

« LIFE - CIRCE – CIRcular economy model for Carbon fibrE prepregs »

PROJECT LOCATION: ITALY (Marche, Lombardia, Puglia)

BUDGET INFO:

Total amount: 2.278.694 €

% EC Co-funding: 1.180.681 €



DURATION: Start: 01/09/19 - End: 31/08/22

PROJECT'S IMPLEMENTORS:

Coordinating Beneficiary: HP Composites SpA

Associated Beneficiaries: ALCI Srl, Base Protection Srl, Centro di ricerche europeo di tecnologie design e materiali, Petroceramics SpA

OBJECTIVES & SCOPE

→ Set-up a circular economy model for uncured carbon fibre reinforced polymer (CFRP) prepreg scraps. The ultimate goal is 100% valorization of this waste, transformed into a useful secondary raw material for other end-users.

To reach it, CIRCE will:

1. Create useful and economically affordable applications where the CFRP prepreg scraps can be used.
2. Develop and industrialize a new treatment process for prepreg in order to prepare it for reuse and recycling.
3. Produce new products with recycled CFRP (e.g., carbo-ceramic brakes, toe caps, reinforcing ribs) and prove their technical and economic viability.



EXPECTED IMPACTS

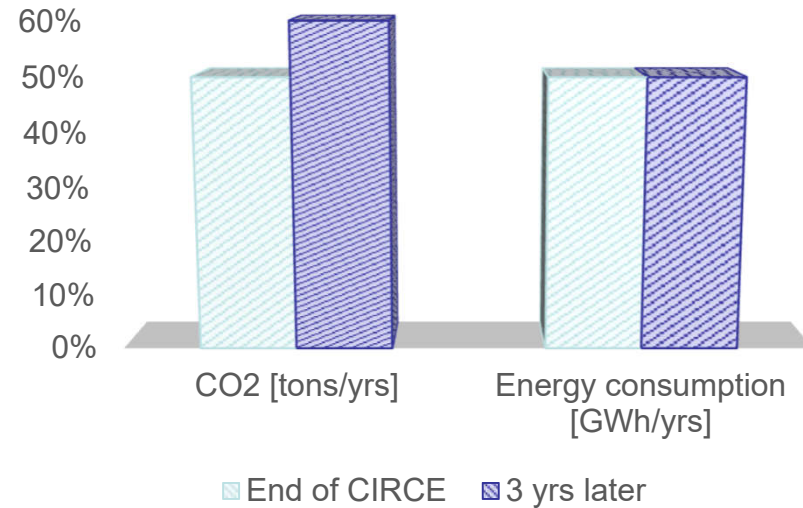
End of CIRCE

- 10 ton/year of CFRP prepreg not sent to landfills, reducing CO2 emissions and energy consumption (-500 CO2ton/year and -300000 kWh/year)

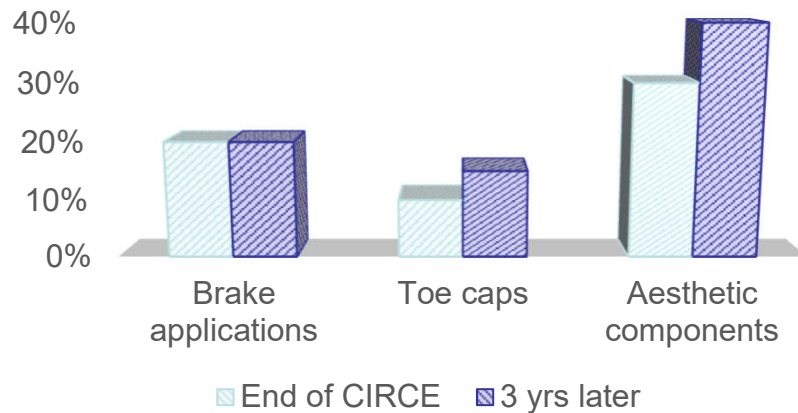
3 years after the end of CIRCE

- 5000 ton/year of CFRP prepreg recovered, reducing CO2 emissions (-250000 ton/year) and energy consumption (-150 GWh/year)

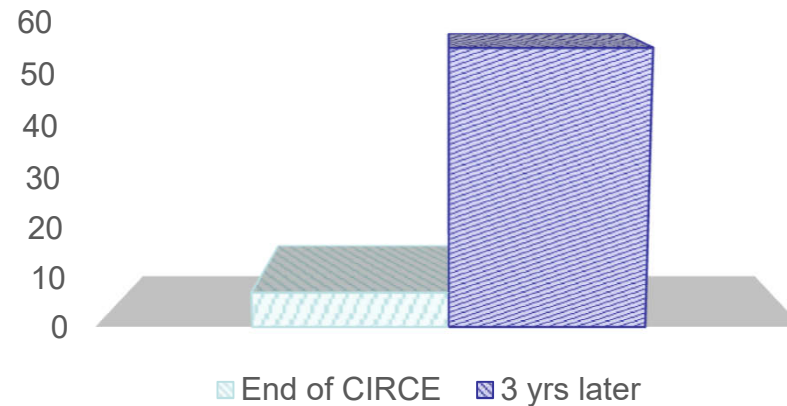
ENVIRONMENTAL BENEFITS



COST REDUCTION

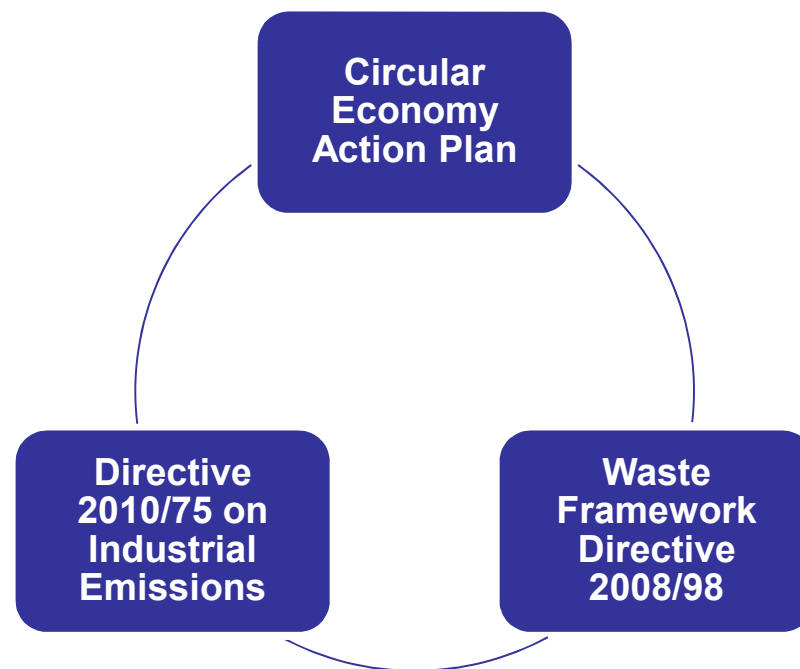


NEW JOB POSITIONS



POLICY IMPLICATIONS

- **Contribution to waste related regulation by ensuring that preregs waste can be reused, meeting all legal requirements and the need to implement a circular economy value chain.**
- **Contribution to environmental policy and climate legislation, possibly stimulating governance bodies and authorities to improve recycling and reuse of secondary raw materials through circular economy value chains.**
- **At national and local level, the partners will address the competent governance bodies (Ministry of Environment, Ministry of Economic Development) and local authorities.**



CONTINUATION (REPLICATION, TRANSFER, MARKET UPTAKE)

- Developing a CFRP prepreg Collection and Recycling Centre (CRC).
- Business partnerships with local firms producing CF in the Italian “Carbon valley” area and then extended to neighbouring regions.
- From national market to the European and international one.

