



Wanting it all - is a stakeholders' Vision for Europe compatible with meeting Europe's food demand under high end climate change?

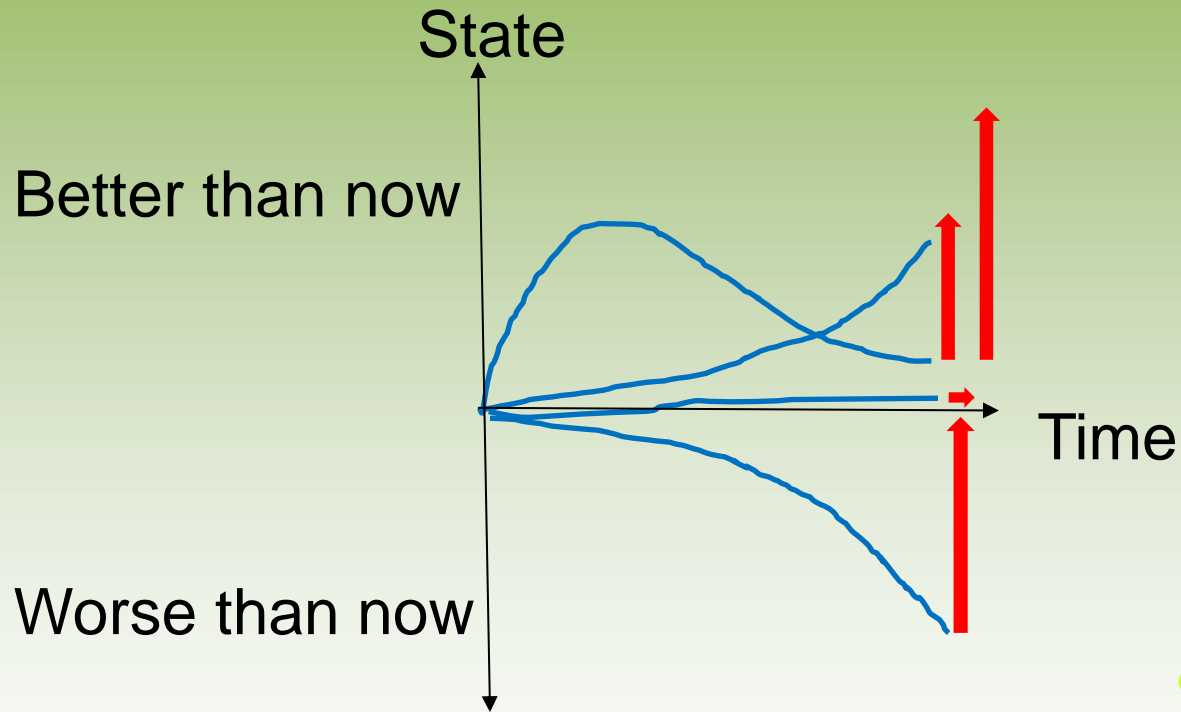
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MACSUR Science Conference 2017, Berlin



A Vision for Europe in 2100 - why?





Where we want to be

VISION

Shortfall
Additional actions

Where we might get:
Pathway

Where we're heading:
 $RCP_n \times SSP_y$

Where we're at:
"Baseline"

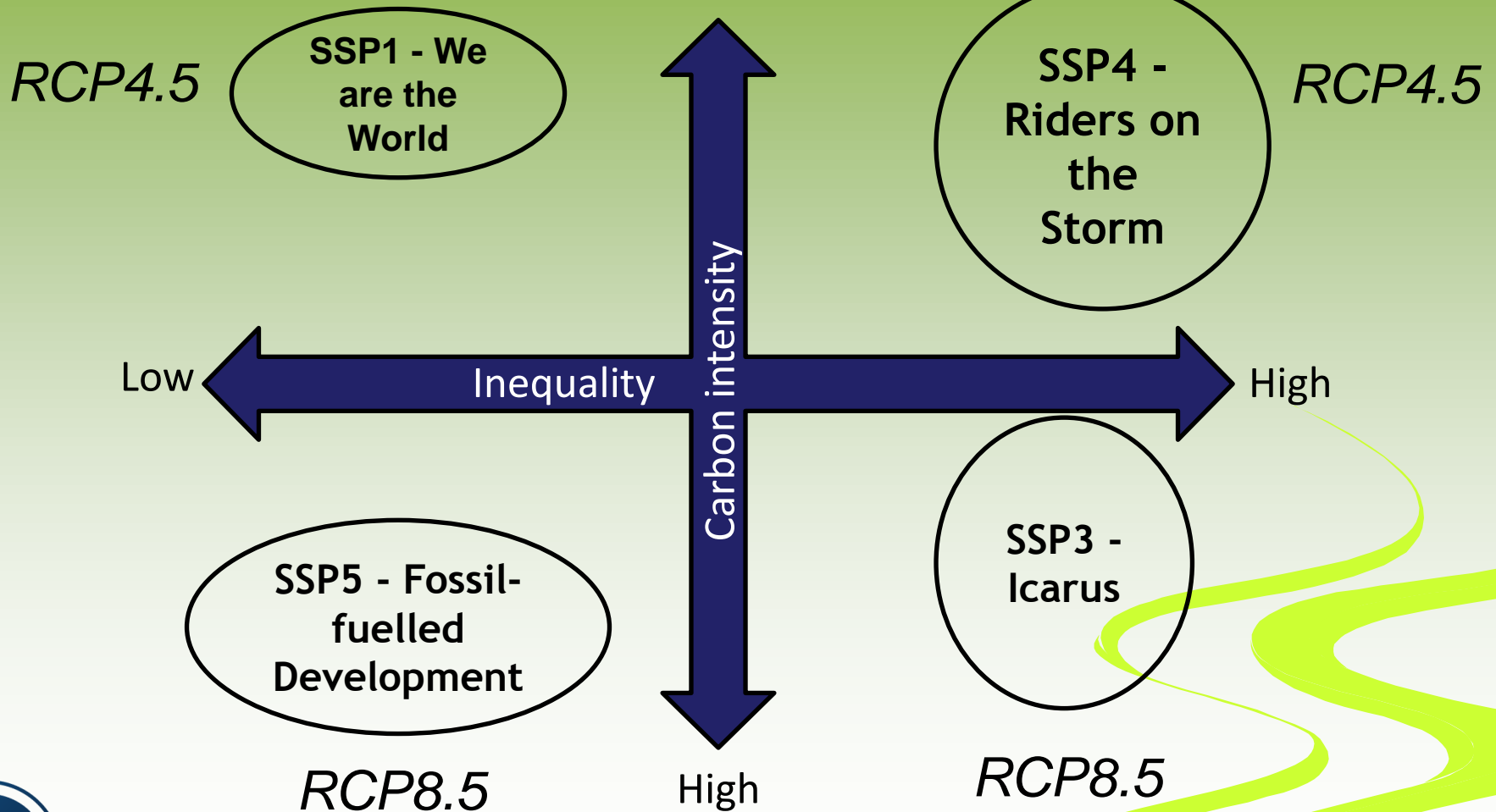
Today

2100

What we need to do to reach Vision
Pathways (A, M & T)



European SSPs



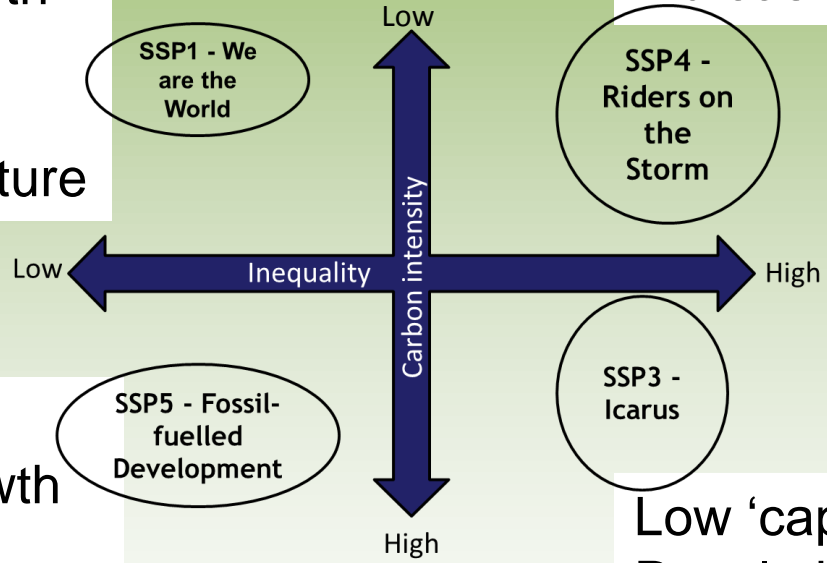
IMPRESSIONS



European SSPs → RAPs

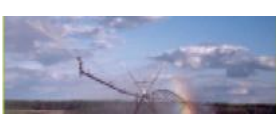
High 'capitals'
 Low population growth
 Low 'food miles'
 Low meat diet
 Low intensity agriculture

Medium (unequal) 'capitals'
 Population decline
 Increased food trade
 Technological innovation
 Increasing agricultural efficiency



High 'capitals'
 High population growth
 Global food trade
 High meat diet
 High intensity agriculture

Low 'capitals'
 Population decline
 Reducing food trade
 Technological decline
 Declining agricultural efficiency

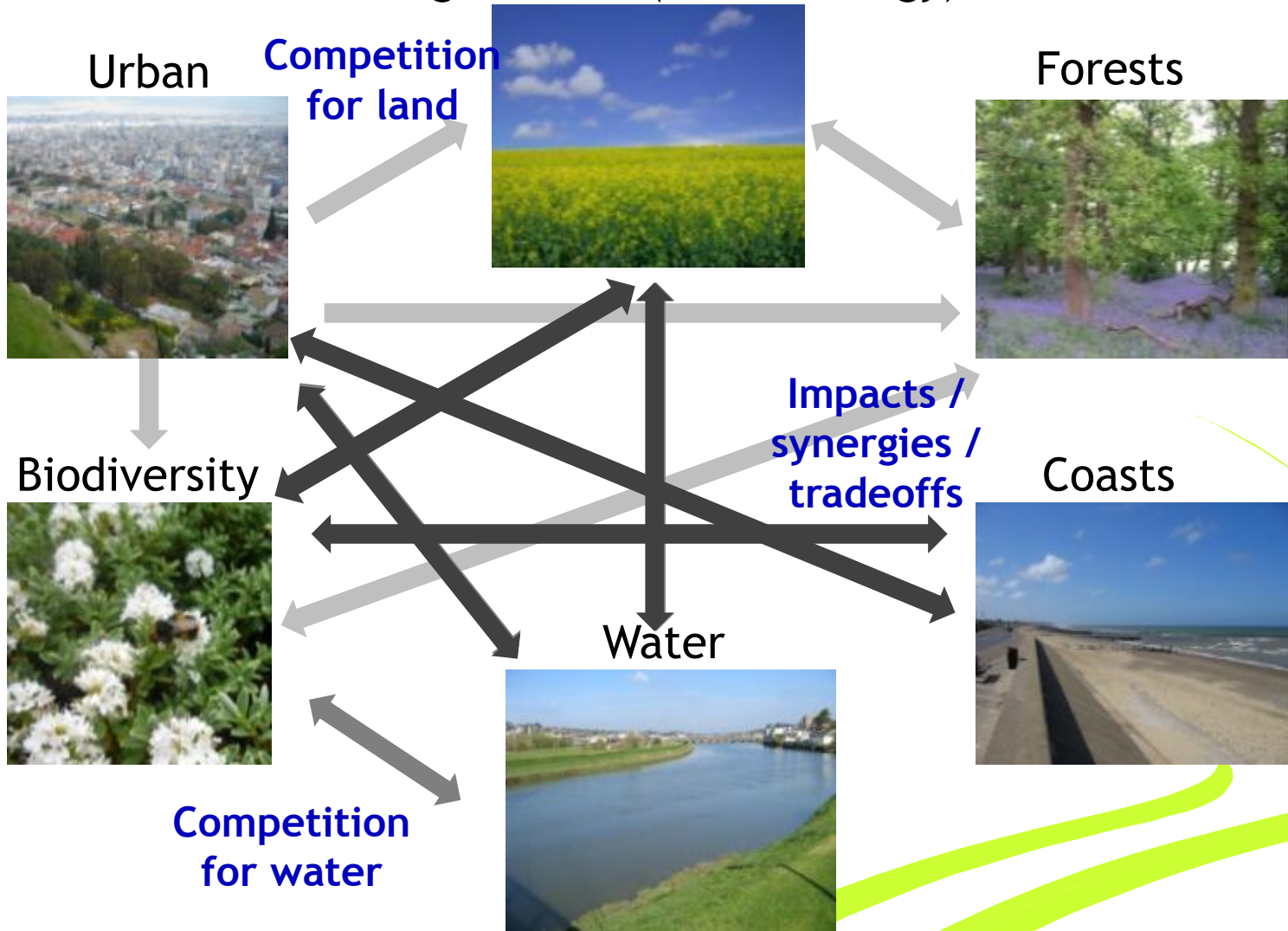


Cross-sectoral systemic approach needed

Adaptation

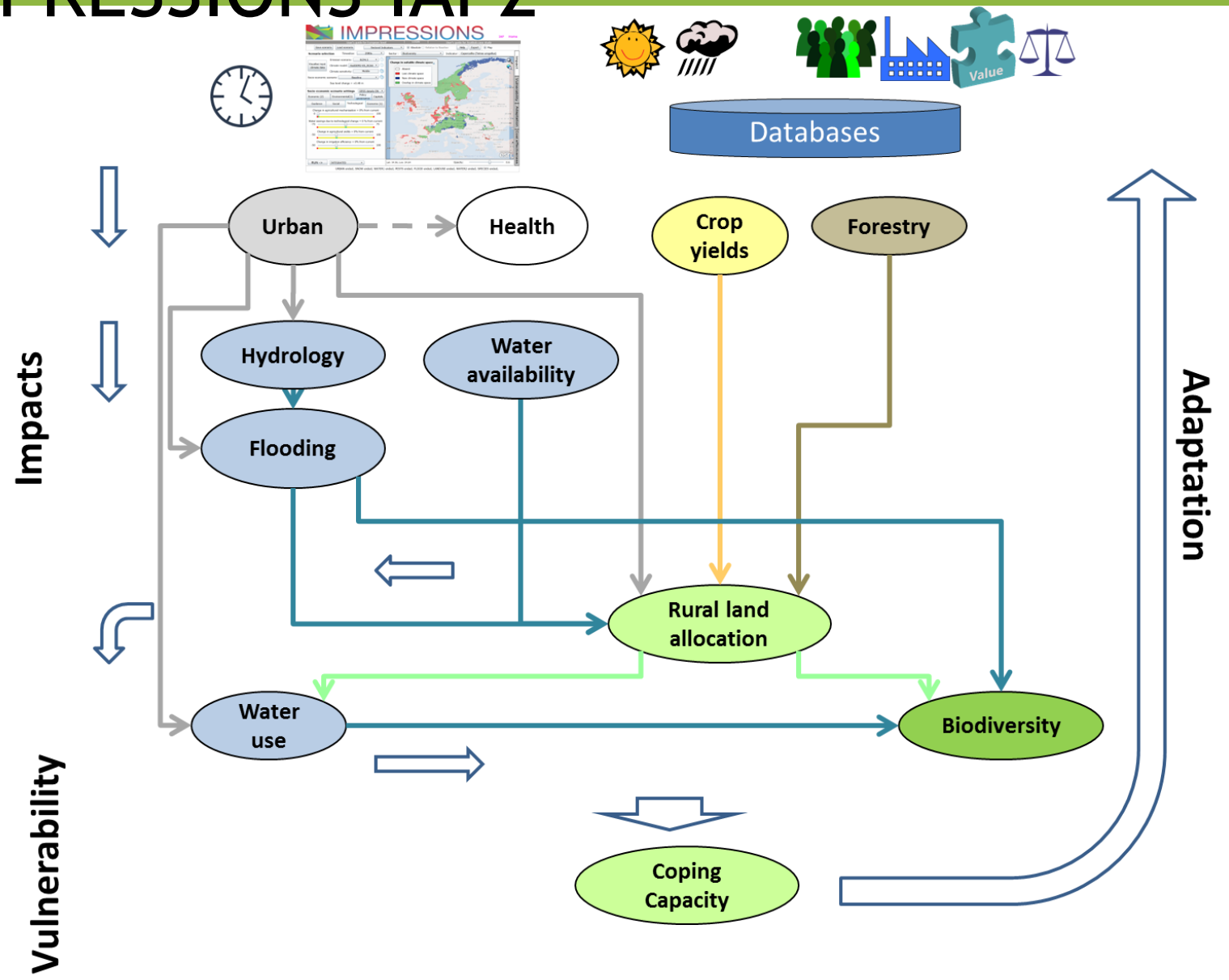
Agriculture (inc bioenergy)

Mitigation





IMPRESSIONS IAP2

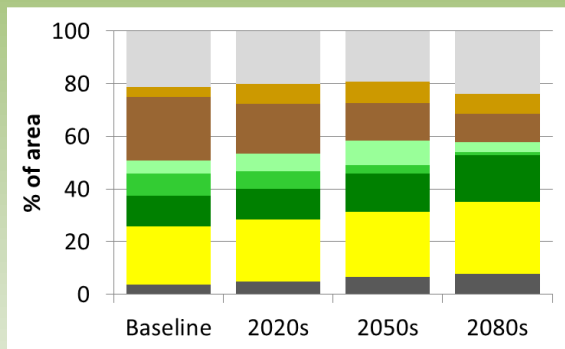




Scenario results - landuse

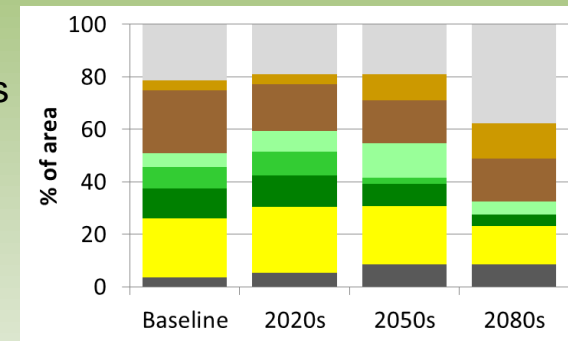
RCP4.5 SSP1

RCP8.5 SSP5

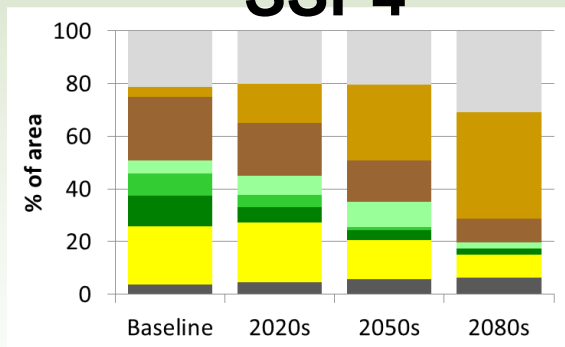


Agricultural expansion
Loss of forest
Unmet food / timber demand

Climate constraints



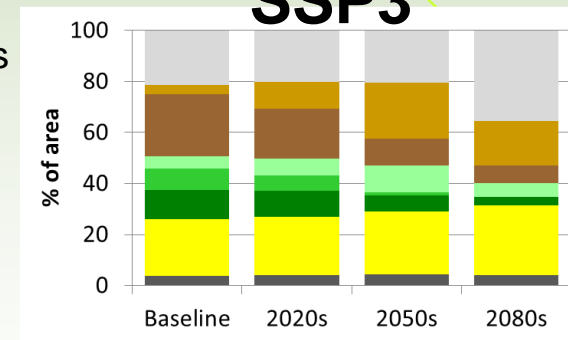
SSP4



Agricultural contraction
Expansion of 'unmanaged land' (inequality)

Climate constraints

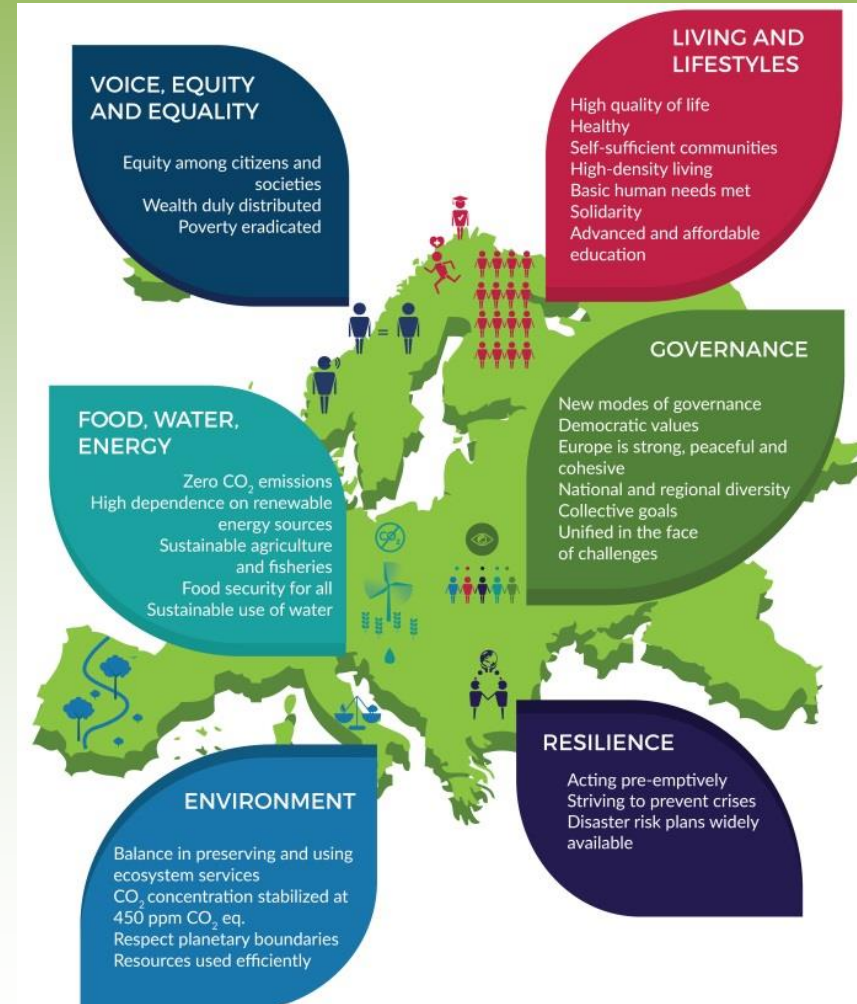
SSP3



- Unmanaged land
- Unmanaged land*
- Managed forest
- Very extensive grassland
- Extensive grassland
- Intensive grassland
- Arable
- Urban



A Vision for Europe in 2100 - how



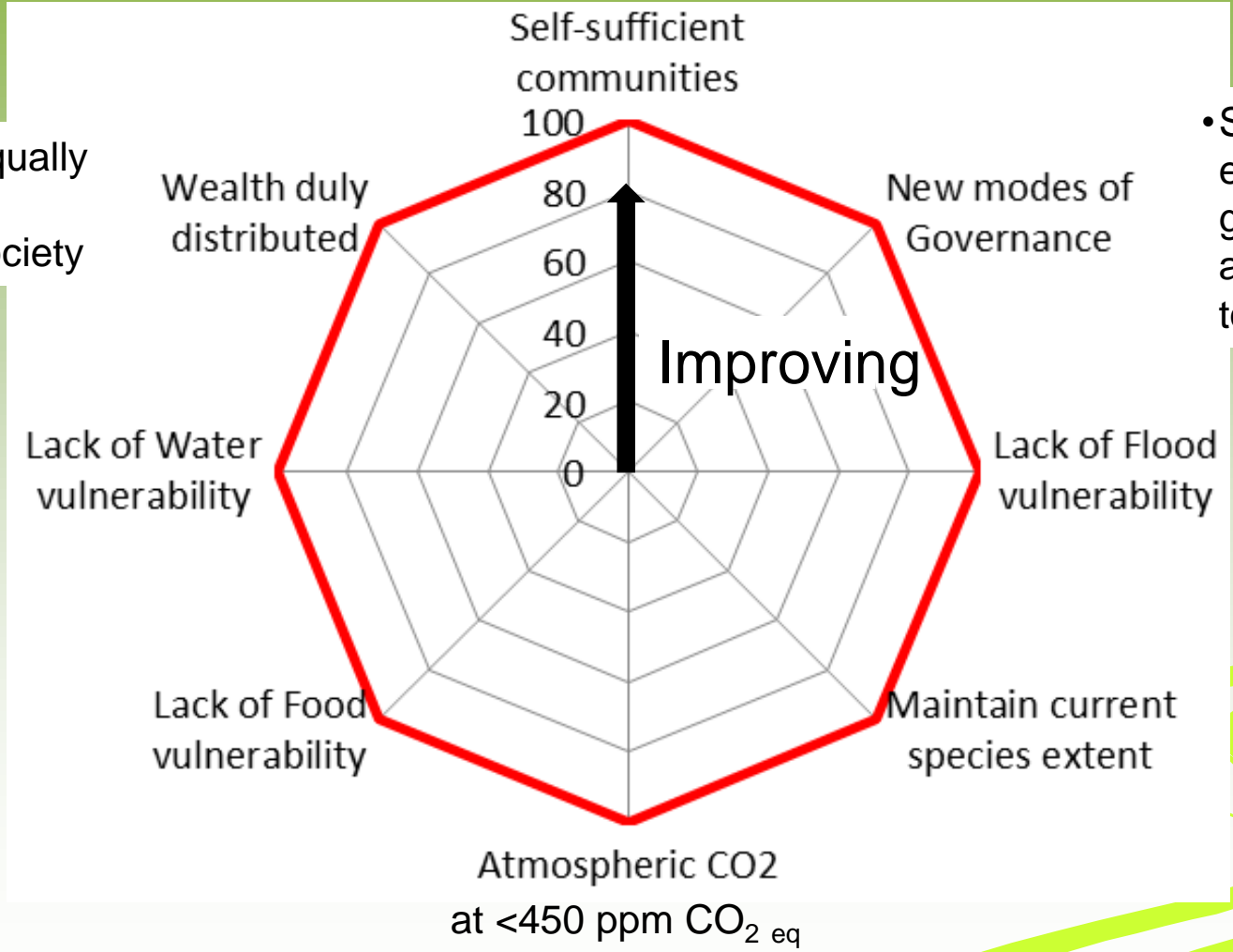


•Circular economy(ies)

100 = Vision element meeting Vision

•Wealth equally distributed through society

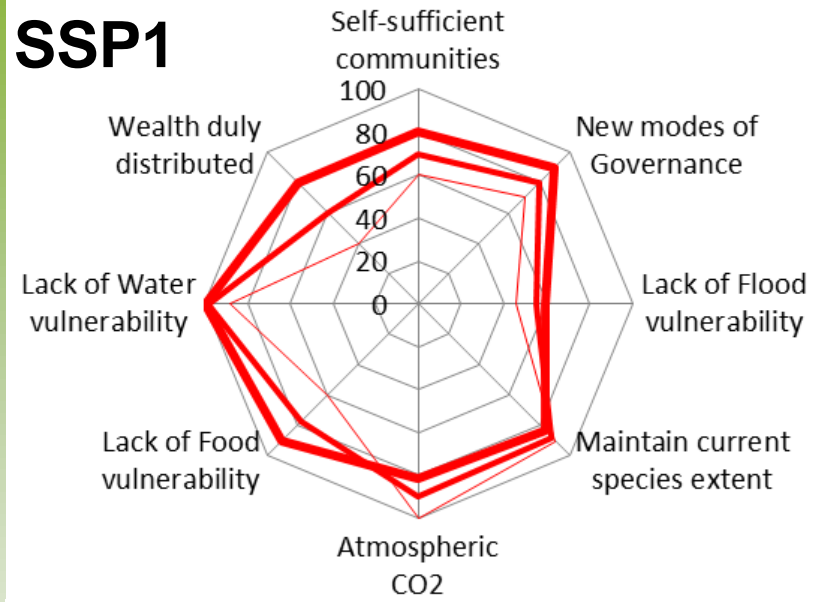
•Sustainability embedded in governance at all levels (local to international)



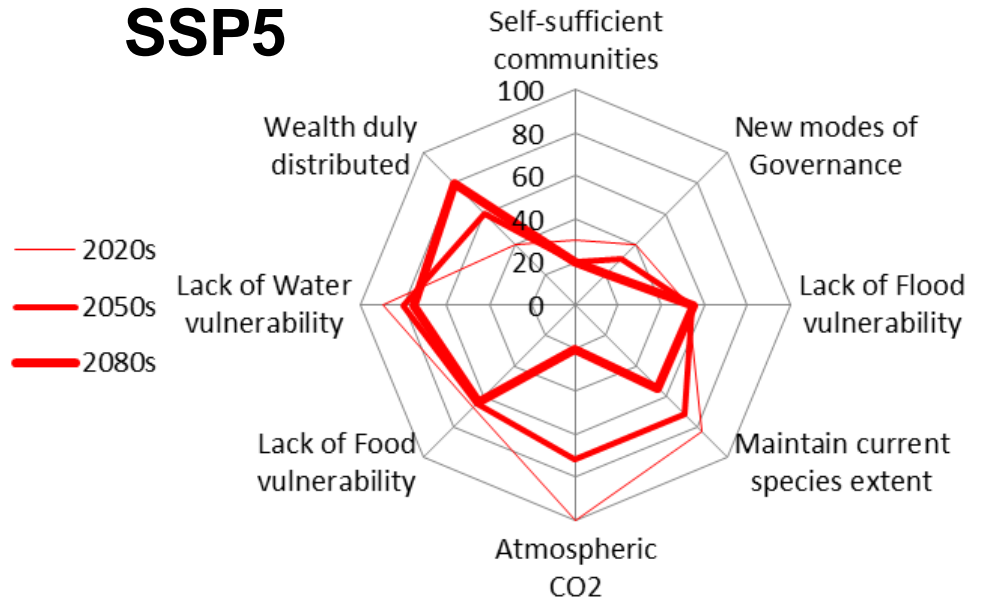


Meeting the Vision?

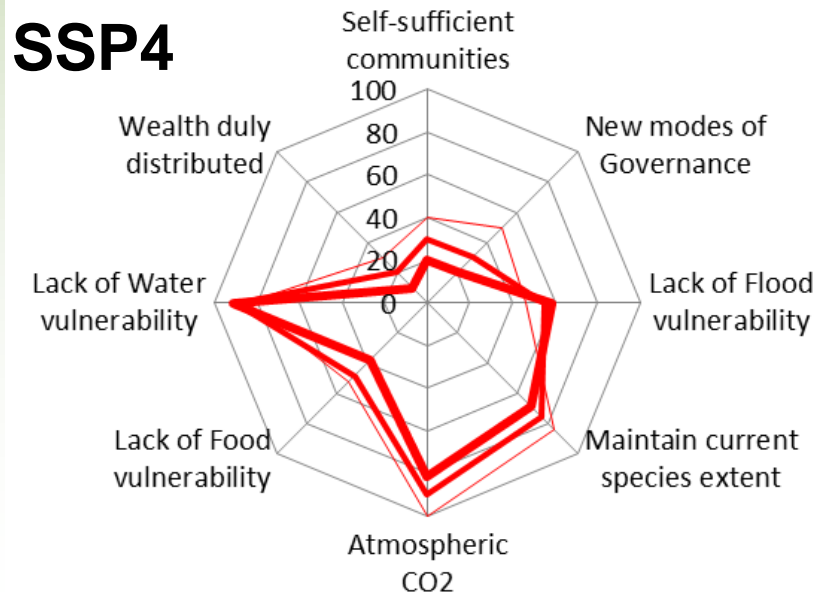
SSP1



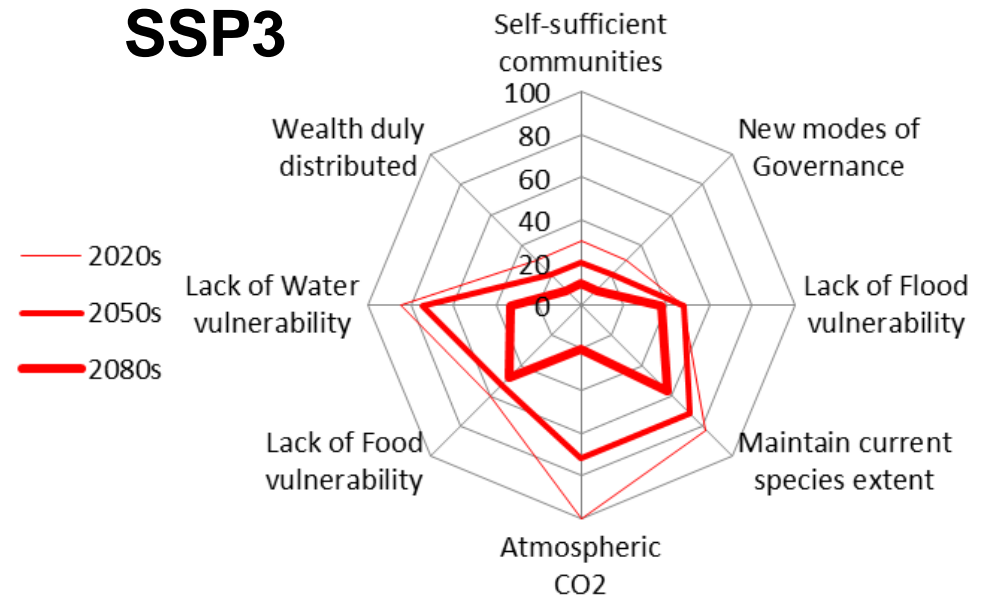
SSP5



SSP4



SSP3





Scenarios

Workshop 1

Modelling

Impacts & vulnerabilities

Vision

Actions

Workshop 2

Quantitative & qualitative analysis

Achieving the Vision?

Robust actions

Transformation

Workshop 3

1

IS Retweeted
 iskaki @NFrantzeskaki · Feb 19
 summarizes the strategies produced by one of the groups in
 the #EU workshop @IMPRESSIONS_EU #climateaction





Adaptation

Behavioural change

Technological change

Diet

Environmental protection

Social capital

Landscape connectivity

Agricultural intensification

Changing flood management

Resource allocation priorities

Spatial planning

Human capital

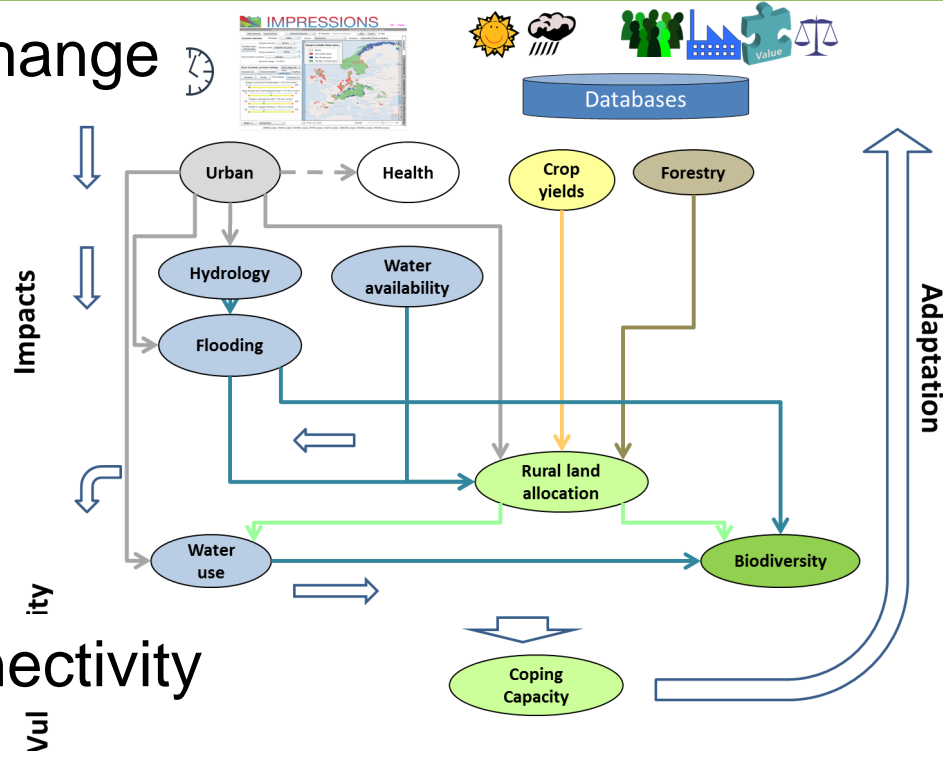
Trade

Nature reserves

Agricultural greening

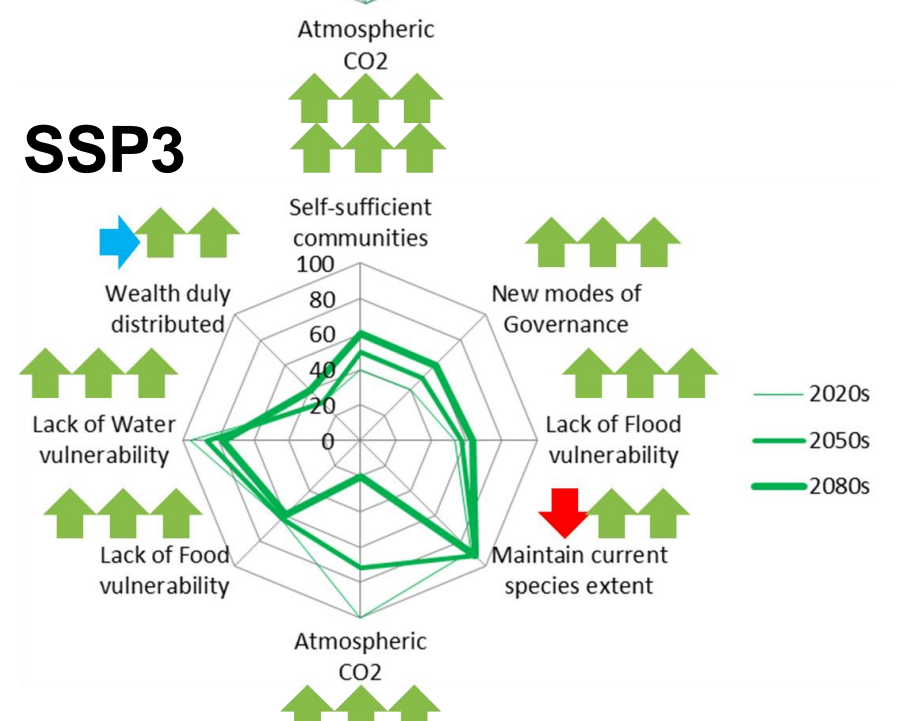
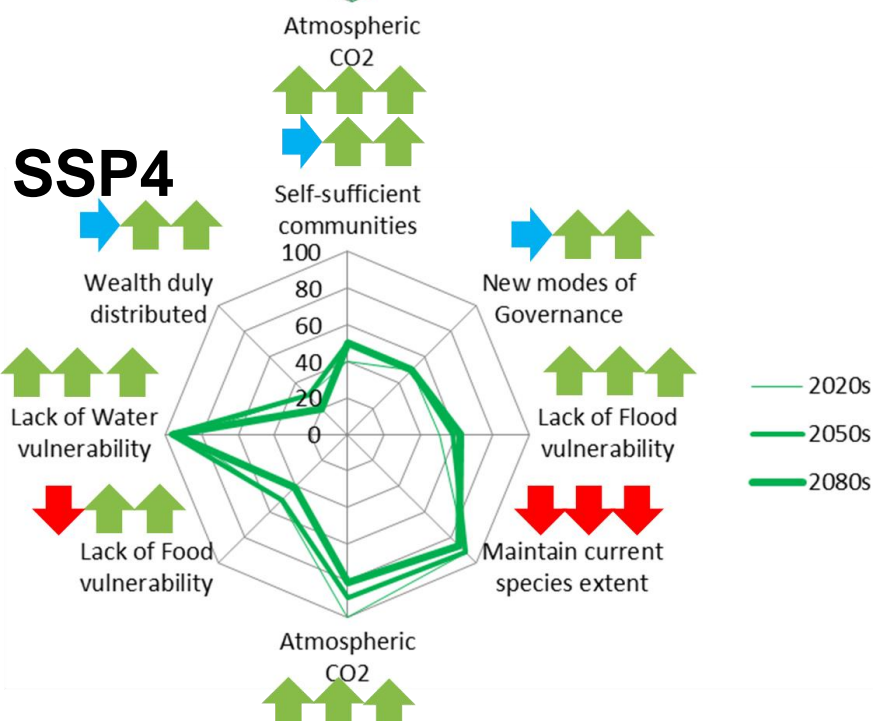
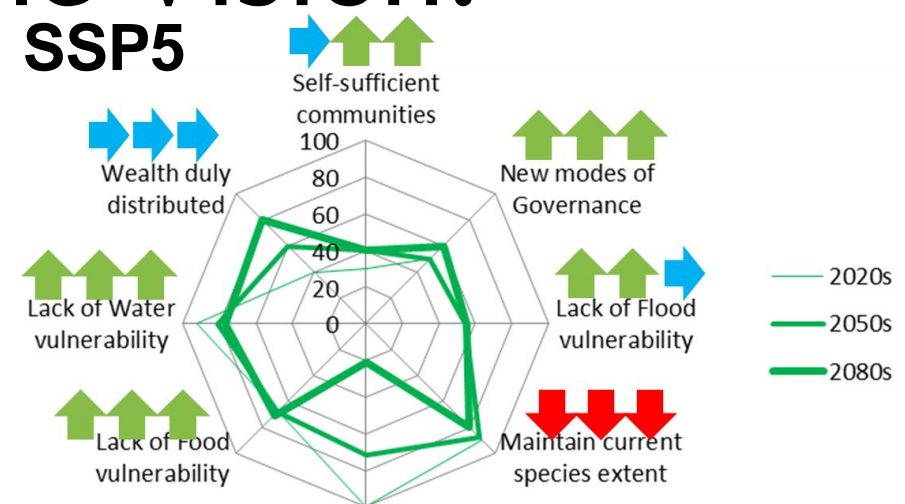
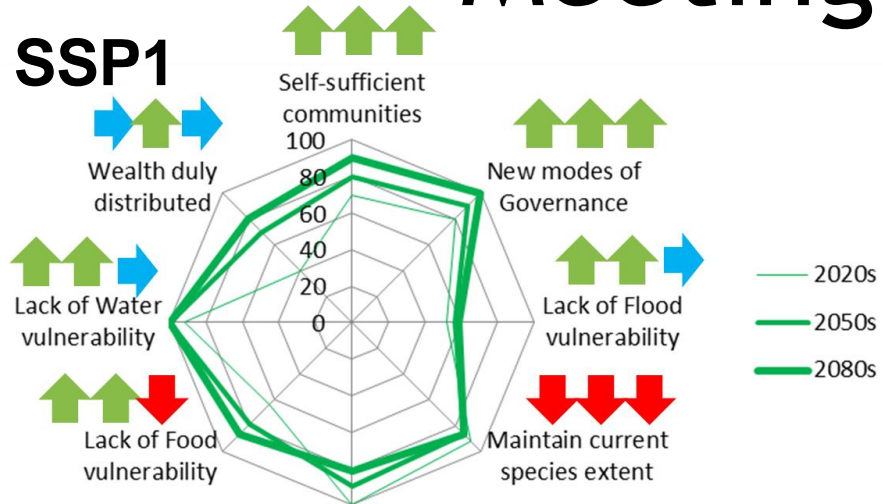
Climate-optimised trees

Agricultural extensification





Meeting the Vision?





Can we have it all?

- No, but.....
- Food demand is met
- Mixed picture
 - We can meet food demand in most Euro-SSPs / RAPs
 - Biophysical impact (species / flooding) - challenging!
 - Vulnerability - building coping capacity - effective
 - Mitigation - achieving 1.5oC without trade-offs?
Sustainable Intensification to make space for BECCS?
 - Transformative change?



Acknowledgments



BB/N00485X/1



IMPRESSIONS

Grant agreement No 603416

www.impressions-project.eu





For further information
please visit: www.macsur.eu

