



# **Gaseous Industrial Effluents as Non fossil feedstock for Sustainable Chemicals Production**

**European Sustainable Chemicals Support Service (ESCSS):**

**PHASE I**

**PHASE II**

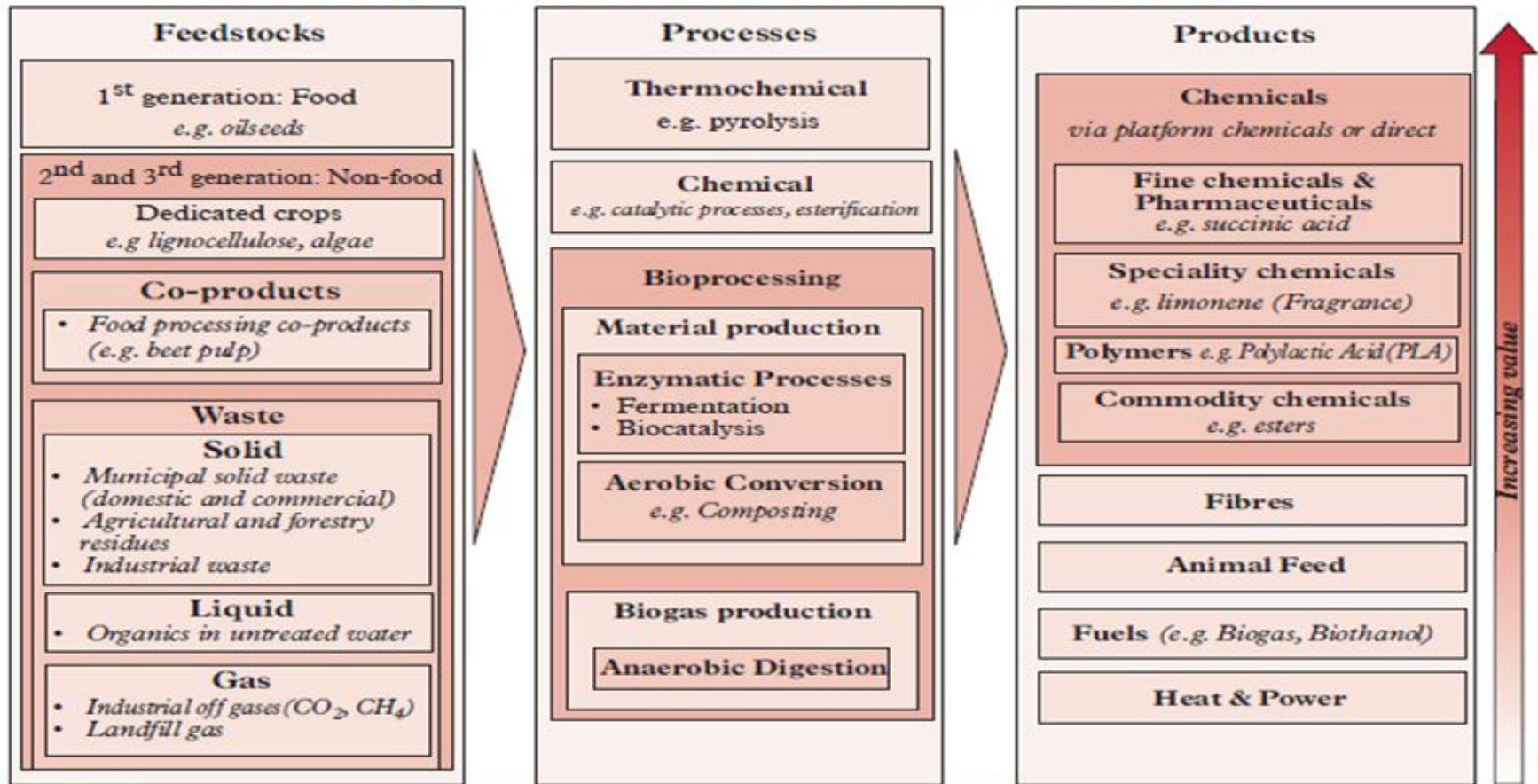
**Timoteo de la Fuente  
DG GROW Chemicals Unit  
Brussels 9th November 2016**



European  
Commission

# New Feedstocks, processes and products will emerge for sustainable chemicals production at regional level

## Feedstocks, processes and products in a bioeconomy





# The Support Service will:

- contribute to measure regional readiness for large scale industrial investments on sustainable chemicals
- contribute to develop ambitious strategies in the EU regions to attract investment
- provide advise to EU regions that will facilitate the elaboration of bankable proposals for investment.

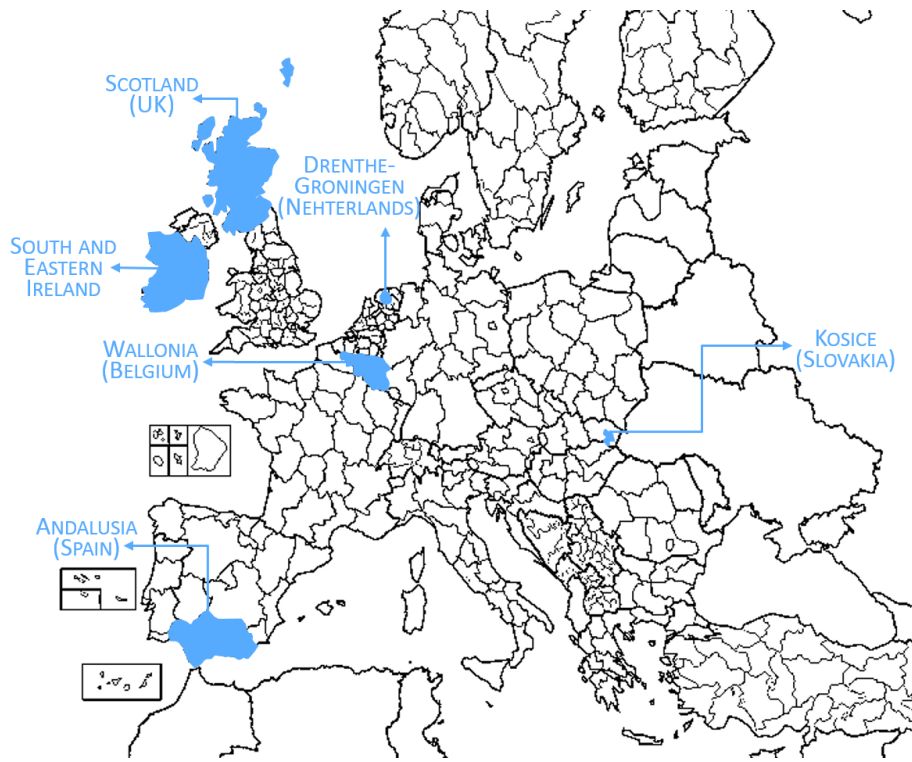
## **by providing advisory support services in 2 phases:**

- Phase I: Advise to six Model Demonstrator Regions (kick-off 12<sup>th</sup> Feb 2016)
- Phase II: Advise to four Model Demonstrator Regions on Gaseous Industrial Effluents Valorisation.

**Time schedule:** 18 months each phase.

# Phase I: The Six Model Demonstrator Regions (MDR): Call of Expression of Interest

## Regions' ambitions



- **Andalusia:** develop bio-economy in the region building on existing strong agrofood industry and well organized and structured chemical industry
- **Drenthe-Groningen:** become a preferred location for investments in sustainable production of chemicals (intermediate chemicals, polymers and fibres) based on regional bio-based feedstock
- **Ireland:** capitalize on domestically available biomass residues and the repurposing of existing industrial site to produce bio-based chemicals
- **Kosice:** support and up-scale existing bio-refinery project based on agricultural waste (straw) from Kosice and neighbouring regions
- **Scotland:** to be recognised globally as a key high value sustainable manufacturing region building on 3 areas: industrial biotechnology, circular economy and green chemistry
- **Wallonia:** reappropriation and sustainable conversion of the Walloon abandoned industrial sites to develop innovative projects of bio-economy

# Activities Phase I

1. Development and operation of a Self-Assessment Tool (SAT)
2. Analysis of good practice examples
3. Analysis of the investment readiness of the six “MDR”
4. Organisation of a two-day peer review meeting in each of the six “MDR”
5. Provision of policy briefings on how to stimulate private investments in sustainable chemicals in each of the six “MDR”
6. Dissemination activities including a final Conference

# Self-Assessment Tool (SAT):

[http://5.135.165.138:8080/html/?q=sat\\_intro](http://5.135.165.138:8080/html/?q=sat_intro)



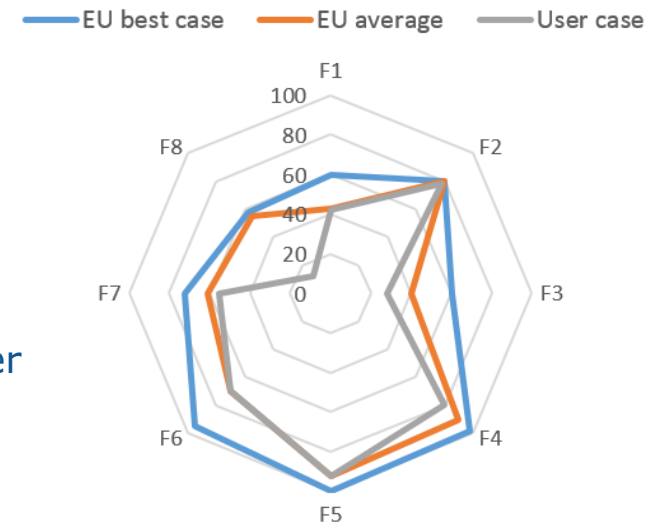
Methodology to perform a **first assessment** of investment readiness level of a region regarding chemical production → to serve as a starting point for regional discussion on how to design better regional strategies

## Issues considered:

- Feedstock availability
- Infrastructures
- Access to finance
- Skilled workforce
- Support institutions
- Regional markets
- Entrepreneurship
- Political support

## Features:

- Based on 8 factors → 3-5 questions/factor
- Implemented in user-friendly online survey tool in DG GROW website
- Three questionnaires, one per type of feedstock (biomass, waste and GIE)
- Answers will be weighted → results presented in spider diagram + modular conclusions
- Database for EU regions to be kept within EC repository: benchmarking + average



## **Phase II: Model Demonstrator Regions - Gaseous Industrial Effluents (CO<sub>2</sub> and other gases)-**

*GIEs are the least developed alternative feedstock,*

*GIEs require new forms of cross sectorial cooperation ("industrial symbiosis"),*

*There is little awareness about their potential,*

*Several policy objectives are at stake: industrial policies, security of feedstocks, climate objectives.....*

## **Phase II: Model Demonstrator Regions - Gaseous Industrial Effluents (CO<sub>2</sub> and other gases)-**

### *Deliverables:*

- **Potential of the GIEs in Europe,**
- **Hotspots and good practices examples for the recovery of GIEs in Europe,**
- **Provision of advisory support services to four Model Demonstrator Regions,**
- **Promotion and dissemination activities.**



# Assessment of the potential of the CO<sub>2</sub> and other gases in the EU

- ***Availability: emitting industries, location, type and composition of gases, quantity and quality, economic cost,.....***
- ***Technologies: type and availability of technologies to be used, costs , conditions to apply those technologies...***
- ***Products: chemical substances to be produced, application of those substances,....***
- ***Potential impact: GHG savings in comparison with fossil based substances.....***

# Hotspots for the recovery of CO<sub>2</sub> and other gases in Europe

Mapping of hotspots.

- ***Identification of 10-12 hotspots in the EU,***
- ***Adaptation of the SAT,***

Good practices examples for the recovery of GIEs in other parts of the world.

# Provision of advisory support to four Model Demonstrator Regions

Selection of four interested Model Demonstrator Regions,

Peer review meetings in the four regions,

Provision of policy briefings, describing:

- ***Identification of concrete investment possibilities,***
- ***Conditions under which investments can take place,***
- ***Potential barriers to the investments,***
- ***Advise on public support.***



# Promotion and dissemination activities

Provision of the "Road Map on Recovery of GIEs for chemicals production in Europe"

- ***Policy recommendations on how to promote the use GIEs in the EU,***
- ***Success factors for the reuse of GIEs,***
- ***Impact in GHGs reduction, jobs creation and investment, how regional strategies can be linked to Smart Specialisation Strategies....***

Provision of web pages

Organisation of a final conference

# Expected impact

- Integrate energy intensive industries, energy renewables facilities and chemical industry
- Contribute to the reduction of GHG emissions
- Increase Europe's resource efficiency
- Contribute to EU security of supply by reducing fossil-based feedstock imports
- Mobilize and engage regional authorities towards the development of sustainable chemicals industry
- Creation of new companies and jobs in the chemical sector
- Boost the economy in rural and declined areas of the EU



# Contact points

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