

Integrated science for our carbon future

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Chief Executive
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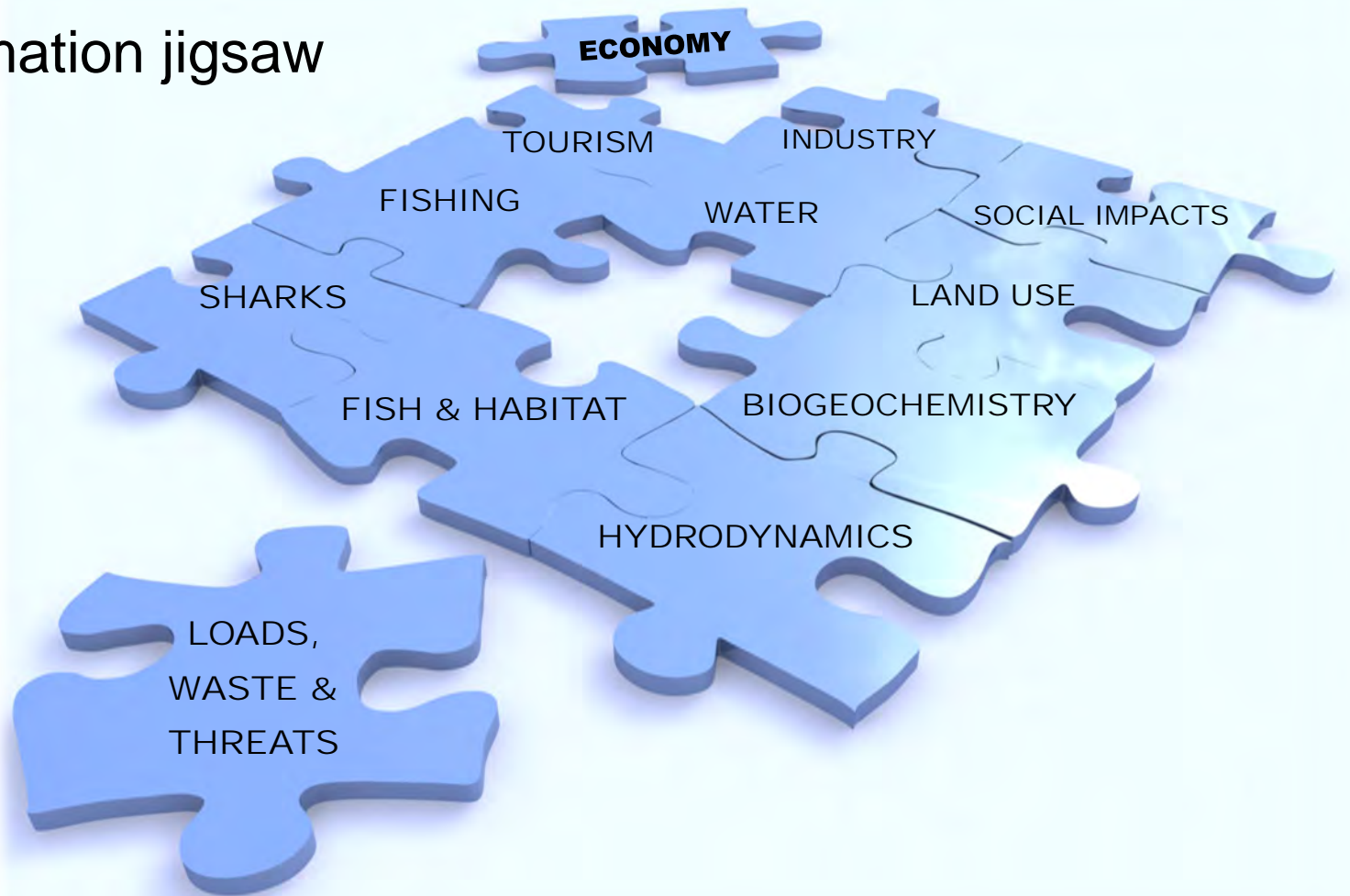
The need for integration



Flight simulators for marine managers

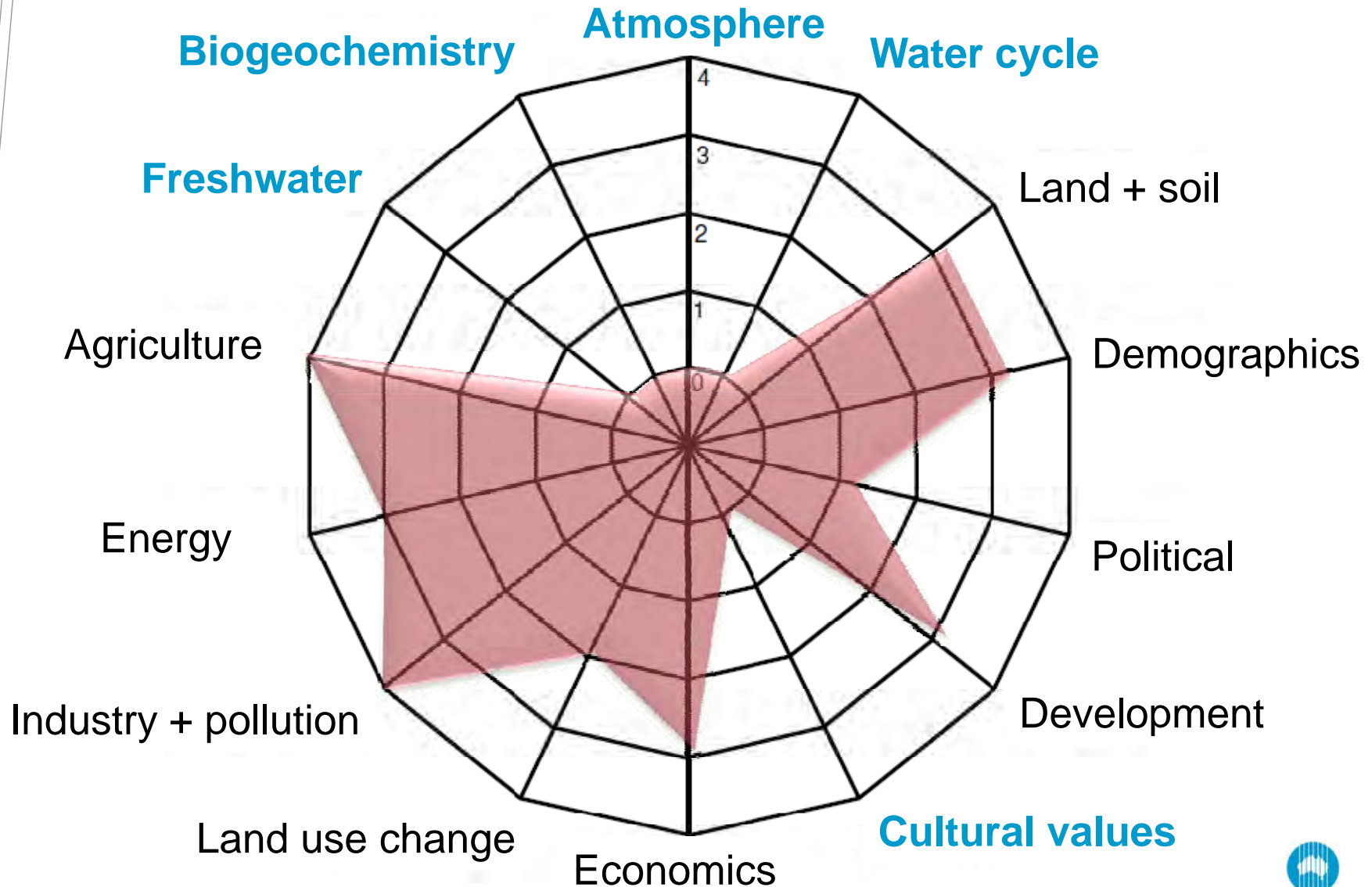
Integrating the physical, biological and human systems

Information jigsaw



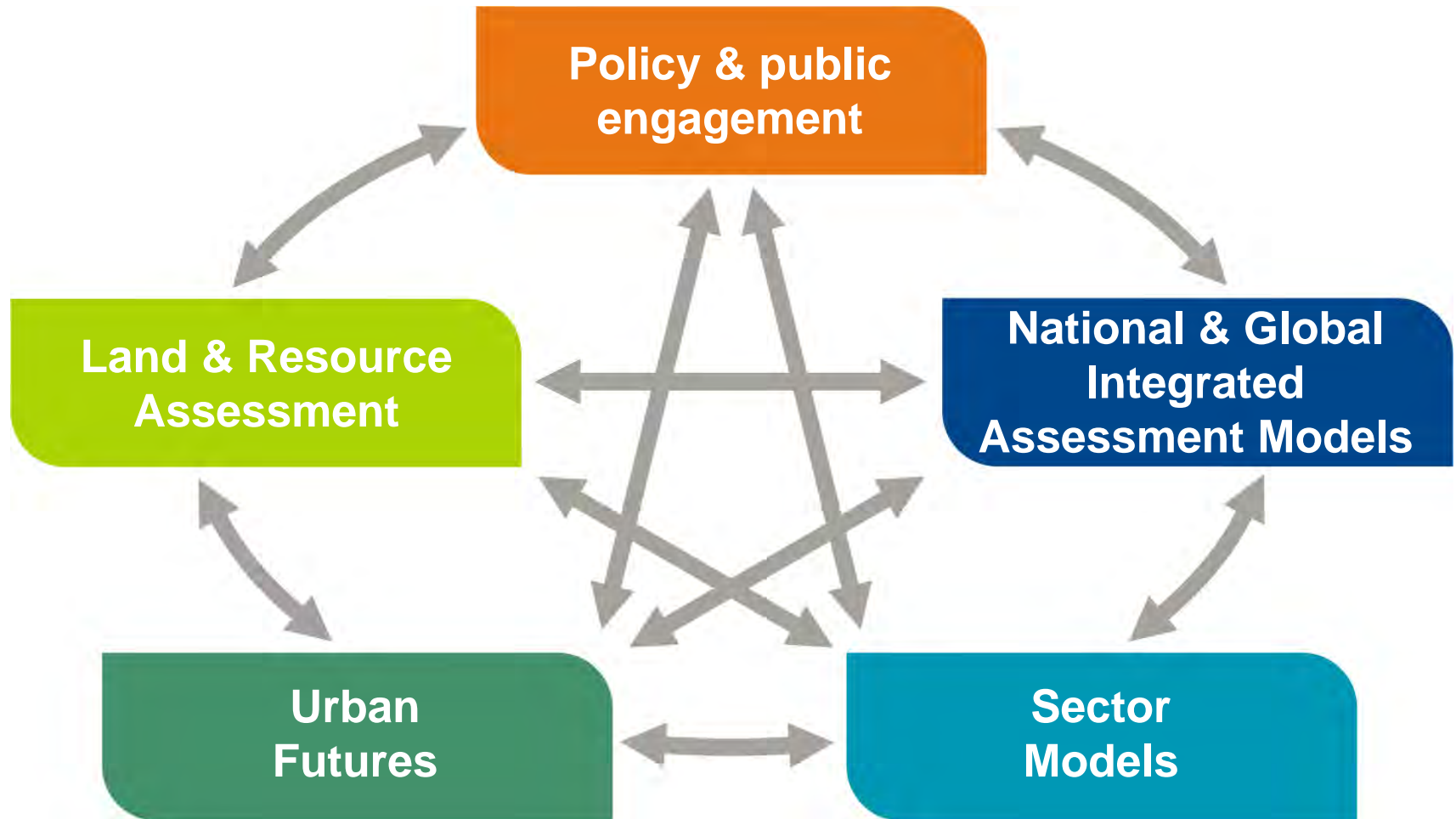
Existing integrated assessment

Existing tools miss important factors, such as water and atmosphere



Integrated Carbon Pathways

Bringing it all together: rich links and interaction



Land use options

Assessing complex trade-offs

Land use/mgmt. option	GHG (Mt/yr)	\$	Food	Water	Energy	Biodiv.	Land
Grazing land mgmt.	100						
Livestock emissions	26						
Crop land mgmt.	25						
Biochar	?						
Savannah fire mgmt.	13						
Eucalypt forest mgmt.	47						
Carbon forestry	750						
Land clearing + regrowth	56						
Bioenergy	?						
Biofuels	?						
Total	1,017						

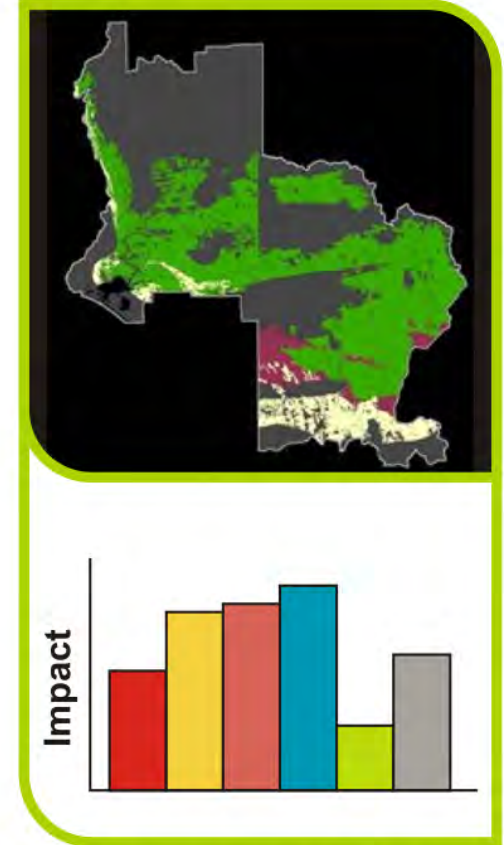
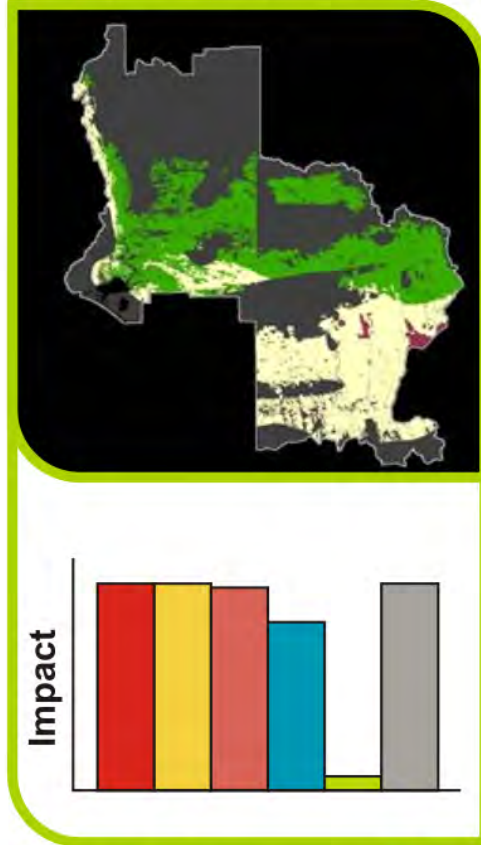
Strong negative impact
 Negligible impact
 Strong positive impact

Integrated assessment example

Murray-Darling Basin: impacts under various climate scenarios



■ Agriculture ■ Biofuels ■ Carbon Plantations



■ Profit ■ Emissions ■ Food ■ Water ■ Biodiversity ■ Energy



Integrated Assessment Example

Murray Darling Region – Impact of carbon price on land use

Carbon Price \$1/tonne



Carbon Price \$11/tonne



Carbon Price \$36/tonne



LEGEND - LAND USE
Carbon sequestration
Agricultural production



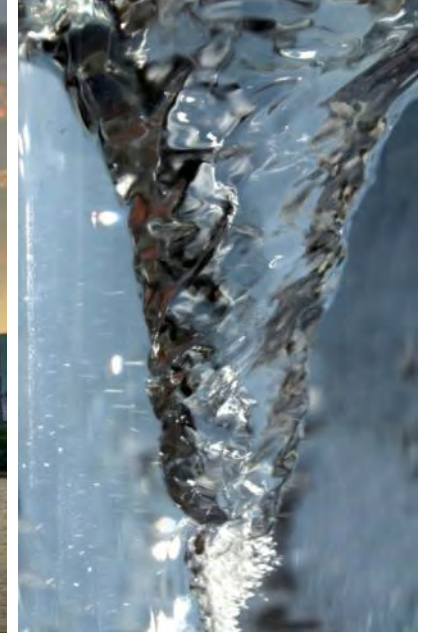
Visualisation

Making the system more meaningful and accessible



Integrated Carbon Pathways

Bringing together the environment, society and economy



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Thank you

