Utility Knowledge Exchange Platform (UKEP)

Launch event

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15th March, 2022

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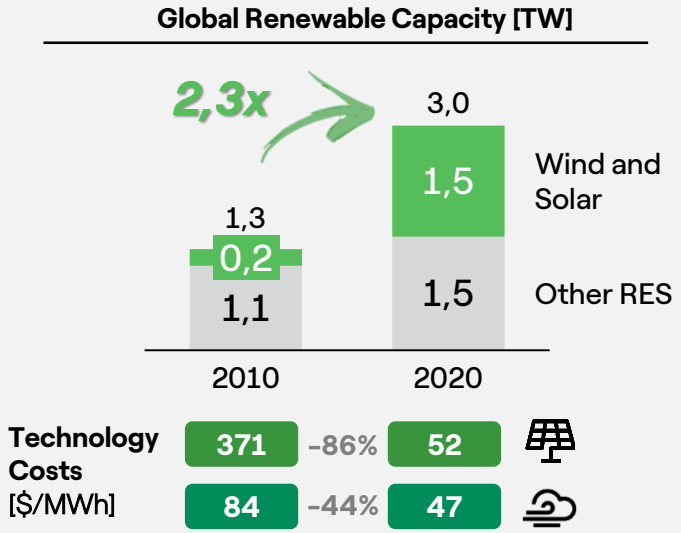
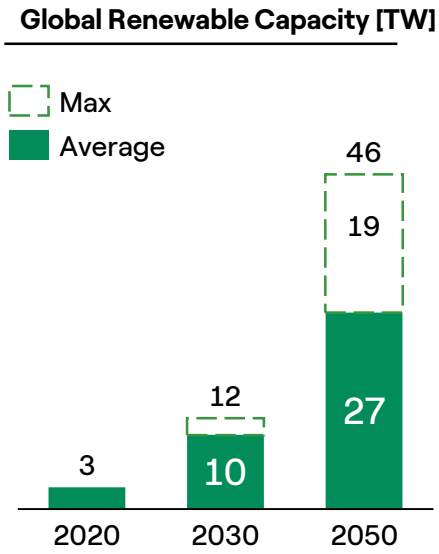
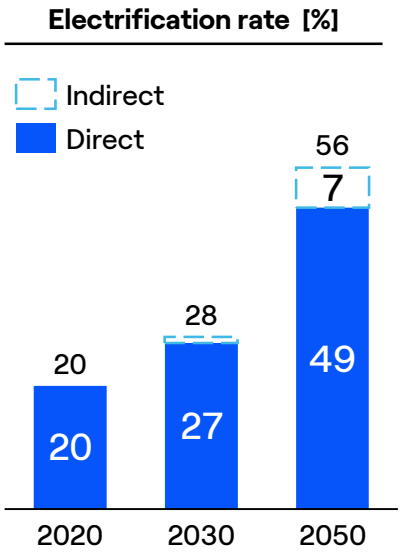
Electrification and renewables will have to walk alongside to enable next decade to be the Clean Electrification one

Last Decade







It is urgent to streamline permitting procedures for repowering and new RES capacity, to speed up power generation mix decarbonization

Source: IEA for installed renewable capacity, IRENA for medium-world LCOE. | Indirect electrification includes green H2 consumption.

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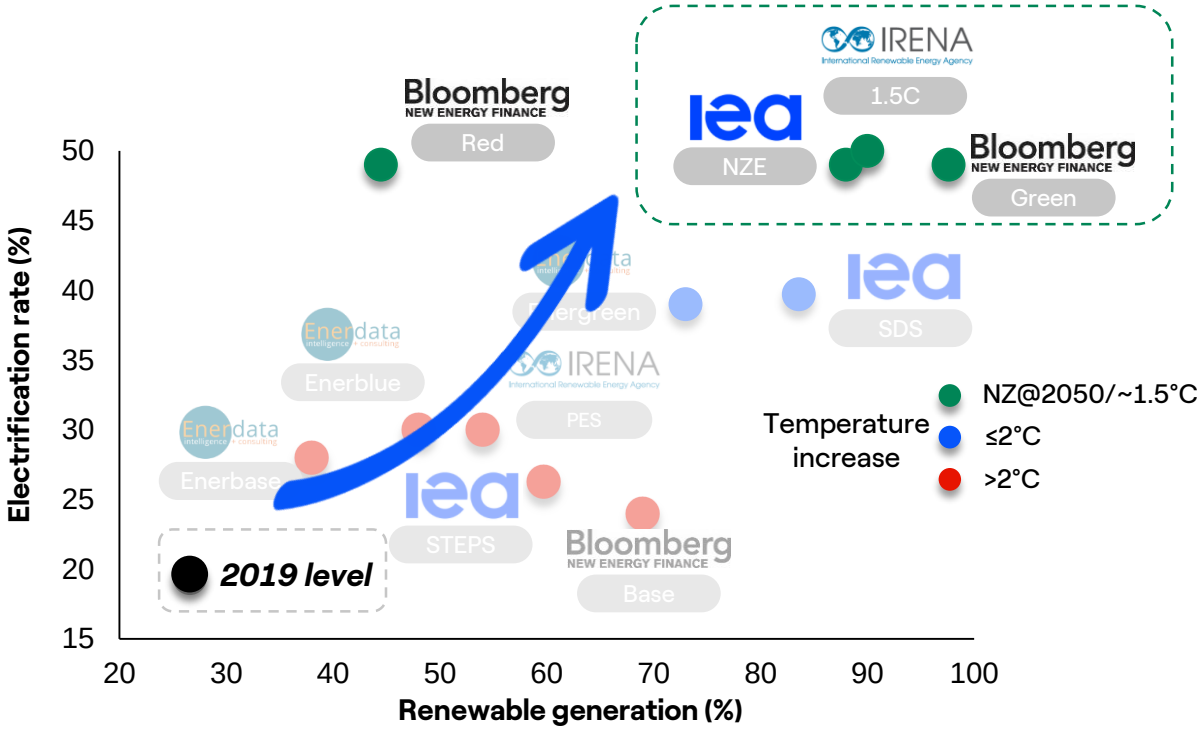
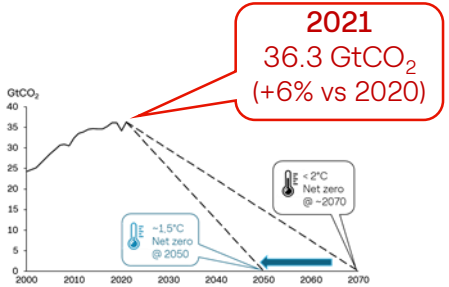
Most ambitious scenarios converge on clean electrification as most important trigger for decarbonization





At least a 50% rate of electrification is needed by 2050 in order to reach 1.5°c

At 2050 | Source: Graph – internal elaboration based on IEA (2021), World Energy Outlook 2021 | BNEF (2021), New Energy Outlook | IRENA (2020), Global Renewables Outlook | IRENA (2021), World Energy Transition Outlook

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Enel ambitions over the decade start from the position we have been building based on a sustainable business model

Enel integrated sustainable business model supports predictable growth and leads to higher value creation for all

	RES capacity (GW) 2020	RES capacity (GW) 2030	Grid customers (mn) 2020	Grid customers (mn) 2030	Electricity sold[2] (TWh) 2020	Electricity sold[2] (TWh) 2030
Ownership	45	129[1]	74	81	~430	~550
	+84 GW		+7 mn		+28%	
Stewardship	~4	25	0	5		
	+21 GW		+5 mn			
Total	~49	154	74	86		
	+105 GW		+12 mn			

	Storage (MW) 2020	Storage (MW) 2030	Electric buses (k) 2020	Electric buses (k) 2030
	6	>600	0.4	>20

1. It includes RES capacity and BESS; 2. Power free + regulated + wholesales + PPAs

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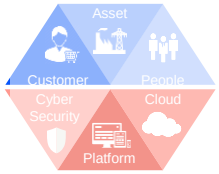
Digitalization and platformization have allowed us to create value in new ways

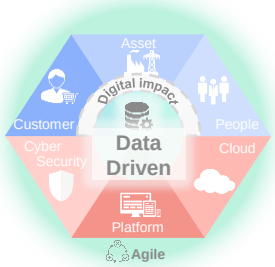
2016

Pillars e Enablers



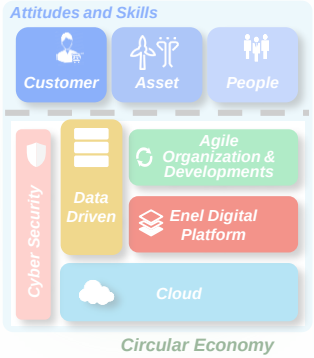
2018

Agile, Data Driven and Digital Impact



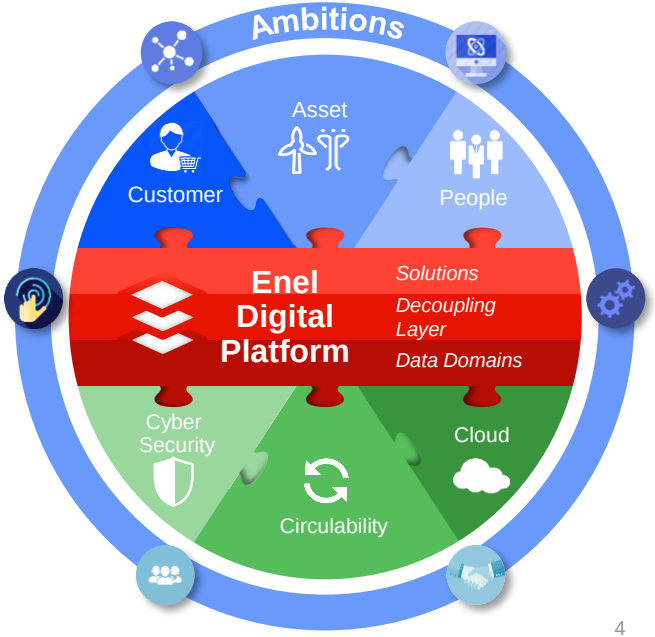
2020

Platformization



2022

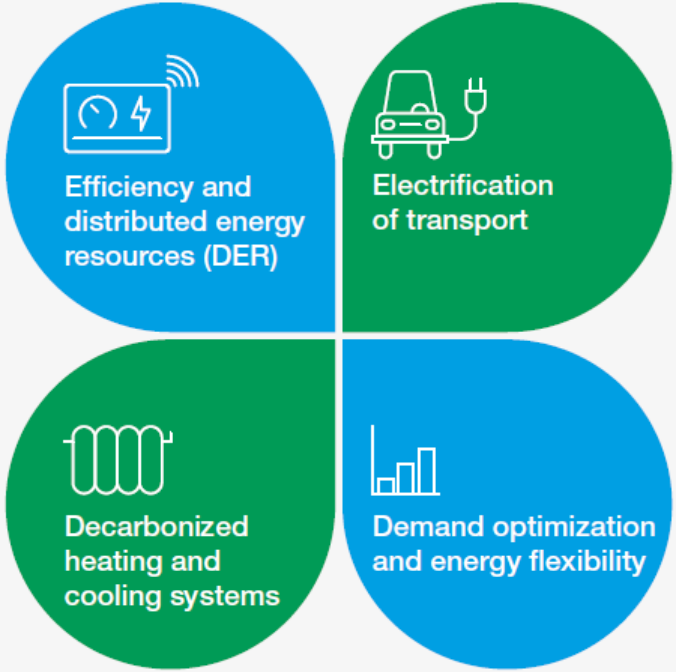
Platformization Scale Up



The energy transition is a wider search for sustainability, resilience, …

Improving energy productivity
- Building efficiency
- Smart and efficient appliances
- Distributed solar and BTM batteries
- Improving grids efficiency and resilience

Limiting the role of fossil fuels
- District heating and cooling (DHC)
- Electrification of heating



Vehicles Electrification Efforts
- Transportation to electrify for better air quality
- New revenue streams
- Support to BEV
- Dynamic pricing, smart chargers with V2G/V2H/V2B capability

Optimize demand to meet supply
- ToU (Time of Use) rates
- Demand response
- Demand aggregation

Source: WEF – Net Zero Carbon Cities, an Integrated Approach

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Digitalized and resilient grids will be essential to respond to climate change and enable future ecosystems

From a DSO that...

- **Distributes electricity** to final customers
- **Monitors consumption and distributed generation** through Smart Meters, providing data also to the TSO
- **Manages and controls the network** using advanced sensors and automation systems
- **Plans network investments** with a "**fit and forget**" approach

To a DSO that also...

- **Monitors and controls distributed generation** in near real-time
- **Acts as the energy system orchestrator** coordinating new energy stakeholders
- **Enhances hosting capacity**
- Manages network congestions and **voltage regulation**
- Plans network investments evaluating the **availability of flexibility services**

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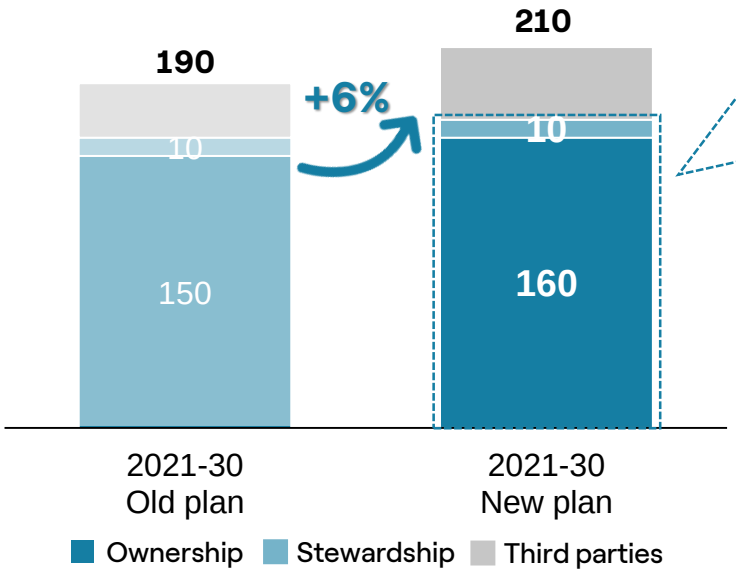
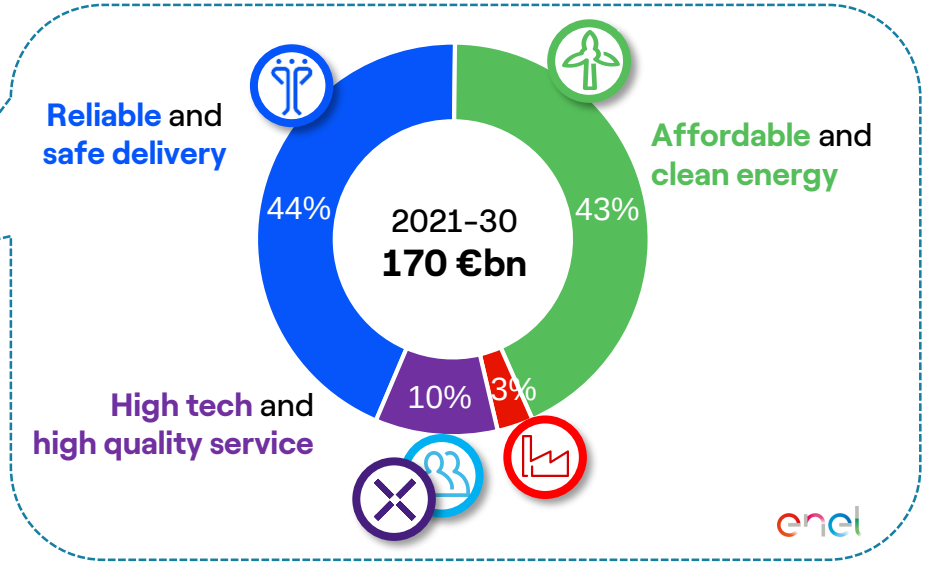
In this context, Enel investment plan is tailored to address elements at the center of the Energy Transition

Total investments[1] (€bn)



Capex by business line and customers' needs



1. 2021-30 Old Plan included Enel X consolidated capex in stewardship | 2. Source: sustainability Report 2022 | 3. Source: Consolidated results presentation, from November 4th , 2021

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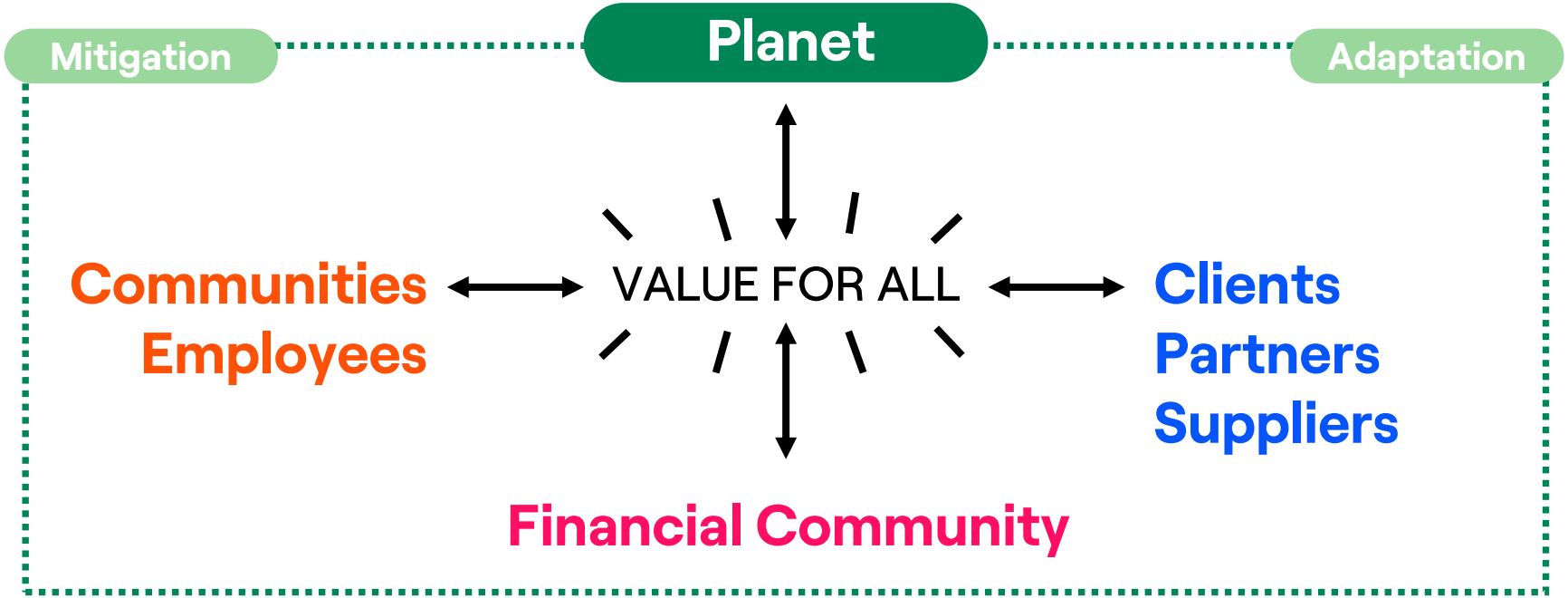
Creating and properly sharing value will be key to succeed in this context and face new challenges



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Main priorities/challenges ahead

#1

- Decarbonization and Circularity
- Avoid Lock-in Factors
- Just Transition
- Cost Competitiveness
- Long Term View
- Clear Targets

#2 Make renewables at scale everywhere to foster clean electrification and reduce dependence on fossil fuels

#3 Increase energy transition awareness, the need for electrification and the threats posed by climate change

#4 Invest in distribution grids that are key enabler of electrification