

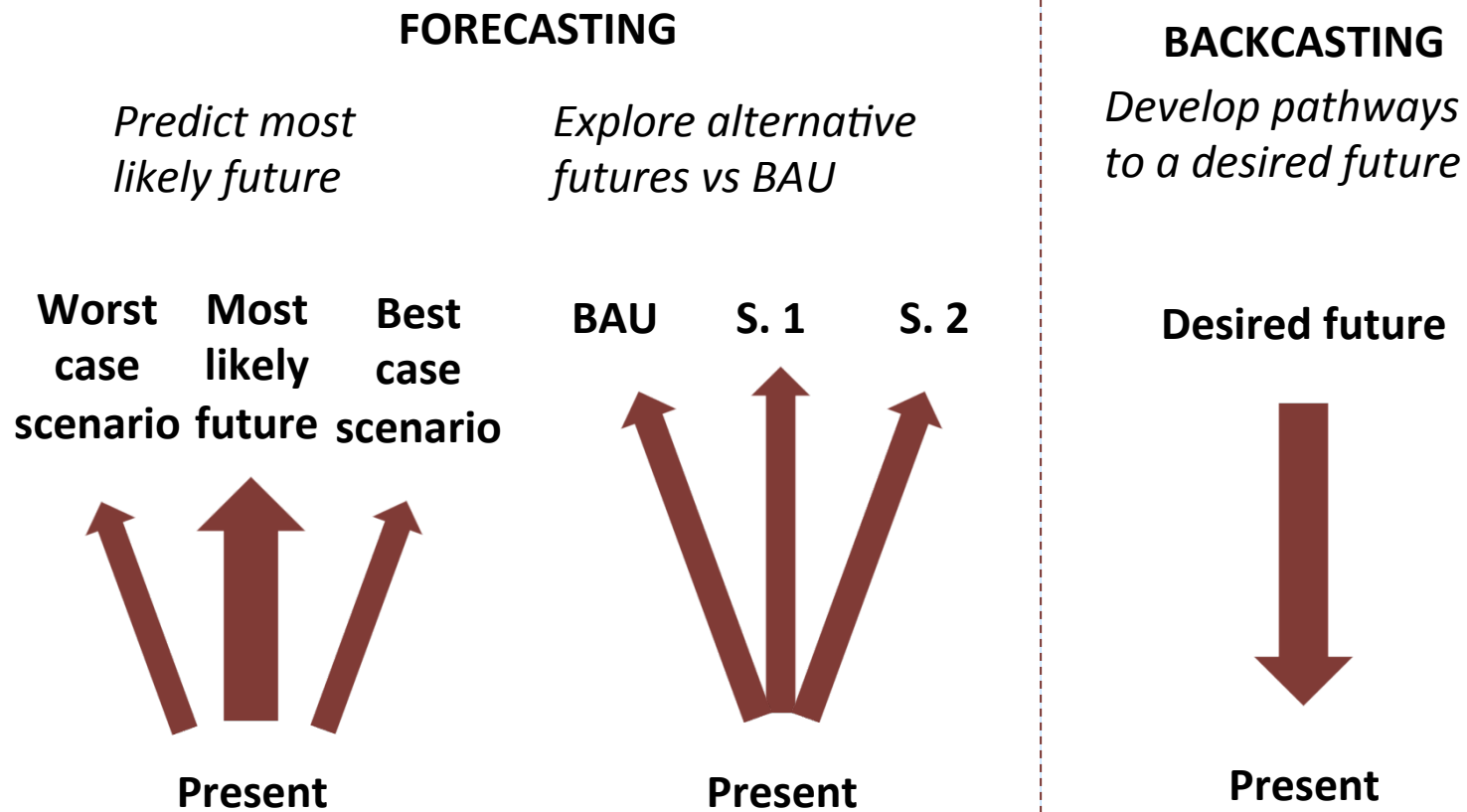


# Agricultural Transformation Pathways Initiative

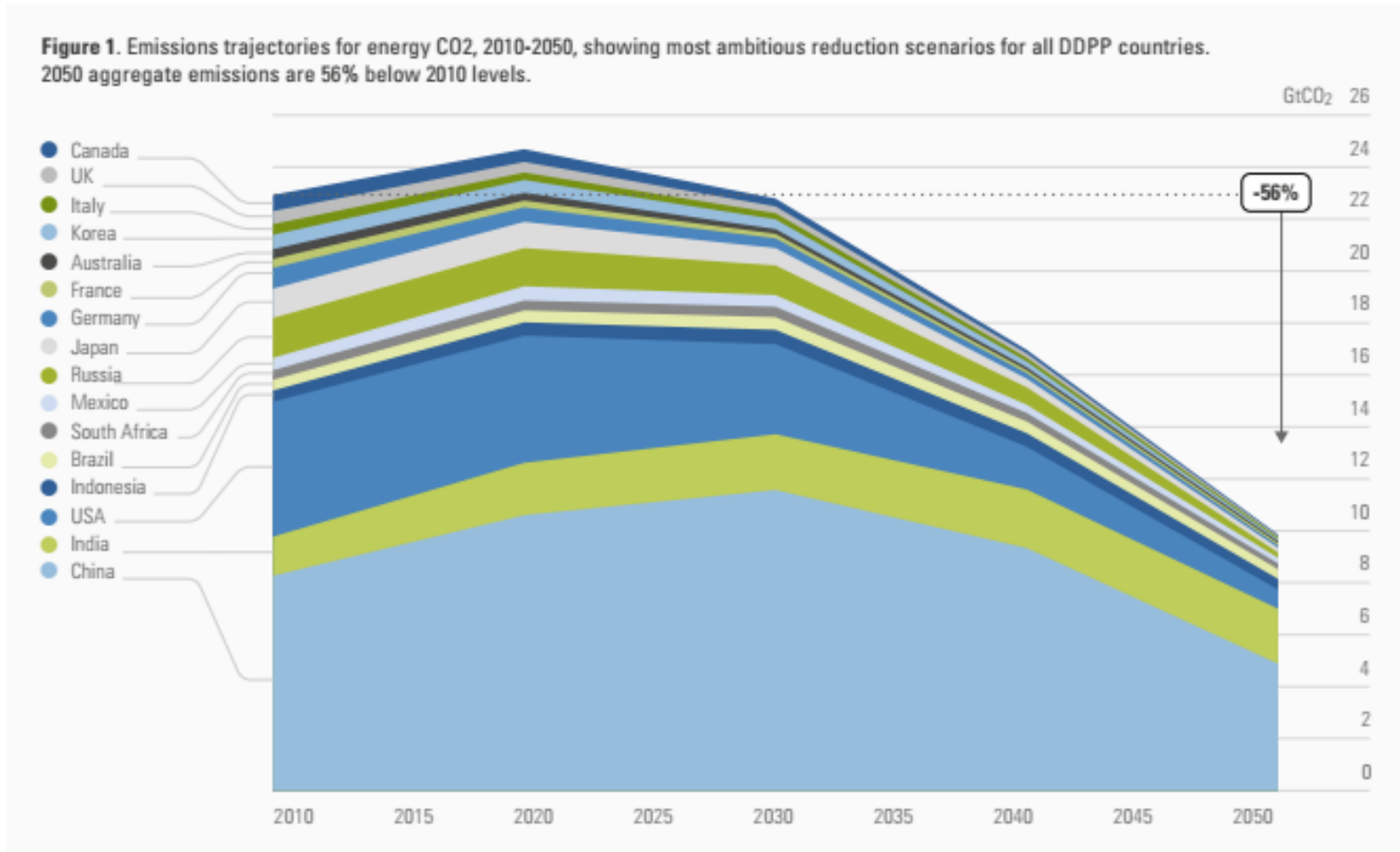
*Annual General Assembly of the GDPRD  
Brussels, February 2017*

# The Agricultural Transformation Pathways Initiative

► Develop **national** pathways towards more sustainable agriculture and food systems through a step-by-step methodology based on **participatory backcasting**



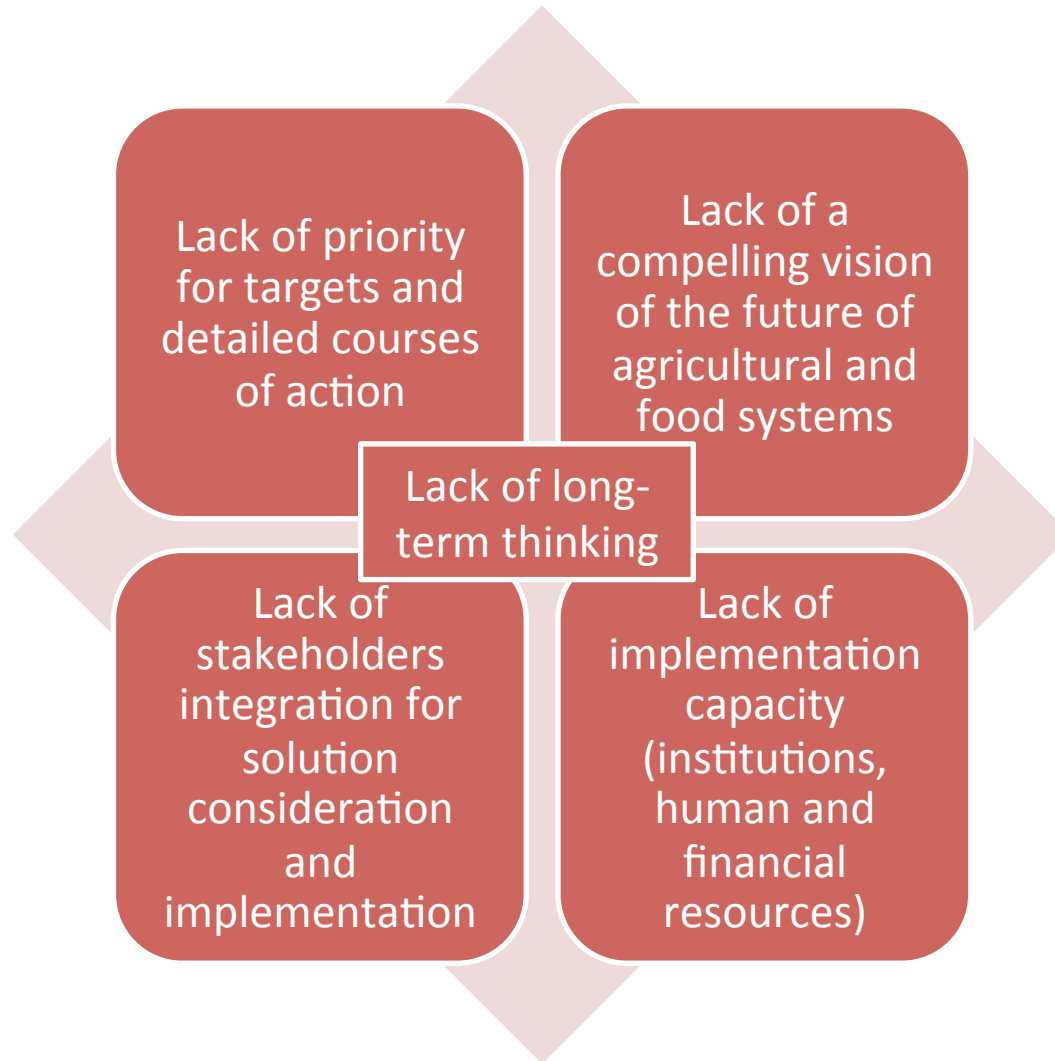
# An approach coming from projects supporting climate/energy policy planning...



Deep Decarbonization Pathways Project, Synthesis Report, 2015

## ... that addresses several lock-ins of the transformation of agri-food systems

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# Theory of change of the ATPi

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- ◆ Stimulating the dialogue and commitment for change of a wide community of actors through **backasting exercises** that develop a **vision** and **pathways** for the future of national agriculture and food systems, with tangible **solutions** and **actions**
- ◆ Promoting **local capacity and institution building** through **stakeholders approaches**
- ◆ Supporting **international knowledge exchange and learning platforms** between national communities of experts and policy makers from countries facing similar challenges.

# ATP Initiative in Uruguay

## Uruguay's Beef production intensification challenge



Create a **transformational pathway** for **agriculture production intensification**, consistent with the **post-2015 SDGs**

**Beef prioritized as a case study**

Beef is a key-economic sector  
but it accounts for **75% of GHGE**  
**+ 78% of the land devoted to beef, sheep and dairy**



# ATP Initiative in Uruguay

## Productivity Goals (baseline & targets)


Parameters	Description	Year		Difference Δ%	
		Baseline	Goal 2030		
End target	Production (kg LW/ha/year)	102	128	↑	25%
Related Outcome	Beef Exports (shipped weight) (TMT)	400	540	↑	35%
	Total slaughter (million heads)	2.4	3.0	↑	25%
	Breeding cows (million heads)	4.1	4.5	↑	10%
	Total herd (million heads)	11.7	11.9	↑	2%
Intermediate targets	Average slaughter age (months)	38	25		
	First pregnancy at 2-year old (%)	50	75		
	Average age at first pregnancy (months)	32	25		
	Pregnancy rate (%)	72	73		
	Weaning rate (%)	67	77		
Course of actions	Proportion of improved pastures (%)	15.4	30.0	↑	95%
	Feed supplements (kg/ha)	19	37	↑	95%
Imposed restriction	Total grazing area (million ha)	11.1	11.1		0%

Production of 102 kg/ha comprises 96kg produced by slaughtered cattle raised and finished at both native and improved grasslands, 5.5kg produced by 120 thousands steers finished with grain in the last 100 days, and 0.5kg of 50 thousand calves (live exports)

# ATP Initiative in Uruguay

## Environmental Goals (baseline & targets)

Issue	Unit	Base 2014	Goal 2030	Difference
Carbon Footprint	kg CO <sub>2</sub> / kg LW	21	15	-25% ↓
Biodiversity Loss	AGB (million ha)	11.1	11.1	≈0%
Nitrogen Loss	kg N / kg LW	66	48	-27% ↓



Metrics	Baseline	2030 with and without additional measures				
		No A.M.	+Nitrification inhibitors	+Improved Pastures	+Trees for shade	All A.M. combined
Kg CO <sub>2</sub> e/kg LW/year	20.8	-3.6	-0.3	-0.3	-0.9	15.5
Kg CO <sub>2</sub> e/ha/year	2,330	-110	-40	-100	-330	1,750

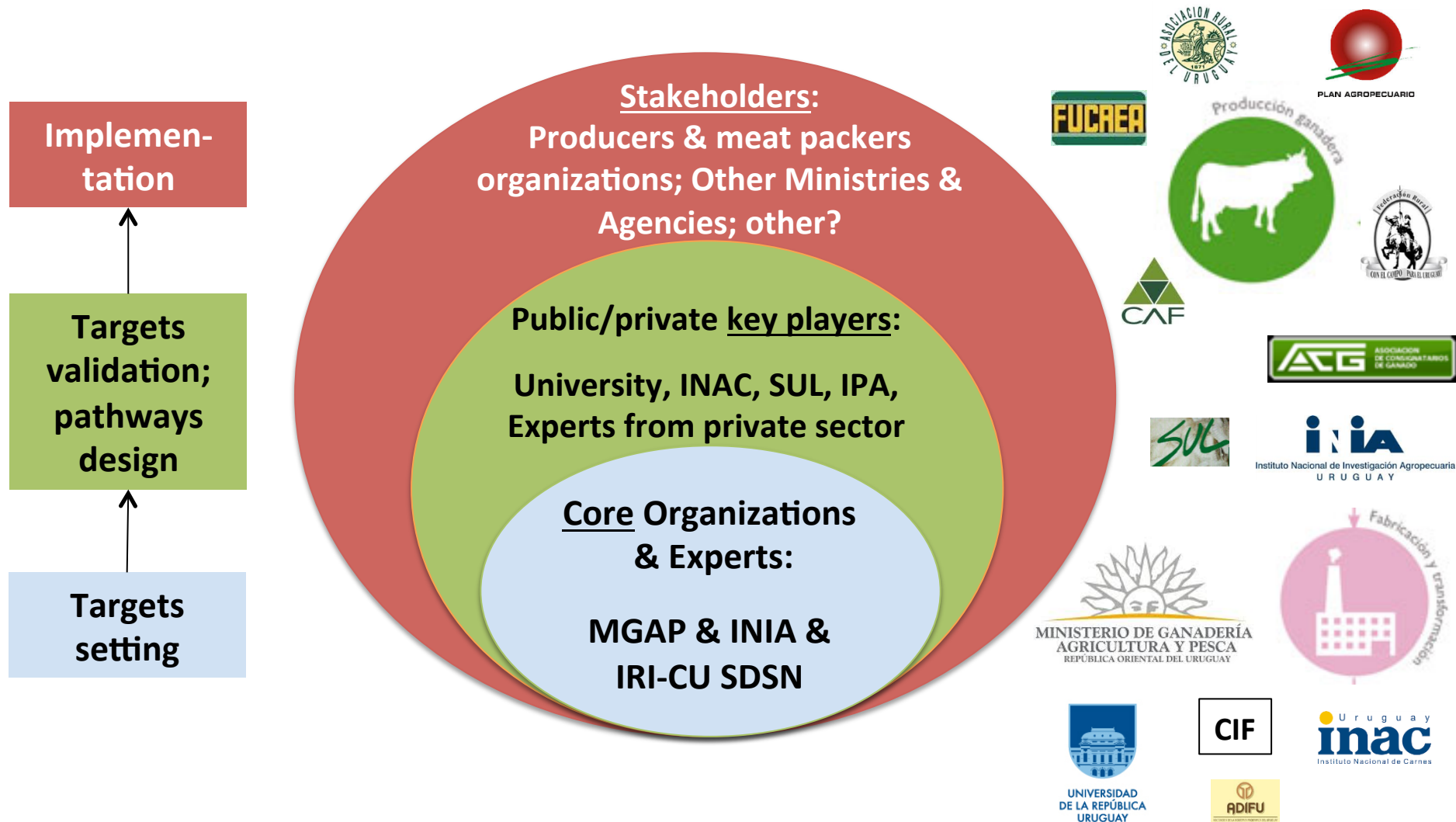


# ATP Initiative in Uruguay

## Identification of levers and roadblocks

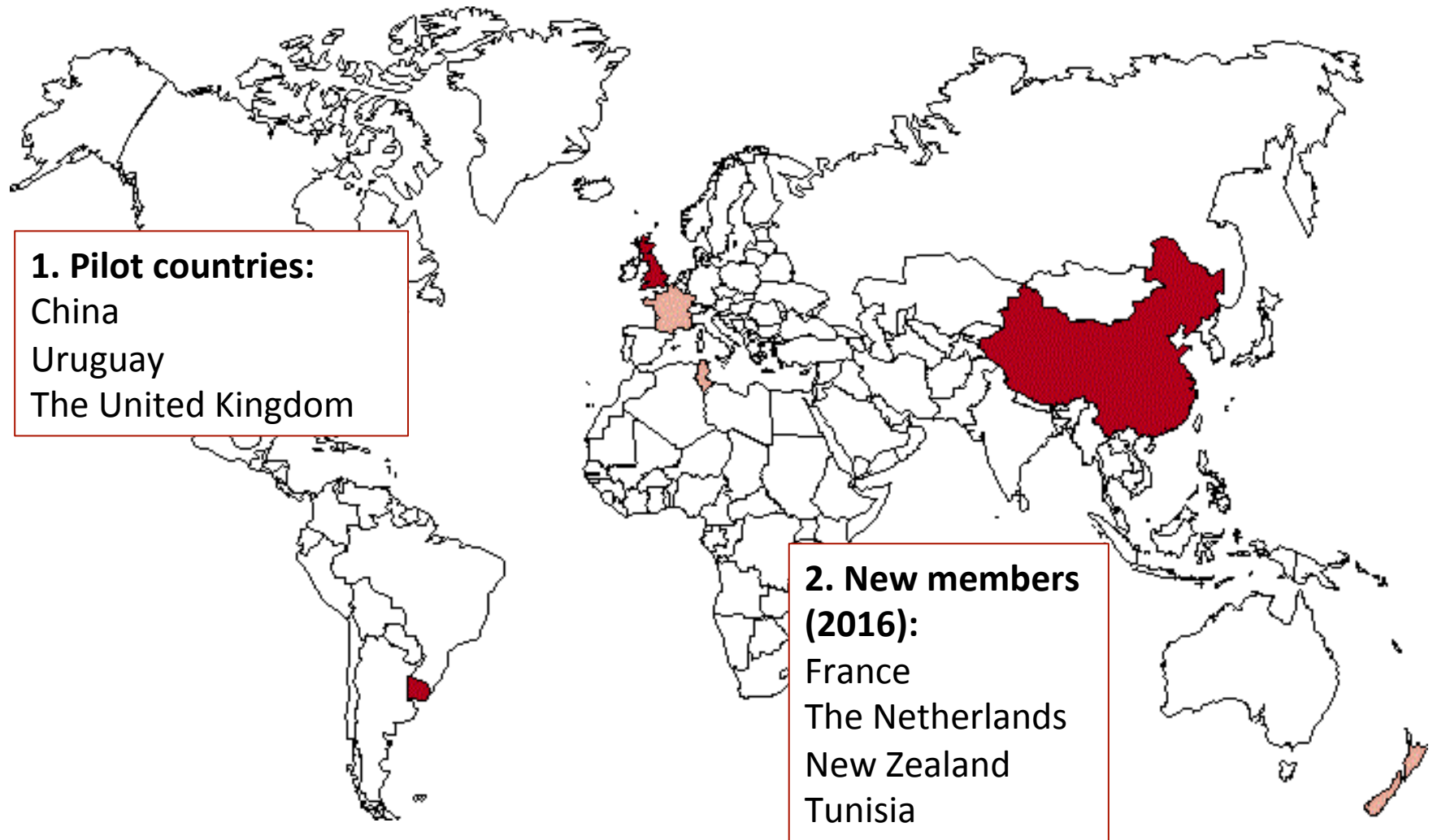
PRODUCTIVITY	BIODIVERSITY	CLIMATE	NUTRIENTS
Targets, Levers and Roadblocks			
<p><b>Target: +25% productivity</b></p> <p>→ <b>Identified Roadblocks:</b></p> <ul style="list-style-type: none"> <li>▪Lack of technology transfer capacity</li> <li>▪Lack of labor skills</li> <li>▪Farmer attitude and age</li> <li>▪Farm infrastructure and water access</li> <li>▪R &amp; D</li> </ul> <p>→ <b>Levers to overcome roadblocks:</b></p> <p><b>Lever 1:</b> Inter-institutional framework for <b>technology transfer</b></p> <p><b>Lever 2:</b> <b>Training</b> programs (farmers)</p> <p><b>Lever 3:</b> <b>Incentives</b> to improve infrastructure, adopt better management practices and reduce financial risks</p>	<p><b>Target:</b> Native forest conservation</p> <p>→ <b>Identified Roadblocks:</b></p> <ul style="list-style-type: none"> <li>▪Stakeholders interests</li> <li>▪Knowledge adoption and diffusion</li> <li>▪R &amp; D</li> </ul> <p>→ <b>Levers to overcome roadblocks:</b></p> <p><b>Lever 1:</b> Forest law based on incentives (1987)</p> <p><b>Lever 2:</b> Grazing management practices</p> <p><b>Lever 3:</b> Stewardship and environmental values</p>	<p><b>Target:</b> -25% kg CO<sub>2</sub> /kg LW</p> <p>→ <b>Identified Roadblocks:</b></p> <ul style="list-style-type: none"> <li>▪R &amp; D</li> <li>▪Cultural factors such as breed preference</li> <li>▪Lack of financial incentives</li> <li>▪Knowledge adoption and diffusion</li> <li>▪Farmer training</li> </ul> <p>→ <b>Levers to overcome roadblocks:</b></p> <p><b>Lever 1:</b> Research to improve feed conversion efficiency (genetics)</p> <p><b>Lever 2:</b> Increased market reach and value for Uruguayan beef</p> <p><b>Lever 3:</b> Data on GHG emissions and carbon footprint.</p>	<p><b>Target:</b> -27% kg N / kg LW</p> <p>→ <b>Identified Roadblocks:</b></p> <ul style="list-style-type: none"> <li>▪Enforcement of existing regulations</li> <li>▪Knowledge adoption and diffusion</li> <li>▪Farmer training</li> <li>▪Stakeholders interests</li> <li>▪Inter-institutional coordination</li> <li>▪R &amp; D</li> </ul> <p>→ <b>Levers to overcome roadblocks:</b></p> <p><b>Lever 1:</b> Regulations on water quality standards and soil use and management practices (Water and soils law - 1981)</p> <p><b>Lever 2:</b> Inter-institutional coordination on water quality at the watershed level</p> <p><b>Lever 3:</b> Farmer best management practices.</p> <p><b>Lever 4:</b> Incentives for adoption of new technology.</p>

# ATP Initiative in Uruguay: Stakeholders involved: strategy of inclusion and buy-in



# Members of the Initiative

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# ATPi in 2030? Regional platforms

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## WHAT WOULD BE NEEDED TO SCALE UP?

- ◆ Knowledge exchange opportunities for backcasting capacity building
- ◆ National stakeholders workshops and institution building
- ◆ International / regional knowledge exchange and learning platforms



# Thank you for your attention!

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Report and summary can be downloaded on the initiative's website:

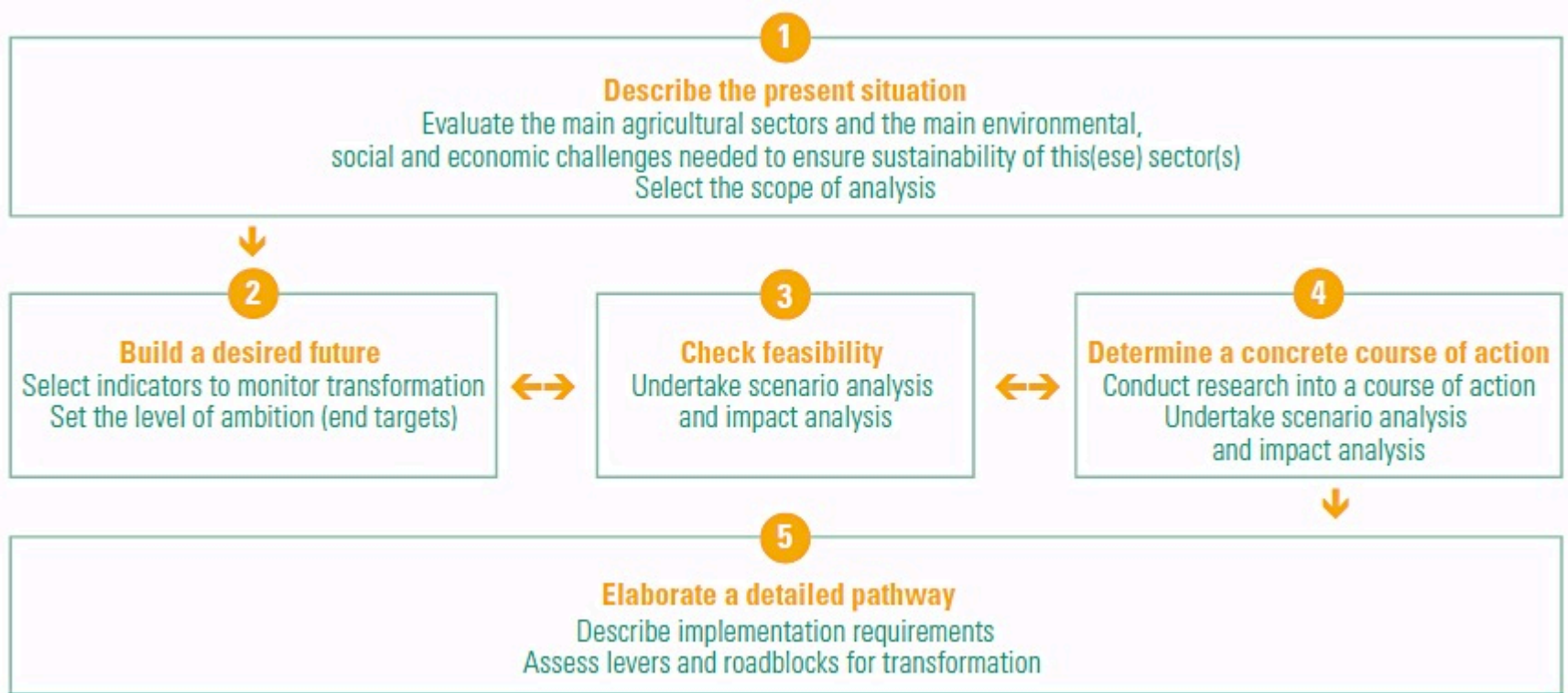
<http://www.iddri.org/Projets/Agricultural-Transformation-Pathways-Initiative>



Contact information: [mariehelene.schwoob@iddri.org](mailto:mariehelene.schwoob@iddri.org)

# A step-by-step methodology

► The methodological framework is designed to be adaptable to the particular situation of each country, and to help national expert teams develop scenario analyses and transformation pathways that fit their own circumstances



# A framework to select indicators

CATEGORY	Possible indicators	Dimension	SDG
OUTPUT	Total population, total food consumption, food consumption per capita, total food production, percentage of population below minimum level of dietary energy consumption, percentage of overweight and obese...	Food security and nutrition	SDG1, SDG2, SDG3, SDG12
	Agriculture and food chain GDP, farmers' income, proportion of farmers living below the poverty line, number of people active in agriculture and food chains...	Economic development, Poverty alleviation/ Resilience	SDG1, SDG8, SDG9, SDG10
WASTE	Food waste and losses as percentage of production	Efficiency	SDG2, SDG12
RESOURCES	Total agricultural area, agricultural land productivity, water use efficiency, nitrogen use efficiency, energy use efficiency...	Environment	SDG6, SDG7, SDG12, SDG13, SDG14, SDG15
WASTE	N and P losses from leaching and runoff	Environment	SDG2, SDG6, SDG12, SDG14, SDG15
POLLUTION	Net GHG emissions from the agricultural sector, degraded agricultural land, biodiversity loss, not collected solid farm waste (plastic etc.)	Environment	SDG2, SDG3, SDG6, SDG12, SDG13, SDG15

# TSARA: A European exercise

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## Farm typology

- Categorises farming into a small but sufficient number of representative classes
- Identifies pilot farms that inform future targets of SDG goals and indicators, as well as feasible pathways

## TRANSFORMATIONAL ROADMAP

### Indicators and 2030-2050 targets

- Shall be representative of a truly transformational pathway towards more sustainable agricultural and food systems
- Shall be realistic and adapted to the situation of the country

## Modelling (backcasting)

- Supports target setting and roadmap building (models tradeoffs and assess the feasibility and efficiency of identified courses of actions)



# Key Messages:

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**An Agricultural Transformation Pathways Initiative (ATPi) to unlock transformation in the agricultural sector for the achievement of the 2030 Agenda:**

- by stimulating the dialogue and commitment for change of a wide community of actors through backcasting exercises that develop a vision and pathways for the future of national agriculture and food systems, with tangible solutions and actions;**
- by promoting local capacity and institution building through stakeholders approaches;**
- by supporting international and regional knowledge exchange and learning platforms between national communities of experts and policy makers from countries facing similar challenges.**