

CLEANTECH IN LOMBARDY



POWERED BY



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WHY LOMBARDY



LOMBARDY IN A SNAPSHOT

AMONG THE TOP EUROPEAN REGIONS



- **2nd** EU Region for GDP
- **Among the 67** out of 240 European **Strong Innovator** Regions

THE MOST ATTRACTIVE REGION IN ITALY:

FDI



- **€ 11** billion (from 2012 to date)
- **24,7 %** of 44.4 bln € Italy's FDI



1ST REGION FOR:



GDP

- **€ 368** billion
- **22%** of Italy's GDP



NUMBER OF COMPANIES

- About **816K** companies
- **6,300** multinational companies
- **4,2 million** employees



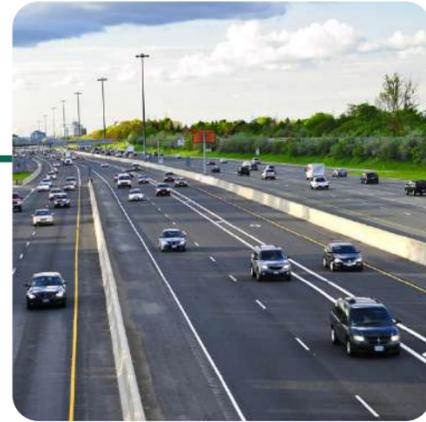
HUBS SUPPORTING INNOVATION

- **26%** of certified national incubators
- **18%** of national fablab

INFRASTRUCTURES & CONNECTIONS



1,920 km
of railway networks



700 km
of highways



11,000 km
of provincial roads



4
international airports

Lombardy offers a wide range of direct flights to the main European and global destinations



10 h to Beijing



8 h to New York



6 h to Dubai



1h. 50 to London



1h. 30 to Paris



LOMBARDY CLEANTECH ECOSYSTEM

CO₂

WHAT MAKES LOMBARDY DIFFERENT

SUSTAINABILITY

One of the priorities of the Lombardy Region is definitely to encourage the transition of the region to a **sustainable economy**. This goal is pursued by enhancing the development of new technologies aimed at the **recovery of waste** and **biomass** and the production of energy from **renewable sources**, an area in which Lombardy excels in Italy

SMART MOBILITY

Regione Lombardia pays special attention to the issue, which is reflected in the adoption of **several initiatives** aimed at carrying Lombardy's mobility toward a trajectory of **eco-sustainability**. Lombardy is moving toward increasingly "smart," shared and **sustainable mobility**, based on vehicles with innovative drives with the fundamental support of lightweight materials and components

REGENERATION

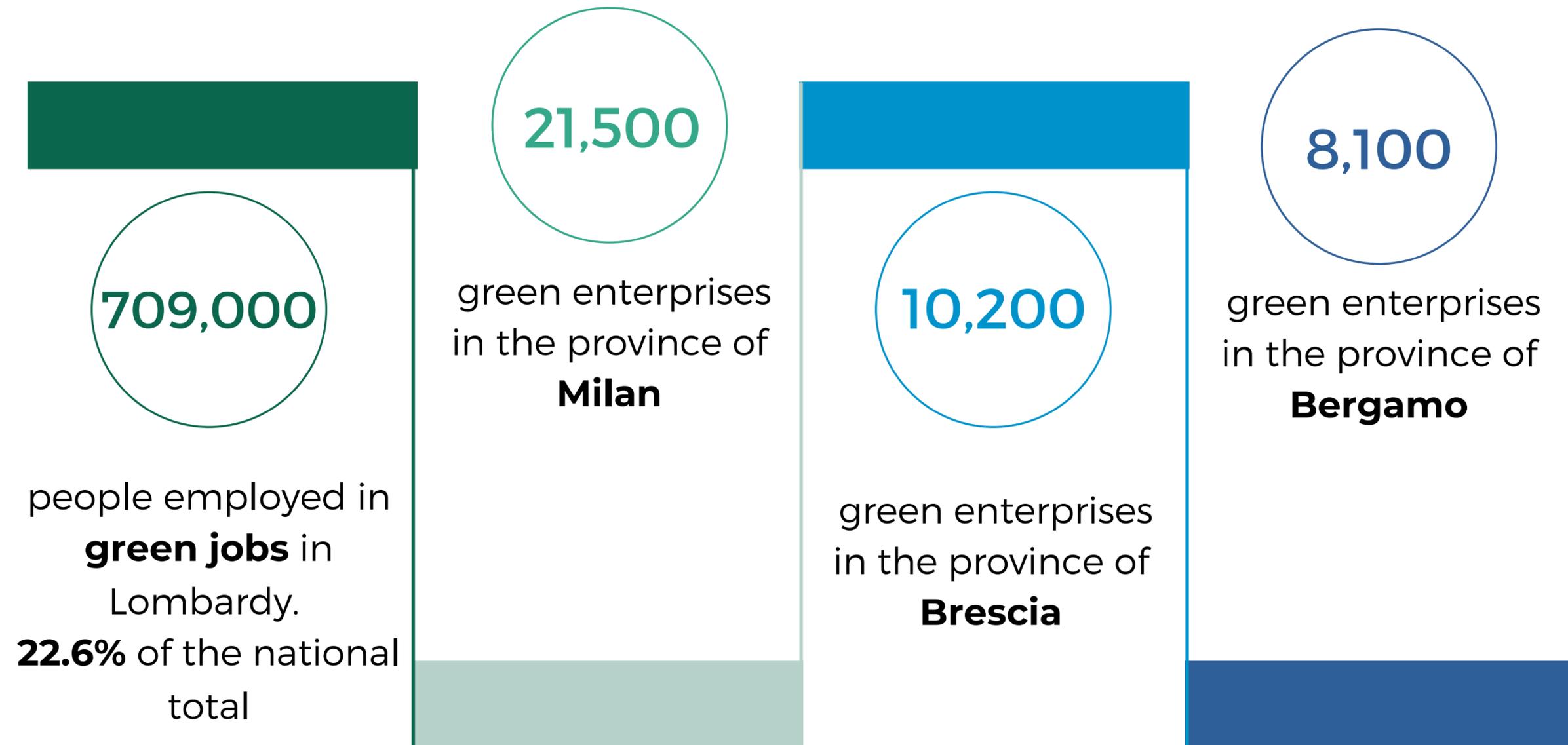
Regione Lombardia implements multiple simplification and incentive measures for **urban and territorial regeneration**, as well as for the rehabilitation of the existing building stock always with special attention to the environment. This is why there is a strong focus on the **reuse** and **regeneration** of existing structures, thus avoiding the waste of resources

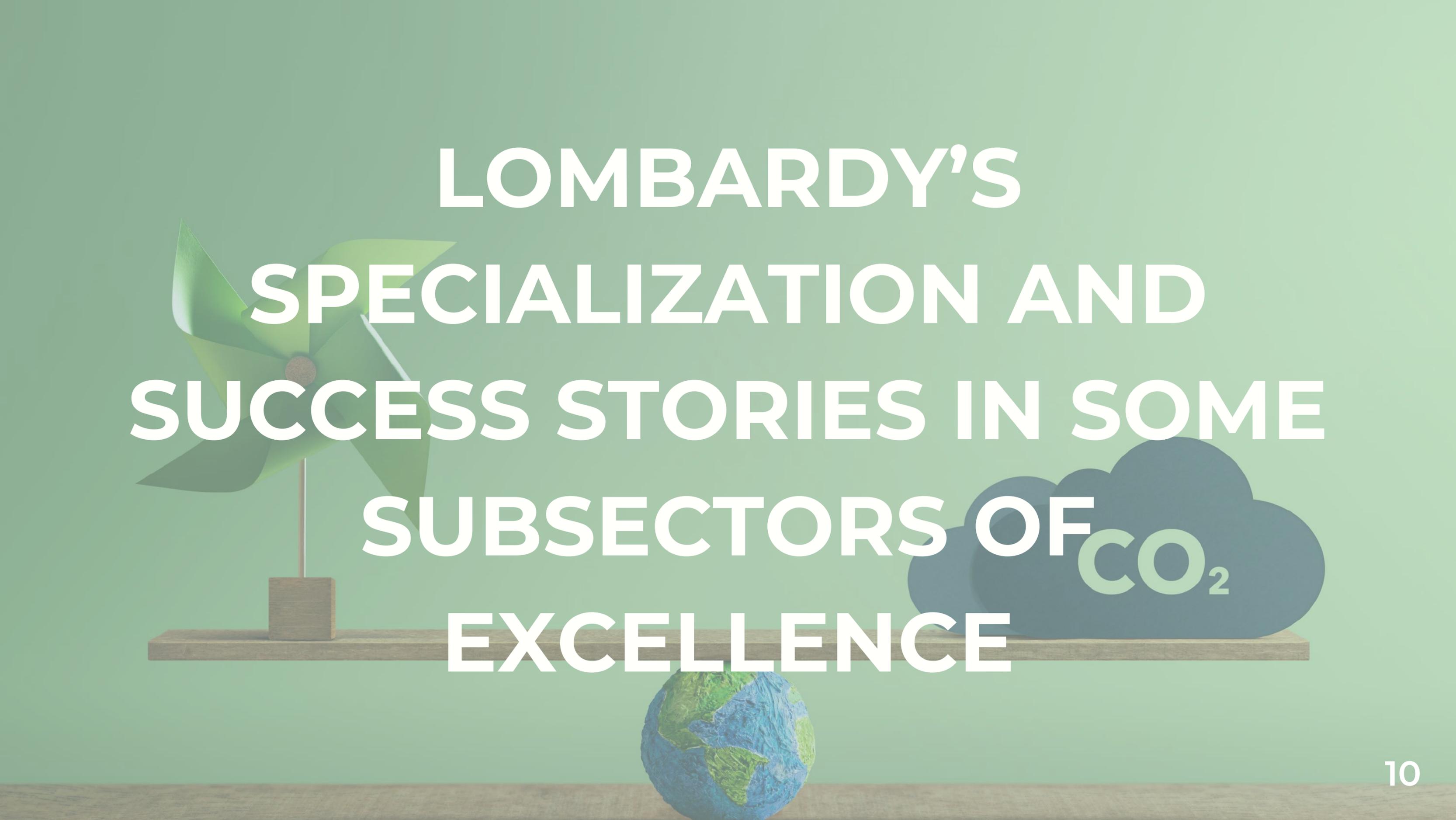
RECYCLING AND REUSING

Lombardy has always been one of the leading regions in Italy for waste disposal. In fact, the **circular economy** is a key point of the "**Regional Energy Environment and Climate Program**" enhancing the economic supply chain that deals with the waste cycle, and promoting the closure of the energy and matter circle by promoting the reuse of recovered waste material

LOMBARDY'S GREEN ENTERPRISES

Out of 432,000 companies that have invested or will invest, in **green technologies** in Italy, Lombardy Region ranks first with almost **90,000 companies** (20.3% of the national total)





**LOMBARDY'S
SPECIALIZATION AND
SUCCESS STORIES IN SOME
SUBSECTORS OF
EXCELLENCE**

LOMBARDY'S CLEANTECH SUBSECTORS



**LOMBARDY
DOES BETTER
THAN THE
ITALIAN
AVERAGE IN
THE CIRCULAR
ECONOMY**



1ST REGION IN ITALY

for additional capacity for energy recovery of sewage sludge with **616,000 tons**



72% OF WASTE IS RECYCLED

Lombardy is the **third Region in Italy** for percentages of recycled waste and above the Italian average which is **61.3 %**



6% OF THE TOTAL WASTE GOES TO LANDFILL

among the 4 Regions that have already fallen below the 10% target set by the European Union with the **Circular economy package**

THE IMPORTANCE OF THE CIRCULAR ECONOMY IN LOMBARDY

In Lombardy, **99% of plastic is recycled** and only 1% goes to disposal. This is also thanks to the multiple initiatives Lombardy puts in place for recycling and circular economy in general



The project of the Lombardy Chamber System aims at conveying the theme of the circular economy to Lombardy enterprises. The project consists of training, information, and awareness-raising initiatives on the themes introduced by the package of EU Directives on the circular economy



One of Lombardy's excellences is O.R.SO (Sovraregional Waste Observatory) a software application that collects municipal waste production and management data from Lombardy municipalities and waste treatment plants in the region

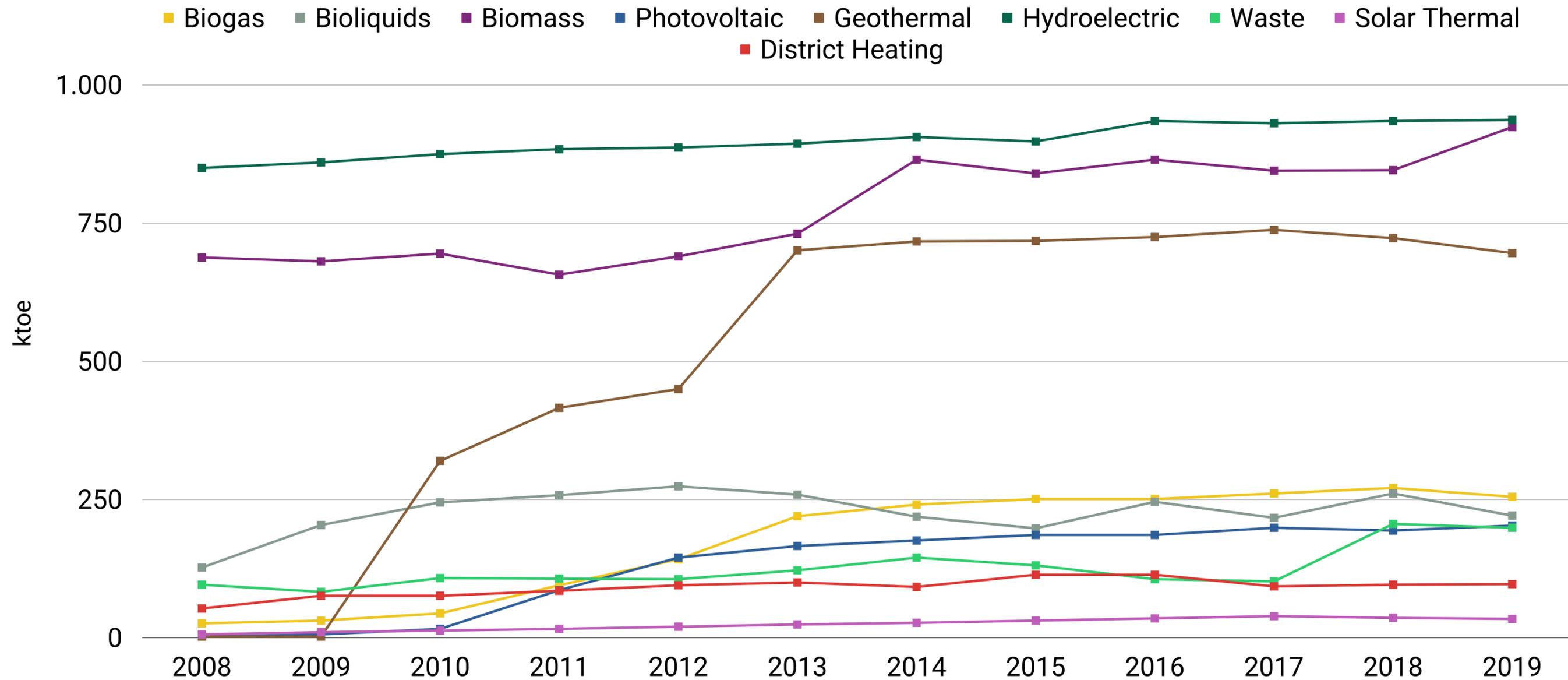


It's the circular economy promotion project of the Milan Monza Brianza Lodi Chamber of Commerce. It offers free technical and scientific mentoring to SMEs toward the circular economy, to help them define improvement strategies, in particular to 3 manufacturing sectors: electrical and electronic equipment manufacturing, mechanical industry, and wood industry



SMART AND CLEAN ENERGY

With **15%** of national renewable electricity production, Lombardy is the Italian region that produces the most renewable energy. In fact, Lombardy's electricity production from **RES*** in 2021 was **47,000 GWh** and can be divided as follows:



Energy production from renewable sources in Lombardy: distribution by source

(ARIA, SIRENA20 - Sistema Informativo Regionale Energia e Ambiente)

*Renewable Energy Sources

SMART AND CLEAN ENERGY

Geothermal



In 2010, the Lombardy Region launched an action to promote **geothermal probe technology**, which led to the creation of an online tool, the **Regional Registry of Geothermal Probes**, the first case at the national level

In less than three years of operation, more than 500 installations have been registered. To date, there are **more than 1,000 plants** in Lombardy

Biogas



Lombardy is Italy's **leading region** for biogas production, with more than **500 plants** out of the 2,000 throughout Italy. **By 2030** Lombardy aims to reduce by **75%** biogas production in favor of **biomethane**

For what concerns agricultural-derived biogas plants Lombardy hosts **451 facilities**, 1/3 of all national plants. They enable the companies and consortia that own them to generate an additional **€ 700 mln** in revenue annually

Hydroelectric



733 plants in Lombardy out of 4,700 in Italy, generating **5,6 gigawatts**, ranking first overall in terms of power

That means that Lombardy is second in Italy for the number of hydroelectric plants but **first** in terms of generated power (**27.2%**). With the provinces of Brescia and Sondrio holding almost **12%** of national power

Photovoltaic



With **148,400** installations out of more than 950,000 in Italy. Lombardy is confirmed as the region with the highest number of installations in the first quarter of 2021

The province of **Brescia** hosts the largest number of plants (**30,225**), followed by the provinces of Bergamo and Milan. The province with the **most powerful** plants is **Lodi**, followed by Cremona

SMART AND CLEAN ENERGY

Toward a **green hydrogen** future

The **Hydrogen Valleys project**, presented by the Ministry of Ecological Transition and envisioned by the NRRP*, aims to support the local production and use of **green hydrogen** in industries, small and medium-sized enterprises, and local transportation, thus creating new hydrogen valleys, where hydrogen is **produced from renewable sources** in the area and used locally

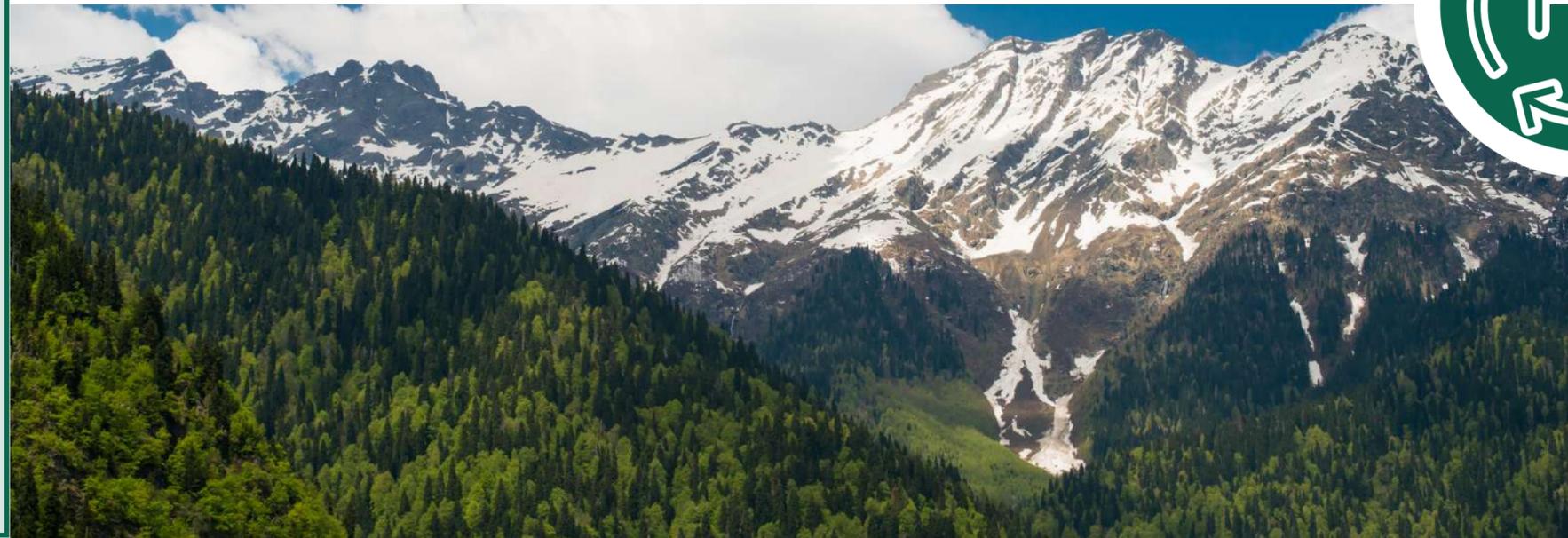
Lombardy Region is among the first regions that already provided indications for all public and private entities potentially interested in participating in the initiative.

Lombardy has compiled a list of **140 disused areas**, totaling **500 hectares**, where to potentially invest in green hydrogen

*National Recovery and Resilience Plan



resource availability is about €40 mln derived from the NRRP



SUSTAINABLE MANUFACTURING AND CLEAN BUILDING

LOMBARDY'S ACTIONS FOR CLEAN BUILDING

Significant are the regional actions for the **efficiency of public buildings**. In fact, several initiatives have been financed, such as the **FREE call**, the **SAP call**, and the **call aimed at Small Municipalities**. Also, there are multiple other initiatives financed with regional funds, such as the **Ri-Genera call**, and initiatives financed through national public funds such as the **110% Superbonus**

LOMBARDY FOR A SUSTAINABLE MANUFACTURING

The **Agreement for Sustainable Development** was officially signed in 2019 gathering more than 50 public and private stakeholders in Lombardy committed to adopting the principle of sustainable development within the scope of their activities and to actively participate in the implementation of the **Regional Strategy for Sustainable Development**.

At the forefront of the international initiatives for sustainable development, Lombardy strives to enhance its position as a **leading European region** in terms of sustainable policies, with special regard to **biodiversity** and ecosystem services, conservation, **circular economy**, energy transition towards the development of renewable sources, and **decarbonization**

SMART MOBILITY AND SMART CITIES

Innovation and **smart mobility** of the future in Lombardy are a **reality**. In fact, for the transportation of people and goods, the Lombardy Region has allocated 25 million euros. Lombardy's ecosystem counts:



120

Enterprises active in the Smart Mobility



€7.6 bln

The turnover generated by Smart Mobility in 2020



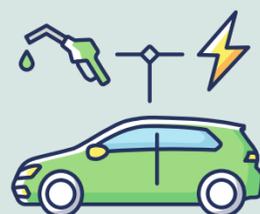
37%

Of people living in the Metropolitan City of Milan calls for upgrading public transport to full electric



24%

Of electric cars registered in Italy



17%

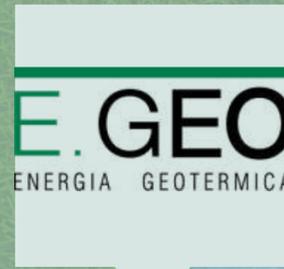
Of the total hybrid cars (gasoline or diesel) sold in Italy



18%

Of the charging stations in Italy

SOME NATIONAL AND INTERNATIONAL COMPANIES IN LOMBARDY



SOME OF LOMBARDY'S INTERNATIONAL SUCCESS STORIES



- **AIR LIQUIDE**

A world leader in gases, technologies, and services for Industry and Health, **Air Liquide** born in France is now present in 75 countries. The company opened the first **biomethane production** unit in **Truccazzano**, in the province of Milan with an investment of **€107 mln** and around **55 new jobs** created, enhancing agricultural and livestock waste from local farms to produce **liquid biomethane**



- **CHARGE GURU**

Born in France, Charge Guru came to Milan offering services for the installation of **charging stations** for cars, domestic and commercial use, and for maintenance and operations services. The business model is to offer a **single interface** to companies and users, from installation to maintenance. Charging stations are **implemented locally** through local partners to whom the company provides the necessary equipment and support through its design team



- **BAKER HUGHES**

Baker Hughes is an **energy-serving technology** company that provides solutions worldwide. With operations in more than 120 countries, it designs, manufactures, and delivers cutting-edge technology solutions for **energy and industrial customers**. The company is now also present in Talamona (Sondrio) a leading site in the industrial digital revolution, with **Smart Factory** and **Additive Manufacturing** projects



- **NEXTA CAPITAL**

Nexta Capital Partners is an investment firm focused on the development, construction, and operation of **clean energy assets**. The firm is distinguished by its ability to combine technological and financial expertise and its broad exposure to power and gas markets across geographies and technologies. The firm's offices are both in Milan and London

AN INNOVATIVE REGION



LOMBARDY'S CLUSTERS FOR CLEANTECH

Three of the nine Technological Clusters recognized by the Lombardy Region



LE2C

Since 2009 the Lombardy Energy Cleantech Cluster promotes technological innovation, competitiveness, and growth toward an energy and ecological transition through collaboration between companies and research centers



Lombardy Mobility Cluster

The Lombardy Mobility Cluster is a network of companies, universities, research centers, public institutions, and business associations, able to provide dedicated services, develop research, innovation, and to promote access to new public funding opportunities



Cluster Smart Cities and Communities

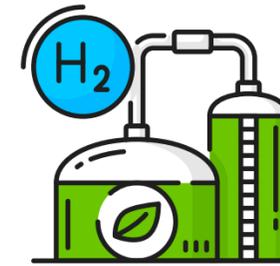
Bringing together companies, research centers, and stakeholders who have the skills and resources to promote and facilitate research in support of innovation to design, develop and implement the most advanced technological solutions for the integrated management of systems on an urban and metropolitan scale

SOME OF THE ONGOING INNOVATIONS IN LOMBARDY



Energetic Independence

Lombardy Region has allocated an **investment of €22,5 mln** to set up a widespread **network of energy production** and storage facilities by the end of the year that will support the needs of individuals, companies, hospitals, schools, and local authorities. The goal is to have about **6,000 energy communities** springing up throughout the region within the next 5 years



Hydrogen strategy

Contribution to the diffusion of the first **hydrogen production infrastructure** is provided by ERDF funds: in fact, the Lombardy Region has also included in its planning document an action dedicated to the **diffusion** of renewable energy sources and **green hydrogen** financed with a total of **€145 mln**



Low-emission vehicles

In the Lombardy region, **€18 million** has been earmarked for 2021 for M1* and L** category vehicles with the aim of encouraging the spread of **low-emission vehicles**



Hybrid Trains

Lombardy region has invested in the implementation of **30 hybrid trains**. This will reduce fuel consumption by 30% for estimated savings of €3 mln per year, and CO2eq emissions will **decrease by 12,400 tons** per year

*M1: Intended for passenger transport, with at least 4 wheels and maximum 8 seats with CO2 emissions not exceeding 135 g/km

**L: Two-, three- and four-wheeled mopeds and motorcycles

INCUBATORS AND ACCELERATORS



Incubation in **ComoNExT** is an inclusive and structured path of assessment, mentoring, and development of business ideas in a context that facilitates contact with specialized expertise and in co-presence with SMEs and medium-sized companies characterized by **strong innovativeness**, in a place that facilitates relationships and business. ComoNExT, located in the city of Como, is an incubator certified by the **Ministry of Economic Development**



Berkeley SkyDeck, Cariplo Factory, and Lendlease launch a new accelerator program: **Berkeley SkyDeck Europe**, Milano, focusing on accelerating European-based startups to further boost the presence of talent and innovators in Lombardy. The main industries of the initiative are Blockchain & Crypto, Aero-Astro, Biotech & Greentech, Life Sciences, Circular Economy, Energy, Agrifood



Located in Pavia, the **Neorurale Hub** founded the **Giulio Natta Innovation Center** to support ambitious entrepreneurs to build their companies to success. The center was created to be the cradle of Nature-Based Solutions (NBS) and aims at helping societies address critical environmental, social, and related economic challenges in a **sustainable way**



PoliHub Innovation Park & Startup Accelerator offers a complete path for startups from idea to market. They lead teams in their entrepreneurial growth path through services, relationships, and skills. The PoliHub supports the creation of **deep tech startups** that will generate **value for society** and the economy

SOME TECH EXCELLENCES IN LOMBARDY

Dazetechnology, located near Bergamo, was founded by two mechanical engineers in August 2016. From the first moment, the mission of the company has been to solve the problem of the manual charging of electric vehicles. They immediately filed a patent for their invention and begin the design of the first **automatic** conductive **charging system** for electric vehicles. In 2018, the first working prototype is created, and in 2019 a path is taken for its industrialization and put on the market. In June 2020 DazeTechnology obtained the **European Community funding** grant and in 2021 it generated a turnover of **€ 2 mln**

Born purely as a startup in 2005, **Directa Plus** based in Lomazzo (CO) has been listed on the AIM market of the London Stock Exchange since May 2016. The company has a unique, patented, chemical-free production process of new **graphene nanoplatelets** tailored to customers' requirements and is strongly committed to **environmental sustainability**. They collected 43 certificates reporting the absence of negative impacts on biological systems in their activities. In 2021 it generated a turnover of **€ 5.50 mln**



**EDUCATIONAL AND
RESEARCH EXCELLENCES
FOR A QUALIFIED HUMAN
CAPITAL**

CO₂



LOMBARDY EDUCATIONAL SYSTEM

Lombardy's knowledge system is highly articulated. It is characterized by **specialization in different technical-scientific disciplines** and is composed of world-class expertise and research groups thanks to its **15 universities**

Lombardy Universities with sector-relevant courses:

Milano Politecnico

University of Brescia

Bocconi University - Milan

Bicocca University - Milan

University of Insubria - Varese, Como

University of Pavia

Sacred Heart Catholic University

Some examples of relevant courses:



POLITECNICO
MILANO 1863

Mobility Engineering

High-level training courses:

Green Technologies, Smart

Infrastructures, Inclusivity Design



UNIVERSITÀ
DI PAVIA

Civil Engineering for Mitigation of Risk from

Natural Hazards

Digital technologies for construction,

environment and land use

LOMBARDY EDUCATIONAL SYSTEM: NOT ONLY UNIVERSITIES

ITS's courses (Istituti Tecnici Superiori) offer young people in Lombardy access to high-level technical specialization, designed and implemented in collaboration with companies, universities, and the training system

- Lombardy's ITSs offer courses in the **Energy Efficiency** and **Sustainable Mobility** area
- ITS courses in the **Energy Efficiency** area contribute to the training of managers, freelancers, and employees who can coordinate integrated executive **design for safety** and **environmental impact**
- ITS courses in the **Sustainable Mobility** area train higher technicians who work in the system that organizes, manages and assists the transfer of people on the national and international territory and the related document flows



RESEARCH AND INNOVATION FOR CLEANTECH



Digital Innovation observatories - Smart City

In 1999, the **Digital Innovation Observatories** of the School of Management of Politecnico di Milano were set up to raise cultural awareness in all the main areas of digital innovation. **The Smart City Workgroup** was founded in 2021 and aims at investigating Smart City related opportunities, combining the **technology** perspective with that of the actual **development of projects** and applications for Public Sector bodies and for citizens



Energy & Strategy

Energy & Strategy is a multi-disciplinary team of the School of Management of the Politecnico di Milano. The group was founded in 2007 and through Research, Consulting, and Training activities in the field of **Energy and Sustainability** aim to establish a permanent observatory on markets and industrial supply chains in Clean Tech related fields

HOW INVEST IN LOMBARDY CAN HELP YOU



INVEST IN LOMBARDY: ONE-STOP-SHOP DEDICATED SERVICES



LOCATION SCOUTING

Find the best locations for your business through a dedicated network of local public institutions and private partners



NETWORKING

We are a business integrator, facilitating the connection with private and public, local and national stakeholders



BUSINESS INTELLIGENCE

Providing useful information on sectors/markets, supporting the evaluation of business opportunities in Lombardy



INCENTIVES

Overview of the tax incentives, grants, loans, and applicable bilateral conventions with institutions



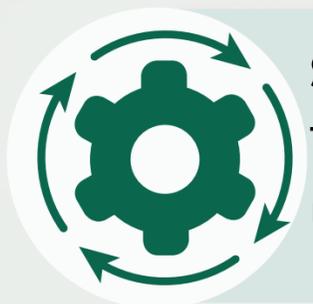
PUBLIC ADMINISTRATION

We facilitate the dialogue with the public administration & support you in dealing with administrative procedures



HUMAN RESOURCES

Assistance in choosing the most suitable staff recruitment channels for your business



START OF THE OPERATIONS

Tailor-made technical support for the set-up of a new business



EXPANSION & RELOCATION

General support to the expat workers in the relocation process

CONTACT US

FOR QUESTIONS, COMMENTS,
AND DEDICATED SUPPORT



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