



# Presentation of winning projects for AAP2 Axe 3

*« Development, Production and  
Mobilisation of Plant and Algal Biomass »*

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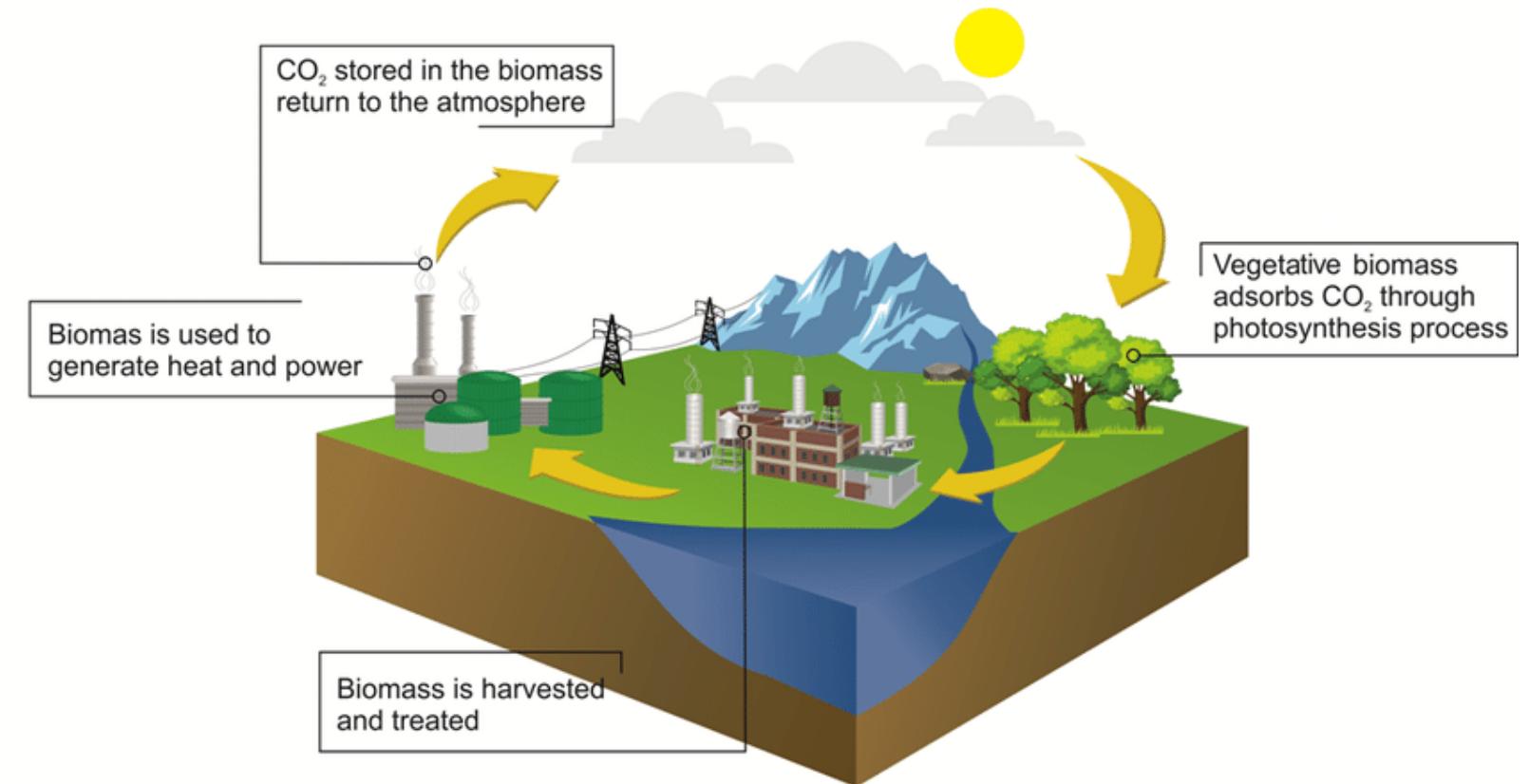




# Axe3 Context

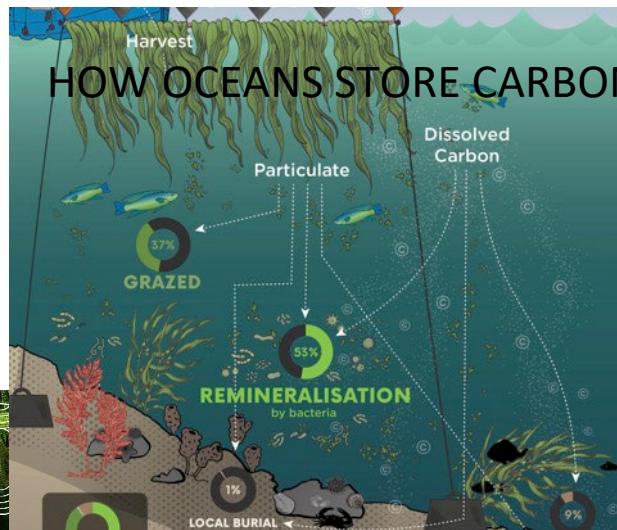
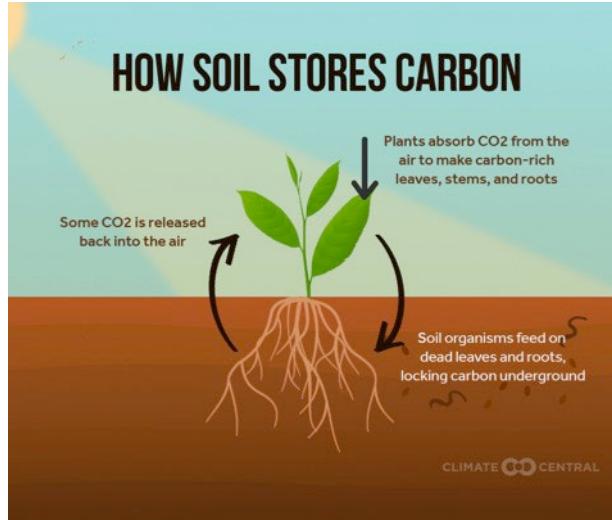
## How can we produce more plant biomass and use it for food and energy, while increasing carbon sinks and reducing emissions?

Is this a realistic question?



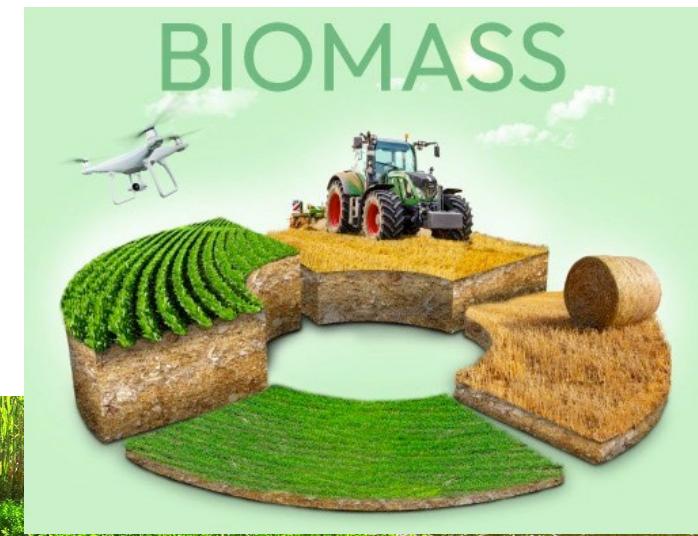
# Axe3 Objectives

To model, predict and find solutions, we need more knowledge at different scales.



There are key questions that need to be answered:

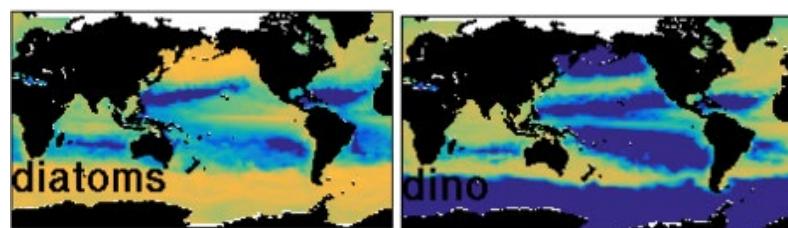
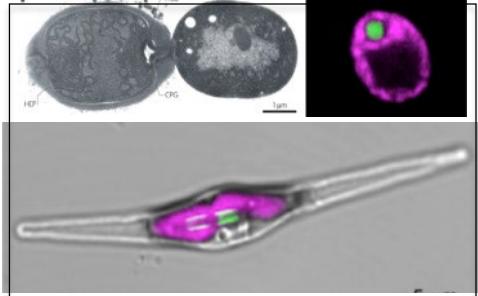
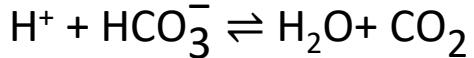
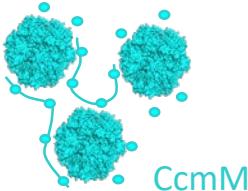
- How can resource use efficiency ( $\lambda$ , H<sub>2</sub>O, NPK) be improved?
- How can we better quantify the efficiency of plant roots and the rhizosphere?
- What is the role of algae in coastal C sequestration ?
- How will plants react to climate change and extreme events?
- Will innovative ideas for biomass use be economically viable ?



# Axe3 AAP2: 3 projects financed: sea, land and soil

## CO<sub>2</sub> CMΦ

Dir. Hélène Launay CNRS AMU  
CEA



molecular

cellular

planetary

## GREENSCALE

Dir. Jean Alric & Fabian Chardon  
CNRS INRAe CEA Arvalis



C/N relation to  
Photosynthesis

## RhizoSeqC

Dir. Isabelle Basile-Doelsch CNRS INRAe  
CIRAD AMU CEA IRD ENS ISRA UR PSL



Plant

Plant physiology

Mass transfer in  
the plant biomass



Field

Agronomic model

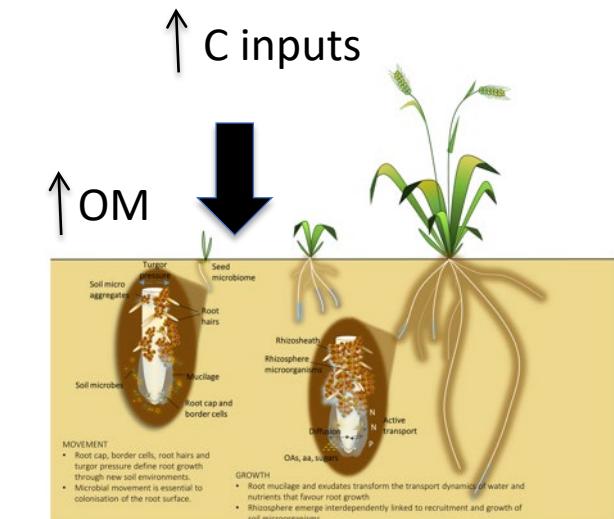
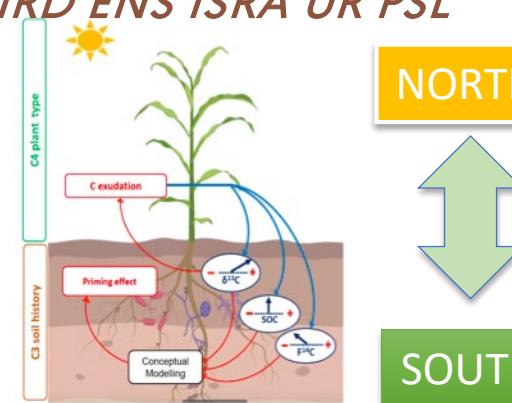
Field trials and  
crop phenotyping



Ecosystem

Land Surface model

Data  
integration and  
modeling



PROGRAMME  
DE RECHERCHE  
CARBONATÉS  
ET ÉCOSYSTÈMES  
CONTINENTAUX