



# STATISTICHE

figures and graphs to analyse the Veneto region

Flash



The energy sector is living a period of gradual transformation. The main causes are the limitedness and the difficulty of supply of traditional energy sources, which add to the awareness that a more efficient use of the resources brings significant benefits with regard to the quality of health and the environment. In this sense, even the process innovations applied to traditional sources may be useful. For example, for carbon, carbon capture and storage (CCS) techniques have been refined, regulated by the D.lgs. (Legislative Decree) of 14/09/2011 in implementation of the Directive 2009/31/EC. To facilitate the diffusion of these techniques, the European Union,

pursuant to Regulation no. 663 of 30/11/2009, has started the "European Energy Programme for Recovery". This programme can contribute to the increase in the electricity production levels reducing the gap between consumption and production both on a European level and on an Italian level.

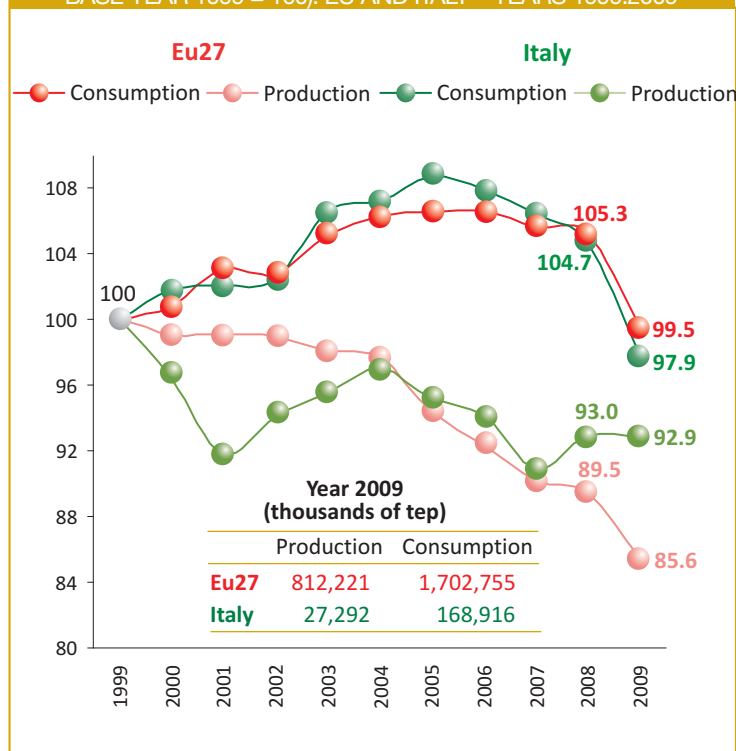
By observing the trend of primary production and energy consumption in the decade from 1999 to 2009 in the European Union and Italy, two significant trends emerge

## THE NEW ENERGY WAY

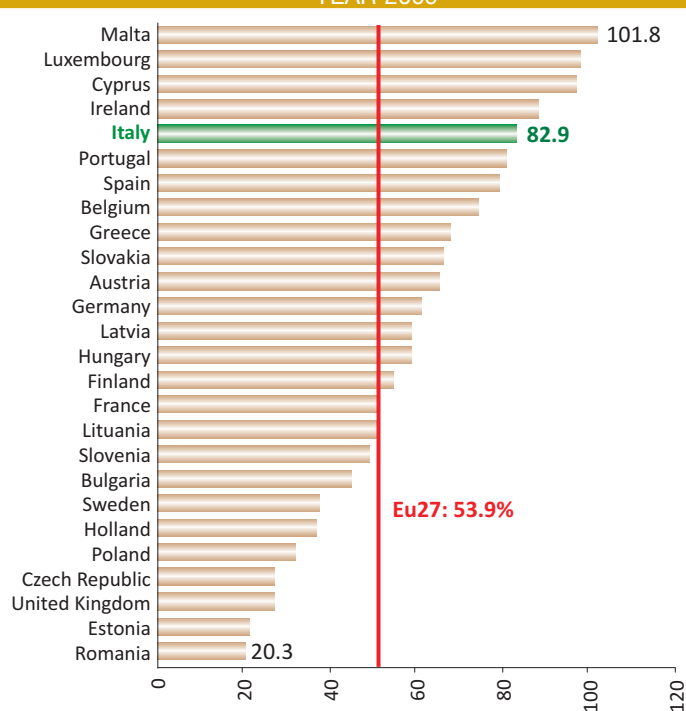
with regard to the energy situation of the old continent. Faced with a gradual growth in consumption which reached its peak in 2005 and a subsequent reduction with a quite important drop in 2009 due to the crisis, the production has continued to decline gradually over the entire decade. The series of indices based on 1999, show, in fact, in 2009, production values of 85.6 % for the European Union and 92.9 % for Italy, which correspond respectively to 1,700,000 and 169,000 Ktep.

These tendencies contributed to an increase over time of the energy dependency of EU countries. In 2009, the European Union registered a rate of energy dependency of nearly 54 %. The situation in countries with very limited natural resources which heavily rely on the importation of raw materials, is particularly delicate. Specifically, Italy, with a rate of dependency of nearly 83 %, needed a series of structural interventions which increase the production capacity and ensure diversification of the sources, thereby reducing the risks in the supply.

PRIMARY PRODUCTION AND CONSUMPTION OF ENERGY (INDEXES: BASE YEAR 1999 = 100). EU AND ITALY - YEARS 1999:2009



RATE OF ENERGY DEPENDANCY (\*) OF EU COUNTRIES YEAR 2009



Source: processing by the Region of Veneto – Directorate Regional Statistical System on Eurostat data

(\*) Calculated as relationship between net importations and the sum of gross domestic consumption and of oil bunkers – supplies of fuel in sea vessels (and air) operating on international routes.

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WEB

<http://www.regione.veneto.it/statistica>

The most used traditional energy sources are still petroleum and natural gas. Both are subject to fluctuations in prices and related costs of importation. In particular, the cost of petrol had a strong growth trend from 2001 to 2008, going from less than 24\$/barrel to nearly 97. In 2009, with the crisis of the economic and financial markets, there was also a reduction of the price of crude oil, which however,

since 2010, has resumed its increase and exceeded 110\$/barrel in the first six-month period of 2011.

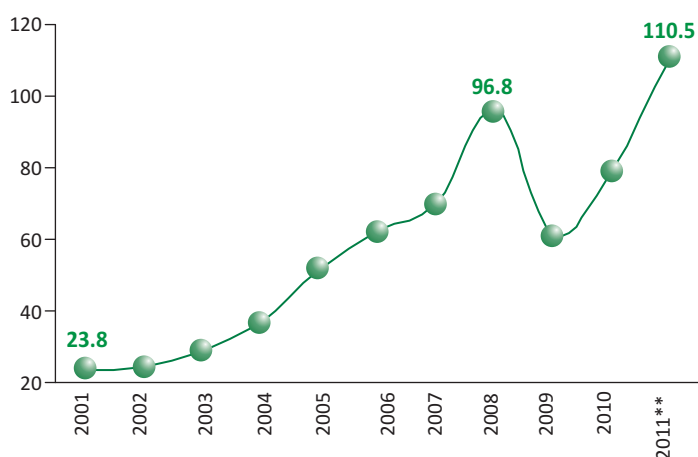
With regards to natural gas, the price series is six-monthly. Comparisons with the most recent data can be done only from 2007, since in that year a new calculation method was introduced which makes the data previous to 2007 incomparable with the subsequent ones.

## TRADITIONAL SOURCES

The trend of the last 4 years is quite fluctuating, with two peaks, one in the second six-month period of 2008 and one, more significant, in the second six-month period of 2010. By analysing in more detail the different types of consumers, per usage class, we note that small consumers are certainly more susceptible to these fluctuations with a higher average price level, compared to both medium and large consumers, and that the same fluctuations are more accentuated, particularly in the peaks.

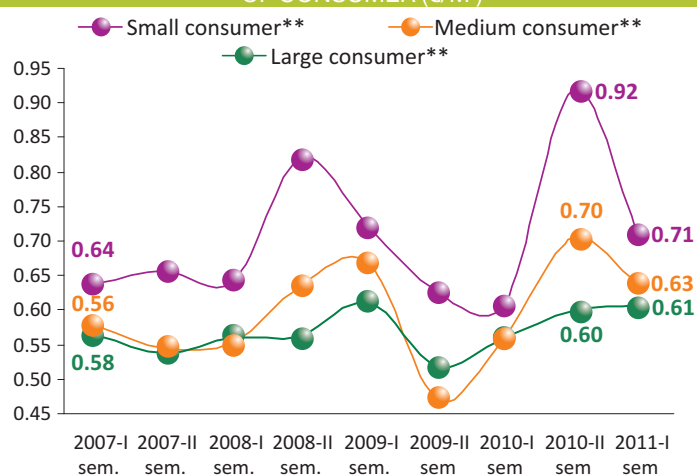
Despite the economic crisis having affected primary energy consumption, natural gas is the only fossil fuel source on the increase, with an average annual increase of the distributed quantity equal to 2.1 % from 2002 to 2010 in Italy, especially to the detriment of the consumption of petroleum products. In particular, natural gas is even more strategic in the sector of energy production, where the technology of gas combined cycle combines high efficiency and more limited emissions. Natural gas is mostly distributed with the local grid to the residential, commercial and industrial sectors, both in Italy and in Veneto. Thermoelectric use gained Italy, from 2002 to 2010, over 7 percentage points, by going from 30 to 37.4 %. In Veneto, in the same period, the share passed from 14.3 % to 25.8 %.

AVERAGE ANNUAL COST OF PETROLEUM IMPORTATION IN ITALY\* (\$/BARREL) YEARS 2001:2011



(\*) Comprises shipping costs and transport insurance  
 (\*\*) Data for 2011 refer to the end of the month of July

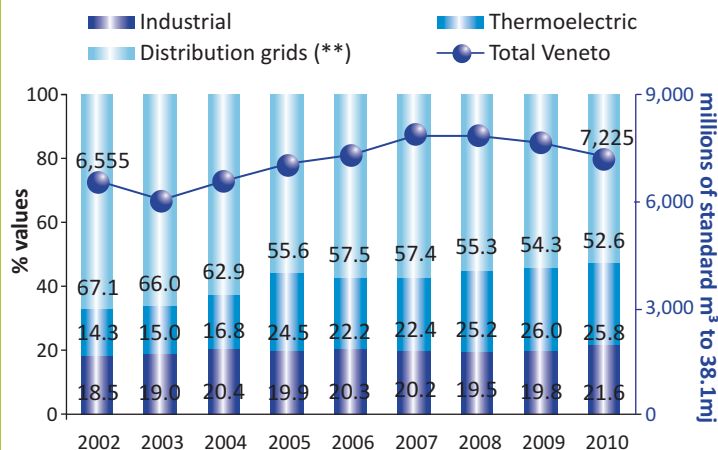
PRICES IN ITALY OF NATURAL GAS PER TYPE OF CONSUMER (€/M³)\*



(\*) Prezzi IVA esclusa

(\*\*) Piccolo consumatore: fino a 500 m³/anno - Medio consumatore: da 501 a 5.000 m³/anno  
 Grande consumatore: da 5.001 a 200 milioni di m³/anno

DISTRIBUTION OF NATURAL GAS. TREND (IN MILLIONS OF STANDARD M³ AT 38.1 MJ) AND % VALUES PER USE. VENETO YEARS 2002:2010 (\*)

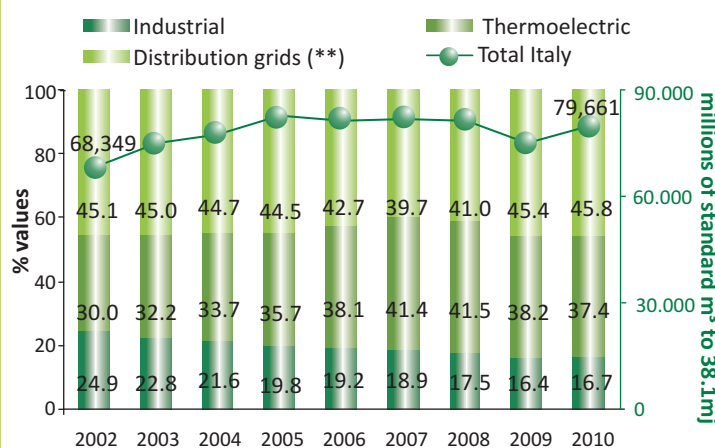


(\*) The data reported refers to the quantity distributed by the SNAM Gas Grid, which represents about 98 % of total consumption in Italy.

(\*\*) Distributed quantity on the local/secondary grid, or networks of local pipelines for supplying clients at medium to low pressure, to residential, commercial, industrial and thermoelectric

Source: processing by the Region of Veneto on data from the Ministry of Economic Development and SNAM Gas grid.

LA DISTRIBUZIONE DEL GAS NATURALE. ANDAMENTO (IN MILIONI DI STANDARD M³ A 38.1 MJ) E VALORI % PER USO. ITALIA - ANNI 2002:2010 (\*)



The European Union, starting from the objectives set by the Kyoto Protocol in December 1997, through to the Lisbon Treaty and the Goteborg Agreements, adopted a strategy to achieve the aim of improving the energy system in terms of safety, efficiency and emissions.

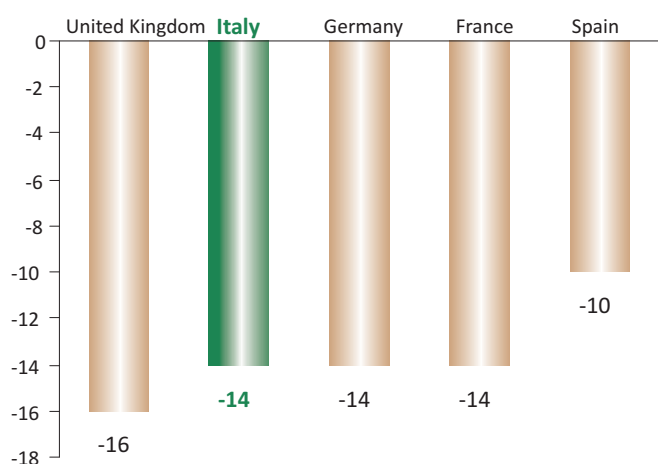
## THE 20-20-20 CLIMATE AND ENERGY PACKAGE AND ELECTRICAL ENERGY

This strategy is embodied in the 20-20-20 Climate and Energy Package defined in December 2008. The Package focuses, by 2020, on a reduction in greenhouse gas emissions equal to 20 %, taking 1990 as a base year, on an improvement by 20 % in the energy efficiency and coverage of at least 20 % of final energy consumption through renewables. Each Member States participates in this strategy with specific objectives based on the

characteristics and potentiality of each one. For Italy, in particular, the objective relative to the reduction of greenhouse gases has been fixed at a decrease of 14 % compared to the value recorded in 2005, the reference year for the precise determination of the national targets. For the second objective, a precise definition of the parameters is still ongoing, whilst for the share of renewable energy, again in Italy; the goal is to reach 17 %, starting from 5.2 % of 2005 and 6.8 % in 2008.

A large part of the energy sector is represented by electricity. The production and consumption in Veneto follow different trends compared to the rest of the peninsula. In 2000 production exceeded regional consumption, whereas in Italy there was a situation of deficit bridged only by the use of electricity from abroad. During the decade, consumption has followed a constant trend, mild growth both in Italy and Veneto, with the drop in 2009 due to the crisis and recovery during 2010. With regards to production, however, in Italy the trend has been, even if maintaining the ratio of deficit compared to consumption, growing. In Veneto, to the contrary, production has been gradually decreasing until it reached, in 2010 13,800 GWh with a consumption of 31,700 GWh. This decrease is due to the lack of production supply of the plant of Porto Tolle.

NATIONAL OBJECTIVES RELATED TO THE PRODUCTION OF GREENHOUSE GAS EMISSIONS PER EACH EUROPEAN COUNTRY

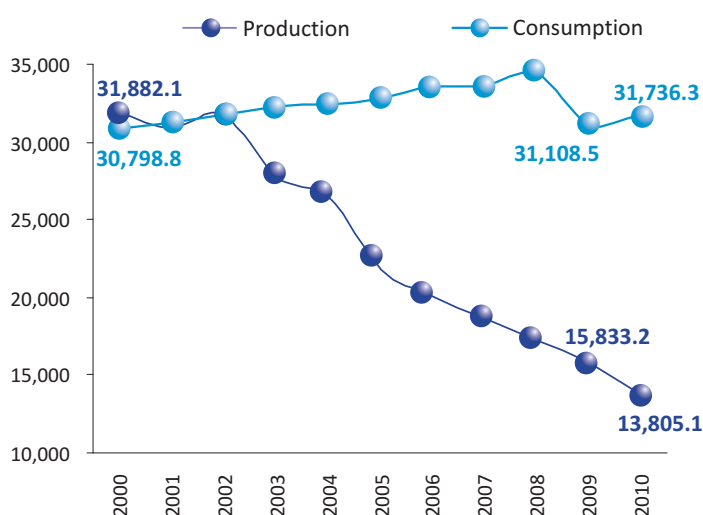


ENERGY SHARE FROM RENEWABLE SOURCES AGAINST THE FINAL ENERGY CONSUMPTION (% VALUES) PER EACH EUROPEAN COUNTRY: THE SITUATION IN 2005-08 AND THE OBJECTIVE 2020

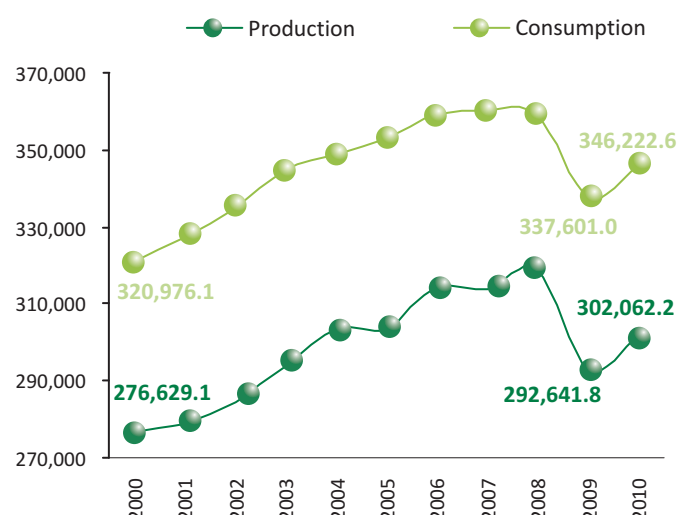
	2005	2008	2020
France	10.3	11.0	23
Spain	8.7	10.7	20
Eu27	8.5	10.3	20
Germany	5.8	8.9	18
Poland	7.2	7.9	15
Italy	5.2	6.8	17
United Kingdom	1.3	2.2	15

(\*) Percentage reductions to be achieved by 2020 starting from 2005 values.

GROSS PRODUCTION AND GROSS DOMESTIC CONSUMPTION OF ELECTRICAL ENERGY (GWh). VENETO – YEARS 2000:2010



GROSS PRODUCTION AND GROSS DOMESTIC CONSUMPTION OF ELECTRICAL ENERGY (GWh). VENETO – YEARS 2000:2010



Source: processing by Region of Veneto – Directorate Regional Statistical System on Eurostat and Terna data.

# STATISTICHE *Flash*

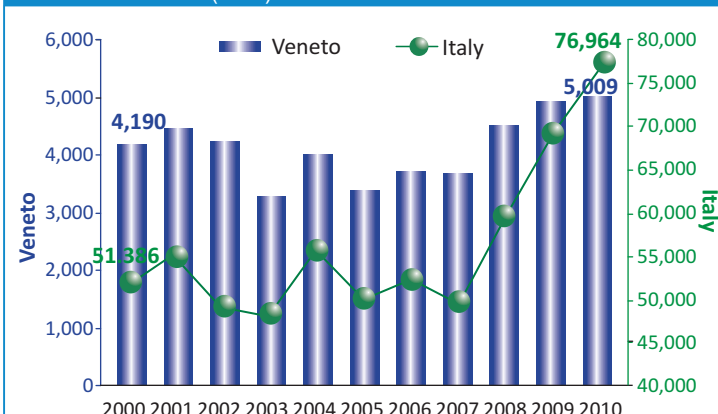
The use of renewable resources has seen a down trend from 2000 to 2007. From 2008 onward, the production signals a marked growth, in particular in 2010 with an increase at a national level by 11 % compared to the previous year, thanks to greater supply in production terms from wind power and bio-energy sectors. Veneto, surpassing 5,000 GWh in 2010, equal to 6.5 % of the national total, had a production growth of 1.5 % compared to 2009, due to a decreased supply of water source, compensated by the growth of the solar sector, which, as for Italy, recorded a real boom with a production increase greater than 180 %. This pace of growth, due to the strong incentive policy at a national level and to the growth of the sector from a technological point of view, promises high potential for the future.

## RENEWABLE RESOURCES

national trend are quite symmetrical, although the average level of the region is always a little lower.

The map of solar power installed per km<sup>2</sup> in Veneto shows inconsistent data even in areas of high urbanization and industrialization, indicating that the sector still has much room for development. The densest areas correspond to where investment has been stronger for onshore plants and industrial facilities.

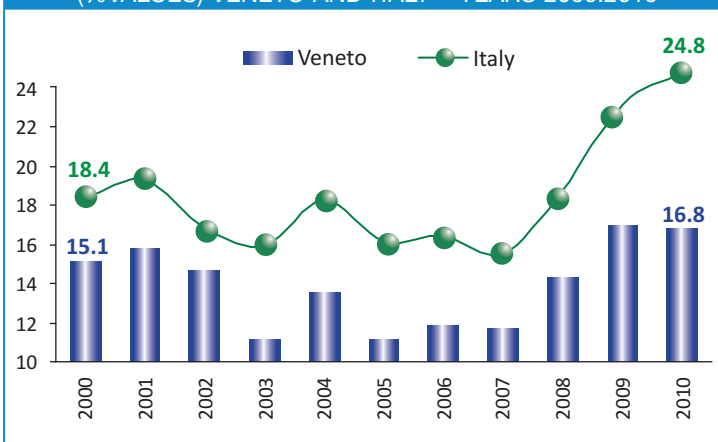
GROSS PRODUCTION OF ELECTRICAL ENERGY FROM RENEWABLE RESOURCES (GWh) VENETO AND ITALY. YEARS 2000:2010



NUMBER, POWER AND PRODUCTION OF PLANTS FROM RENEWABLE ENERGY SOURCES IN VENETO - YEAR 2010

	Plants (no.)	Power (MW)	Production (GWh)
Water	256	1,105.9	4,511.2
Wind power	5	1.4	1.7
Solar	20,336	329.7	129.4
Bio-energy	71	142.3	366.6
<b>Total</b>	<b>20,668</b>	<b>1,579.3</b>	<b>5,008.9</b>

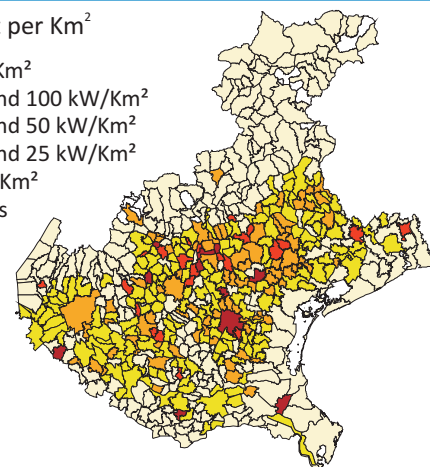
RELATIONSHIP BETWEEN ELECTRICAL ENERGY PRODUCTION FROM RENEWABLE RESOURCES AND FINAL CONSUMPTION. (%VALUES) VENETO AND ITALY - YEARS 2000:2010



INSTALLED POWER OF SOLAR PLANTS IN VENETO AT THE END OF 2010

Installed kilowatt per Km<sup>2</sup>

- Over 100kW/Km<sup>2</sup>
- Between 50 and 100 kW/Km<sup>2</sup>
- Between 25 and 50 kW/Km<sup>2</sup>
- Between 10 and 25 kW/Km<sup>2</sup>
- Below 10 kW/Km<sup>2</sup>
- Without plants



Fonte: Elaborazioni Regione Veneto - Direzione Sistema Statistico Regionale su dati GSE e Terna



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