



Phosphorus recovery from animal manure; Technical opportunities and agro-economical perspectives

Presented by:
Mr Oscar F Schoumans

Broadway Room: P recovery & reuse II



Phosphorus recovery from animal manure

Wageningen UR

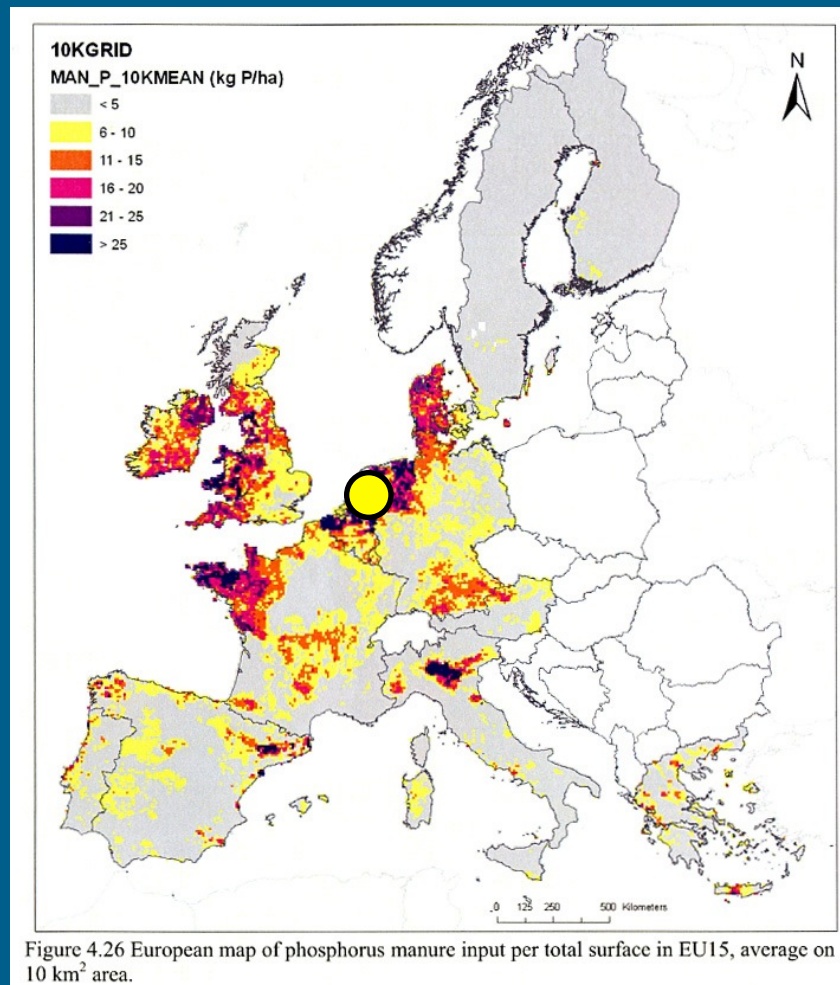
Oscar Schoumans, Wim Rulkens, Phillip Ehlert & Oene Oenema

3rd Sustainable Phosphorus Summit , 29-2 March 2012, Sydney



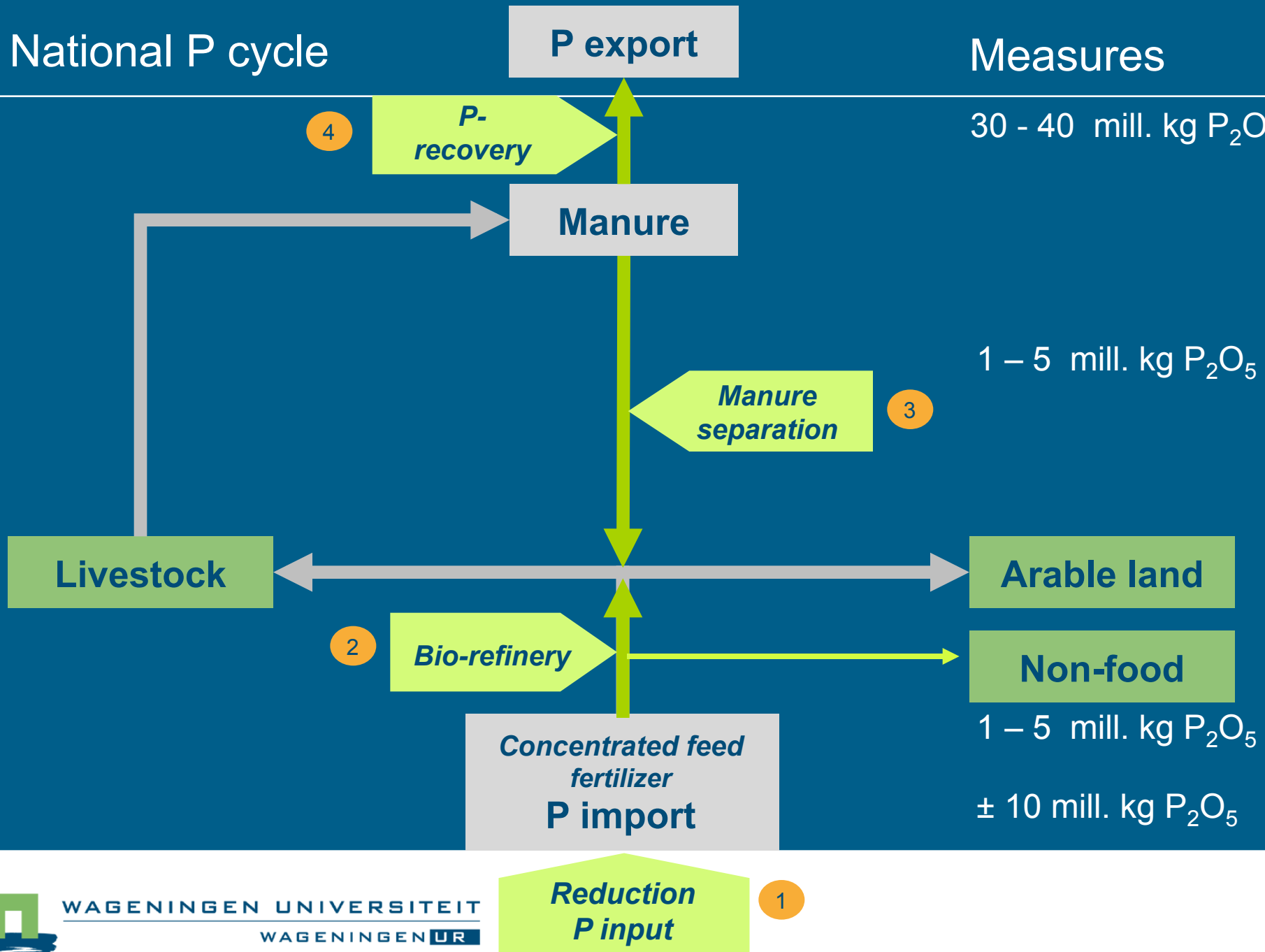
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Livestock P production per total surface (EU 15)



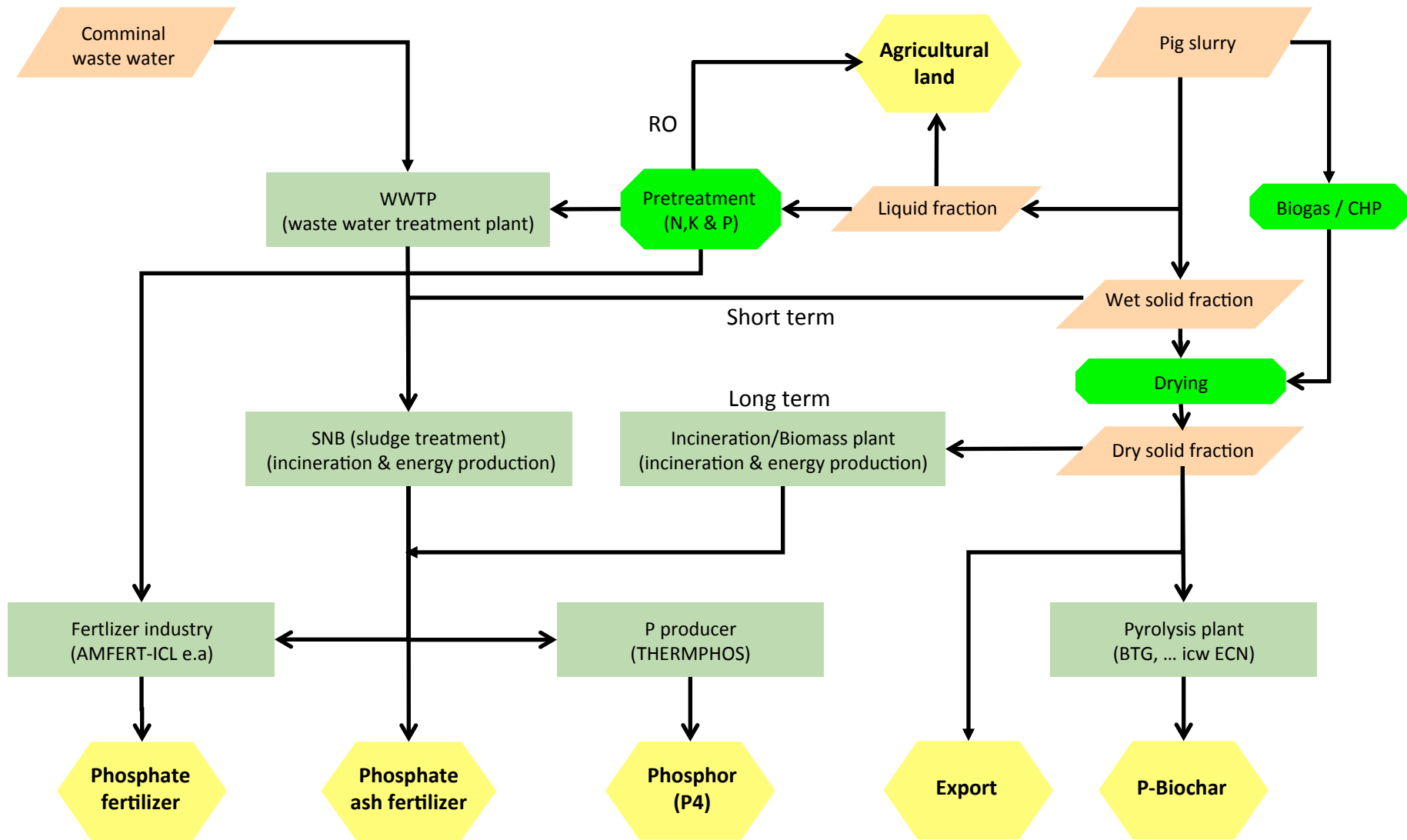
National P cycle

Measures



Phosphate and Phosphorus recovery from manure

(20 - 40 million kg phosphate per year)



Development of required secondary P resources for P-industries with a huge international market

“Dutch P value chain agreement”

Signed 4 October 2011

For example:

PROVIDERS OF RESIDUAL STREAMS

Dutch farmers organisation LTO Nederland, Association of Water Boards, Drinking water parties, Royal COSUN, Garcill

COLLECTORS AND PROCESSORS

Waste and energy processing organisations, Household waste organisation
VION Ingredients manufactures animal origin products, Waste water sludge incineration plant, HVC processing residual waste stream

SELLERS & EXPORTERS

Thermphos International BV, ICL Fertilizers Europe

KNOWLEDGE INSTITUTIONS

Wageningen UR (University & Research Centre), Deltares, Nutrient Management Institute (NMI)

PUBLIC SECTOR

Central government

PLATFORMS / NETWORKS / NGOs

Biorenewables Business Platform (BBP), Innovation Netwerk, WASTE & Aqua for All, Nutrient Platform