



# LIGURIA REGION ENERGY OBSERVATORY

1<sup>st</sup> EUSALP experts' workshop "EUSALP Energy Observatory"

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# National/Regional energy policy programme

## 2020 EU Objectives

Dir. 2009/28/EU (Renewable Energy Directive)

Dir. 2012/27/EC (Energy Efficiency Directive)

## 2020 ITALIAN Objectives

**-17%**

National Renewable Energy Action Plan

National Decree 15th March 2015 by Ministry of Economic Development "Burden Sharing" sets up objectives for each Region in Italy to be achieved by 2020

## 2020 Liguria Region Objectives

The Regional Energy Plan (PEAR 2014-2020) defines a general strategy for 2020 energy policies

- It aims to fulfill the requirements of the European and National Legislation (Decree 15th March 2015 - **Regional Burden Sharing**) through the concrete measures of European Regional Development Funds (ERDF 2014-2020);
- It's in charge of the Economical Development Department of Liguria Region

The 2020 **NATIONAL** objectives have been already reached (17,5%)

Objective  
Liguria  
2020

=

Final Energy Consumption from RES

373 [ktep]

Gross Final Energy Consumption (CFL)

2.640 [ktep]

= **14,1%**

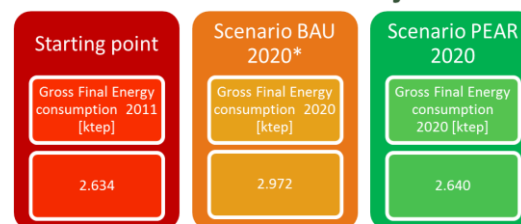
### RES Objectives

RENEWABLE ENERGY SOURCE RES-E+RES-C	2012		PEAR 2020 Scenario	
	Installed power[MW]	RES Energy production [ktep]	Installed power[MW]	RES Energy production [ktep]
Photovoltaic	74	8	220	23
Wind Energy	47	8	250	43
Idro	86	20	110	26
Biogas	21	11	31	16
Biomass	451 (*)	47	1750	181
Solar Thermal	11	1	100	6
Heat Pumps	1400	53 (**)	2100	79 (*)
TOTAL		146		373

(\*) To be updated  
(\*\*) Calculated according to RES EU Directive (2009/28/CE) and related Guidelines.

← **+227 ktep** →

### ENERGY EFFICIENCY Objectives



← **-332 ktep** →

## National Energy Strategy (SEN 2017) 2030 Key priorities

- ❑ **Energy efficiency:** from 118 to 108 Mtoe (-9%);
- ❑ **Renewable energy sources:** 28% of RES consumptions to total energy consumptions (from 17,5% of 2015)
- ❑ **Transport:** 21% of RES in transport fuels (from 6% of 2015)
- ❑ **CO<sub>2</sub> emissions decrease** of 39% to 2030 compared to 1990 (and 63% to 2050)
- ❑ **Reduction of energy dependency** from 76% in 2018 to 64% in 2030 thanks to RES and energy efficiency

# Energy Observatory in Liguria Region

Liguria Region since 1997 has been developing an **Observatory on Environmental and Energy data** for:

- ❑ *Monitoring GHG emissions and the Air Quality Plan*
- ❑ *Developing the Regional Energy Balance*
- ❑ *Providing index and indicators for the Liguria Region Report on the Status of Environment*



The Emission Inventory, the Air Quality Database and the Regional Energy Balance Database are integrated into the Data Manager, designed as being a modular system

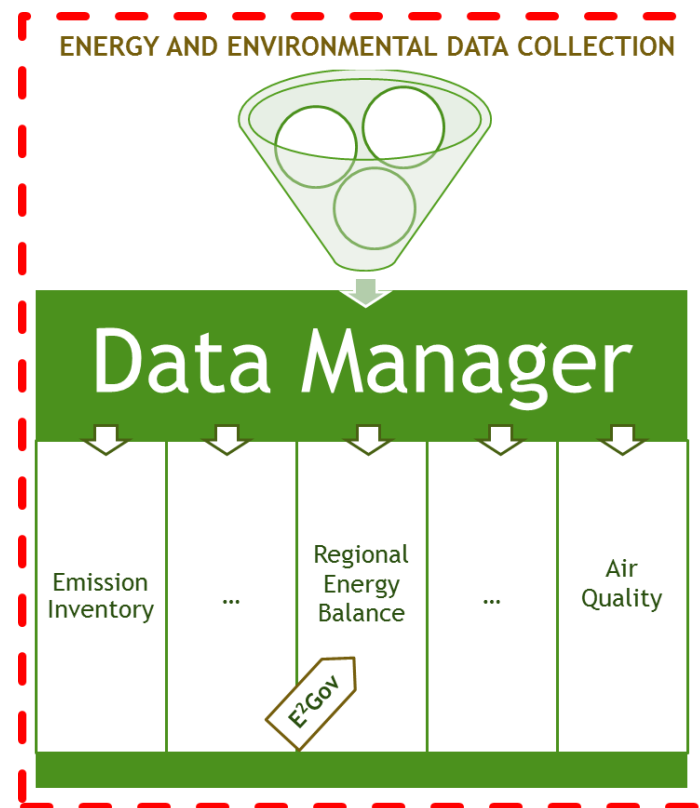


## EFFICIENT DATA MANAGEMENT

The monitoring of Energy Data (and of Regional Energy Plan) is provided by the Regional Energy Balance (yearly basis)

- Excel files available («Data access & dissemination»)
- GIS next steps (*Good practice of Genoa Municipality*)

## The Regional Energy and Environmental Database



# Energy Observatory in Liguria Region

## Input

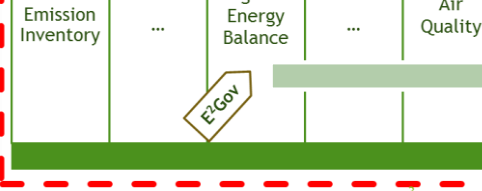
National and Regional Statistics

Questionnaires from relevant plants

Other data sources: Institutions,  
National Organizations, Distributors..

ENERGY AND ENVIRONMENTAL DATA COLLECTION

Data Manager



## Output

Synthesis balance

- Transformation balance
- Energy consumption and losses balance
- Final energy consumption balance
- CO<sub>2</sub> balance

Different types of  
balances  
(Excel files)

SETORE	100 - Combustibili solidi (ITEP)	200 - Combustibili liquidi (ITEP)	300 - Combustibili gassosi (ITEP)	400 - Fonti rinnovabili (ITEP)	405 - Carbone combustibile (ITEP)	500 - Energia elettrica (ITEP)	TOTALE (ITEP)
PRODUTTORE							
Industria	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trasporti	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Edilizia	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Altre attività	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumo totale	0.00	0.00	0.00	0.00	0.00	0.00	0.00
TRASFORMAZIONE							
Industria	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trasporti	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Edilizia	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Altre attività	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumo totale	0.00	0.00	0.00	0.00	0.00	0.00	0.00
CONSUMO FINALE							
Industria	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Trasporti	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Edilizia	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Altre attività	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumo totale	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Three different territorial  
levels available:

- Regional level
  - Provincial level
  - Municipal level
- Energy Data to LAs



## The DATA COLLECTION APPROACH (Top- down + bottom up )

Energy  
production

- Questionnaires to relevant power plants (Thermoelectric power plants, Biogas production in the regional landfills, refineries, coke plants, hydro and wind power plants); Estimations from National data and regional statistics on biomass;
- Data on renewable energy sources power plants financed by Liguria Region.

Energy  
import/  
export

- National operators: GRTN/Terna
- Ports (questionnaires);
- Refineries: regional production of oil products

Final energy  
consumptions

### NATURAL GAS:

- Questionnaires to plants using great amounts of fuel;
- Data from the energy distributors at municipal level (SNAM rete gas)

### OIL PRODUCTS:

- Questionnaires to plants using great amounts of fuel;
- Data from Oil Bulletin (Economic Development Ministry)/ BEN (Fishing);
- Diesel consumptions declared by Port operators;

### ELECTRICITY:

- Questionnaires to plants using great amounts of electricity;
- Data from national operators: GRTN/Terna - Gestore Rete Trasmissione Nazionale

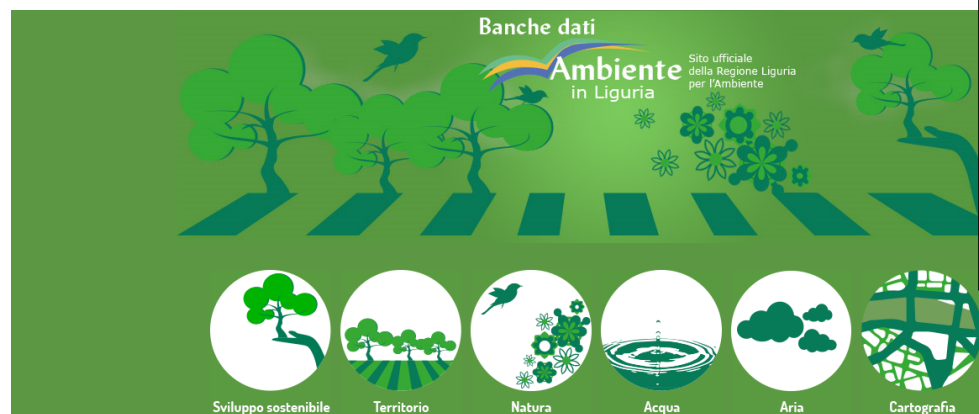
### BIOMASS:

- Regional statistics (ISTAT) and Estimations from BEN

# Access and dissemination of energy data

Energy data dissemination is provided for citizens and general users by a dedicated website managed by Liguria Region on the Energy Databases:

- Energy Sustainable development
- Territory
- Nature
- Water
- Air
- Maps



## Il Sistema Informativo Regionale Ambientale (SIRAL)

- è l'insieme delle banche dati e delle applicazioni di gestione e di fruizione, associate
- risponde all'esigenza di archiviare le informazioni derivanti da monitoraggi e controlli ambientali, ma anche da procedimenti amministrativi e da studi e pianificazioni di settore
- ha lo scopo di supportare la pianificazione di settore, i pareri e le valutazioni ambientali, il reporting istituzionale
- garantisce l'accesso del pubblico all'informazione ambientale

Le banche dati sono classificate secondo i 5 canali tematici del sito [www.ambienteinliguria.it](http://www.ambienteinliguria.it) (sviluppo sostenibile, territorio, natura, acqua, aria), cliccando su un canale si accede all'elenco delle banche dati associate e, da questo, alla pagina introduttiva alla specifica banca dati e alle sue applicazioni (nell'header: accesso cartografico; sopra il testo descrittivo: accesso alle applicazioni per il pubblico; in basso: accesso alle applicazioni gestionali).

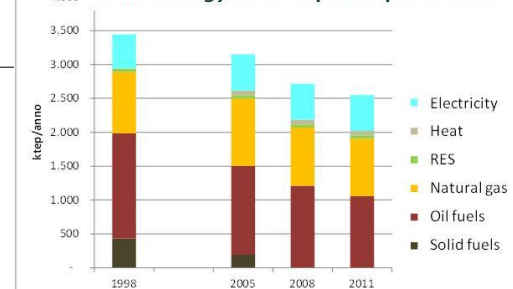
Il sesto canale permette l'accesso alla cartografia ambientale.

## Regional Energy Balances for download

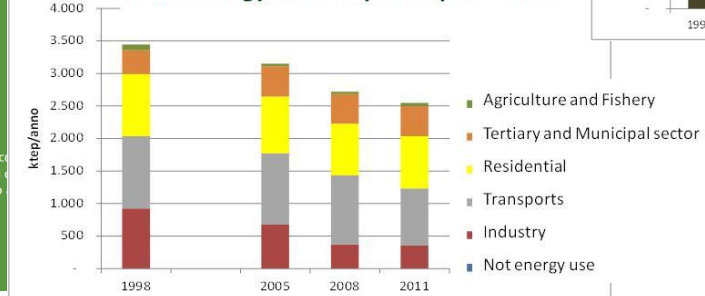
Anno:	2011
Bilancio di Sintesi:	Totale
Unità di misura:	Energetiche (ktep)

CODSETTORE	NOMESETTORE	CODSETTORE	NOMESETTORE	100 - Combustibili solidi (ktep)	200 - Combustibili liquidi (ktep)	300 - Combustibili gassosi (ktep)	400 - Fonti rinnovabili (ktep)	500 - Energia elettrica (ktep)	TOTALE (ktep)
01	Produzioni	01001	Produzioni	0.00	0.00	0.00	148.61	0.00	148.61
02	Importazioni	02001	Importazioni	2.855.05	24.685.90	3.009.10	64.05	257.03	30.970.13
03	Esportazioni	03001	Esportazioni	-1.161.67	-22.662.34	-1.559.13	-4.16	-1.695.75	-26.479.04
04	Variazioni scorte	04001	Variazioni scorte	0.00	0.00	0.00	0.00	0.00	0.00
05	Consumo interno lordo	05001	Ingressi	1.788.38	2.027.56	1.449.97	213.56	438.72	4.440.71
06	Trasformazioni in energia elettrica	06001	Ingressi	-1.713.54	-47.33	-556.19	-97.37	2.414.62	0.00
07	Consumi e perdite del settore energetico	07001	Ingressi	-24.85	-19.36	-48.71	-3.07	-1.032.58	-1.236.58
08	Consumi finali	08001	Agricoltura e pesca	0.00	-34.33	0.00	0.00	-3.04	-49.46
		08002	Industria	0.00	-48.33	-197.34	-6.87	-89.64	-332.78
		08003	Servizi	0.00	-852.59	0.00	0.00	-74.32	-926.91
		08004	Civile	0.00	-122.21	-437.64	-105.99	-359.69	-1.216.53
		08005	Usi non energetici	0.00	-1.658.05	-847.68	-112.86	-527.69	-2.545.68
09	Totale consumi energetici	09001	Bunkeraggi	0.00	0.00	0.00	0.00	0.00	0.00
10	Bunkeraggi	10001	Bunkeraggi	-74.85	-1.137.41	-893.78	-115.94	-1.580.27	-3.782.26
11	Totale impieghi			-1.788.38	2.027.56	-1.449.97	213.56	854.35	-4.625.07

## Final Energy Consumptions per source



## Final Energy Consumptions per sector



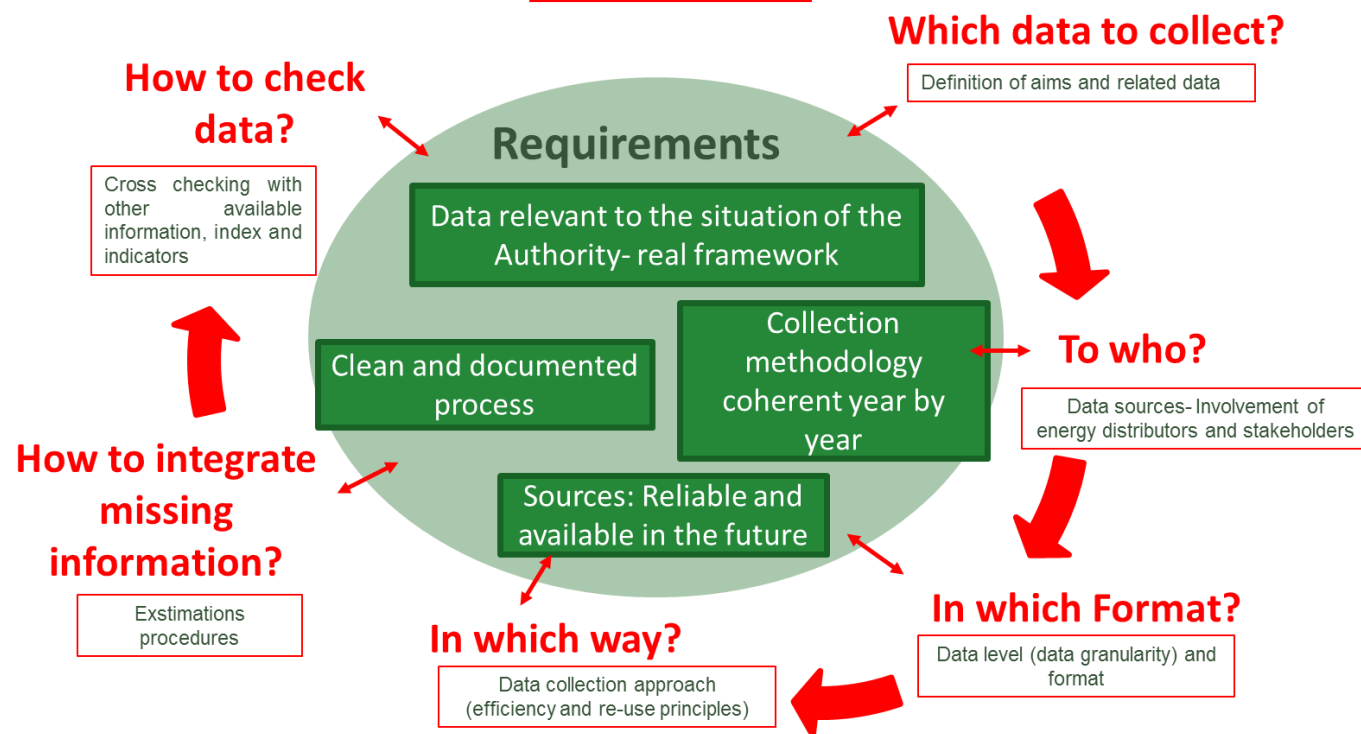
# Network of energy observatories in the EUSALP

## Setting up a network of Energy Observatory- Possible benefits

- Adhesion to a network needs a strong commitment by the regional/local authority
- Chance to set up/check/improve some common methodological aspects for planning purposes
- Evaluation of European energy policies (CoM)

The experience sharing is always winning – Chance of comparison on all the key questions related to the setting up and the management of an energy observatory:

### KEY POINTS





**Thanks for your attention!**

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