

Bio-based economy integrated in
waste management and possibilities
to develop a joint-venture with India





Waste Management, Water technology, Renewable Energy
DESIGN, BUILD, OWN, OPERATE
www.dutchwastemanagement.com



CREM

- Sustainable Disposal
- Waste Evaluation Processes
- Separation and Sorting
- Waste Usage Scenarios

Vd KLAUW

MERAPEAK

- Energy

- Multi-Utility Regional Waste Management
- Resuse of Waste Materials

BMS

- Hazardous Wastes
- Waste disposal & recycling

AMMERLAAN

- Green Innovation
- Greenhouses

BLIEK - Van BEEK

- Policy
- Strategy
- Sustainability

DE MUL

- Pure Blue Water
- Industry, Shipping & Local Government Water Installations

Imc

- Waste & Energy Subsidies Financing

Mensing

- Project intensivation
- Wastes Separation



STEINERO - BLAAY

- Waste to Energy Projects
- Large Equipment Installations
- Property Management

DE BRUIJN

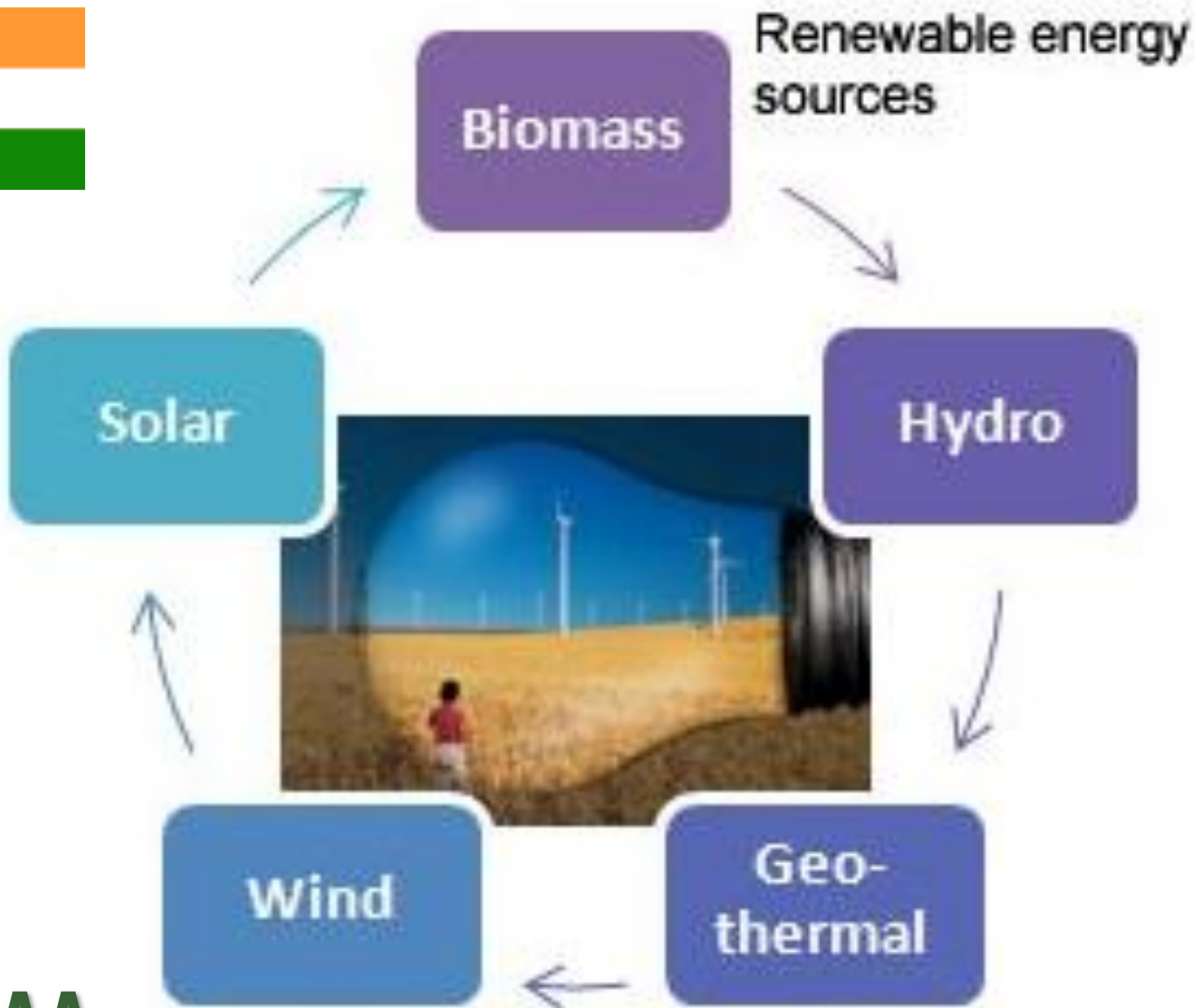
- Biomass Production
- Biofuels & Composting
- Wastes Usage Evaluation
- Wastes Management
- Waste to Energy

LAARAKKER

- Biofuels
- Anarobic Digestion
- Electricity Production
- Green Gasses & CO2

University of DELFT

- Construction, Environmental & Energy Technology



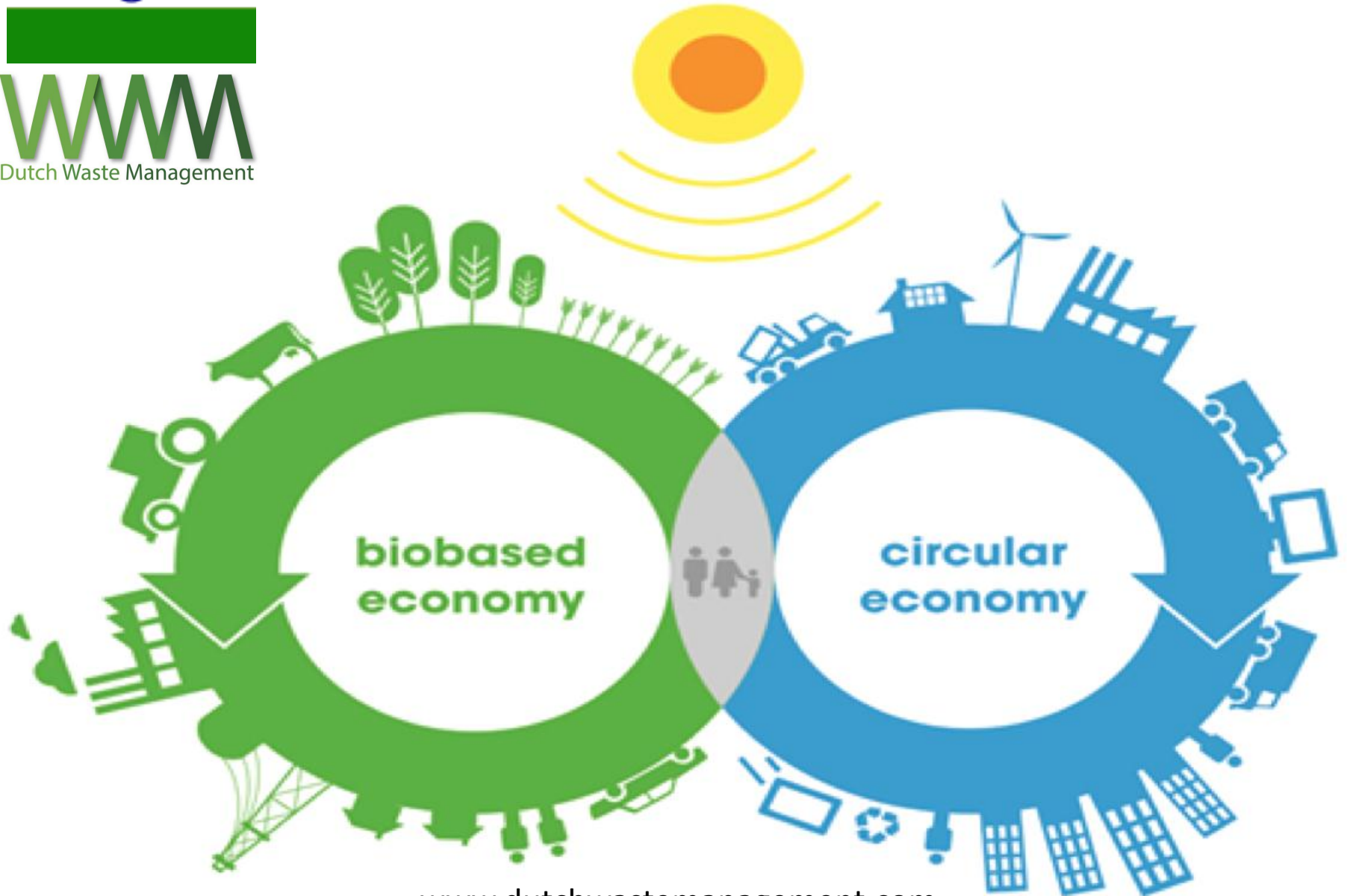


12th Plan Targets (up to March 2017)

Technology	Target*	Investment required
Wind Power Projects	15000 MW	US\$15 billion
Small Hydro Projects	2100 MW	US\$2.1 billion
Biomass based power projects	2700 MW	US\$2.7 billion
Grid connected Solar power projects	10000 MW	US\$12 billion
Off grid solar power projects	1000 MW	US\$1.8 billion
Aggregate	30800 MW	US\$33.6 billion

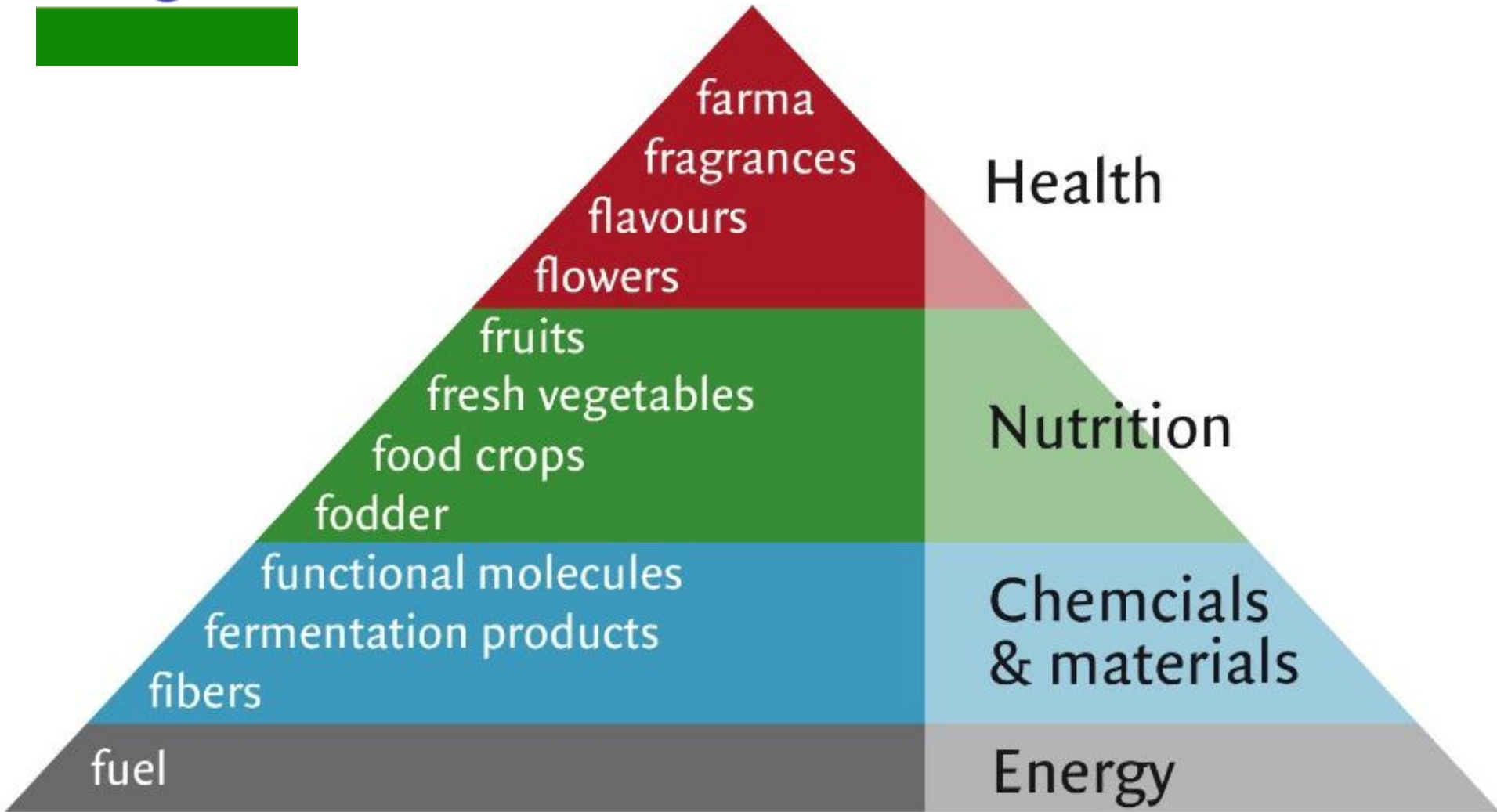
** These are now being up-scaled to 100 GW capacity addition in next five years (about 20000 MW every year) requiring about US\$ 20 billion every year excluding power evacuation facility.*

Waste Strategy

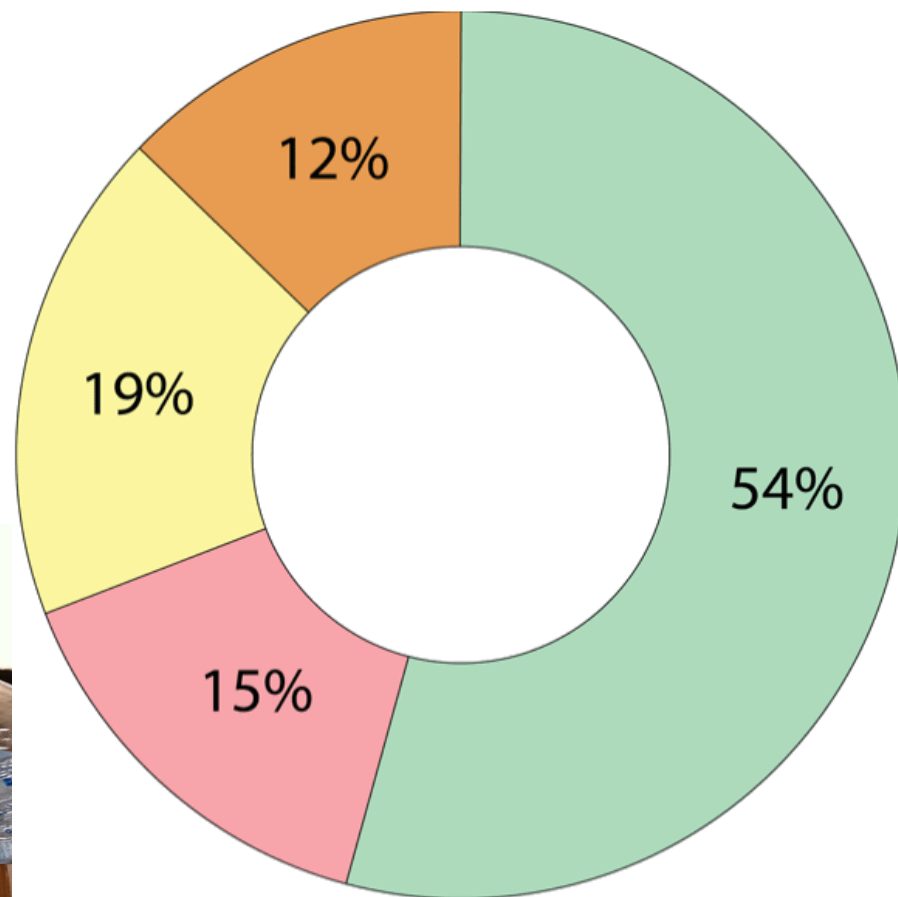




Bio Refinery



Separation Tests / Monitoring

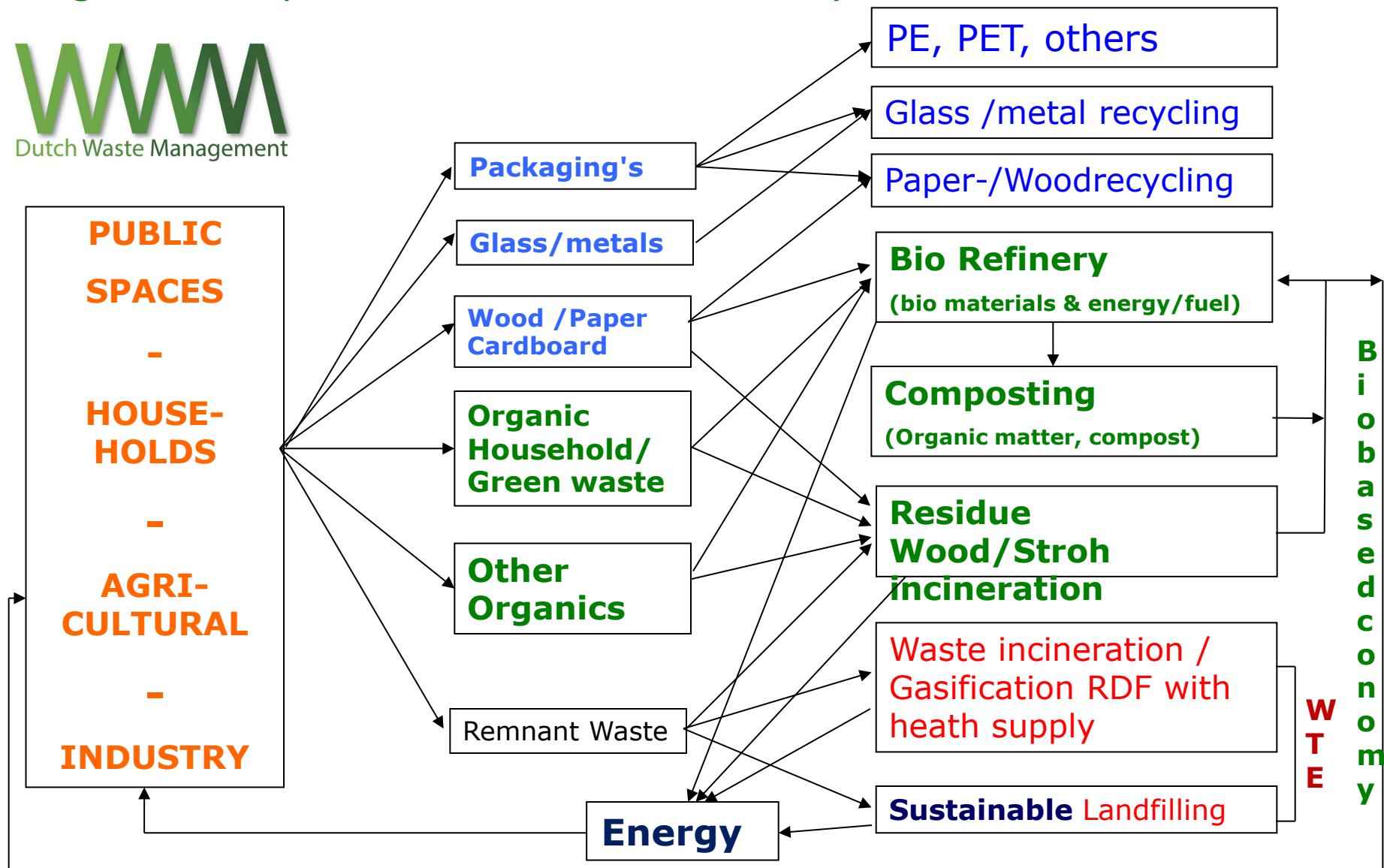


Wet organic matter Dry organic matter
Recyclable material Inert material



"Waste Management Concept"

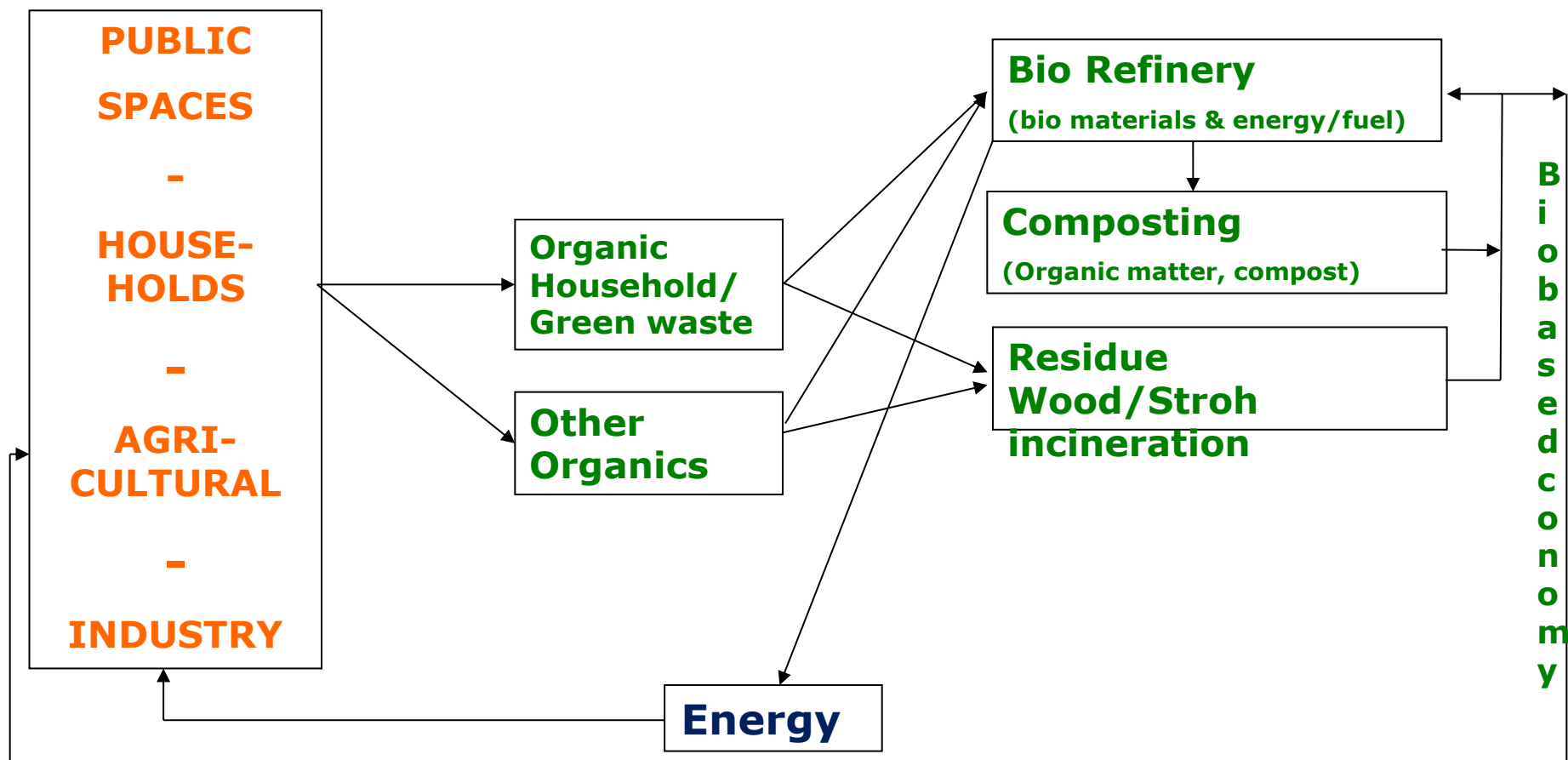
Regional Cooperation – Circular Economy





"Biobased Economy – Separate Collection"

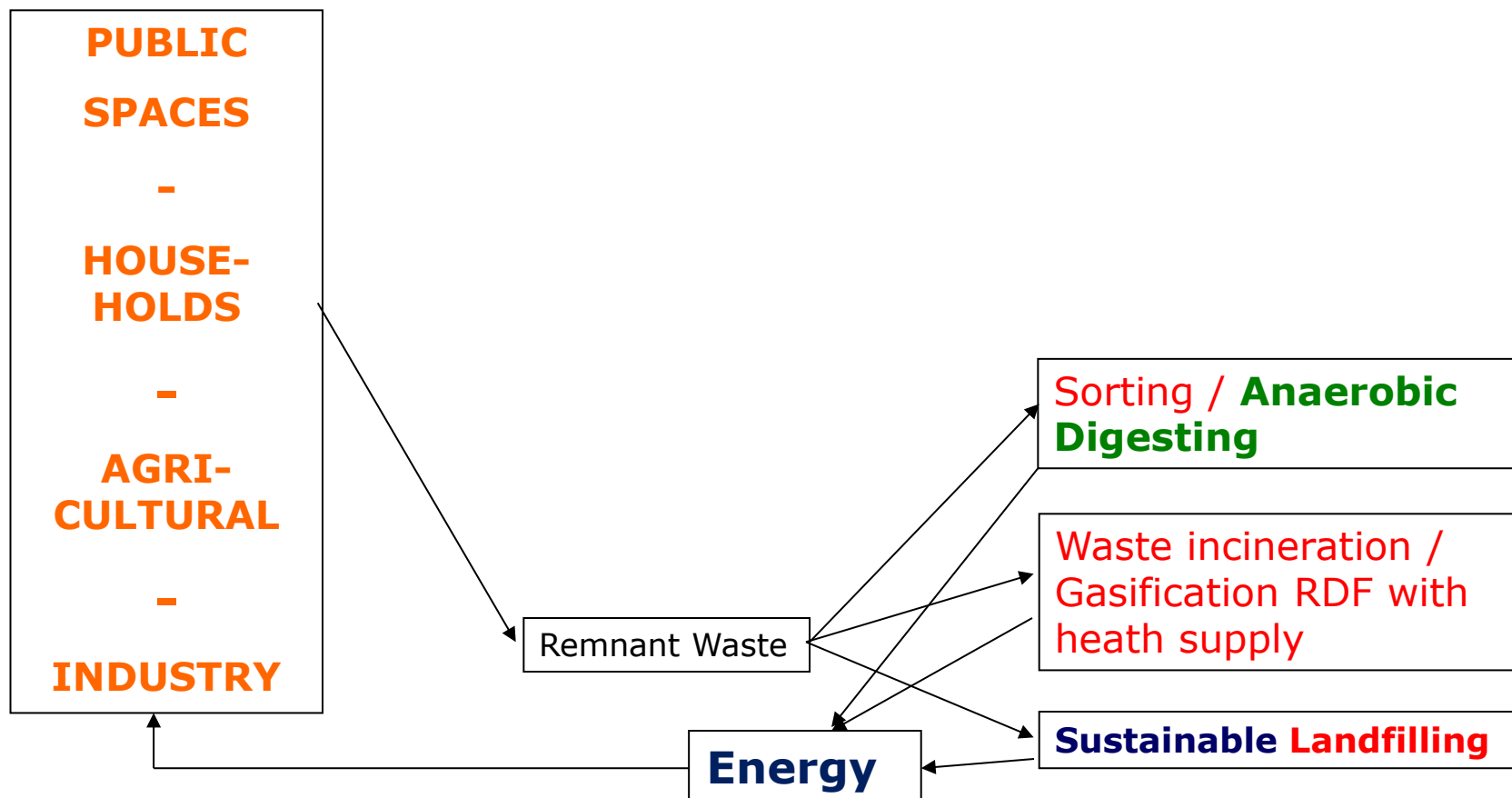
Regional Cooperation – Circular Economy





"Waste to Energy"

Regional Cooperation – Circular Economy





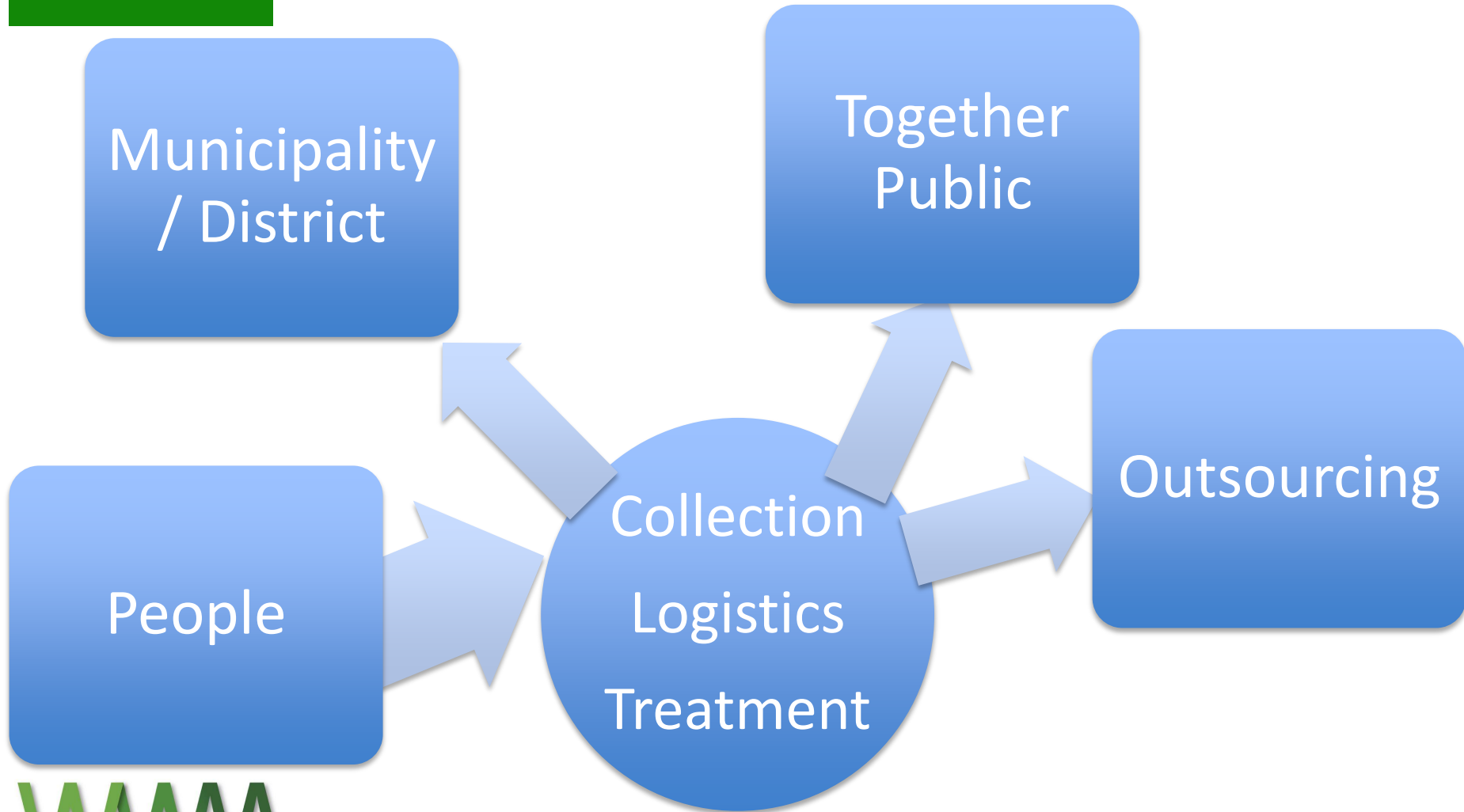
The social context

- Waste management; a purely technical issue?
- Citizen response and cooperation essential for successful waste policies!



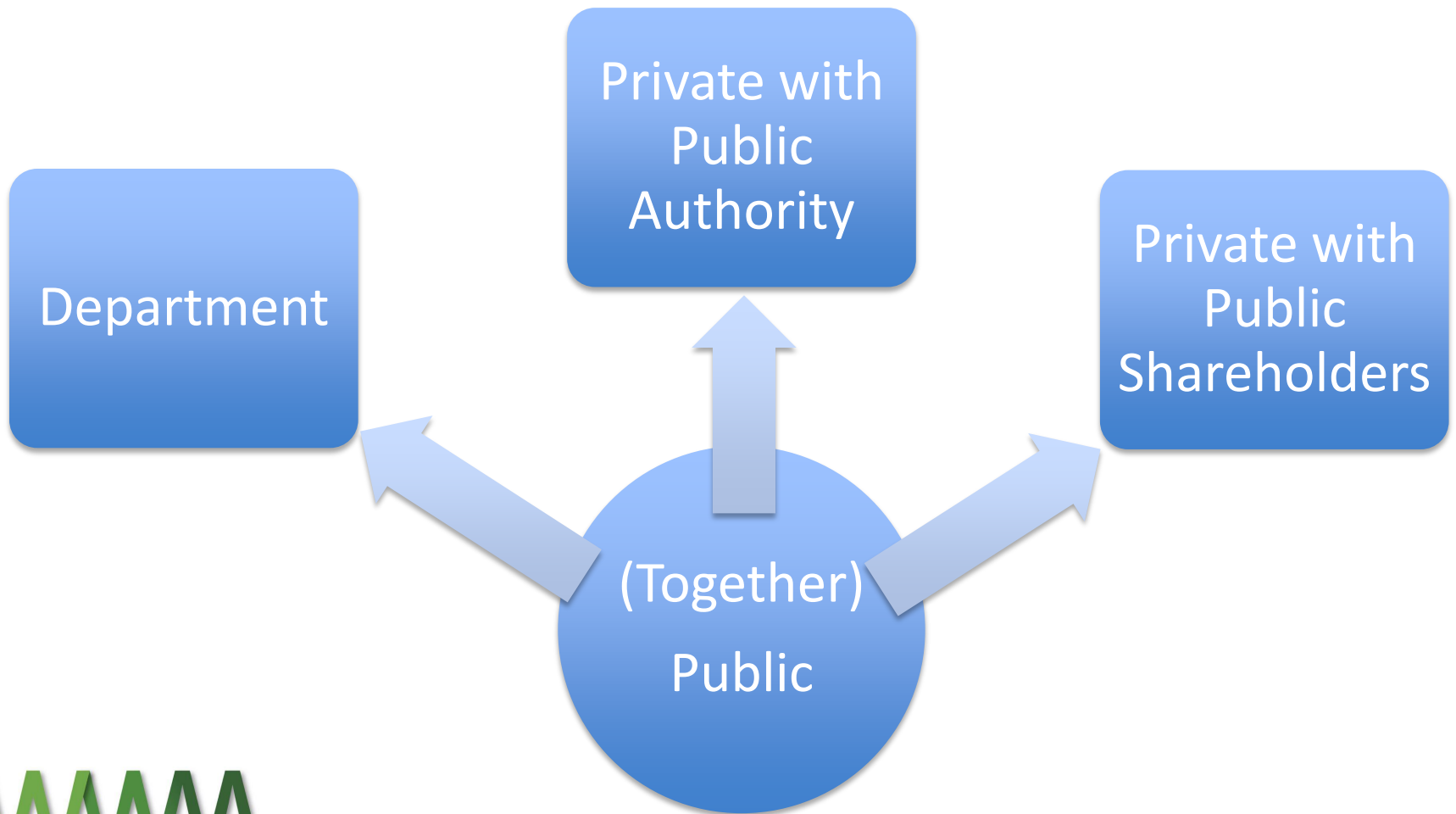


Joint – Venture with India





JV with India - 2





Dutch Waste Management

1. Partnerships (EU – India)

- A. People Public Private
- B. Public Private
- C. Private

2. .

3. .

- A. .
- B. .
- C. .
- D. .



Dutch Waste Management

1. Partnerships (EU – India)

- A. PPPP
- B. PPP
- C. PP

2. Long term contracts / Finance

3. .

- A. .
- B. .
- C. .
- D. .



Dutch Waste Management

1. Partnerships (EU – India)

- A. PPPP**
- B. PPP**
- C. PP**

2. Long term contracts / Finance

3. Design, Build, Own & Operate

- A. Separate Collection / Communication & Education**
- B. .**
- C. .**
- D. .**



Dutch Waste Management

1. Partnerships (EU – India)

- A. PPPP**
- B. PPP**
- C. PP**

2. Long term contracts / Finance

3. Design, Build, Own & Operate

- A. .**
- B. (Mechanical/Manuel) Sorting / Reuse & Recycling**
- C. .**
- D. .**



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- A. .**
- B. .**
- C. Bio refinery (Food/Feed and Energy/Fuels)**
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- D. Waste to Energy RDF Gasification / Landfill gas**



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At Your Service

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De Bruijn Advies & Realisatie
duurzaam energiek in afval

