Green@Work ADAPT

Rome • 09-06-2021

Overview

Green@Work: The Green@Work project aims to research and produce some of the answers to the questions raised in the sectoral context in question and in particular what are the existing technical capabilities that can help the transformation and what is their level of acceptance in society by all stakeholders involved in the transition process; and again, as opportunities to influence and support to claim or build trade unions to accompany these transformation processes at national and European level.

Italy

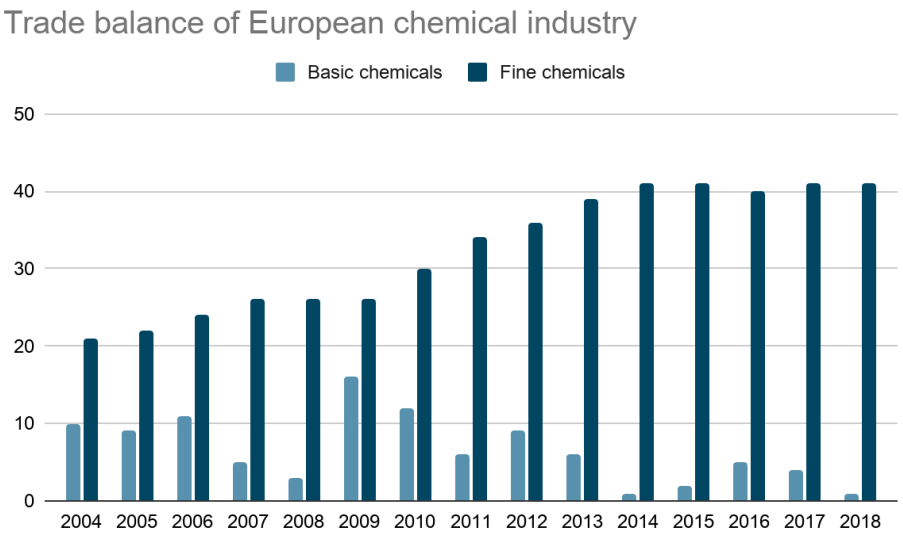
Sectors analyzed:

- Chemical sector
- Pharmaceutical sector
- Energy sector

Analysis:

- data collection
- collection of “good practices and good policies”

CHEMICAL INDUSTRY



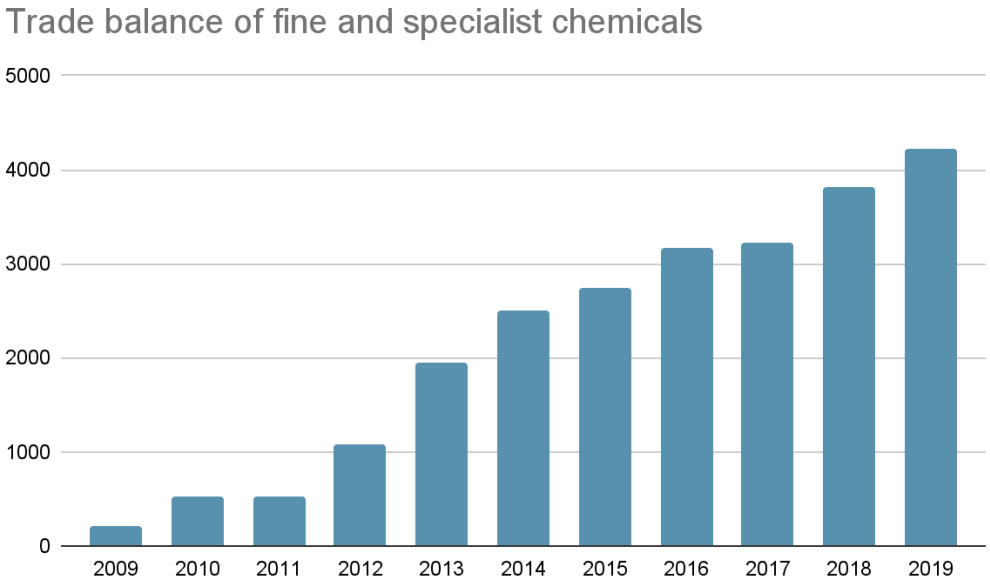
OVERVIEW:

- Only recently the sector evolved, presenting itself as a vector of demographic development and responding carefully and promptly to requests for sustainable development and social responsibility.
- CRITICS: increase of the regulation.

Italian chemical industry

Heterogeneity of the sector

- We can consider the specialty chemical industry as the sector of greatest value, employment and production



Federchimica, L'industria chimica in cifre, 2019

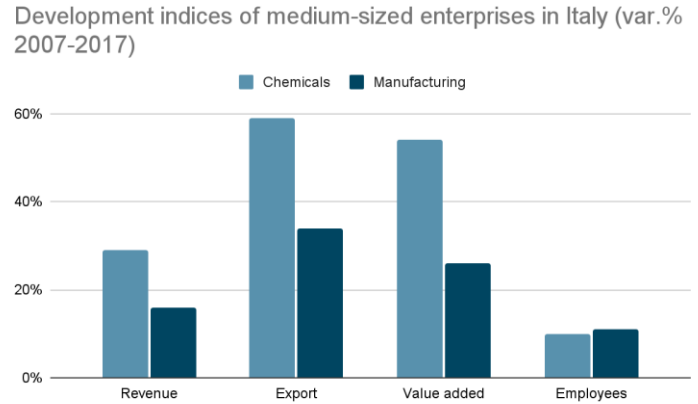
Dimensional evolution of chemical industries

- Large companies have been negatively affected by international trade, mainly due to their production based on basic chemical products.
- SMEs, relying on product customization, production flexibility and collaboration with stakeholders, have managed to remain in the market through a specialization of production.

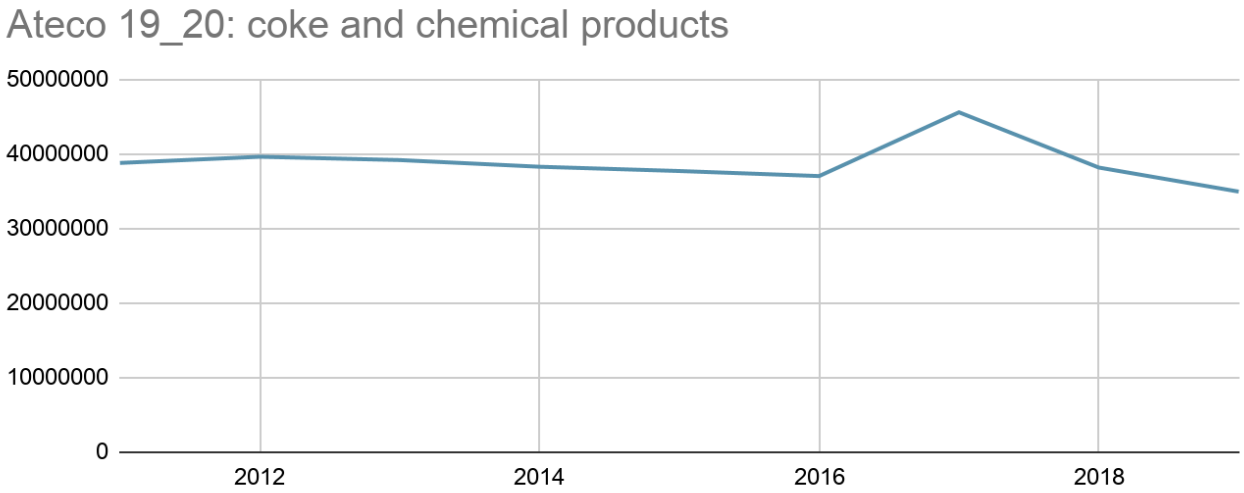
Federchimica, 2019

Role of multinational companies in Italy

- Attraction of Italy for multinationals due to: strong industrialization of the Italian territory, presence in the EU region.



Development of italian chemical industry

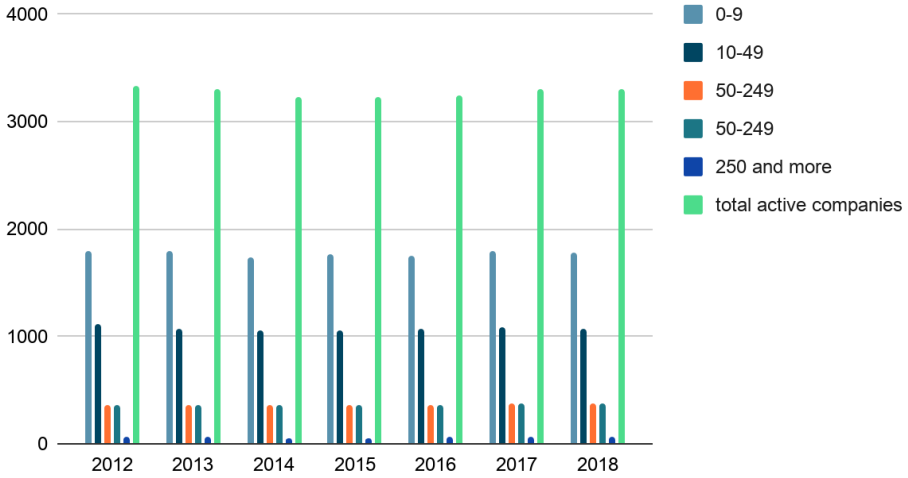


The development of the italian chemical industry has suffered setbacks and therefore slowdowns in the recent years due to the entry into the market of developing countries, able to meet the demand with generally lower production costs. At the same time it is necessary to distinguish between the basic chemical sector and the specialized chemical sector, which has registered and continues to record a growing curve.

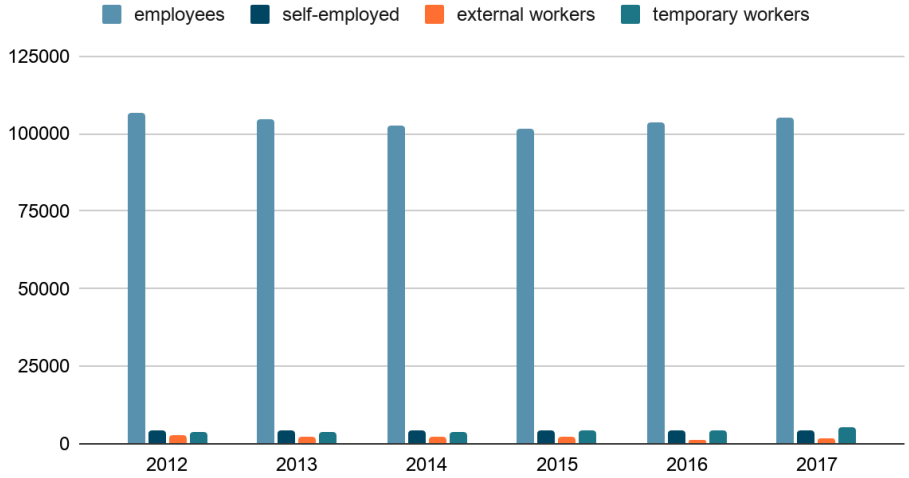
Istat, dati.istat.it/Index.aspx?QueryId=8924#

Development of chemical industries and of the number of workers

Development of active chemical industries



Development of the number of workers in the chemical industry



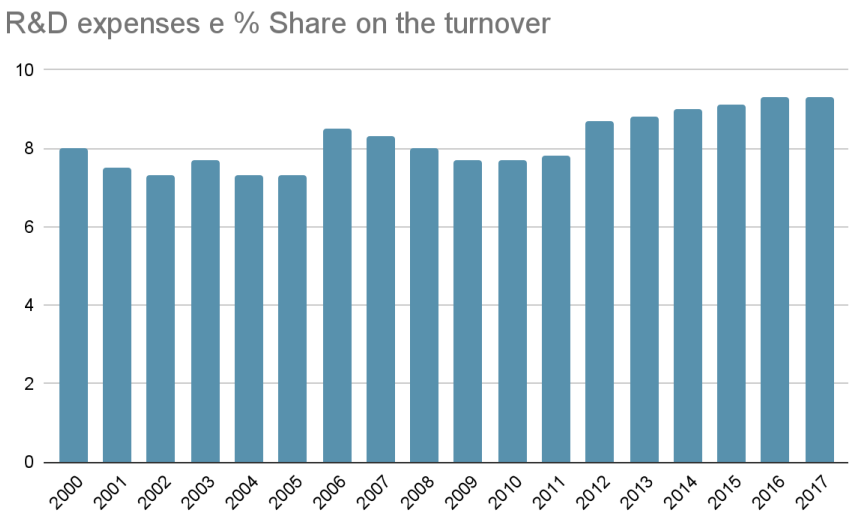
Federchimica, L'industria chimica in cifre, 2019

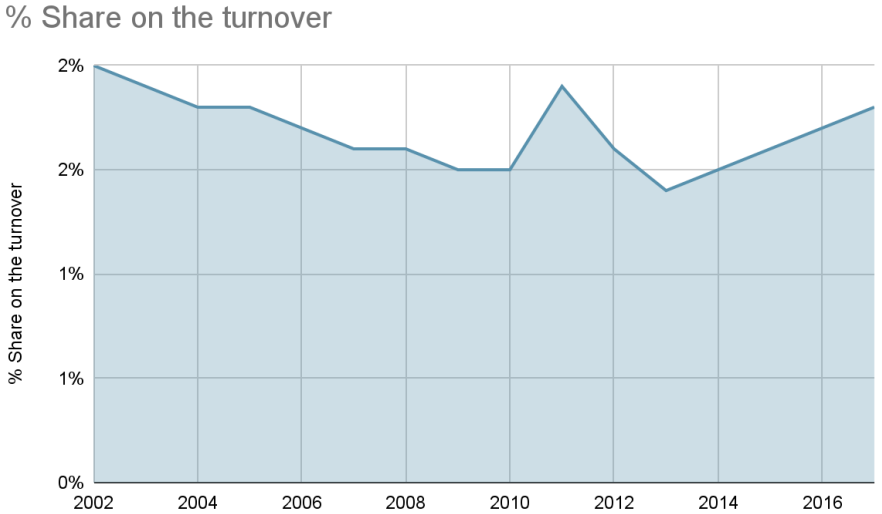
Precisely the reduction in employment in the sector of about 18% can be explained in relation to the overall decrease in production, in line with the European average. Taking a broader picture, it can be stated that according to Federchimica and ISTAT data, the **chemical companies active in Italy are more than 2,800, with more than 112,000 highly qualified workers**.

It is also important to underline that the **chemical industry, through related activities, also generates qualified employment in other sectors**: it is estimated that the overall employment generated is more than the double of the direct one (equal to approximately 277,000 total employees). It can be said that each job in "active" chemistry produces about 1.5 jobs in other sectors.

Chemical industry also employs highly qualified human resources: the presence of graduates - equal to 19% of employees - is double the industrial average (9%) and the incidence of highly specialized subjects in new hires it is even higher (28%).

R&D



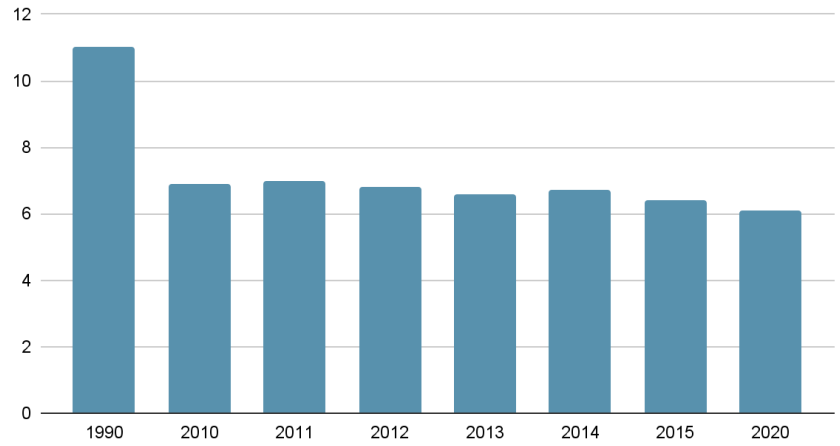


The R&D sector foresees investments for about 10 billion euros, despite the research intensity has declined in the first decade of the 2000s. **A new growing impetus is given by new sources of research and investment**: sustainable chemistry and renewable sources, nanotechnology and biotechnology.

Cefic, Eurostat

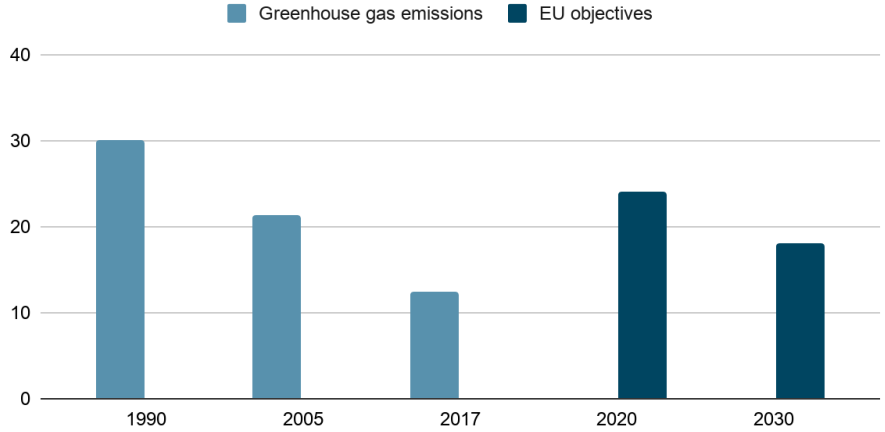
Energy consumption and emissions of the chemical industry

Energy consumption trend in the Italian chemical industry



Enea-ODYSEEE Project; ISTAT; Ministry of Economic development

Emissions trend of greenhouse gases from the chemical industry in Italy: comparison with the objectives of the EU



Federchimica Report, 2020

PHARMACEUTICAL INDUSTRY

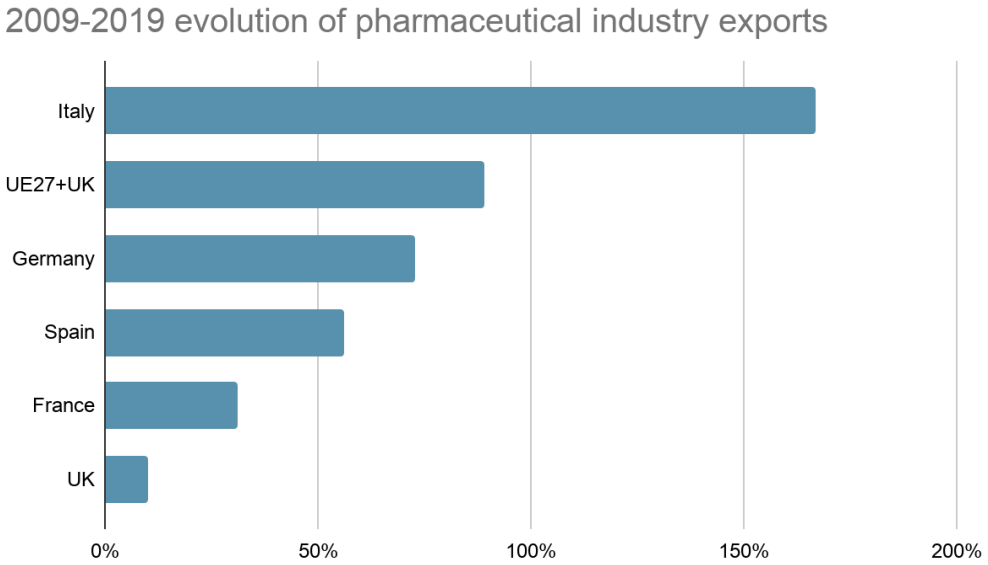
OVERVIEW:

- Phase of strong structural transformation: the effect is a slowdown in the value of production and a significant compression of profitability, which penalize business investments, essential for guaranteeing competitiveness both towards other international competitors and towards the growing competition of emerging countries.

ITALY:

- According to data published by EFPIA, Italy has been a leading player in the EU for years in terms of production value in the pharmaceutical sector.

Development of italian pharmaceutical industry



In particular, the **growth was generated by the increase in exports, for which Italy has recorded, in the last ten years, the highest increase among the major European producers** (+ 168% against + 86% of the EU average). Evaluating the value of production in recent years, it has increased to 34 billion, exclusively thanks to the growth in exports (+ 26%), which represents 85% in the last three years.

elaboration from ISTAT and Eurostat datas

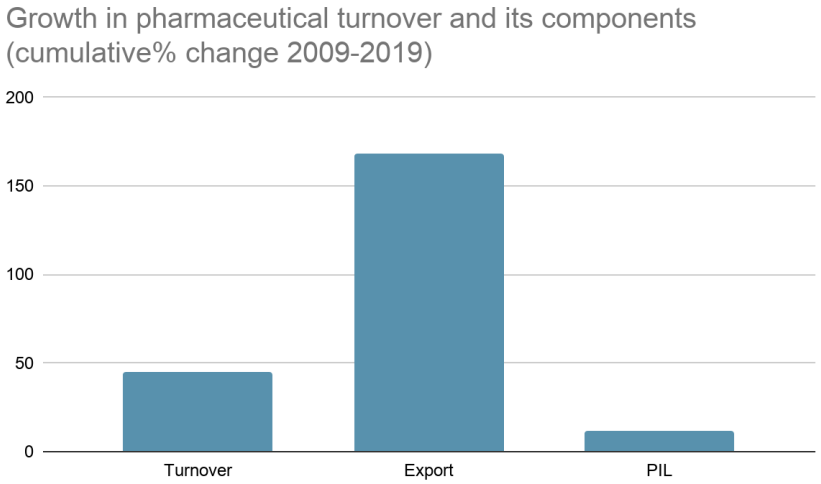
Development of pharmaceutical industries and of the number of workers

	2013	2014	2014
Number of enterprises	464	446	453
Added value on the manufacturing industry	4,0	3,7	3,8
Added value of big enterprises	69,5	71,6	72,6
Number of businesses born	26	20	19
Number of discontinued businesses	16	15	17

Looking at the **number of companies in the Italian pharmaceutical sector**, in the recent years it can be seen that the **trend has remained almost unchanged**, thanks in particular to the main corporate structure of the sector which **provides for a majority of groups or large companies involved**, and prevents and hinders, at the same time, the entry into the field of small and medium-sized enterprises.

Farmindustria Report, July 2020

R&D, turnover and investments



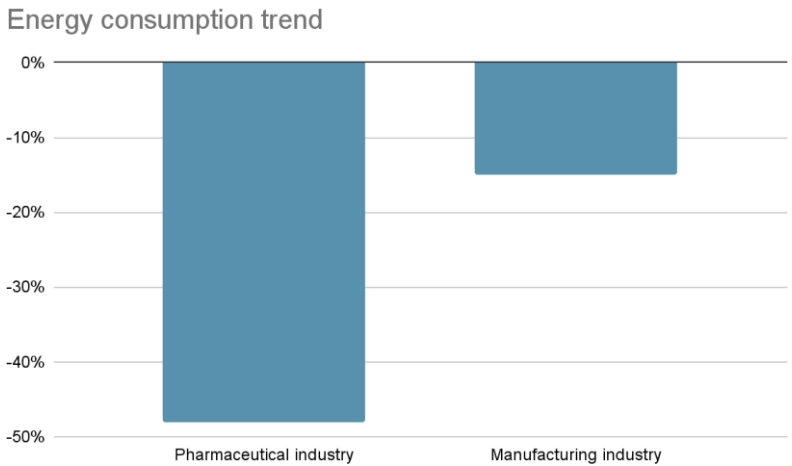
Compared to the manufacturing industry, the **pharmaceutical sector represents 9.4% of employment in R&D** against 1.5% of total employees and total employment.

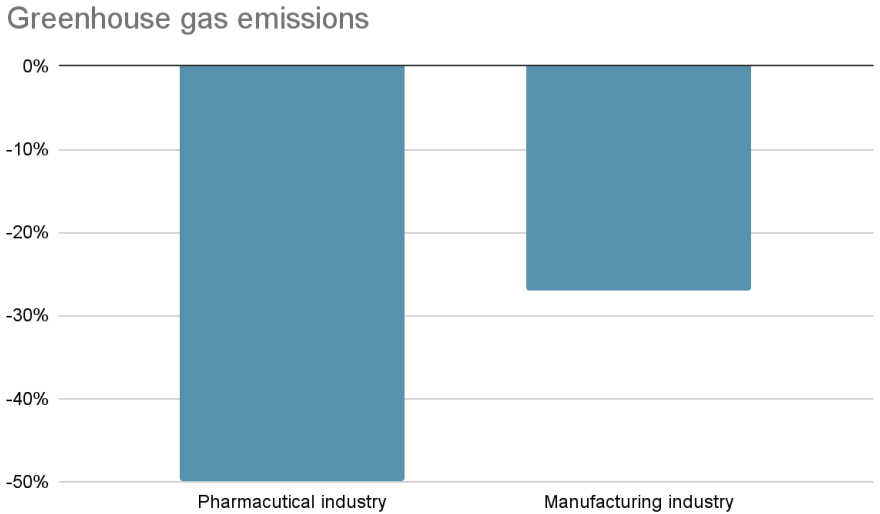
In **general terms of investments in research and development, the pharmaceutical is the second sector in Italy** (with 12.4% of the total manufacturing industry).

In recent years, however, pharmaceutical companies have invested not only in research but also in **Industry 4.0,** and have thus increased their turnover above average.

Farmindustria, Eurostat, ISTAT

Energy consumption and emissions of the pharmaceutical industry





ISTAT datas

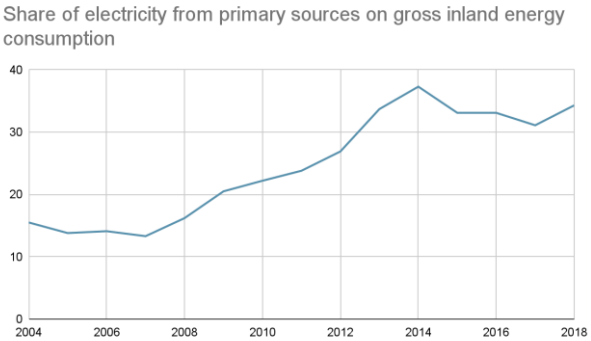
ENERGY INDUSTRY

OVERVIEW:

- 2009: fossil fuels accounted for around three quarters of the EU energy mix, with oil having the highest share (37%), followed by gas (24%) and coal (16%); nuclear energy accounted for 14% of energy consumption; renewable energy sources were growing and represented almost 9% of the energy mix.
- EU's long-term goal is to restructure its economy towards a low-carbon economy.

ITALY:

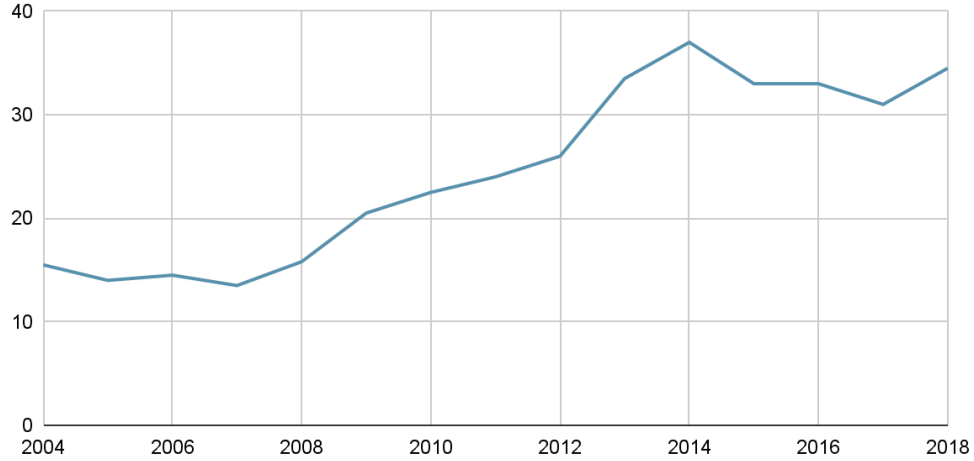
- The consumption and production of electricity from primary energy (such as: coal, crude oil, natural gas, nuclear fuels, renewable energy, solar energy, wind energy, biomass, geothermal energy) have increased in recent years.



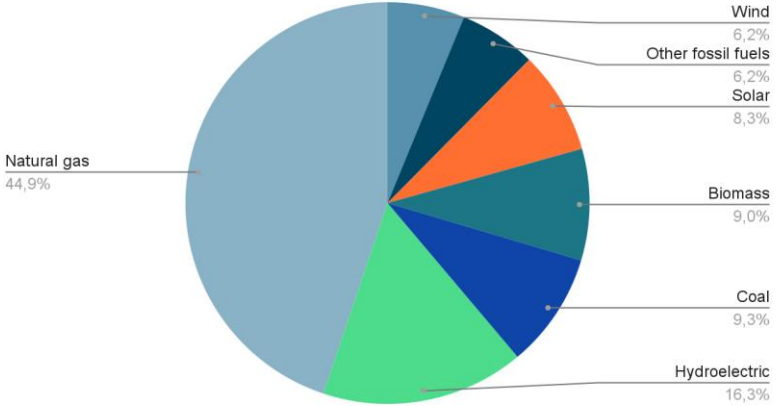
Terna SPA

Energy mix in Italy and growing of the usage of renewable sources

Electricity consumption covered by renewable sources (as a percentage of gross inland electricity consumption)



Energy mix in Italy 2019



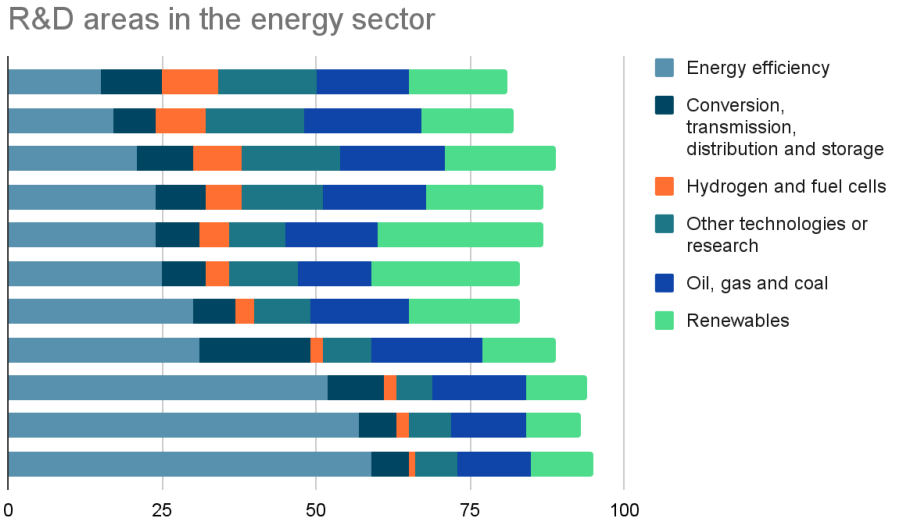
ISTAT processing on Terna SPA data

Corporate structure and influence on the R&D sector

Corporate structure, regarding the energy sector, has changed radically over the years: different companies have created new types of business groups linked to natural resources.

The corporate structure is organized to **combine new technologies, sustainability and, at the same time, promote and respond to the objectives of financial solidity, efficiency and competitiveness**.

New functions and centrality are given and will be given to the T**echnology, R&D and Digital sectors.**



ISTAT

Emissions in the energy sector

Differentials in thermoelectric production and emissions between 2006 and 2020		
	Production differential 2020-2006 (TWh)	Emissions differential 2020-2006 (Mton CO2)
Increased production from coal	28,7	23,3
Less production from natural gas	-1,6	-0,6
Lower production from petroleum products	-33,8	-23,5
Total	+1,6	-0,8

The reduction of emissions can be achieved with an appropriate combination of the three main options available, namely:

- the implementation of technologies for the capture and sequestration of CO2,
- a substantial reduction in costs for renewables
- increase of politics towards a use of renewables

In the short term it seems that the main action to be taken is the acquisition of emission credits on the market, with an inevitable increase in production costs.

Green deal / master plan - challenges for the sectors

With reference to this first analysis carried out, for the Italian case it was decided to proceed according to a subdivision by **macro themes**, each of which was analyzed from the point of view of the three stakeholders

- **The measures necessary for the development of markets for climate-neutral products/ solutions and measures for the empowerment of customers and consumers**
- **Alternative or complementary options for carbon pricing mechanisms - competitive pricing to facilitate access and availability of climate-neutral energy**
- **Collaboration in R & D & I programs**

Measures necessary for the development of markets for climate-neutral products

Chemistry plays a fundamental role in the transition towards sustainable policies, as it is located upstream of various supply chains and possesses the technological skills to be one of the sectors more concretely crossed by the transition:

it is outlined how **different and innovative ways are emerging to implement this transition process**: **from effective reuse of waste to mechanical and chemical recycling, up to energy recovery and CO2 reuse**; alongside these actions, the importance of the **technological contribution** for these new production paradigms is also emphasized and how the **trade union** can be a fundamental help in this whole process.

In the **pharmaceutical industry**, it is possible to identify a **link between a responsible approach and a competitive advantage** for the companies; in particular, **by concentrating on solving a social problem**, the company would obtain, at the same time, **a benefit in the competitive arena and therefore in economic terms**.

The social impact within the entire value chain of the sector is therefore emphasized.

Researches have **highlighted a positive link between financial performance and sustainability**.

Achieving sustainability is a process that in any case involves the company in all its phases; we can therefore highlight the path that the company itself must take to reap the benefits of responsible choices.

In the **energy sector**, it is emphasized that the paradigm shift towards a circular economy requires not only an economic analysis, but also, at the same time, a study of natural resources, factors of production, economic goods and services, scraps and waste.

Analysing the **system as characterized by circular relationships**, many actions have to be necessarily implemented for a green transformation of the sector.

Measures for the empowerment of customers and consumers

In the Italian panorama, several initiatives have already been undertaken by the **Italian Consumer Associations** with the main objective of contributing to the improvement and strengthening of the consumer's position in the market, **protecting the rights enshrined in the Consumer Code**, but at the same time seeking to **personally respond to the needs of Green Transition**.

An initial response in Italy was given with the creation of the "Carta del Consumo circolare", containing **principles practically applicable to any sector**.

Active policies of Italian national government

As underlined in the Document drawn up by the Ministry of the Environment and the Protection of the Territory and the Sea in collaboration with the Ministry of Economic Development on the c**ircular economy and the efficient use of resources,** some of the lines of action on which the Italian government considers essential to act in the context of the ecological transition are:

- **Revision of the legislation**
- Identification of **economic tools to create adequate incentives** for the adoption of circular and sustainable production and consumption models
- Organization of **communication and awareness-raising activities**

Alternative or complementary options for carbon pricing mechanisms

A **carbon pricing regime** is, in itself, an **insufficient mechanism to guide consumer choice** towards efficient consumption of electricity (sustainable energy sources).

A different response could be received not only by implementing a c**hange in the carbon pricing mechanism** but also, and above all, by carrying out a series of i**nvestments** (mainly in industries), **construction of infrastructures**, implementation of **new policies that really encourage the use of renewable energies**.

Collaboration in R&D&I programs

As stated in the document "Enabling synergies between European Structural application: and Investment Funds, Horizon 2020 and other research, innovation and competition of union program - Guidance for policy makers and implementation organizations", of the European Commission, it is **strongly recommended to promote the R & D & I sectors, precisely by evaluating the strategic importance of these elements for the purpose of a correct ecological transition of companies**.

According to a survey promoted by employers' associations and Italian universities (research by Assolombarda - "For research and innovation"), **the intensification of relations between companies and research centers has led to an increase in the strategic value of the companies themselves**, in a more continuous way, as it is fed and supported by new resources, new practices and new rules.