

SlimCity - Food

Making Food Systems Carbon and Resource Efficient

Michael Velders





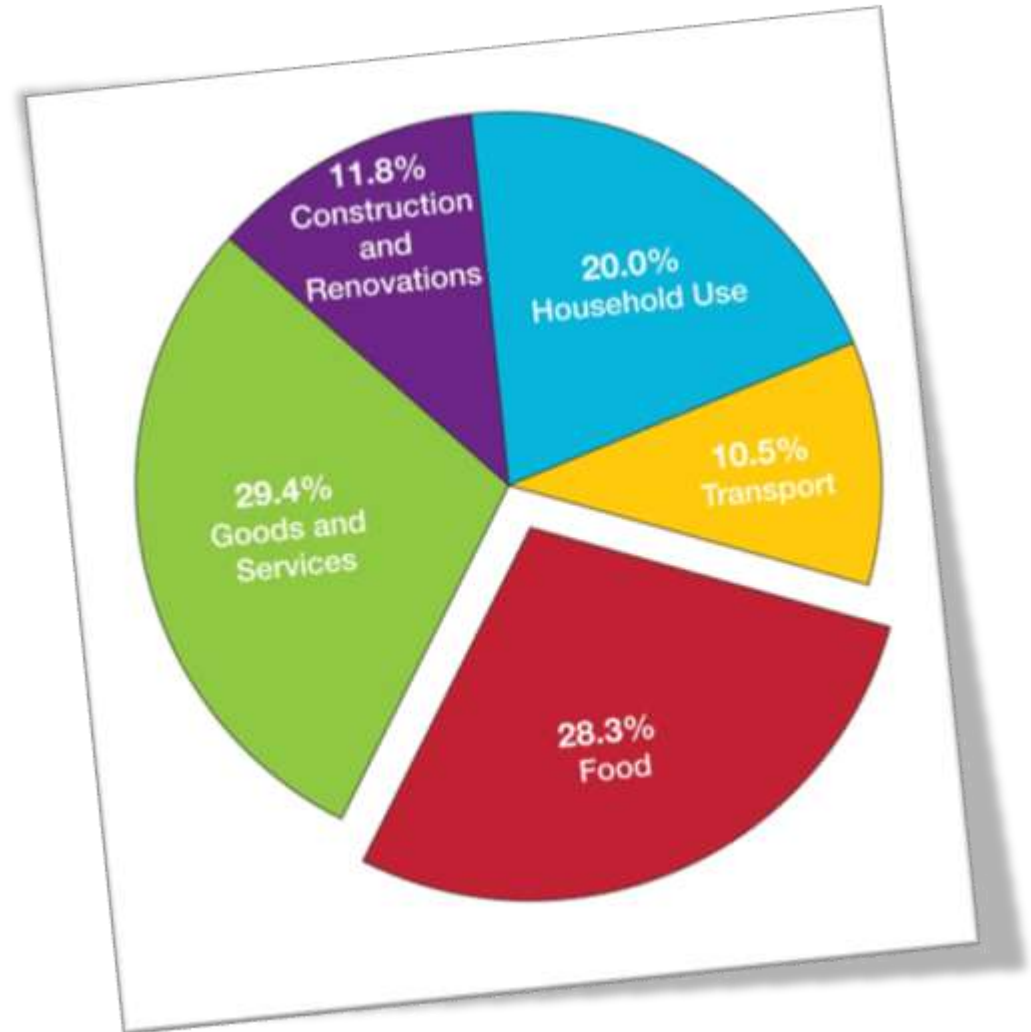
FOOD AND CARBON?

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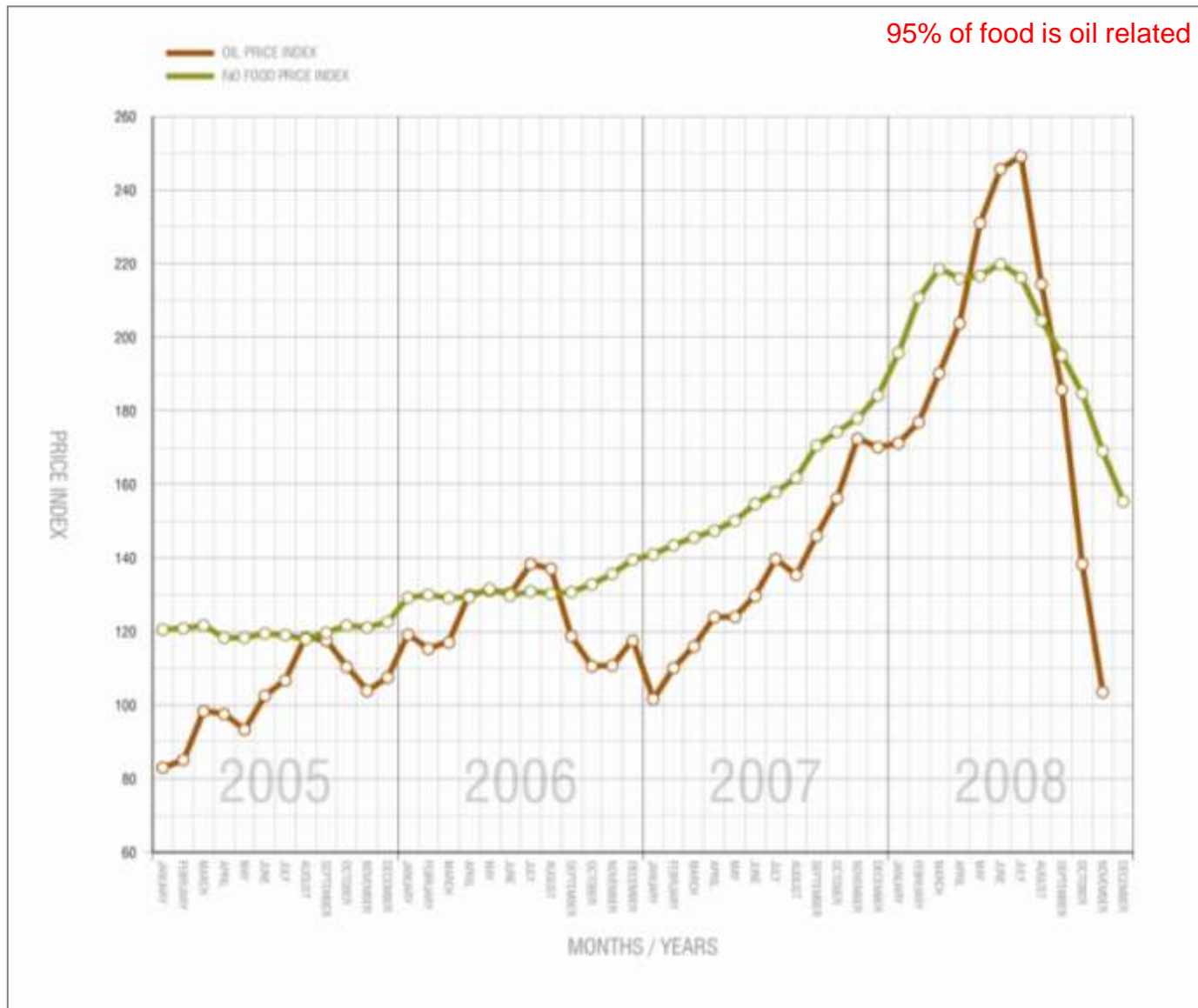


Why Food?

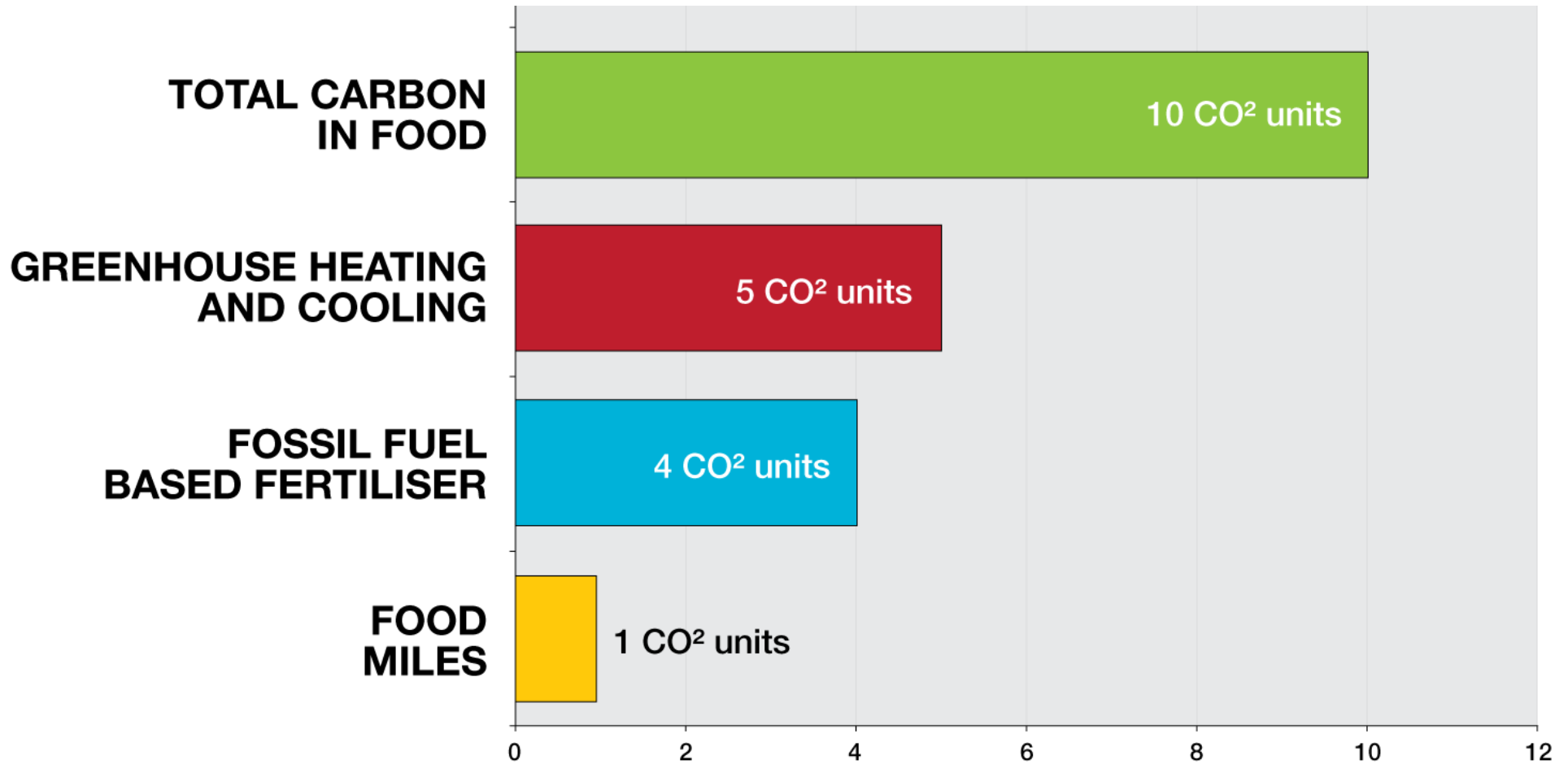
- What is the carbon footprint of 54 million meals per day?
- 28% of the 19 tonnes of carbon per capita is food related
- Twice the emissions from our own personal use of electricity.
- Three times the emissions from our personal mobility and transport.



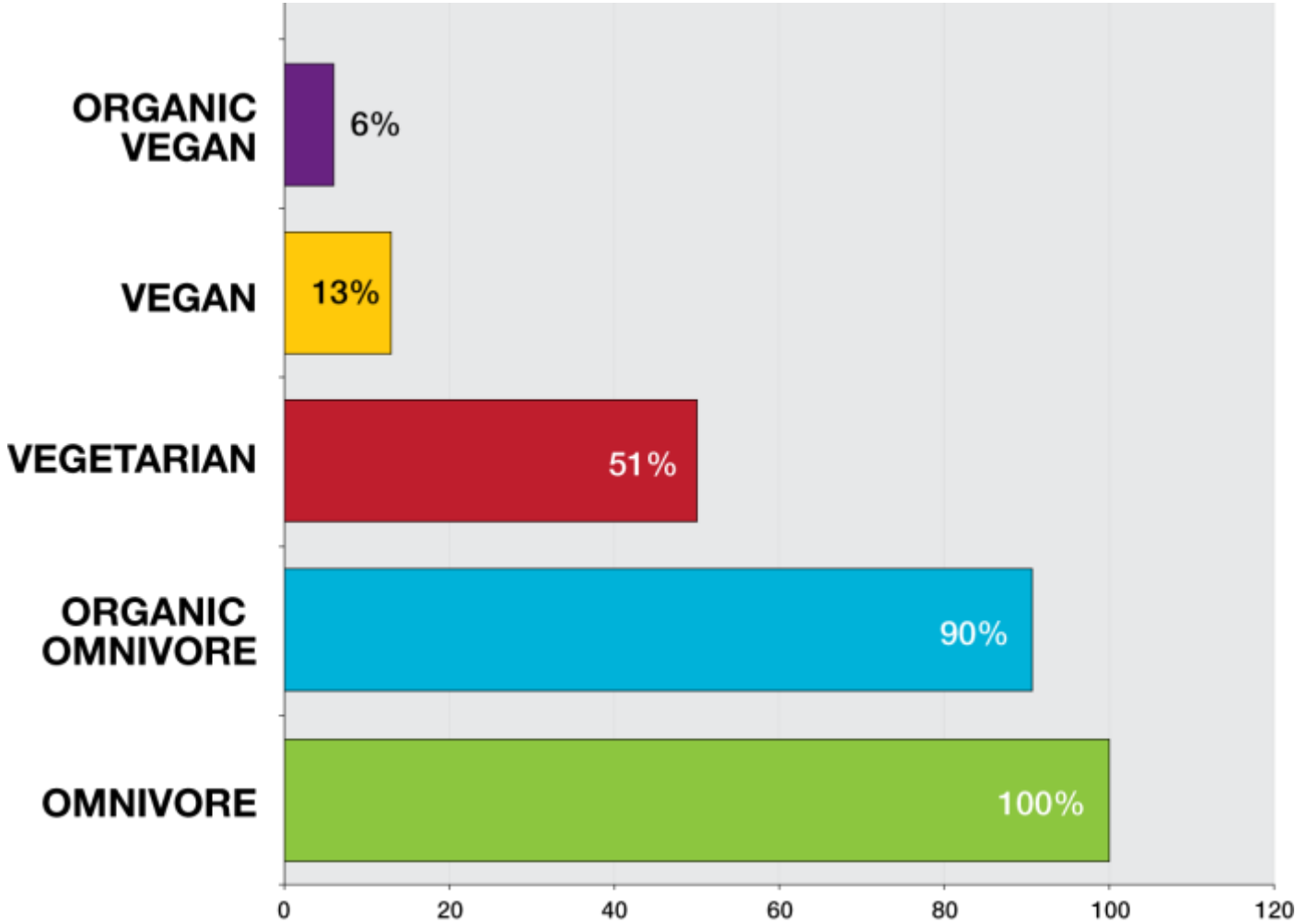
Why Food and Carbon?



The Carbon Costs of Food



Food Choice and Carbon

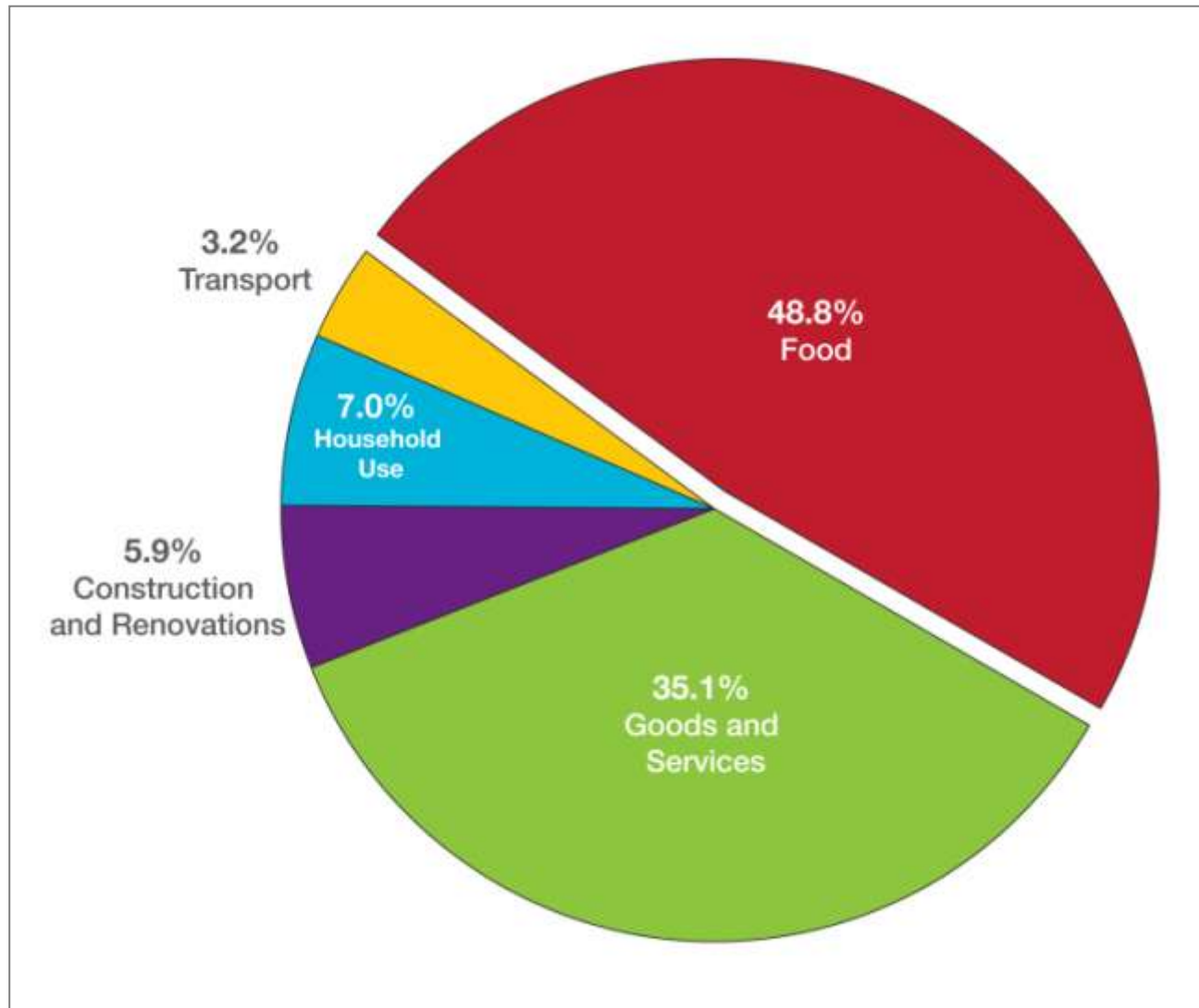


RESOURCE EFFICIENCY AND FOOD

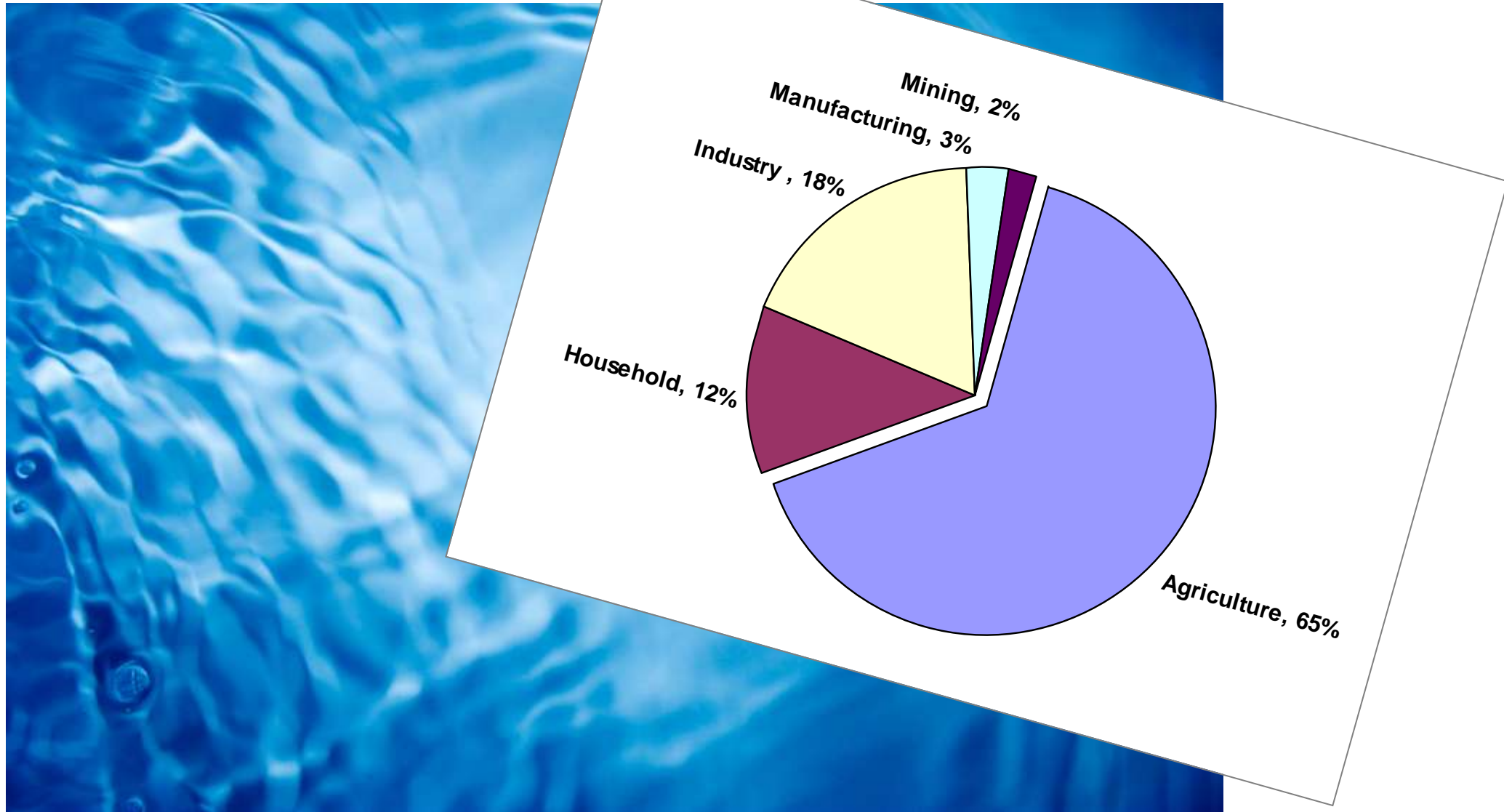
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The Ecological Footprint of Food

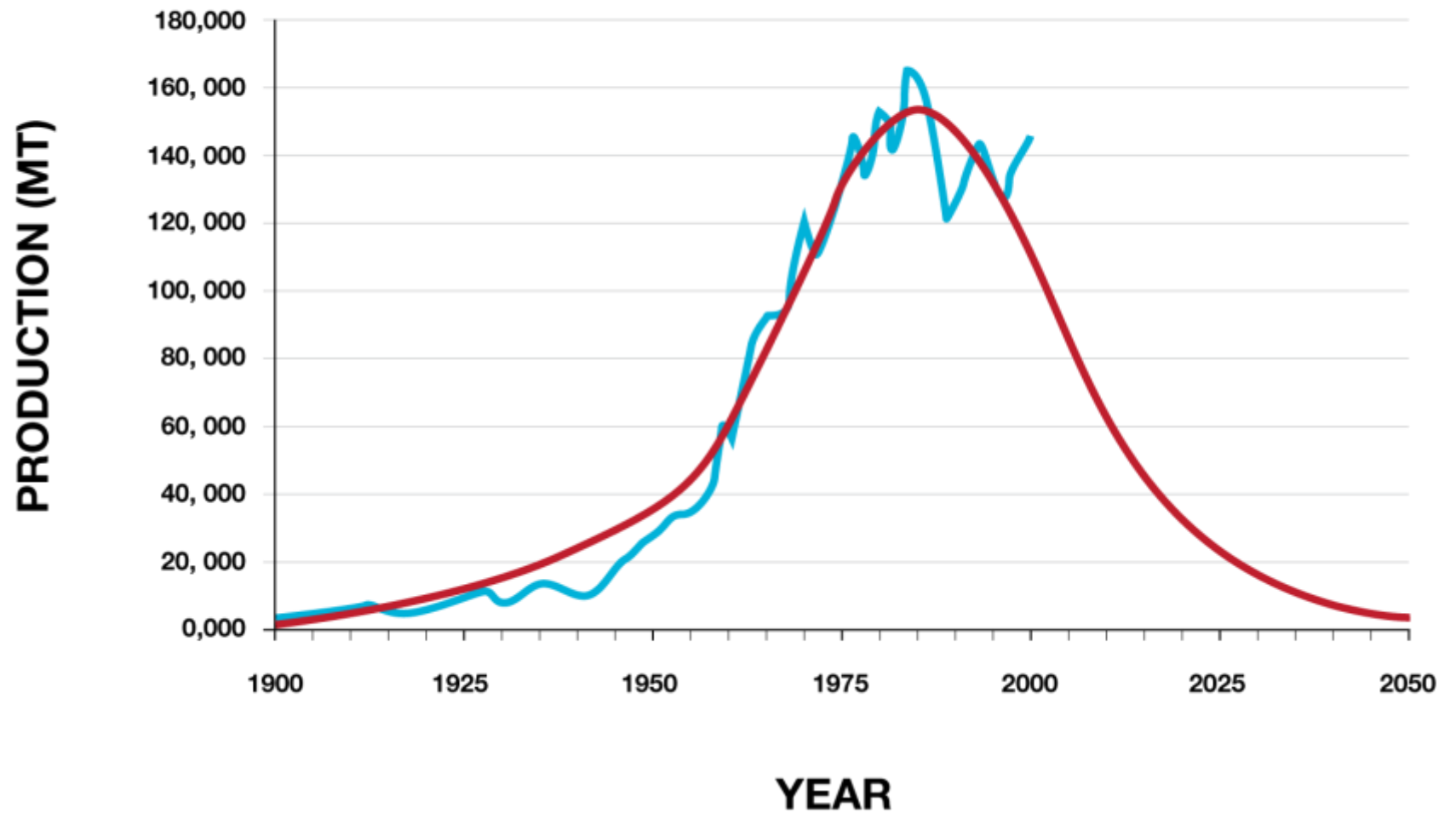


Food and Water

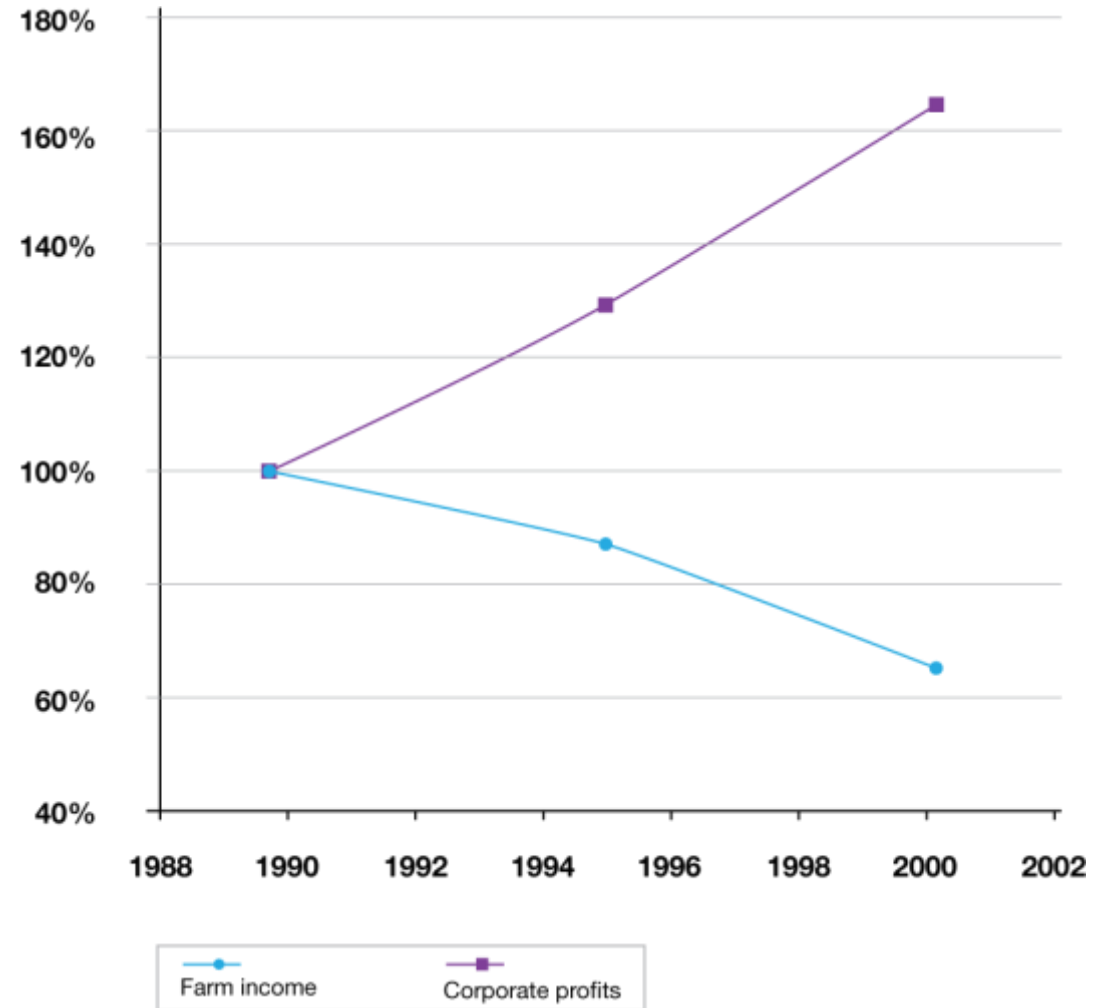
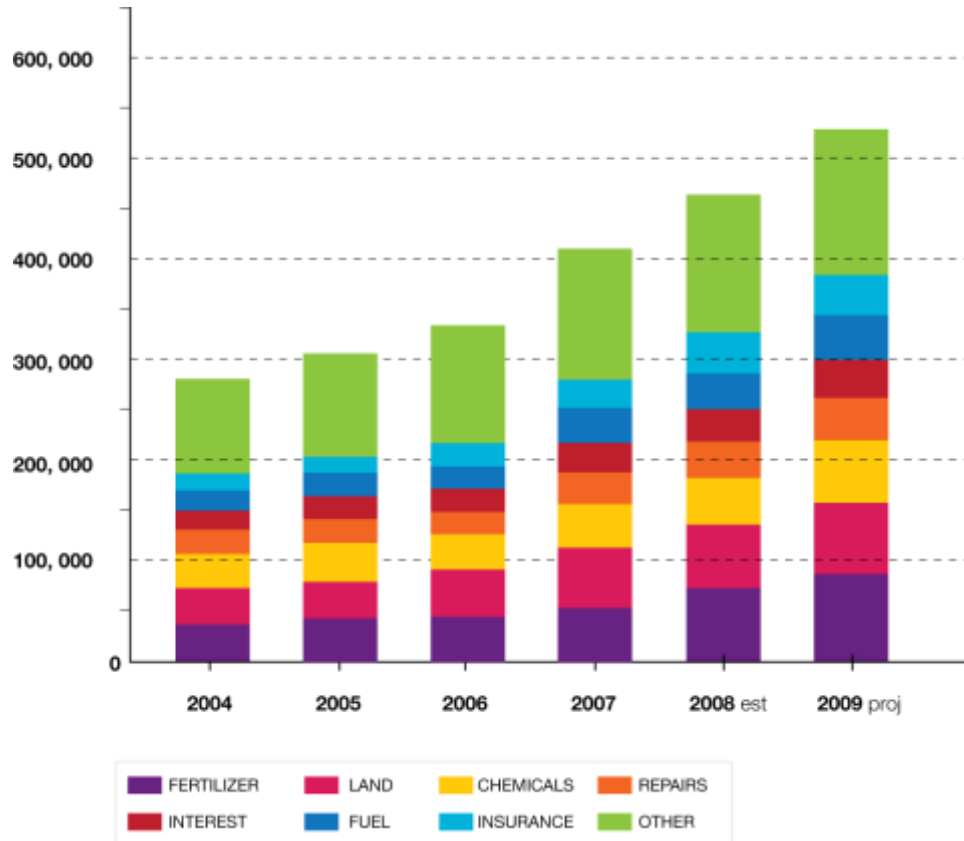


Food and Phosphate

World rock phosphate production



Net Farm Income versus Corporate Profits



1980 Farm value retail price 40%
 Today it is 20%
 Average age of a farmer
 in the UK is 56.



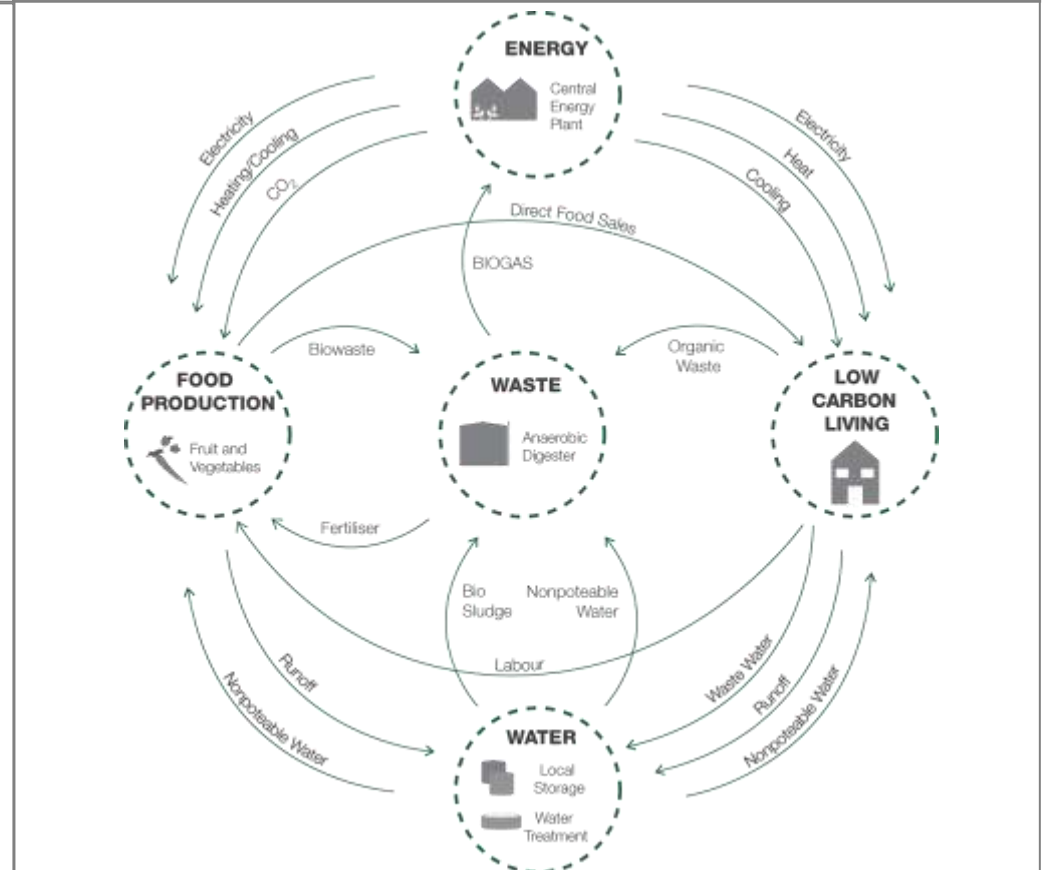
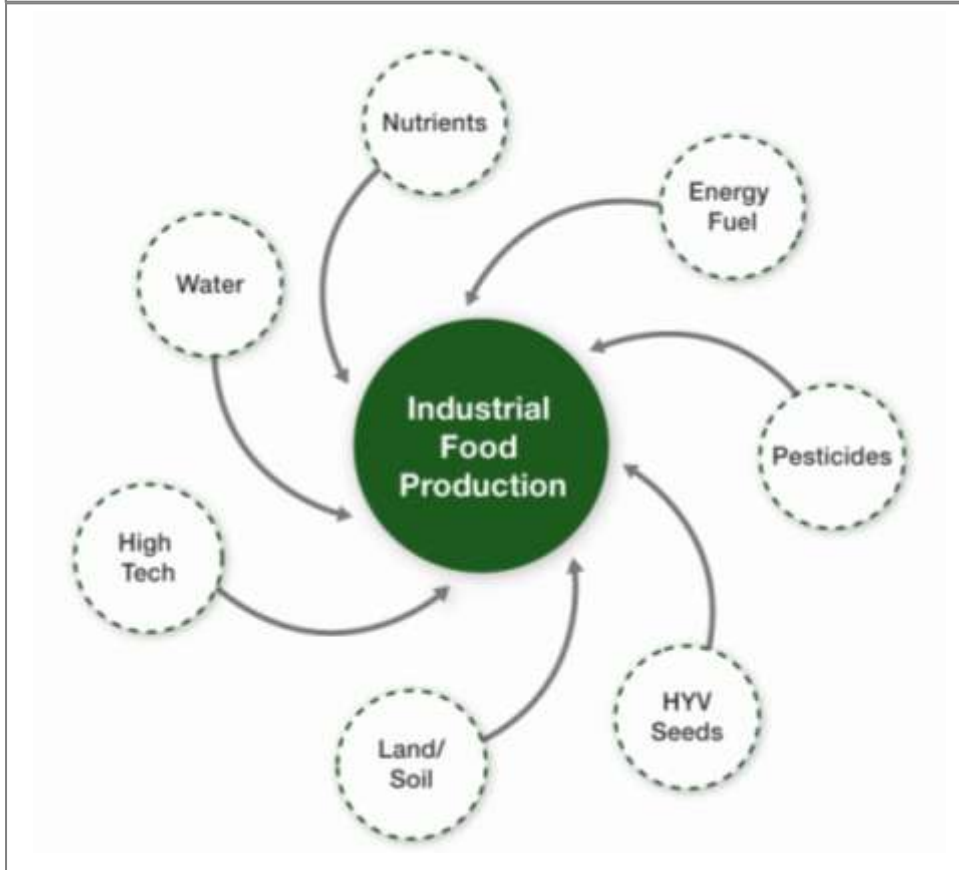
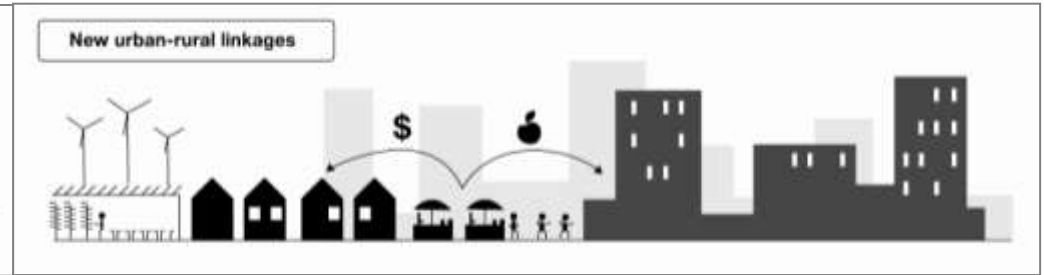
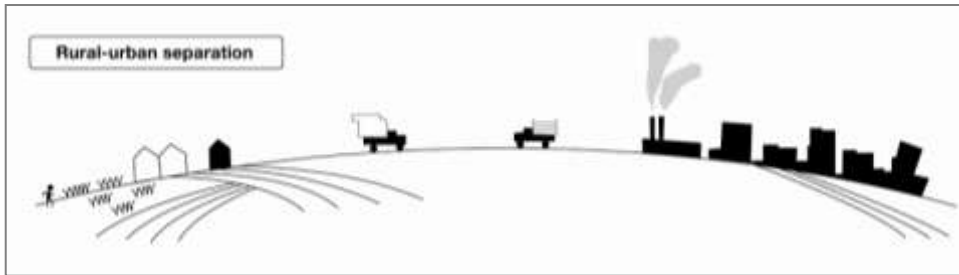
FARMING IN SLIMCITY

Carbon and Resource Efficient

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Farming in SlimCity

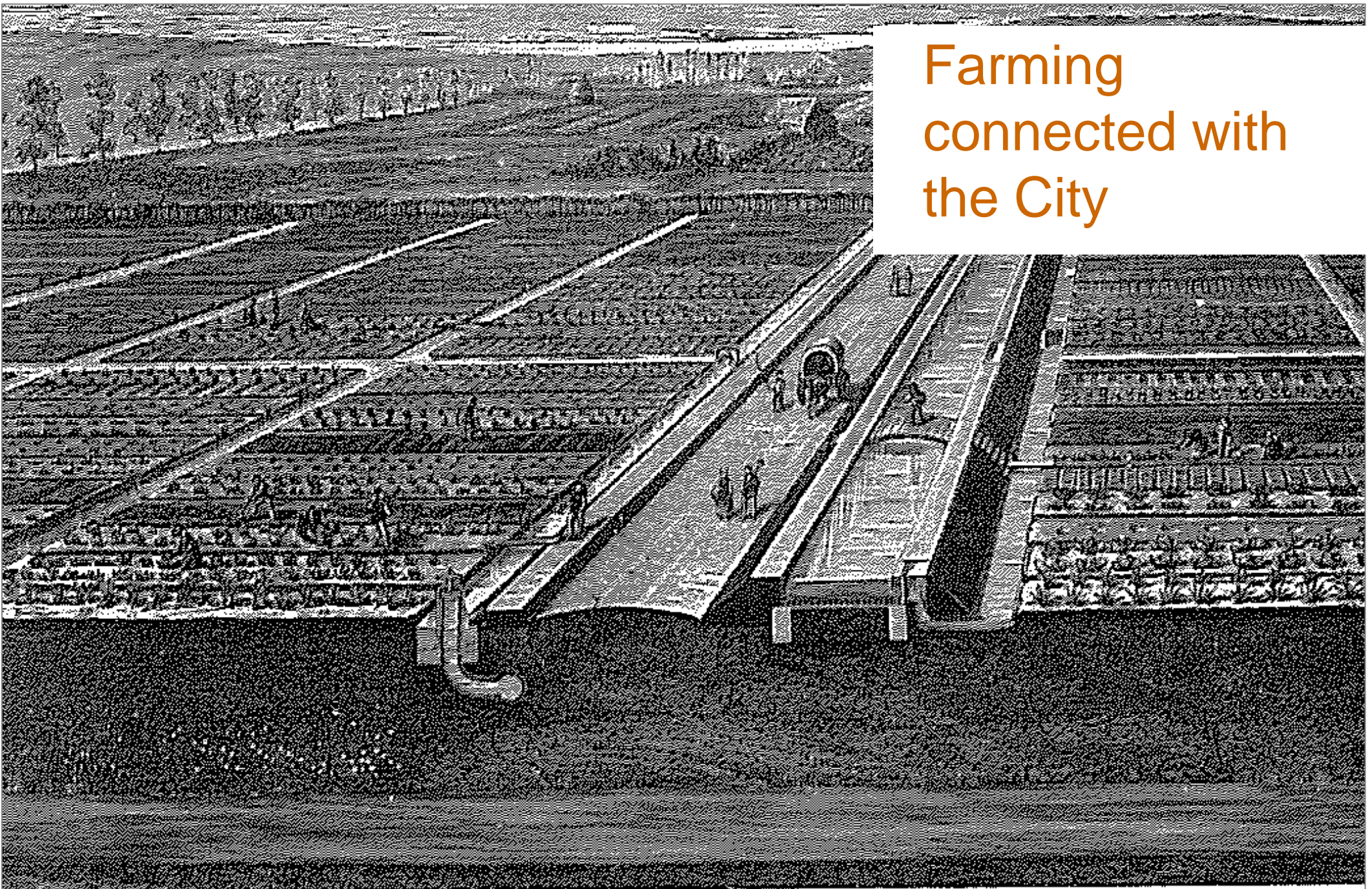




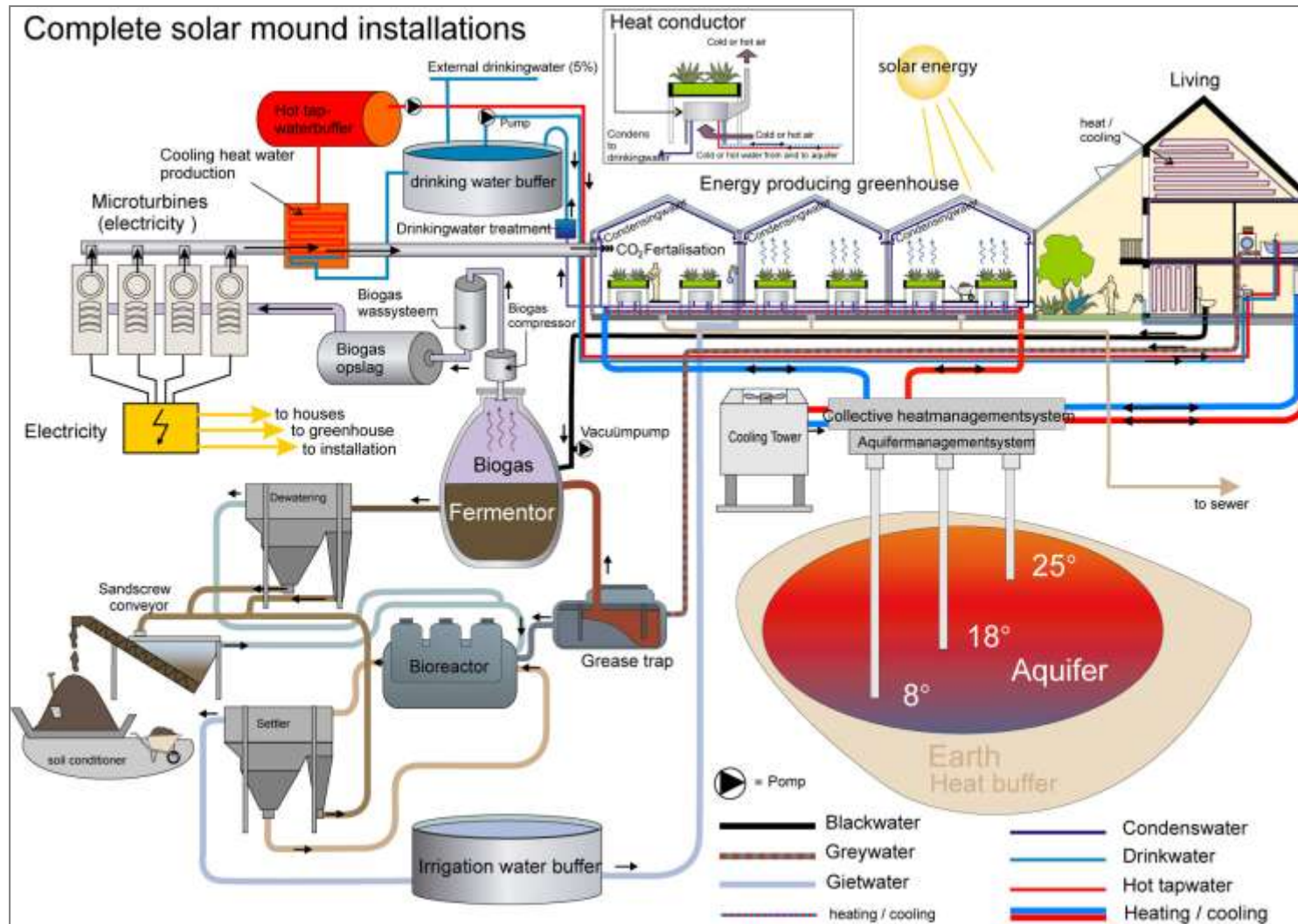
Farming in the City



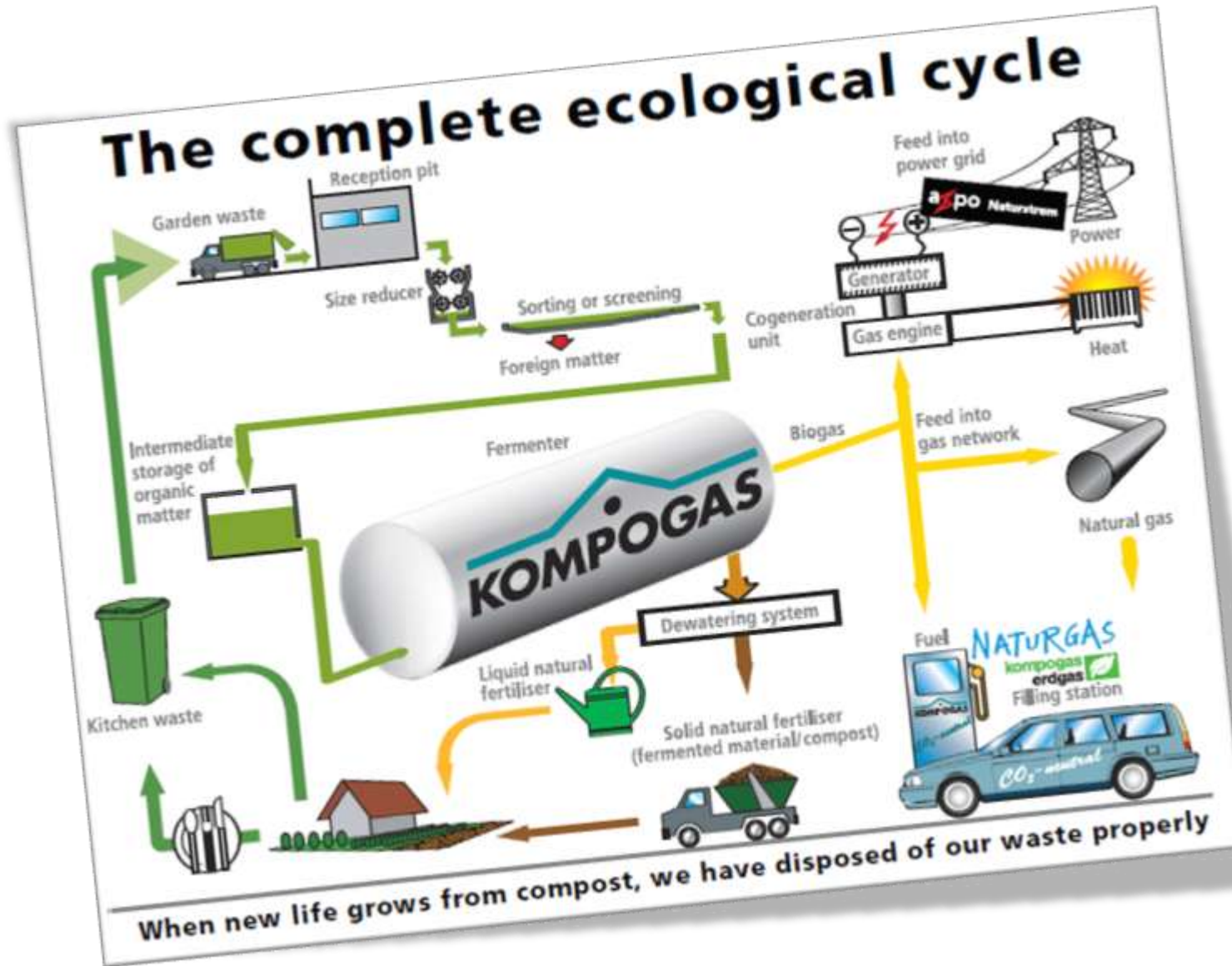
Farming connected with the City



Farming connected with the City



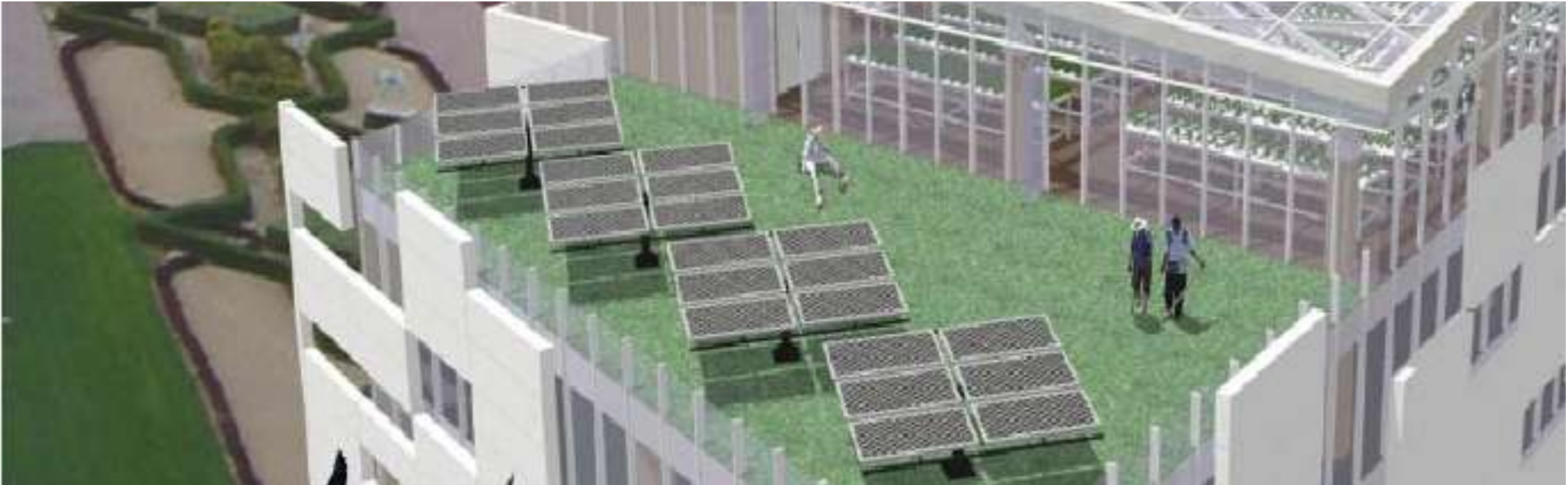
Connected with the City





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ARUP PROJECTS IN FOOD AND AGRICULTURE



INTEGRATE AGRICULTURE + FOOD SYSTEMS

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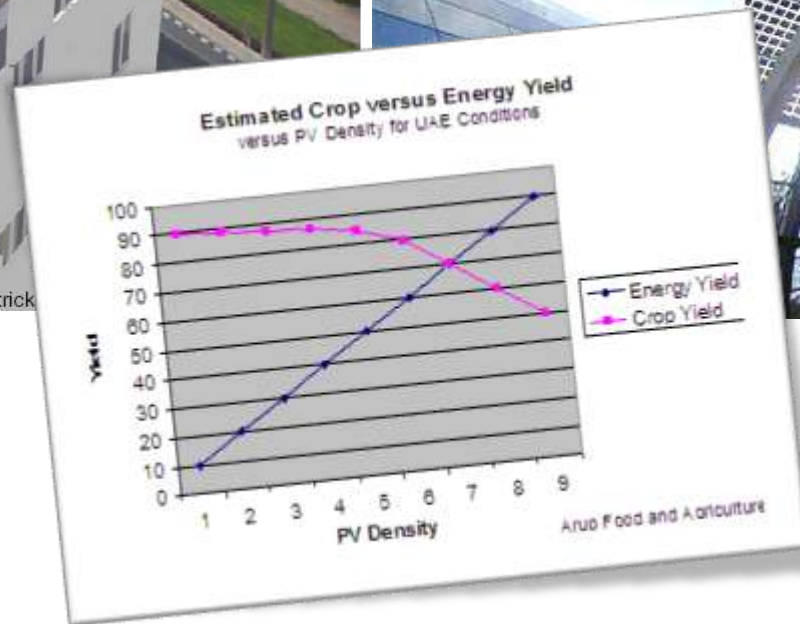
Working Across the Continents



Food on the Roof in Masdar City - Dubai



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SYNThe: Urban Rooftop Garden Prototype



An aerial architectural rendering of the Wanzhang Eco City. The image shows a dense urban grid of modern, multi-story buildings with flat roofs. The city is interspersed with green spaces, including parks and tree-lined streets. In the foreground, there are large, open agricultural fields, some of which are being cultivated. The sky is blue with scattered white clouds. A white text box is overlaid on the right side of the image.

Wanzhang Eco City – Garden of Villages China

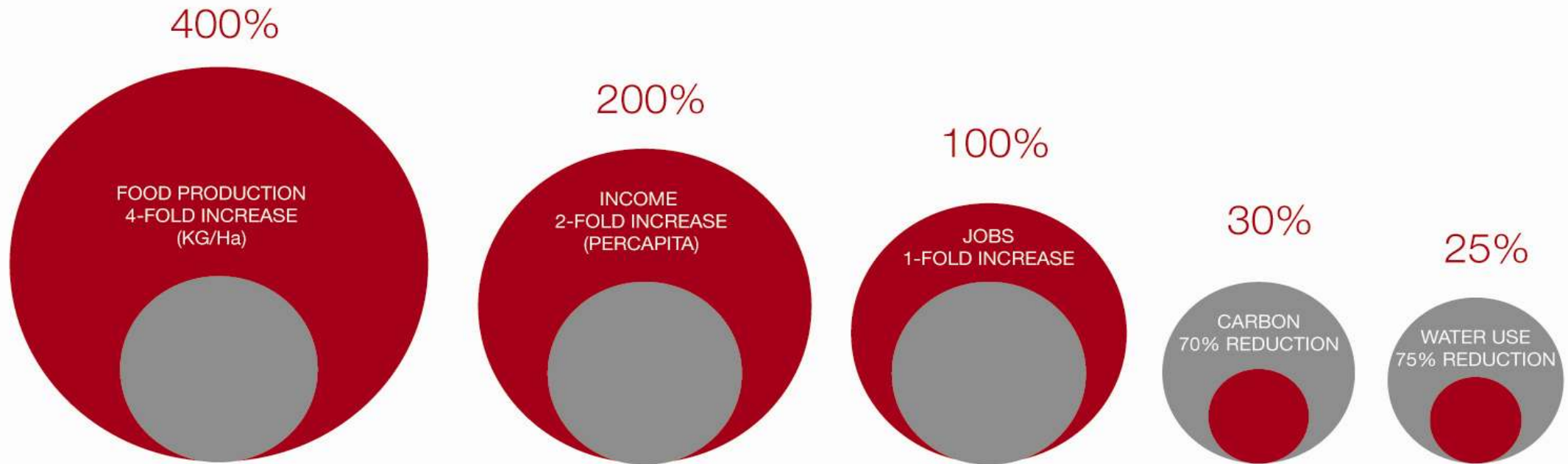
Alimentos Para Vida – Food4Life – Santiago



An aerial architectural rendering of a residential development in Southlands, BC. The image shows a transition from agricultural fields and vineyards in the upper left to a dense, grid-like residential neighborhood in the lower right. A blue water feature, possibly a stream or pond, winds through the development. The houses are small, multi-story units with brown roofs, arranged in a regular pattern. The overall scene is bright and clear, suggesting a sunny day.

Southlands – BC Transition vs Separation

Key Benefits



- **B.A.U** Business As Usual scenario
- **I.F.P** Integrated Food Production scenario

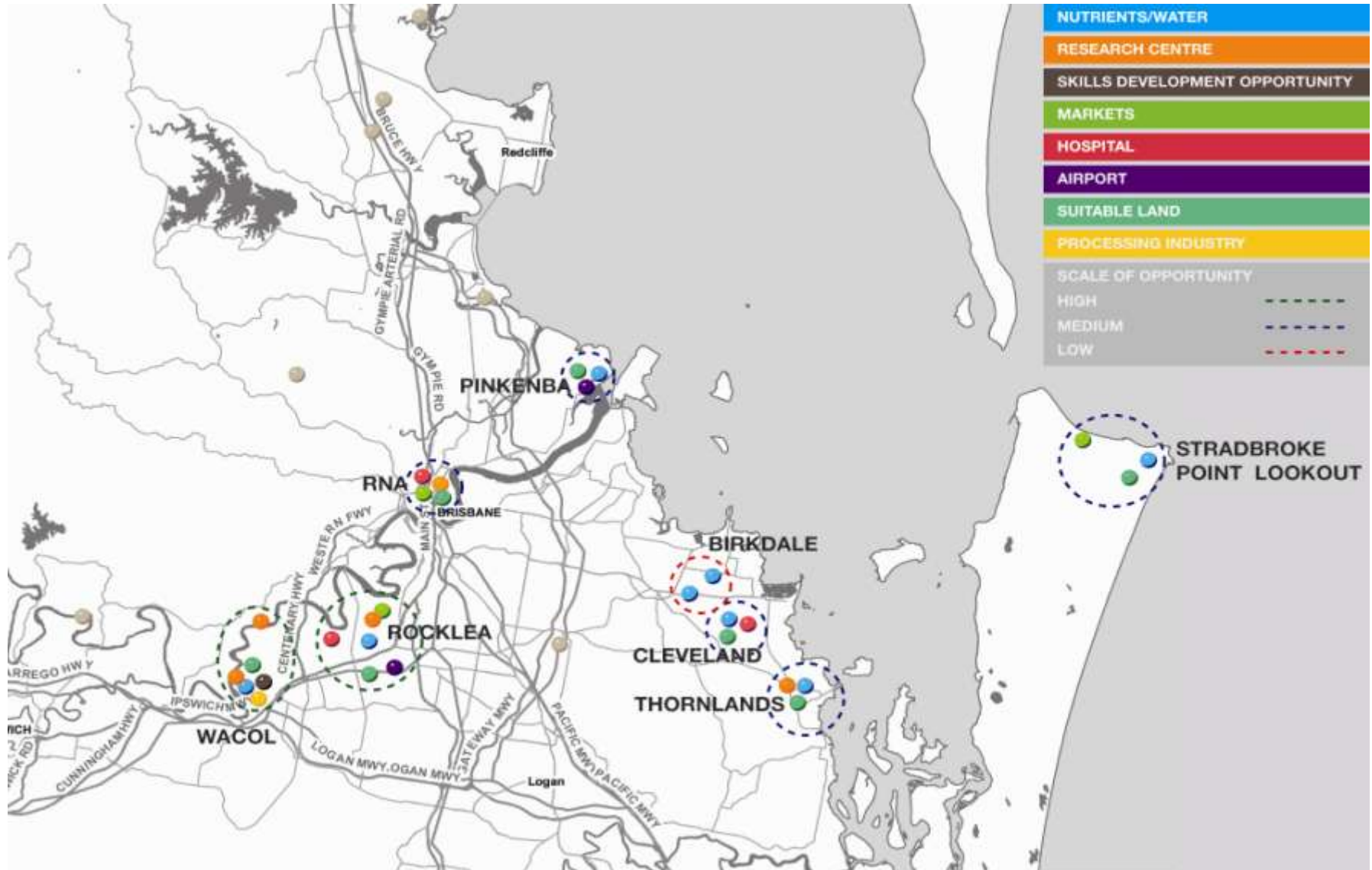


FOOD PROJECTS IN BRISBANE?

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Sustainable City Farm Hot Spots



Wacol



2009 Queensland Sustainability Industry Awards - Winner

Camreay Holdings Pty Ltd

Cane farmers, local council, and the greater Wide Bay community are benefiting from this Bundaberg-region compost business, which recycles sugar cane waste, effluent water and treats bio-solids to produce cane fertilizer.

Bundaberg Regional Council delivers effluent water and bio-solids that Camreay Holdings reuses, by thermally composting the bio-solids with sugar cane waste.

The bio-solids replace traditional fertilizer, regenerate the soil and reduce demand for pesticides. As carbon is sequestered in the soil, this reduces the need to irrigate. Since applying this compost to its own cane plantation, Camreay Holdings has boosted productivity by 50 percent.





drivers of change food

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social food

environmental food

economic food

who will grow our food?

how many varieties have been lost?

does food price represent its real value?

fair

drivers of change food



INTRODUCING ARUP'S FIRST PROTOTYPE EDIBLE OFFICE GREEN SPACE!



Thank You

Arup Food and Agriculture Centre of Excellence



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