



Jobs in Recycling: From Global to Local and Back Again

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Gauteng Recycling Forum

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National
Recycling Forum



International Lessons

RECYCLING helps create jobs

Recycling in the U.S. is a \$236 billion a year industry. More than 56,000 recycling and reuse enterprises employ 1.1 million workers nationwide.



- Based on “direct” jobs created in the industry
- Friends of the Earth (2010) estimates that if we extend the direct jobs to ‘indirect’ and ‘induced’ jobs, this recycling industry is responsible for 3.9 million jobs in the USA
- in addition to the economic activity of the recycling and reuse industry itself, further economic activity such as supply companies, accounting, legal, building and transport rely on this industry for business – referred to as ‘indirect’ employment. In addition, the direct and ‘indirect’ employees support another round of economic activity when they spend their wages in the economy – called ‘induced’ employment
- for every direct job created across the sector, a further 1.2 ‘indirect’ jobs and 1.3 ‘induced’ jobs were created in the wider economy

International Lessons

- Germany – waste and recycling industry is bigger than either the steel or telecommunications industries
- Italy – waste and recycling industries the 5th largest contributor to GDP
- EU – 1.98 million people employed in waste and recycling (2008) with the latter increasing at 10.6% annually – biggest growing job-creation sector in EU Economy
- India: New Delhi alone, it is estimated that over 150,000 workers are employed in official and unofficial e-waste recycling units
- India: Dharavi has an estimated 240,000 people working on different aspects of waste processing, and the slum itself has an annual turnover of more than US\$650M from waste
- India: Mumbai has an additional 300,000 “ragpickers”
- So do we want the India model or the EU model??
- US Stats equate to 1 job per 77 tons recycled

Local Lessons

USE-IT in KZN

- Established in 2009 as a Non-Profit Organisation to create **waste beneficiation** opportunities that will increase waste diversion from landfill whilst creating opportunities for Green Economic Growth and maximising job-creation opportunities.
- To date, USE-IT has helped create over **2000 jobs** in the waste sector and leveraged more than R130 million in public and private sector funding.
- Savings in waste diversion alone more than cover the eThekweni operational funding received



Vision of USE-IT

- The creation of a vibrant and diversified green economic sector through 4 levels of job creation: **informal**, direct, indirect and induced with a multiplier-effect on all levels of the economy.
- eThekweni currently landfills in the region of 6000 tons of waste per day! Diverting 70% of this can create at least 20,000 jobs and save the city and ratepayers more than R300 million per year.
- The creation of eThekweni and KZN as a Green Hub showcasing a sustainable path for African development



What We Don't Want...



More landfill mountains....

What We Don't Want...



Inhumane third-world scavenger society....

What We Don't Want...



High Cost mass incineration plants that create few jobs and even more problems....

But – small-scale, high-efficiency, waste specific W2E options present opportunities....

What We Don't Want...



What We Do Want...

What We Do Want...



First World recycling infrastructure...



A healthy environment...



**A vibrant,
sustainable,
prosperous,
responsible
GREEN
ECONOMY**



Growing Green Economies...

What We Do Want...

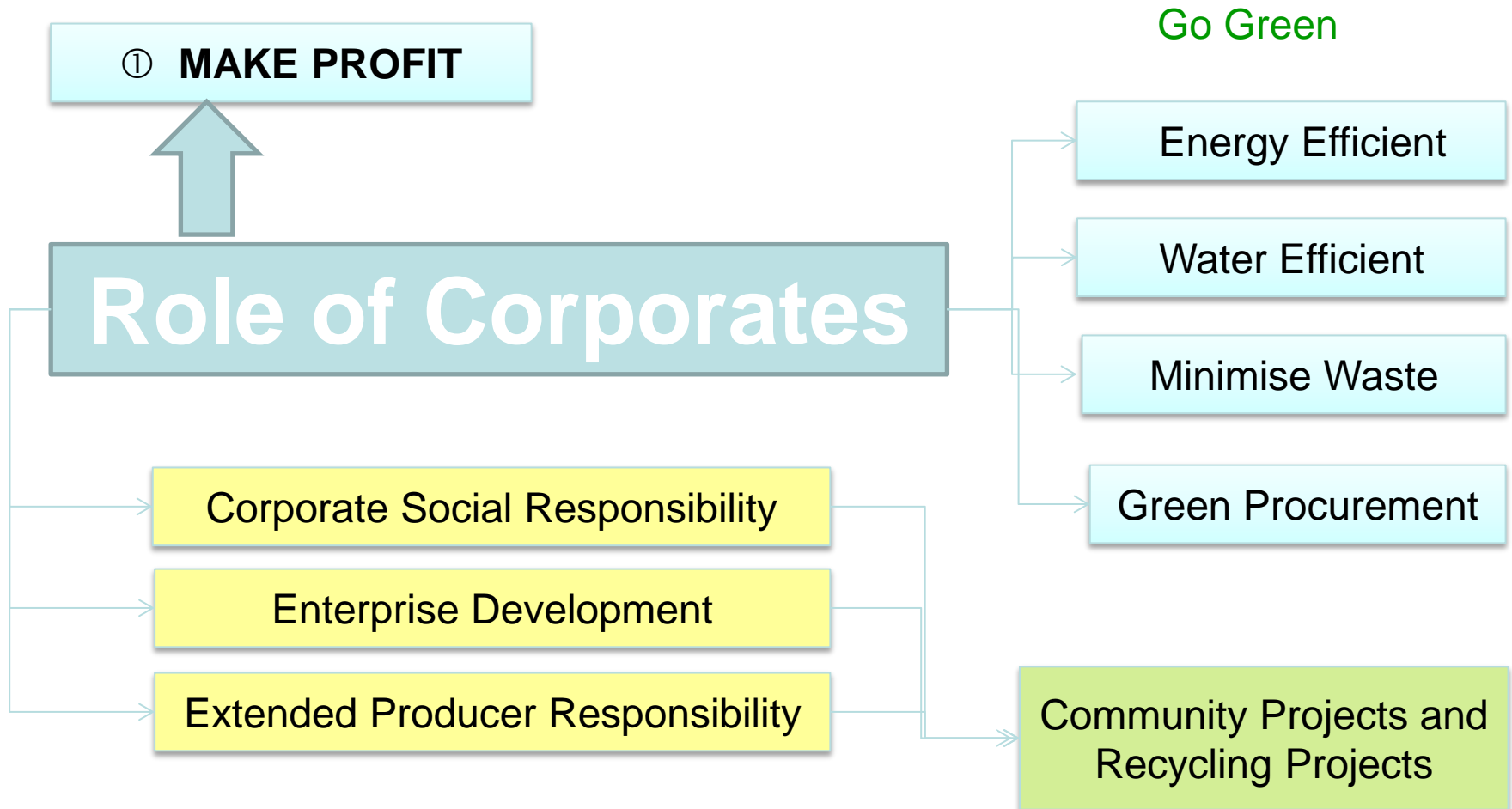
- Maximise Jobs – address and understand all aspects of informal, direct, indirect and induced jobs
- Maximise Value – Local collection, local processing, local beneficiation, and understand/quantify the multiplier effect
- Government/Corporate vision & support
- Industrial Policy Action Plan (IPAP) for waste
- Public support – education and awareness
- An enabling environment
- An informed and proactive market (green procurement)

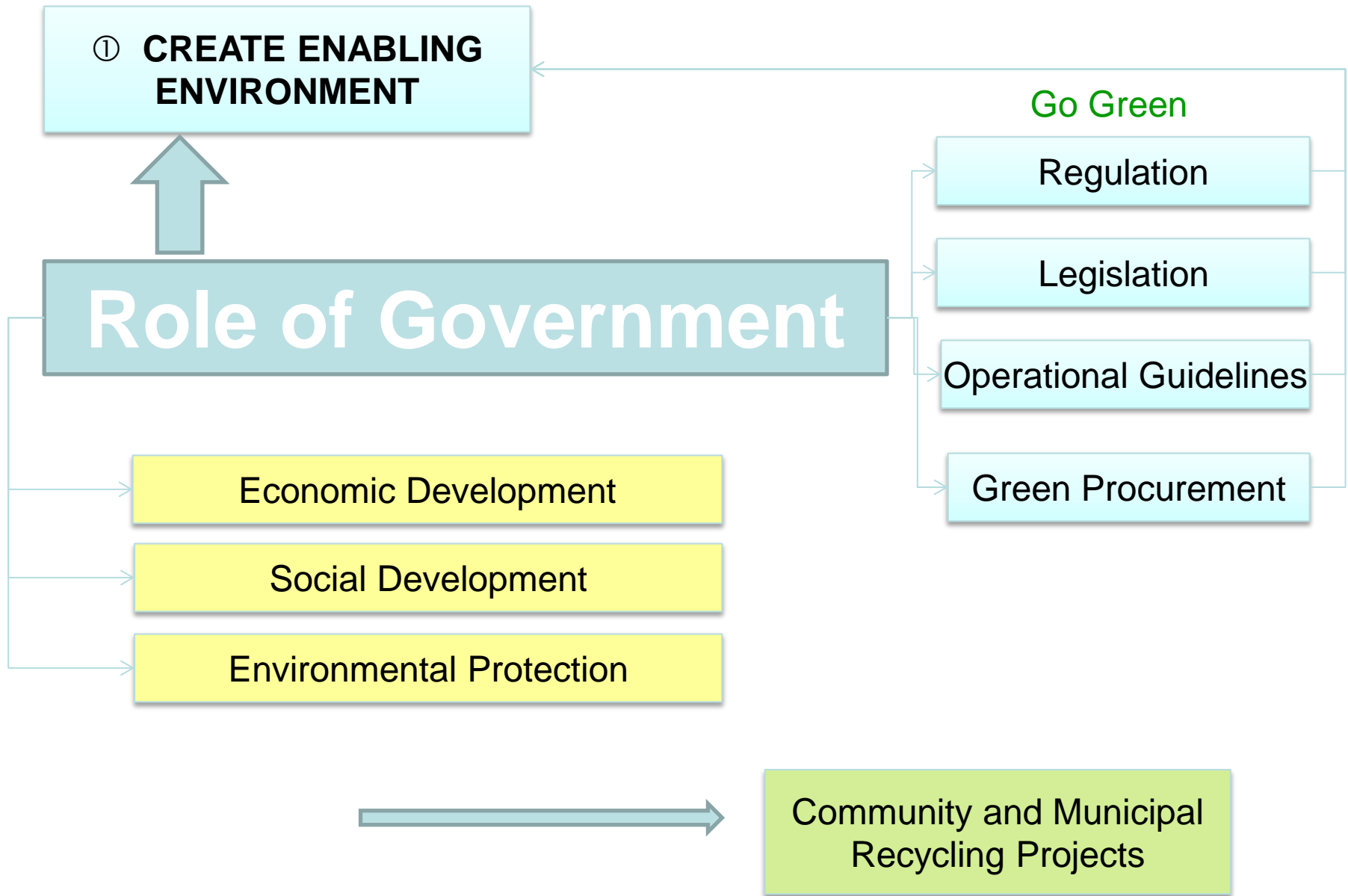
What We Do Want...

- Information
- Education
- Awareness

KZN Recycling Forum







Working in partnership with private sector to unlock key issues holding up recycling....



Plastic



Paper



Metals

Tyres



Multiple Components of the Waste Stream



E-Waste



Organics

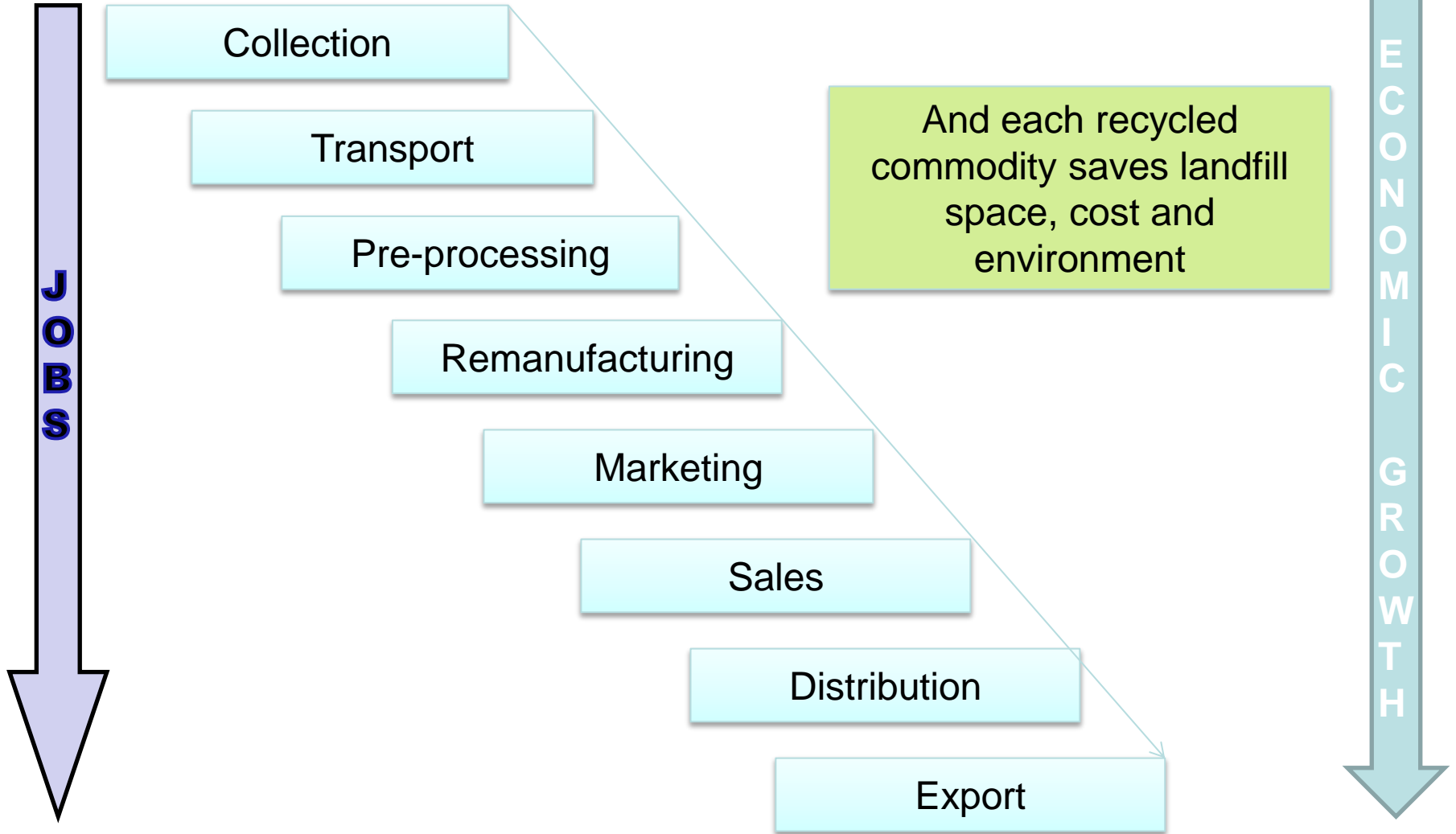


Rubble and soil waste



Glass

Each waste component then follows the same opportunities of...



Tyre Recycling

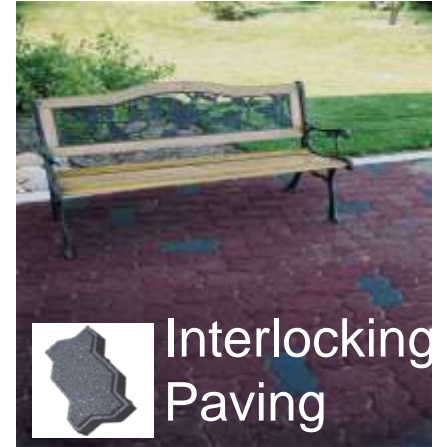
Durban 2000-3000 tons/month



Roof Tile Systems



Oil



Interlocking Paving



Shredding



Agricultural Piping

**N
E
W

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S**

Remove steel & Fibre



Granulating



Upcycling



Play Blocks/
Safety Matting



Fuel Alternative

Durban +- 10,000 tons/month



Glass Recycling



Blend & re-melt



Ceramics & Tiles



Tumbled Landscaping



New Glassware



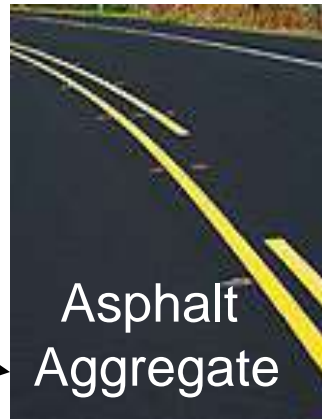
Water Filtration



Kitchen Counters



Crush & sort



Asphalt Aggregate

Recycling Builder's Rubble and Soil Waste

Durban builder's rubble
+- 30,000 tons/month



Crush and sieve



Road crusher run



Block manufacture



Sustainable housing

Organics Recycling

Biomass to Energy



Bio-Organic Fertilizers



Vermiculture



Green Waste



Ethanol



Anaerobic Digestion

Durban organic waste
+- 21,000 tons/month



Composting

E-Waste Recycling

Cartridge Recycling



Hydrometallurgy



Refurbishment & Reuse



Plastics



Lead extraction



Metals recycling



Dismantling

Plastics Recycling



Pelletizing



Furniture



pallets



Extrusion



Compression molding



Building products



Injection molding



Upcycling

Paper Recycling

**I am
not a
virgin.**

I am 100% post-consumer waste.
I am not processed with any chlorine.
I saved 1 tree, 27 gallons of water, 56,000
BTUs of energy, 6 pounds of solid waste and 10
pounds of greenhouse gases just by a designer
choosing me.



Paper resin countertops



Paper Bricks



Recycled cardboard packaging

Recycled paper products



Upcycled paper

Paper wood



From Global to Local...

- South Africa landfills 24 million tons MSW per annum
- 16.6 million tons easily recyclable
- One job per 77 tons
- Means we spend R3.3 Billion per year burying R9.1 Billion worth of resources !!!
- 16.6 million tons could create 215,500 direct jobs, 258,600 indirect jobs and 280,150 induced jobs = 754,250 jobs

What the Future Holds...

- As technology develops, new solutions are created for adding value to every component of waste in an economically viable manner
- We evolve from a rudimentary sector of “cherry-picking” high-value waste commodities to a sophisticated and integrated sector beneficiating every component of the waste stream
- What we can't use effectively has short-term solutions in energy conversion using pyrolysis, plasma conversion, syngas conversion and catalytic depolymerisation
- Nothing goes to waste – the future is now...

Thank You !!

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cogta

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