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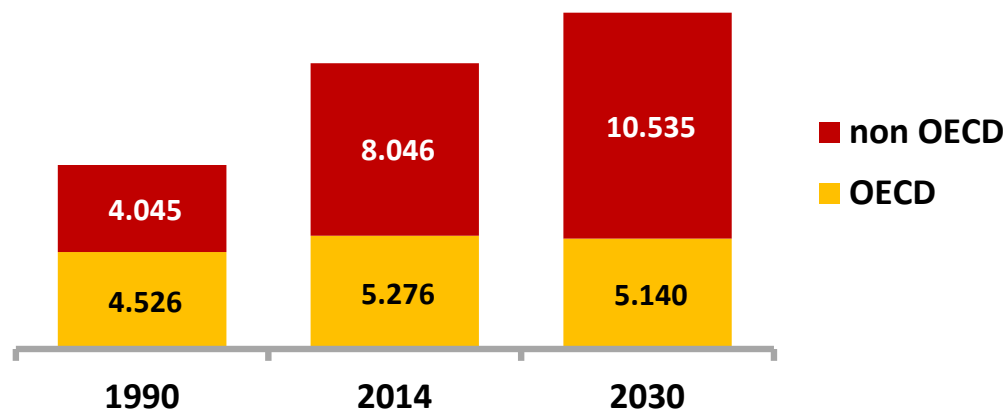
Chief Development, Operations, Technology
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G7 Environment

11th June 2017
Bologna

Key future challenge for the energy sector: maximizing access to energy while fighting against climate change

Total Primary Energy Demand | Mtoe

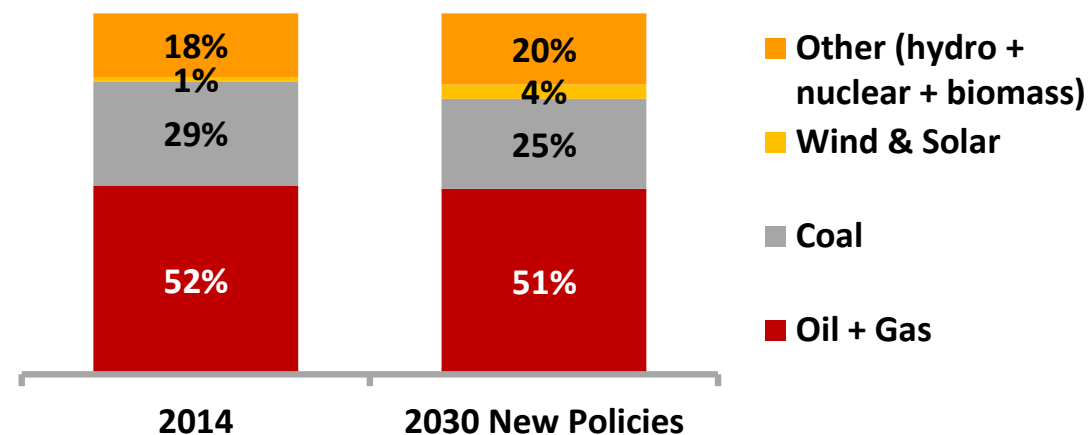


World energy demand: +18% in 2030 vs. 2014, driven by non-OECD Countries (+30%)

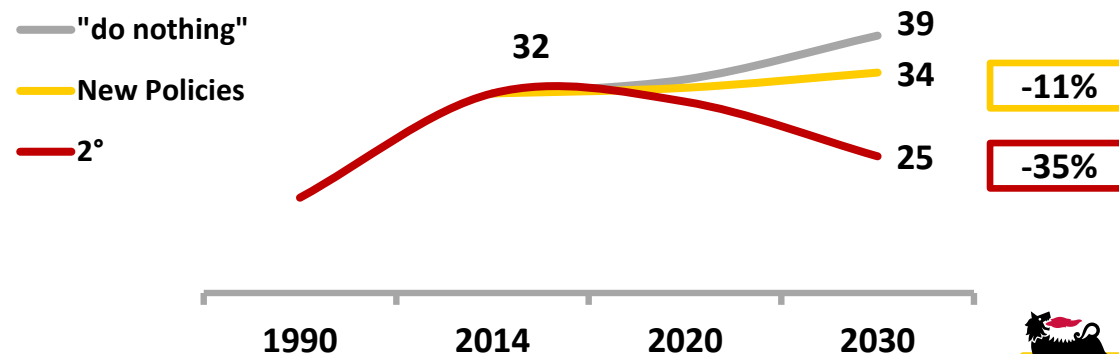
1.2 billion people without access to electricity

2.7 billion cooking with biomass

Energy mix 2015 vs 2030 | IEA New Policies*



CO2 Emissions | Gton CO2*



* Source: WEO 2016

Eni's integrated strategy for decarbonization

Carbon footprint reduction

Reduction of GHG emissions:

- Reduction of routine flaring
- Minimize fugitive methane emissions
- Energy efficiency

Carbon pricing policies

- Public advocacy for carbon pricing
- Internal carbon pricing sensitivity

Low carbon portfolio

Large share of **natural gas reserves**

Portfolio resilience at 450 ppm scenario

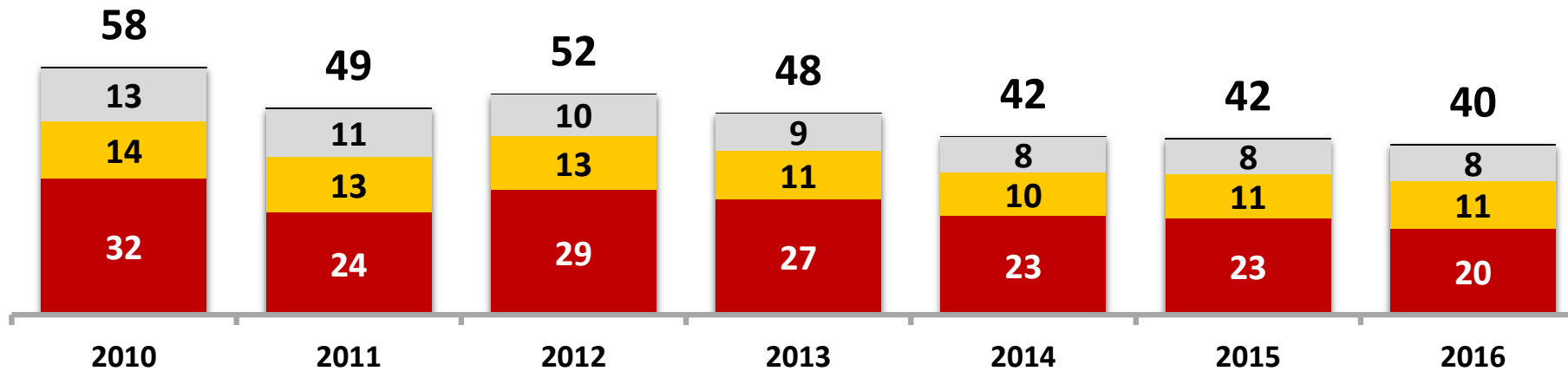
Commitment on renewables

Energy Solutions Department

Green conversion of downstream assets: green refinery and biofuels

Research focus on **energy mix diversification** and **green businesses**

Eni direct GHG emissions | MtCO₂eq



**GHG reduction
2016 vs 2010:
-31%**

■ Exploration & Production ■ Gas & Power ■ Refining & Marketing and Chemicals ■ Corporate and other activities



R&D and technologies: our engine for a sustainable growth

Safety and Environmental Protection

- Upstream technologies to minimize operational risk
- CLEAN SEA - Continuous Long Term Environmental and Asset Integrity monitoring at SEA



Green sensibility and efficiency in refining sector

- Econofing™ 
- Eni Slurry technology

Renewable energy technologies

- Biomasses to Fuel



- Energy storage



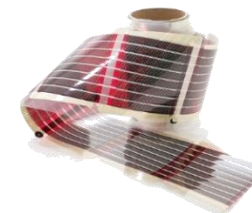
- Utility-scale renewables and hybrid solutions



- Floating wind

- Solar Energy

- CSP
- Smart windows
- Polymeric and "paper like" cells



1.5 bln € in R&D
from 2009 to 2016

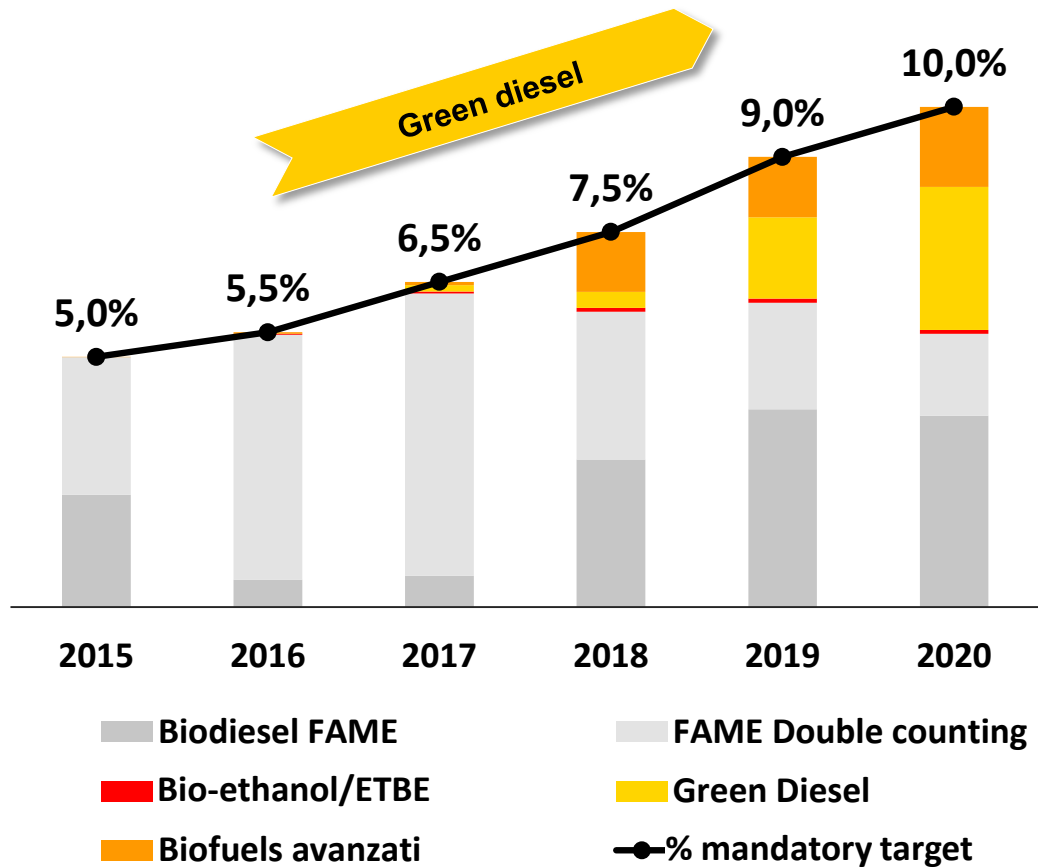
More than 300
proprietary technologies

More than 6000
patents



Green conversion: the positive answer to new “policy driven” needs

Bio-fuel targets in Italy | %



Eni green refineries: Venezia and Gela

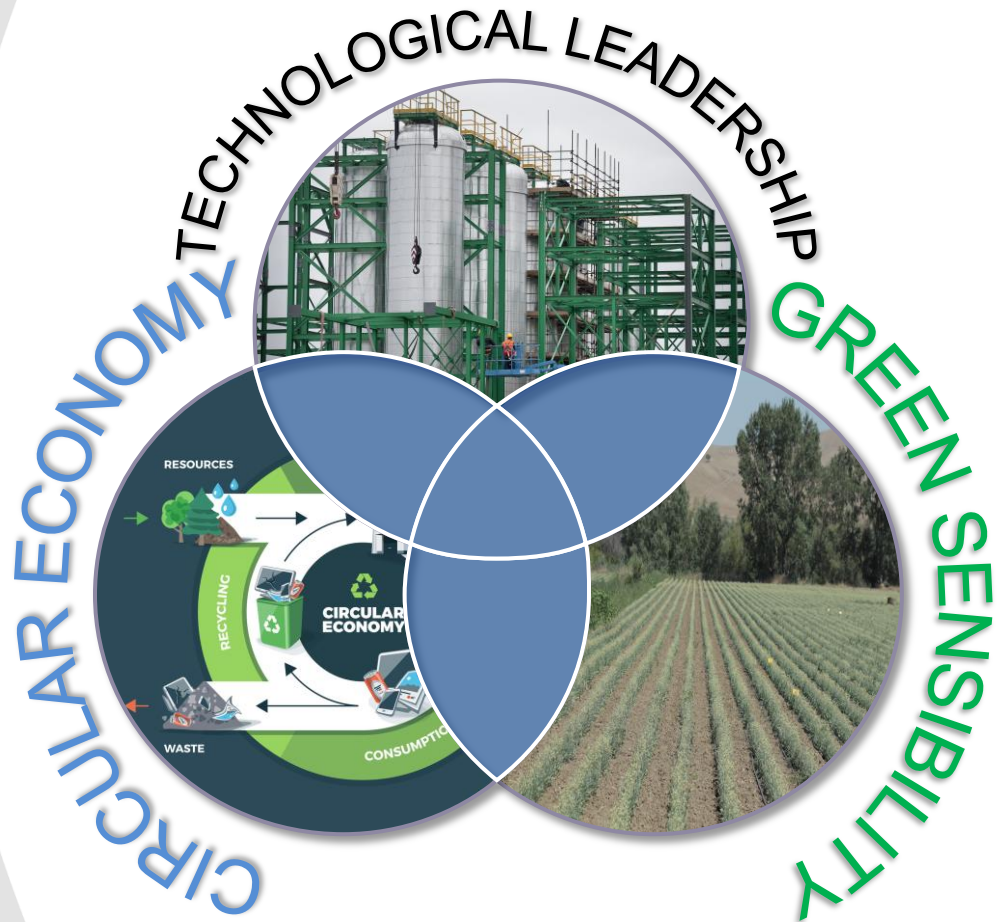


- 2014: VENEZIA – FIST CONVERSION IN THE WORLD OF A TRADITIONAL REFINERY INTO A GREEN REFINERY – 1st phase
- 2016: VENEZIA - Eni Diesel + (Eni patent)
- April 2016: GELA - Green refinery construction started
- VENEZIA - Green refinery – 2nd fase – underway
 - Enhancement of production capacity up to 560 kton/y (from 2020)
 - Emissions reduction: 0,4 CO2 Mton
- 2018: GELA green-refinery completion
 - Production capacity up to 720 kton/y (from 2020)
 - Emissions reduction : 2,8 Mton di CO2

€ 426 MLN OF INVESTMENTS TO REACH 1 MLN TON OF GREEN DIESEL



Chemicals: a business model driven by sustainability



Eni green chemicals platforms

INTERMEDIATES FROM VEGETABLE OIL



- JV *Marghera* : integrated chemical complex from renewable in **Porto Torres (Sardinia)**
- Start-up 2014
- **Total capacity bio-intermediates: 70 kton/y**
- **Investments: € 200 mln**



- Development of an innovative integrated platform for high value-added products from renewable sources in **Porto Marghera**
- Partnership with **Elevance** RENEWABLE SCIENCES for innovative technology Vegetable Oils Metathesis



NATURAL TYRE FROM GUAYULE

- Development of a integrated platform from Guayule for producing natural rubber, with high quality distinctive features, social sustainability and hypo-allergenic



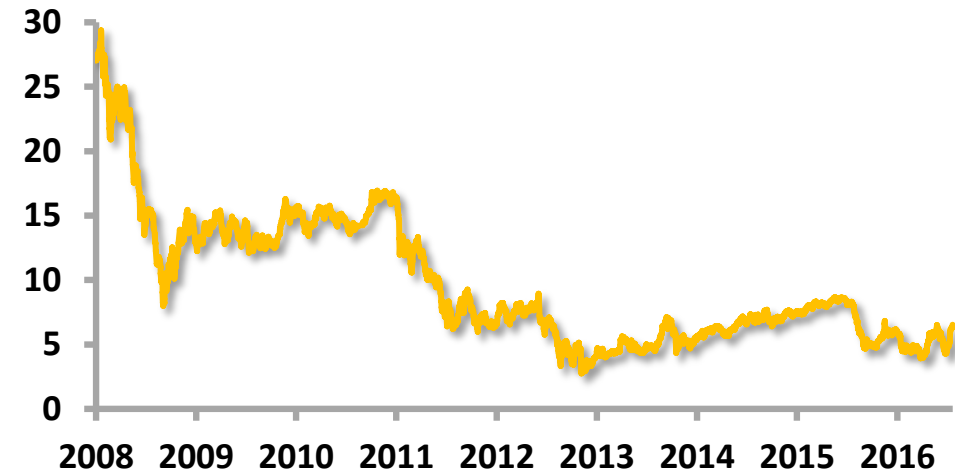
Effective policy needed to drive the change



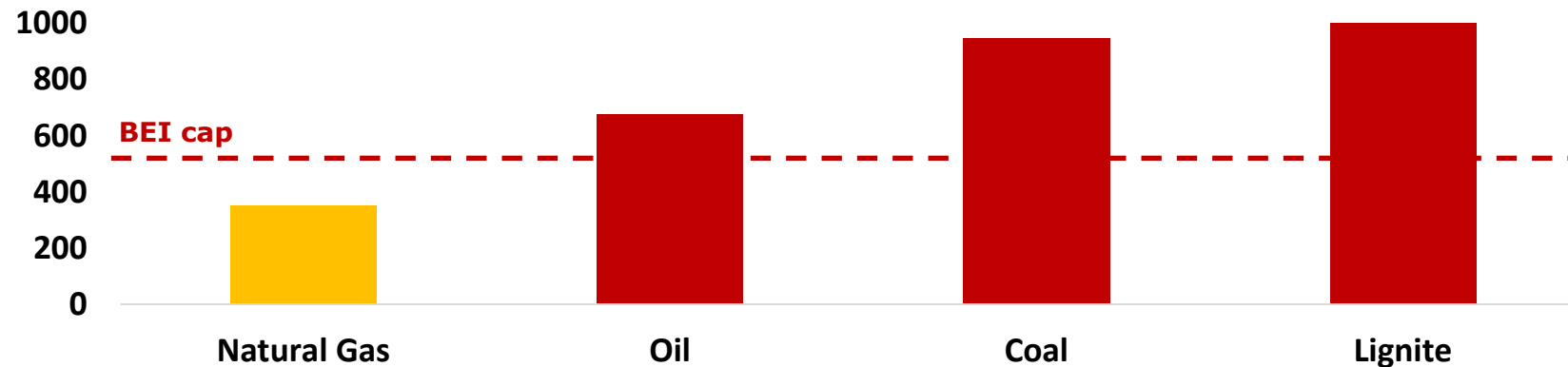
Carbon pricing initiatives



CO₂ prices | €/ton



Emissions Performance Standard | gCO₂/Kwh



Joint action to develop and spread environmentally friendly and disruptive technologies



- **10 oil and gas companies**, representing one fifth of the world's oil and gas production, **together** to lead the industry response to climate change
- **OGCI Climate Investments: \$ 1 billion investment** over the next ten years to accelerate development and deployment of innovative low emissions technologies



- **Collaboration with Italian Universities and Research Centers**



- **Eni - MIT: a long-lasting partnership** with the top academic institution world-wide for breakthrough innovation, to complement and integrate our internal R&D efforts in this energy transition strategy
- **Eni – GE: a cooperation agreement** to identify and develop renewable technologies
- **Eni – Statoil framework agreement** to develop renewable energy projects

