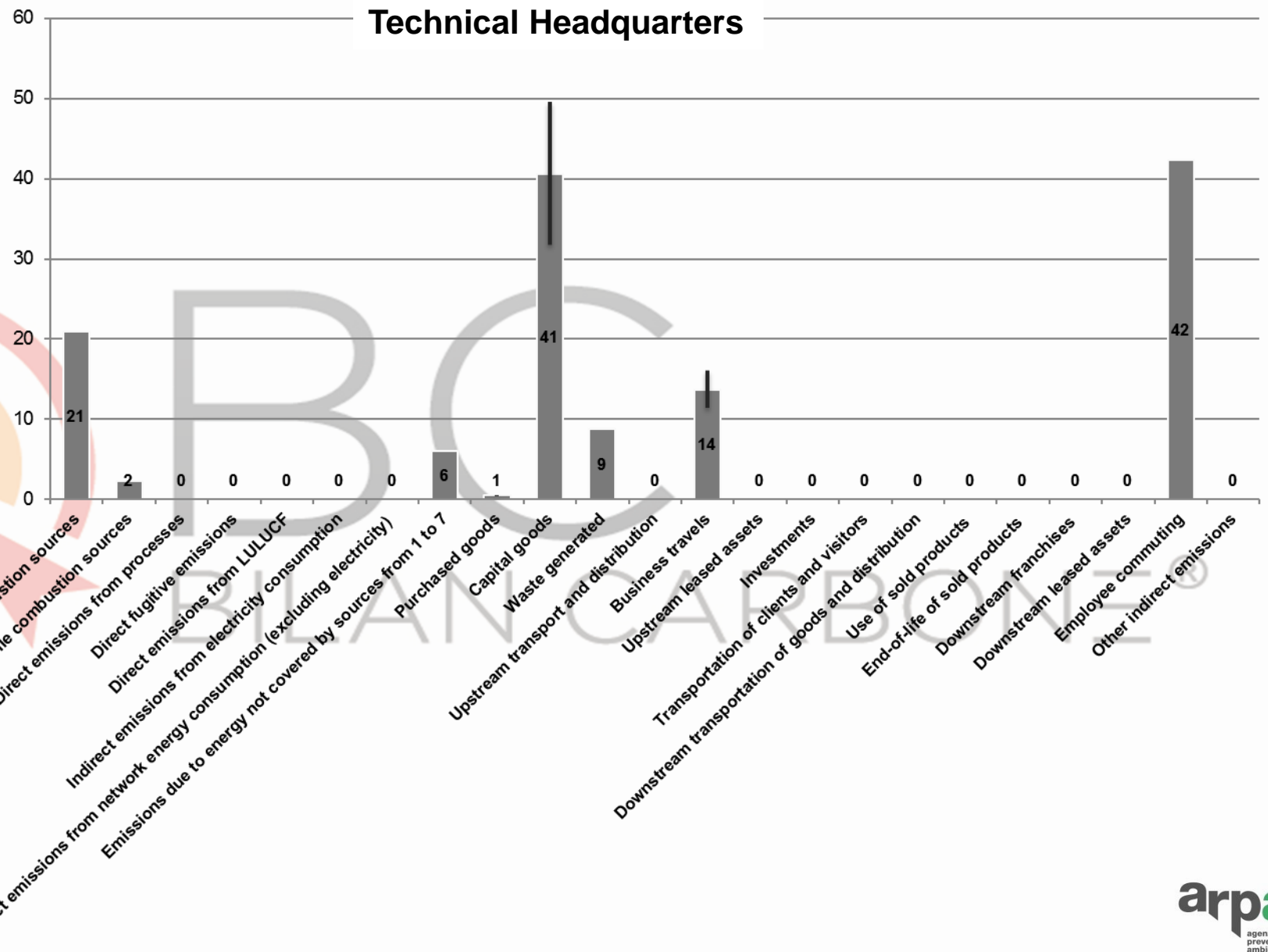
General Headquarters



RESULTS 2/2

ISO 14069 : GHG emissions & uncertainty by source, in tCO2e

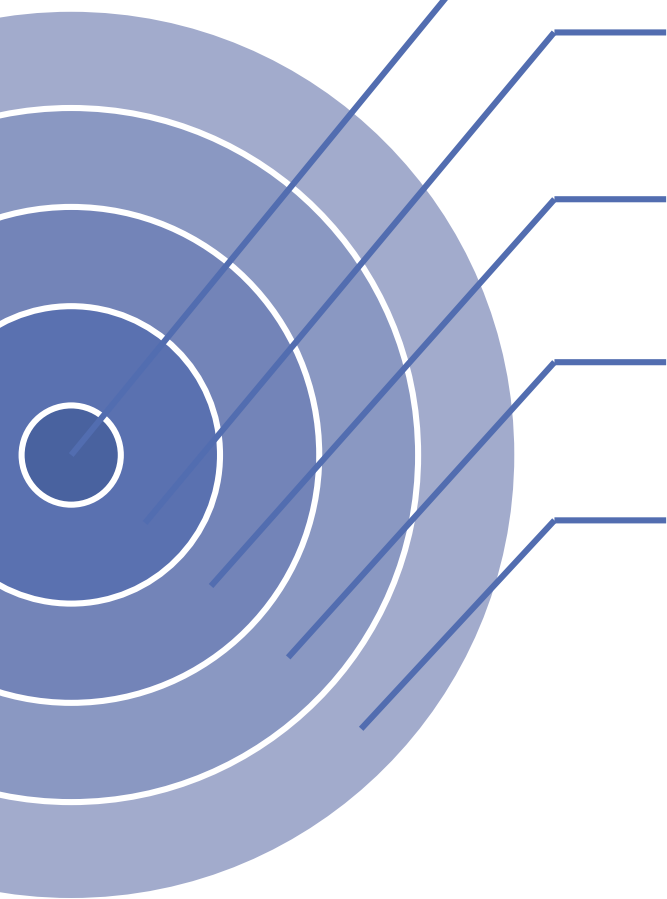
Technical Headquarters



BC
 BILAN CARBONE

GHG REDUCTION APPROACH

Commitments and goals Sustainable consumption and green procurement policy (GPP)



Procurement of products and services with **reduced environmental impact**: durable, easily removable or repairable products or obtained from recycled/recyclable materials

Redevelopment and expansion of facilities, design of new offices: **energy saving**, reduction of consumption, improvement of comfort in workplace

Consumption rationalization, sustainable mobility solution, dematerialization, maintenance, updating, repair and reuse of assets

Identification of more sustainable choices in the long term, also using tools for the calculation of **life cycle costs** (LCC)

Empowerment of the **awareness** / training of staff (correct and environmentally friendly purchases and behaviors of use/consumption of instrumentation and products)

CONCLUSION

Point of weaknesses

- **Data collection phase:** long waiting feedback replies from our Supplier (for example, data referring to the energy mix composition with regards to electricity and water consumption)

Difficulties in recovering data related to the heating of the Technical Headquarters because the building is shared with other organizations

- **Data procession phase:** spreadsheet format with a lot of fillable fields to choose from

Strength

- **Test an innovative tool** for calculating the Agency's carbon footprint, accompanied by a database that includes Italian emission factors
- **Learning** through the experimentation
- Being among one of the organizations to have, for a small extent, **contributed to improve** the Tool, by reporting critical issues encountered on during data entry or typos and missing formulas inside the spreadsheet, that would have compromised the final results
- Identification of the **processes that most contribute to the carbon footprint** and that consequently identify possible areas and actions for **improvement**

THANKS FOR YOUR ATTENTION

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