



Europe Roadmap and the
future strategies of the
energy industry

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FEDERAZIONE ITALIANA PER
L'USO RAZIONALE DELL'ENERGIA

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FIRE: the association for energy efficiency



Do you need a hand in energy management?



www.fire-italia.org

The **Italian Federation for the Rational use of Energy** is a no-profit association founded in 1987 that promotes energy efficiency, supporting energy manager, ESCOs and other companies dealing with energy.

Besides the activities directed to its **members**, FIRE operates under an implementing agreement with the Ministry of Economic Development to manage the **Italian energy manager network** since 1992.

In order to **promote energy efficiency** FIRE cooperates and deals with public authorities, energy technology and service companies, consultants, medium and large consumers, universities and associations to **promote best practices** and **improve the legislation**.

FIRE manages SECEM - an accredited body - to certify the Energy management experts according to the standard UNI CEI 11339.



FIRE: the association for energy efficiency



FIRE
can help you!



**Around 400 members, almost
equally divided between
organisations and professional.**

Some members of FIRE:

A2A S.p.A., ABBVIE s.r.l., ACTV S.p.A., Aeroporto Valerio Catullo S.p.A., Agenzia per l'Energia e lo Sviluppo Sostenibile, AICE scarl, Alpiq Intec S.p.A., AMIA S.p.A., AMIAT S.p.A., Ascopiave S.p.A., Atlas Copco S.p.A., Avvenia s.r.l., Axpo Italia S.p.A., Azienda provinciale per i servizi sanitari TN, Banca Mediolanum S.p.A., Banca Popolare di Sondrio, Beghelli S.p.A., Berco S.p.A., Bit Energia s.r.l., Bosch Energy and Building Solutions Italy s.r.l., Brembo S.p.A., Cabot Italiana S.p.A., Carbotermo S.p.A., Carraro S.p.A., Carrefour Italia S.p.A., Centria s.r.l., Comau S.p.A., Compagnia Generale Trattori S.p.A., Consul System S.p.A., CPL Concordia soc. coop., Credito Emiliano S.p.A., CTI Energia e Ambiente, DBA Progetti S.p.A., DNV GL Business Assurance Italia s.r.l., Edilvi S.p.A., Edison Energy Solutions S.p.A., Egidio Galbani s.r.l., Electrade S.p.A., Elettra - Sincrotrone Trieste S.p.A., Elettrostudio Energia S.p.A., Enarkè associati, Enel Energia S.p.A., Energika s.r.l., Energon Esco s.r.l., Energy Saving s.r.l., Energy Team S.p.A., Engie Servizi S.p.A., ENI S.p.A., Estrada Clima s.r.l., Fedabo S.p.A., Fenice S.p.A., Ferrari S.p.A., Ferrero Industriale Italia s.r.l., Ferriere Nord S.p.A., Fiera Milano S.p.A., Fincibec S.p.A., Finco, Finstral AG S.p.A., FIPER, Fondazione Policlinico Università A. Gemelli, Gewiss S.p.A., Gruppo Società Gas Rimini S.p.A., Hera S.p.A., Hitachi Drives and Automation s.r.l., Holcim S.p.A., IDM Südtirol, Ilsa S.p.A., Industrie Cotto Possagno S.p.A., Intesa Sanpaolo S.p.A., Iplom S.p.A., IRBM Science Park S.p.A., IREN S.p.A., ISAB s.r.l., Italcementi S.p.A., Italgas Reti S.p.A., Italgraniti Group S.p.A., Kairos s.r.l., Lidl Italia s.r.l., Loclain s.r.l., Manutencoop Facility Management S.p.A., Marche Multiservizi S.p.A., Mater-Biopolymer s.r.l., Mediamarket S.p.A., MM S.p.A., Montello S.p.A., NBI S.p.A., Pasta Zara S.p.A., Politecnico di Torino - Dip. di Energetica, Polynt S.p.A., Publiacqua S.p.A., Raffineria di Milazzo S.C. p. A., RAI - Radiotelevisione Italiana S.p.A., Restiani S.p.A., Rete Ferroviaria Italiana S.p.A., Roquette Italia S.p.A., Samandel S.p.A., San Marco Bioenergie S.p.A., Sandoz Industrial Products S.p.A., Schneider Electric S.p.A., SDA Express Courier S.p.A., Seaside s.r.l., Siena Ambiente S.p.A., Siram S.p.A., Solvay Energy Services s.r.l., Studio Botta, Tecno s.r.l., Thales Alenia Space Italia S.p.A., Tholos s.r.l., Trenitalia S.p.A., Trenord s.r.l., Trentino Trasporti S.p.A., Turboden s.r.l., Università di Genova - DITEN, Università Campus Biomedico, Università Cattolica del Sacro Cuore, Wind Tre S.p.A., Yanmar R&D Europe s.r.l., Yousave S.p.A.

Our members represent both the supply and the demand side of energy efficiency services and solutions.

FIRE: the association for energy efficiency



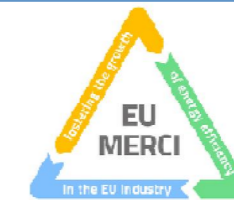
Besides being involved in many **European projects**, listed next, FIRE implement surveys and market studies on energy related topics, **information and dissemination campaigns**, and **advanced training**.

Some of FIRE **clients** over the years: Ministry of Environment, ENEA, GSE, RSE, large organizations (such as *Centria, ENEL, Ferrovie dello Stato, FIAT, Finmeccanica, Galbani, H3G, Poste Italiane, Telecom Italia, Unioncamere*), universities, associations, energy agencies and exhibition organizers.



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On-going and just completed EU projects:



EPATEE



INVESTOR CONFIDENCE PROJECT

guarantEE 
Building Energy Services in Europe


Energy Efficiency
Financial Institutions Group





www.secem.eu

SECEM, European System for Certification in Energy Management, is a certification body created by the FIRE.

SECEM was the first body to offer third-party certification for **Energy Management Experts (EMEs)** according to UNI CEI 11339 and is accredited according to the ISO/IEC 17024 standard.

In Italy two standards were developed in order to promote the qualification of energy efficiency operators: UNI CEI 11339 for EMEs was issued in 2009, UNI CEI 11352 for ESCOs was published in 2010. A new standard for energy auditor is presently under preparation.

Both the mentioned standards are recognized from the national legislation within the energy audit obligations for large companies introduced by the EED directive and the white certificate scheme.



Towards 2030



Clean energy for all Europeans



Target approved by the EU Parliament

Energy efficiency
+32,5%

Renewables
+32%

GHG emissions
-40%

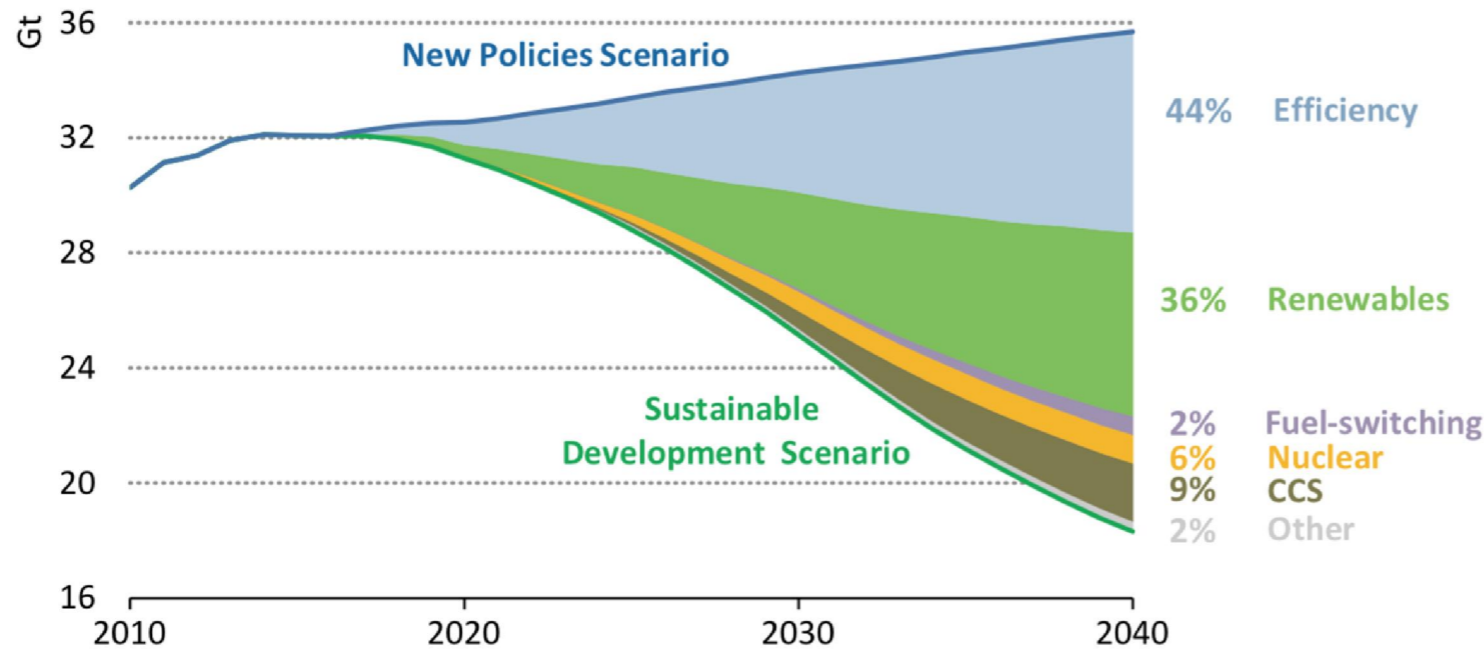
Emissions' target to be increased



IEA: scenarios about decarbonisation



Figure 1.8 Global carbon dioxide (CO₂) emissions reductions in the WEO 2017 New Policies and Sustainable Development Scenarios



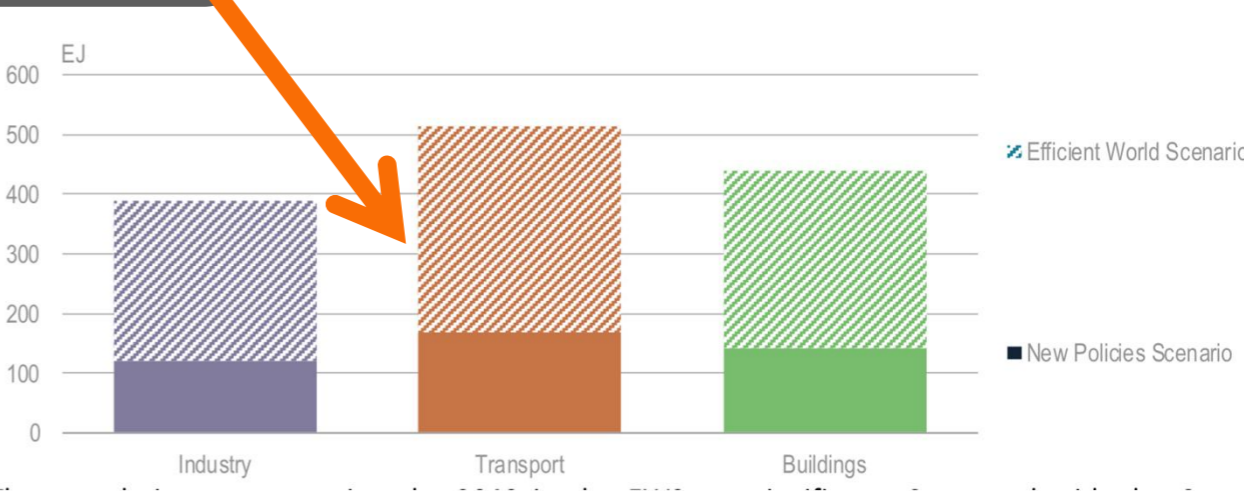
According to IEA's SDS decarbonisation scenario energy efficiency should play a primary role. However, energy consumption is still increasing (+2% in 2017).

To invert that trend it is necessary to adopt strong policies and to develop increasing investments (+33% forecasted at 2025 and +61% at 2040).

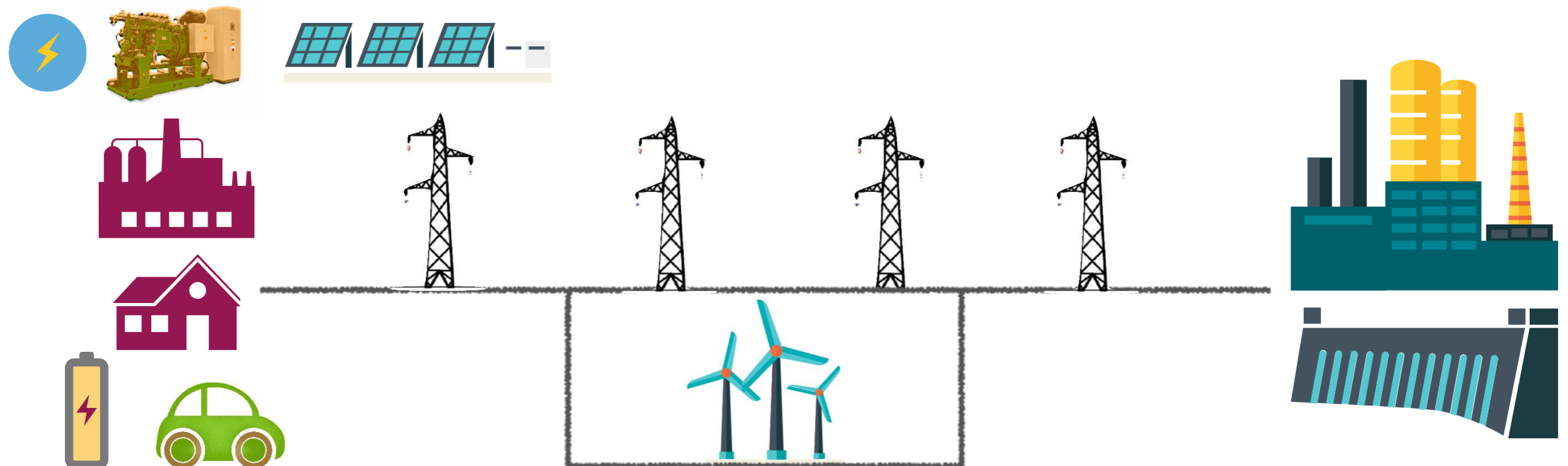
RES and energy efficiency targets are interlinked.

Energy efficiency decreased consumption by 12% from 2000 to 2017

Additional growth with EWS policy scenario



The transformation of the energy industry



- 1 The energy industry used to be seen as a set of large plants owned by one or few (market) players. Mission: power production.
- 2 The diffusion of decentralised systems changed this, by adding prosumers as one important player of the energy industry, usually operating with different rules.
- 3 Storage and demand response will create new options in terms of DSM. Regulation becomes fundamental to ensure the system will work in an efficient way.

The end-user/prosumer point of view

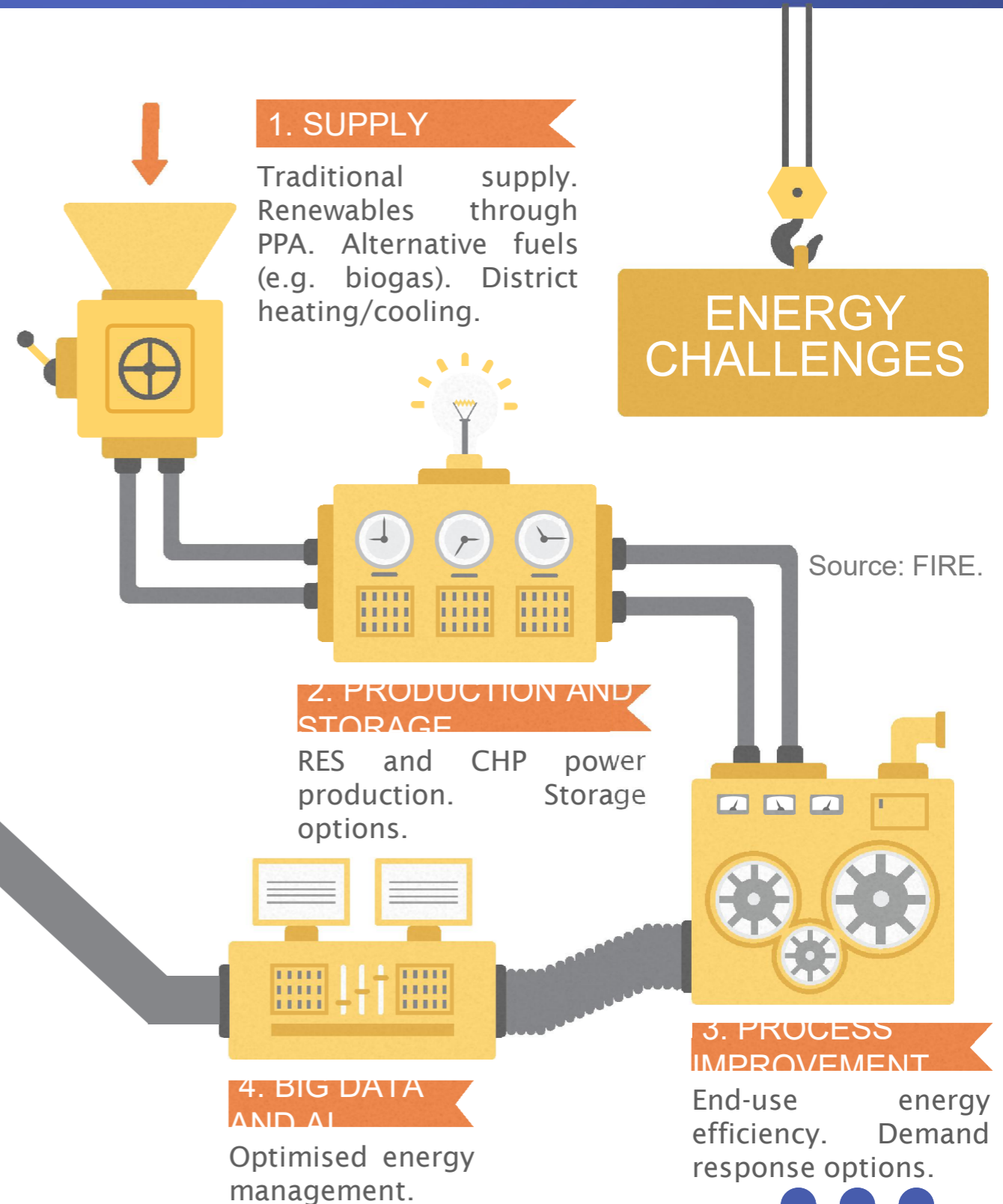


Power production and consumption will become much more integrated.

Demand response and storage will add opportunities, but also complexity.

Artificial intelligence will be a fundamental asset to manage everything at best.

Need to think of **energy efficiency first!**



Prosumers in the energy industry



With prosumers increasing their weight on power generation, reliability of micro and mini RES plants becomes important. An evaluation from FIRE of GSE data about photovoltaic plant production from 2011 to 2017 shows some interesting outcomes.

Main results:

- ▶ Overall plants built before 2010 shows a 3% performance reduction (in terms of equivalent hours) over the years.
- ▶ If also plants built after 2010 are considered, the performance reduction rises to 6%.
- ▶ Lazio's plants performance reduction is 6% in the first case and 12% in the second one. It appears that new plants underperform.

Data don't take into account solar radiation and weather condition, so absolute values shall be treated with caution. In any case solar radiation in 2017 seems to be in line with 2011 values /slightly better in southern regions and viceversa in northern ones).

With around 8 GW of power installed among 750.000 plants below 200 kW ensuring an adequate O&M should be a priority, also considering that in the last years this has been the area with the biggest growth.

Size (kW)	nr	GW
1<=P<=3	262,214	716
3<P<=20	447,332	3,267
20<P<=200	52,591	4,123
200<P<=1.000	10,739	7,353
1.000<P<=5.000	950	2,335
P>5.000	188	1,890
Total	774,014	19,682

Final remarks



The energy industry is changing its borders, including prosumers.

Energy efficiency risks to be neglected in the process, but it remains strategic. How to deal with this?

Small and micro plants will become important as large ones, but how to ensure their reliability?

Policies and regulations shall take into account these challenges. Voluntary agreements could be a solution.

Until now the energy industry has been a power production one. Will it be able to also become a power reduction one?

What can we do together?



FIRE can be a partner for many activities:

- ▶ carrying out surveys among energy managers, ESCO, EGE, companies with ISO 50001, etc .;
- ▶ implementation of market and sectoral studies;
- ▶ guides and analysis on incentive tools and policies;
- ▶ information campaigns and behavioral change;
- ▶ dissemination campaigns;
- ▶ energy audits and feasibility studies;
- ▶ training courses on energy management and its tools (ISO 50001, energy audits, EPC, IPMVP, LCCA, feasibility studies, etc.), policies and incentives, solutions for energy efficiency, cogeneration, etc;
- ▶ European projects (e.g. Horizon2020), international cooperation, and much more...



Get in touch!

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