



## How to measure sustainability impact of technology innovation in Horizon Europe

**Prepared for:**

Successful R & I in Europe 2025

12th European Networking Event

6<sup>th</sup>.-7<sup>th</sup> of March 2025 – Düsseldorf (DE)

Workshop Cluster 4: Industrial Technologies

**Hosted by:** **HORIZONT NRW**

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# How to measure ecological sustainability impact

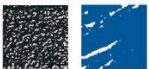


## Approach:

- All lifecycle emission and resource use is considered by conducting Life Cycle Assessments (LCA)
- Following ISO 14040-44 Norm
- Using cutting-edge technology and data sources

## LCA usage:

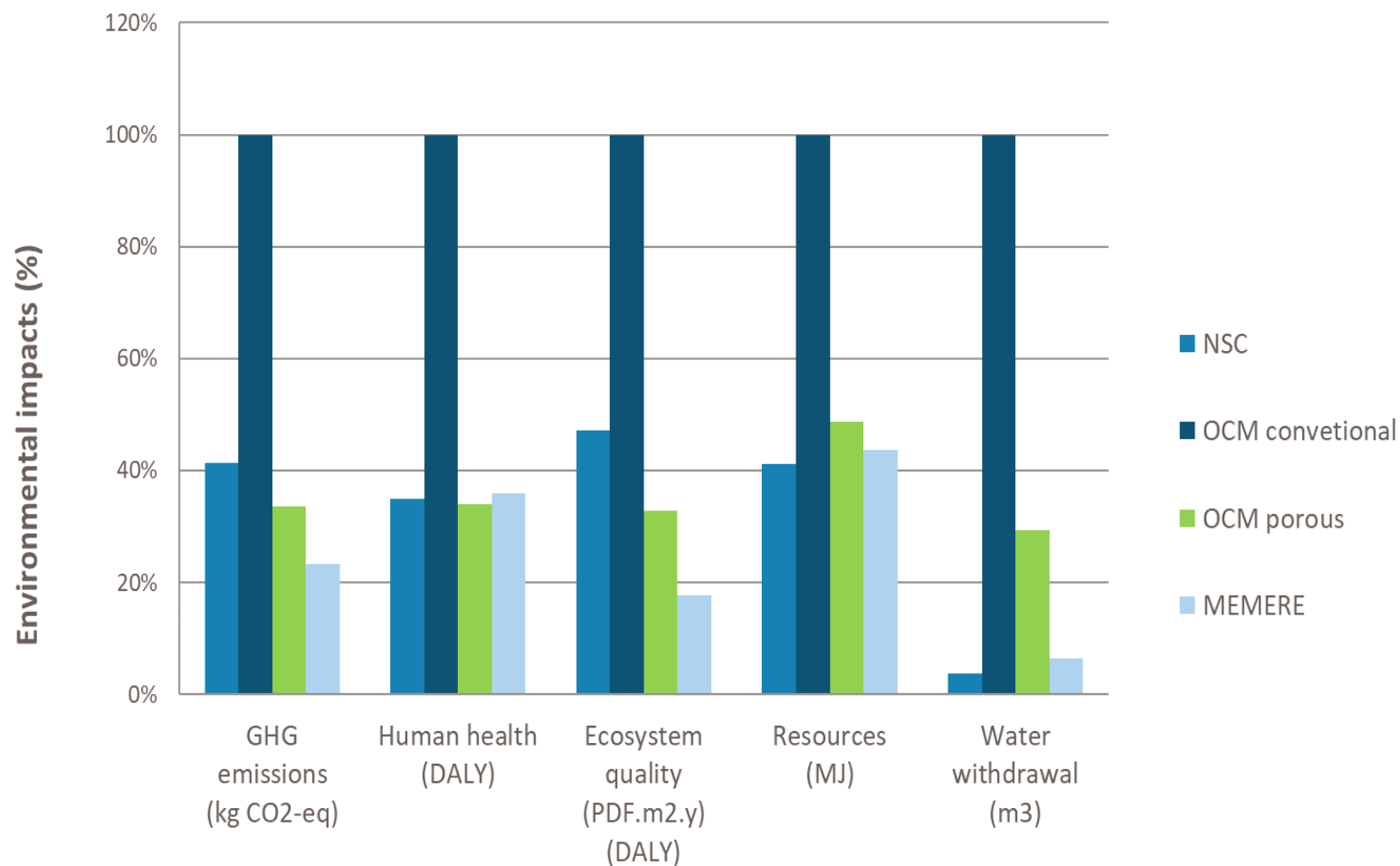
- Identify environmental issues along the value chain (hotspots)
- Identify improvement possibilities and production optimization
- Compare alternatives
- Set goals and measure progress
- Benchmark performance
- Manage risk
- Communicate
- And more



# How to measure ecological sustainability impact

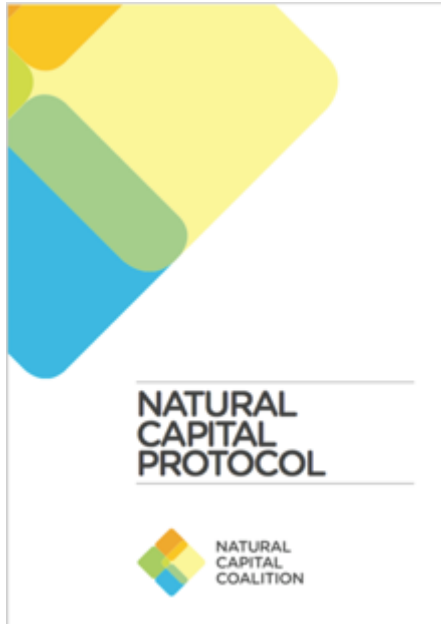
Results for 1 kg of C<sub>2</sub>H<sub>4</sub> produced in Europe in EU Horizon Project:

MEMERE (MEthane activation via integrated MEmbrane Reactors)





# How to measure social sustainability impact



Quantitative or qualitative valuation of natural capital stocks i.e. **cost of air emissions to business \$0, cost to society \$100,000**

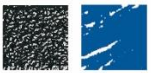


Quantitative or qualitative valuation of social capital. i.e. **societal value creation of wind energy generation compared to CCGT (combined cycle gas turbine)**



Return on investment for money invested in social projects i.e. **1:5, for every dollar invested in a project, there is \$5 of societal value produced**

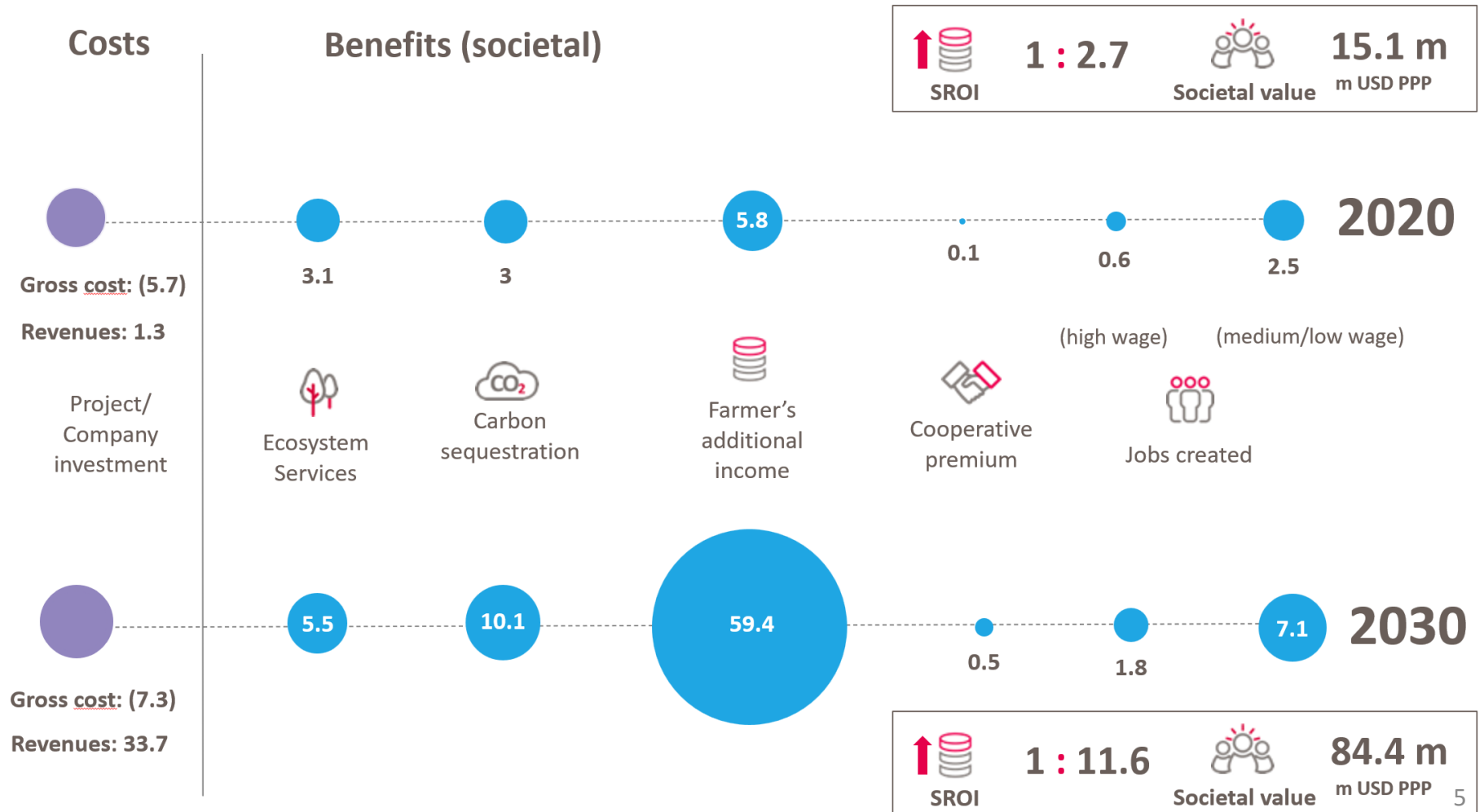
Example shown in next slide

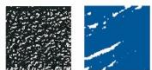


# How to measure social sustainability impact

Illustration example of planting trees:

Scenario as of 2020/2030





# Call for Collaboration

## Conclusion:

By including a sustainability impact assessment in your Horizon Europe proposal, Grand chances increase drastically

Any technology innovation prospering in showing societal and/or environmental impact advantages in a comprehensive and quantitative way can be assessed and compared to status-quo.

Let's talk!

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**Experience** in sustainability impact assessment of EU Horizon projects:



MEMERE (MEthane activation via integrated MEmbrane Reactors)



SMARTBOX (Selective Modifications of ARomatics through Biocatalytic Oxidations)



SecREEs

SecREEs (Secure European Critical Rare Earth Elements)



Glaukos (Circular solutions for the textile industry)