

Innovation and technology for sustainable energy under multilateral development cooperation

Wolfgang D'Innocenzo
Ministry of Economic Development
Directorate General for Security of Supply
and Energy Infrastructure

Future Energy in environmental development cooperation. The Italian contribution
Expo Astana, 3 September, 2017



In late 2016 the NES 2030-2050 was launched; input and contributions emerged in national and international meetings

Consultations

Engagement of associations and social partners (almost 40) to collect suggestions and contributions concerning:

- critical issues
- policy and expected results
- interaction between stakeholders

Workshops

5 workshops with leading international experts in order to get contributions concerning:

- environmental and decarbonisation targets, evolution of electricity , gas and oil retail market
- scenarios (e.g. LNG in oversupply)

G7 Energy Minister's Meeting

Interinstitutional debate about improvement of our security of supply. Commitment to achieve and exceed environmental and decarbonisation targets:

- energy system security through diversification of supply sources
- growth of LNG
- RES integration
- energy efficiency
- low carbon transport

Paris COP21 Agreement
commitment confirmation



SEN2017



NES 2030-2050 will set the 2030 and 2050 energy and climate targets

Internally

Will set a path for the energy sector development

- supply
- networks
- market structures
- governance
- R&D

Internationally

Will set the path with respect to Italy's international commitments on climate and energy

- environmental and decarbonisation targets
- evolution of electricity , gas and oil retail market
- scenarios

Three NES 2017 goals: competitiveness, environment and safety

NES 2017 goals consistent with the EU Energy Plan

Competitiveness

Reduction of energy price gap, aligning with EU prices, in a context of internationally rising prices

- **Structural solutions to regain price gap:**
 - Reset/ reversal gas spread between PSV and TTF
 - Progressive convergence of EU generative mix and reducing cost of renewable sources
 - Measures to protect the energy-consuming industries
 - Reducing energy expenditure due to the efficiency and technological developments

Environment

Achieve environmental goals
Climate-Energy, in line with COP21 goals

- **New goals until 2030 in the EU context and trend until 2050**
- **Italian Climate-Energy Plan** considering:
 - Increasing investment in the field of energy efficiency
 - Further impulse to the RES

Security

Improve security of supply and system flexibility

- **Extension of security, suitability and quality of gas and electricity networks through**
 - more RES and new European scenarios;
 - gas flow management and growing demand;
 - gas sources branching out for geopolitical reasons

Considering the reciprocal interactions and the limited availability of resources, the goals are pursued by optimizing costs and benefits and by a technologically neutral approach

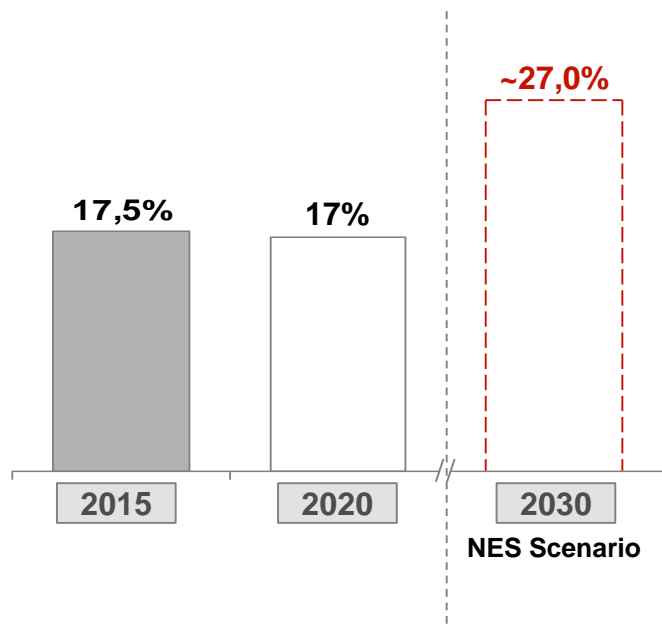
The National Energy Strategy has to consider proposals for environmental goals shared in Europe

	National goals	Current situation	Proposed binding targets at national and/or European level
	2020	2015	2030
ENERGY EFFICIENCY	1,5% annual savings from active policies	~1,4% ¹ of annual savings through policies in the 2014-2015 period	EU Commission proposal to keep compulsory 1,5% annual savings through active policies for each Member State
EMISSIONS	non-ETS emissions reduction of 13% with respect to 2005 levels	~17% non-ETS emissions reduction with respect to 2005 levels	EU Commission proposal of non-ETS emissions reduction of 33% for Italy with respect to 2005 levels
RENEWABLES	renewable penetration - power, H&C and transport - at 17% of total final consumption	17,5% of renewable penetration in total final consumption (33,5% power, 19,2% H&C and 6,4% transport)	EU Commission proposal for a EU goal of 27% of total final consumption

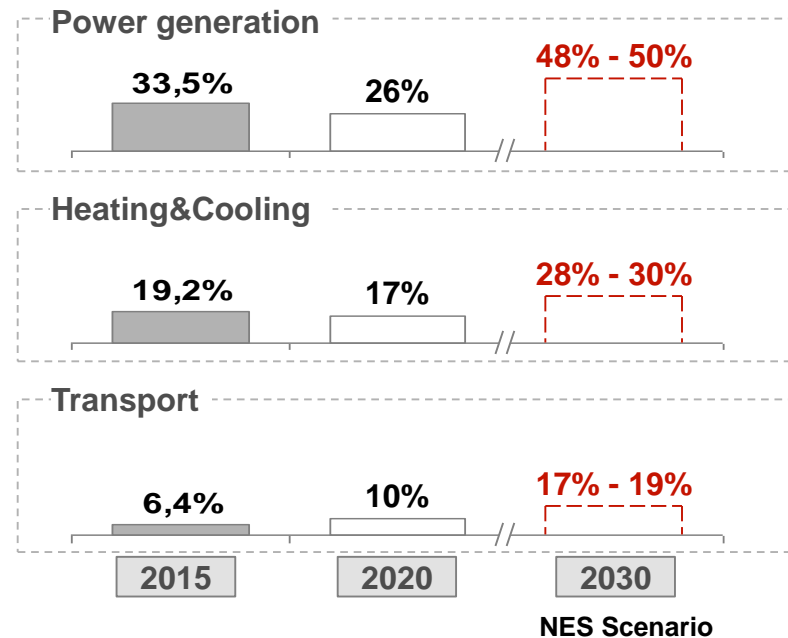
¹ 1,4% is the result of savings from active policies compared to total saving and factoring in the flexibility foreseen in the Directive that Italy has taken advantage of; 2015 data: estimate
Source: Eurostat; Clean Energy Package; PAEE 2014; MiSE

EU 2020 target for RES already achieved. By 2030, Italy is considering a ~27% share of RES in total final energy consumption

Renewable energy sources share in total final energy consumption



Share of RES consuming sectors



Policy instruments to achieve energy and environmental objectives (RES & EE)

Regulatory instruments

- Minimum energy and environmental performance standards for new and existing buildings
- Priority dispatch & mandatory grid injection programmes for RES power
- Integration of renewables in new buildings
- Promoting energy performance certification in residential and industry
- Obligation to reduce energy consumption in buildings owned by public administration & energy efficient refurbishment

Economic instruments

- tax breaks
 - Fiscal deductions for buildings' efficiency improvements in residential and commercial sectors (65% tax deductions for expenses incurred)
 - Incentives for renewable heating and cooling small scale plants (1 MW)
- heating account
 - Incentives for public building refurbishment
- white certificates
 - Granting of tradable white certificate for each TOE saved with energy efficiency projects
- Incentives to RES production
 - FIT
 - Auctions

Enabling factors

- market development
 - Setting up guarantee fund devoted to energy efficiency
 - Disseminating innovative contract model (EPC)
 - Qualification of energy service companies (EsCo)
 - encourage RES producers on the market
 - central RES management
- research and innovation
 - Increase funds to research and technological innovation in EE field
- awareness and training
 - Communications campaign in collaboration with regions and business associations
 - Promotion of energy efficiency training courses

Italy is part of EU SET-Plan and is a promoter of Mission Innovation launched at COP21 to boost frontier projects for *clean energy technologies*

MISSION INNOVATION
Accelerating the Clean Energy Revolution

- **International programme** joined by **22 nations** (plus EU Commission) with the aim to promote technology innovation to support energy transition by means of doubling of public funds for *cleantech research*
 - **Italy committed to double public funds for R&D** for clean energy (from 222 Million Euro in 2013 to 444 Million Euro in 2021)
- Italy has a co-leadership role for development of *Smart Grids technologies*

The European Strategic Energy Technology Plan
SET-Plan
Towards a low-carbon future

- Reference Program for investment at national, regional and UE level, and for private investment to support R&D and innovation in the energy sector
- The main implementation program of the **SET Plan** is **Horizon 2020** with a budget of 6 billion Euros in 2014-2020 at EU level

Policy instruments have developed over time and with national peculiarities

Policy instruments

- are developed gradually over time;
- take into account national circumstances, advantages and shortcomings;
- measurement, monitoring and assessment mechanisms need to be in place and available to all stakeholders;
- have to provide accountability towards the general (non-specialised) public;

Ongoing international policy cooperation efforts

- general frameworks
 - Clean Energy Ministerial
 - International Energy Agency
 - G20
 - OECD
 - UNSE4ALL
- sectoral frameworks
 - IRENA
 - IPEEC
 - Mission Innovation

Benefits of international policy cooperation

- 
- **sharing of goals, national policies and experiences**
 - **sharing of data**
 - **assessment of potentials**
 - **performance analysis**
 - **peer reviews**
 - **policy recommendations**

- 
- **policy framework to stimulate innovation and technology for sustainable energy**

Thank you for your attention!

Astana, 3 September 2017