



Circular Economy in Enel

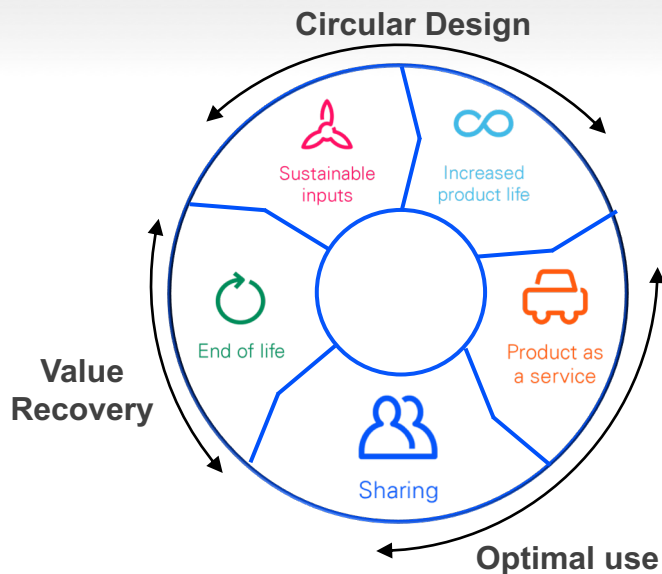


Enel's vision and approach

How we decline the Circular Economy: the 5 pillars



The Enel's five pillars of Circular Economy



Sustainable inputs: from renewable, reuse, recycle



Increased product life: Extending life through design, maintenance and repair



Sharing: increase utilization rate through shared use/access/ownership



Product as a service: sell to clients a service instead of a product



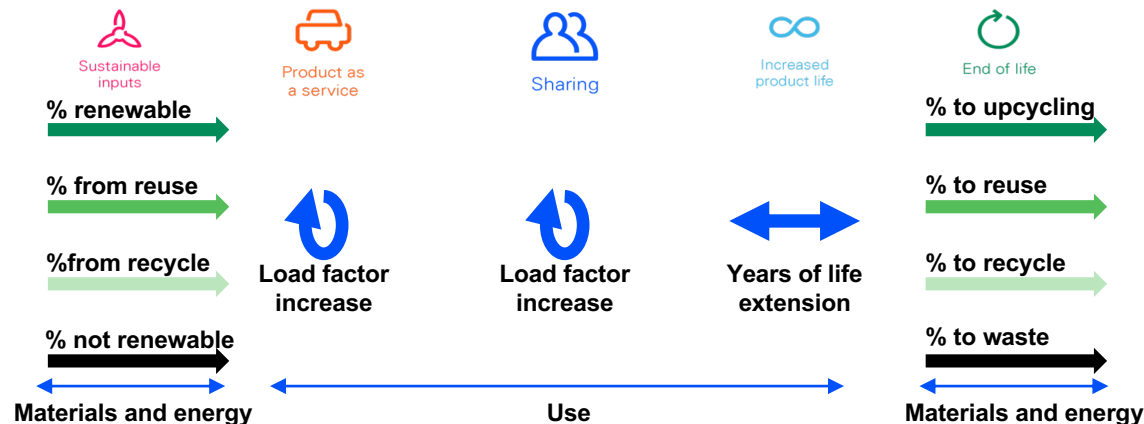
End of life: maintain value through upcycling, reuse and recycling

Enel's vision and approach

How we measure Circularity



From a KPI model (Enel's CirculAbility Model©), that measures the overall physical circularity...



Verso un modello
di economia circolare
per l'Italia

Documento di inquadramento
e di posizionamento strategico



Ministero dello Sviluppo Economico

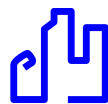
Enel X portfolio of solutions



X Owns the 'non commodity' businesses, **with strong focus on Circular Economy**



e-Industries



e-City



e-Home



e-Mobility

Consulting and auditing
service

Distributed generation
on/off site

Energy efficiency

Demand response and
demand side management

Smart lighting

Fiber optic wholesale
network

Distributed generation &
energy services

Demand response and
demand side management

Installation, maintenance
and repair services

Automated home
management

Financial services

Home 2 Grid

Charging infrastructure
(public & private)

Maintenance and other
services

OEM back-end integration

Vehicle Grid Integration

Flexibility

Addressing new customer needs with innovative technologies



Global Thermal Generation

Futur-e, a best case of upcycling



An **international benchmark** of Circular Economy applied to Energy Transition

Very big scale

- ✓ **23** Power Plants involved
- ✓ **~ 13GW** to be decommissioned
- ✓ **2** Projects concluded and **4** Projects defined and in advanced phase¹



Relevant impacts

- Environmental** Reducing impacts through assets reuse and life extensions
- Economical** Economical development leveraging on existing assets and competencies
- Social** Involvement of local communities and new jobs creation

Consistent circular approach

- ✓ Decommissioned assets as a **new opportunity to grow**
- ✓ Extensive involvement of stakeholders through an **inclusive approach**
- ✓ **Circular approach declined** also at procurement and construction site level

An international benchmark

- ✓ **Futur-e** represents the **first example of a system wide circular approach**
- ✓ The **number of dismissed industrial assets is growing** in developed Countries due to decarbonization commitments and changed economic framework

¹ The requalification projects for Assemini and for Porto Marghera (the plant was sold) are actually concluded. The requalification project for Carpi's plant is currently on-going. Finally, the tenders for the requalification of Termini Imerese's and Piombino's plants were launched and already won by external firms but activities have not started yet and for Augusta an internal requalification process is ongoing.

Global Procurement

Initiative for Suppliers' Engagement



A highly impacting project that will allow to have a consistent circular approach for the whole Company

Enel launched the **Suppliers Engagement Project** in order to **measure and reduce the overall environmental impact** along the up-stream value chain:

- ✓ **Based on the Life Cycle Assessment (LCA)**, the Project aims to quantify, assess and validate Environmental KPIs (CO₂, H₂O, emissions, etc) deriving from the manufacturing cycle of a Product.
- ✓ **Benefits for Enel**
 - **Improve overall sustainability** through a sustainable supply chain
 - **Certify Measurements** through an External Certification Body
 - Define a **Circular Economy factor to introduce in future tender**
- ✓ **Benefits for Suppliers**
 - **Virtuous system** for suppliers to communicate their environmental performance
 - Define benchmark to **set improvement targets**
 - **Reduce exposure** to price supply risk and **decrease costs**

