peats AGRICULTURE SOIL IMPROVEMENT

peats BAGGED PRODUCTS

peats BLEND 437

peats BROAD ACRE SOIL IMPROVEMENT

peats HORTICULTURE SOIL IMPROVEMENT

peats LANDSCAPE SOIL & MULCH

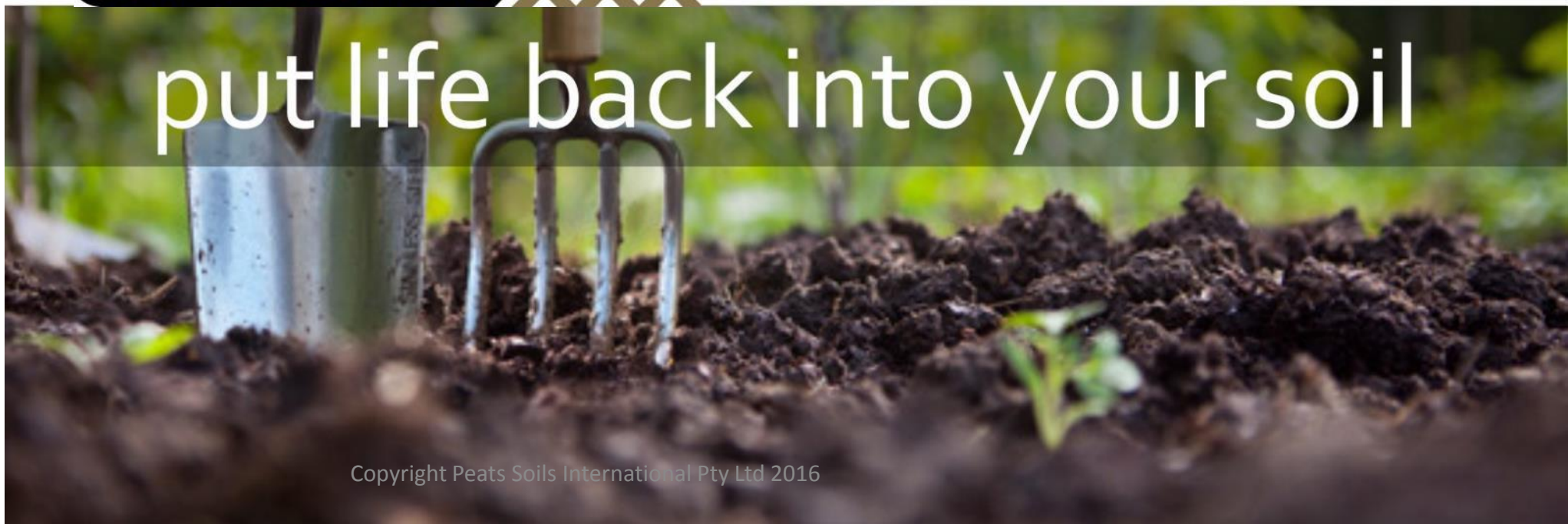
peats ORGANIC RECYCLING

peats TAILORMADE SOLUTION

peats VINEYARD SOIL IMPROVEMENT

PEATS INTERNATIONAL COMPOST SYSTEMS

ENERGY DIVISION



Previous business strategy?

Supply/Volume Driven

Organic Waste

↓

Composting → Blending → Bulk or bagged product

↓

Market

Compost Products ONLY

PEATS INTERNATIONAL COMPOST SYSTEMS

The PEATS Energy approach

Customer/Value Driven

Waste collection

Value Extraction

Biogas (AD Plant)

Biodiesel plant

Waste Blending

Product-driven

Composting Product batches

Product Formulation

Bulk | Premium Grades | Designer | Microbiology/ Chemistry | Physical Properties | Reconstitution (Pelletising)

Packaging

Waste disposal

Customer

83861055

Food Production

Landscaping

Gardens

Remediation

Mining

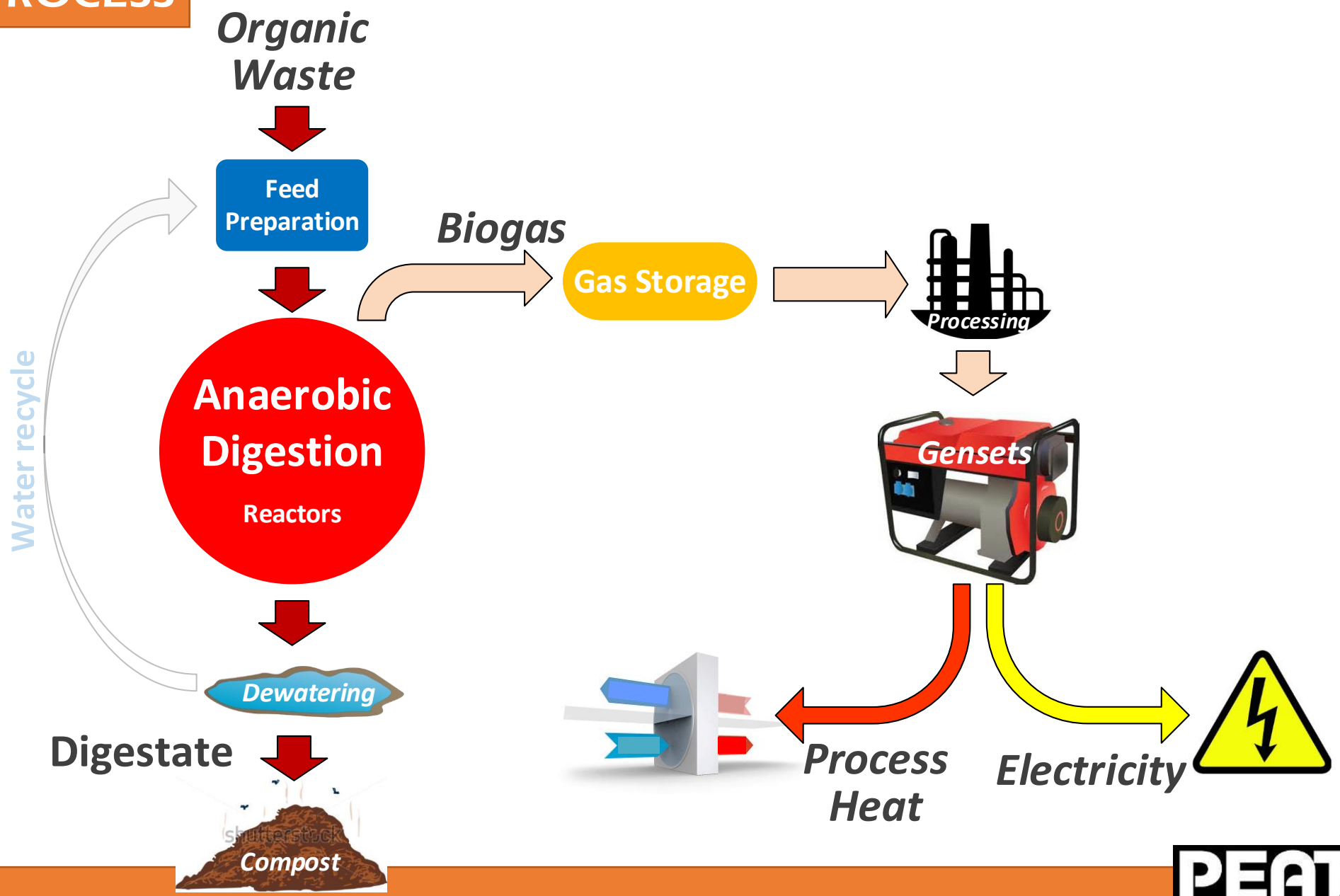
PEATS INTERNATIONAL COMPOST SYSTEMS

ENERGY 1 - *Anaerobic Digestion (AD) Plant*

- Brinkley's Future Power Demands – up to 400-500kVA
- Conventional solutions:
  - Grid connection, up to $1.1M + High electricity tariffs
  - Diesel Gensets, $0.5M + High fossil diesel costs
- Renewable energy solution: Anaerobic Digester plant
  - Extracts biogas from existing waste organic materials
  - Converted into electricity by biogas gensets
  - Stabilizes carbon & enriches nutrients in waste
  - $2-2.5M set-up cost but minimal on-going costs
- $0.5M Regional Development and Innovation Fund (RDIF) grant
- Registered for Australian Government's Emission Reduction Fund (ERF)

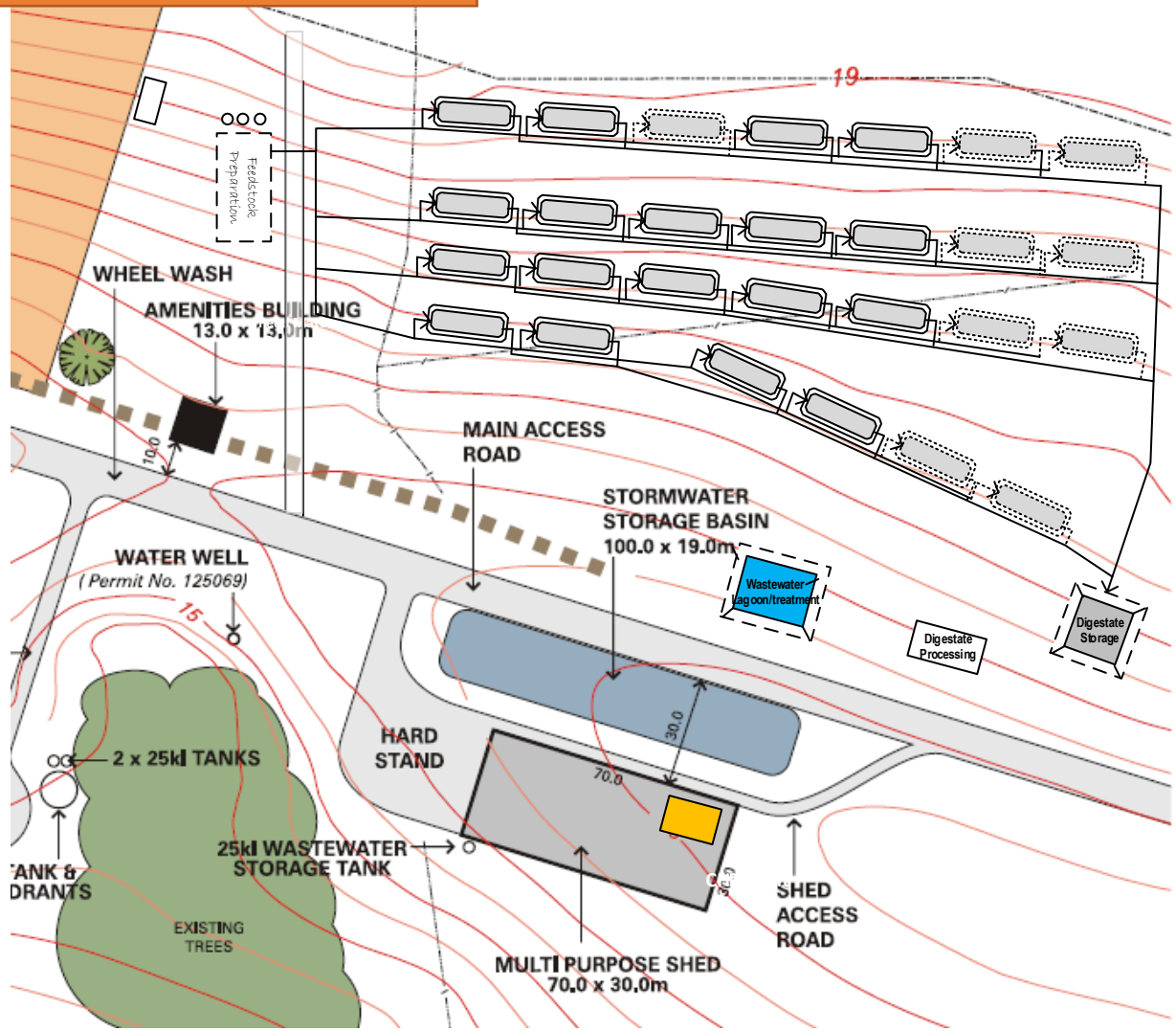
PEATS INTERNATIONAL COMPOST SYSTEMS

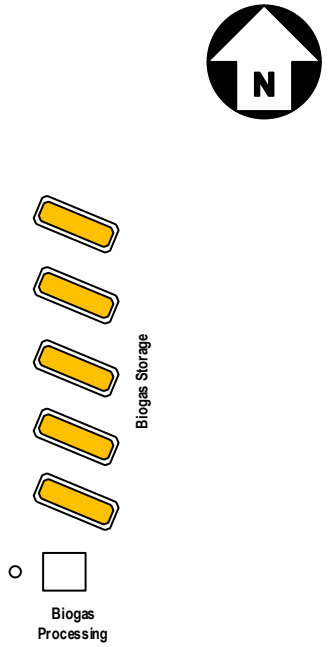
BRINKLEY AD PROCESS



Peats Organic Digester (POD)

EXAMPLE SITE LAYOUT





Notes:

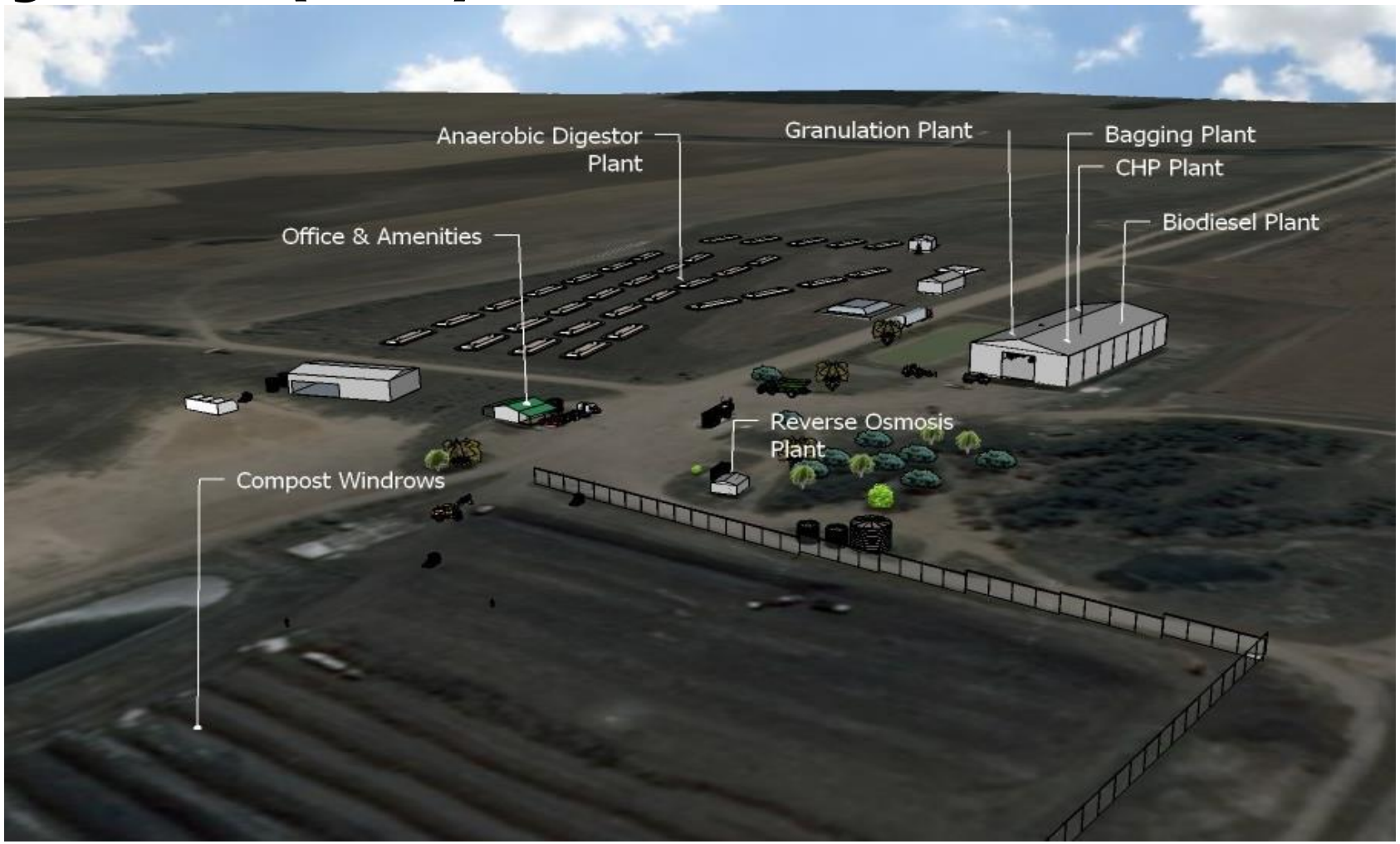
> Check Separation Distance at boundary (could be 500m)
> Biogas piping not shown
> Digestate storage - Dam or in-ground poly tanks
> Stormwater drainage not shown
> Wastewater lagoon - lined & covered

Expansion provision

COLBY industries

PEATS INTERNATIONAL COMPOST SYSTEMS

Brinkley Site (3D) Overview



ENERGY 1 – What type of organics wastes?

Recipe, e.g.

- Food organics
- Food processing waste
- Industrial organics
- Pig slurry
- Chicken Litter
- Cow manure
- Garden waste
- Oil & Grease
- Water
- Digestate seed

Outcome:

- Soluble & biodegradable wastes
- High biogas yield ~ 100m^3/tonne
- Liquefied form – 10-15% wt. solids
- Carbon : Nitrogen ratio – 15:1
- Stable pH
- Methane Combustible Gas
- Electricity

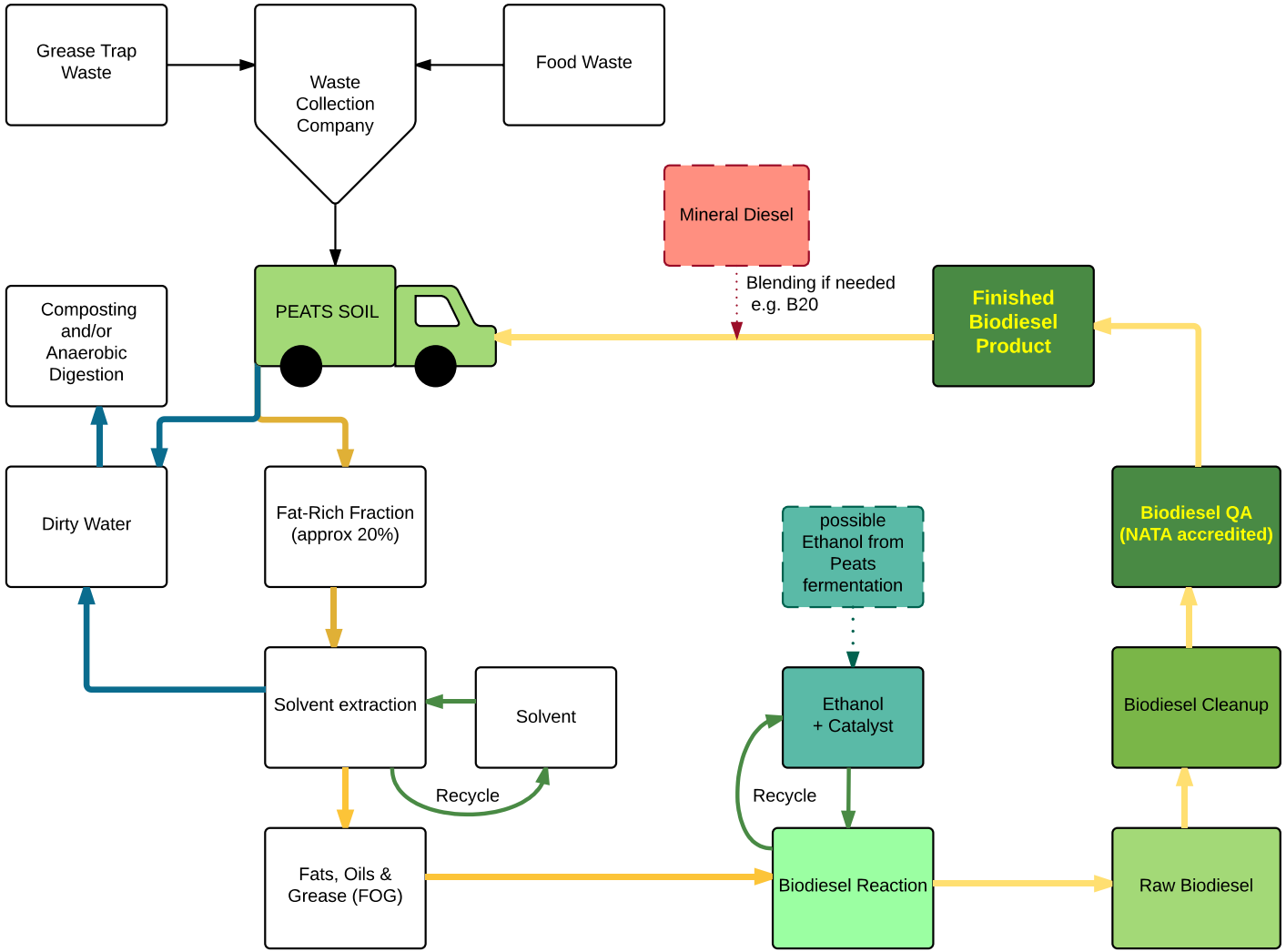
PEATS INTERNATIONAL COMPOST SYSTEMS

ENERGY 2 -
Bio Diesel Fuel Plant

- Peat's Group Annual Diesel Fuel Demands – up to 1,400,000 litres
- Conventional solutions:
  - Excise Rebated Fossil Fuel Diesel at approx. $0.96c/ltr or $1.34m pa cost
- Renewable energy solution: Bio Diesel Fuel plant
  - Extracts Organic Biodiesel from existing grease trap fatty waste organic materials
  - Converted into Bio Diesel using patented conversion process.
  - Residual waste product still ends up in composting process.
  - $1.0M set-up and development cost but minimal on-going costs
  - Organic Fuel 100% usable into road and site fleet at approx. $0.50c/ltr or $0.7m pa
  - Net annual SAVING of $644,000 compared to Fossil Fuels
- Research and Development ATO approved rebate.
- Registered for Australian Government's Emission Reduction Fund (ERF)

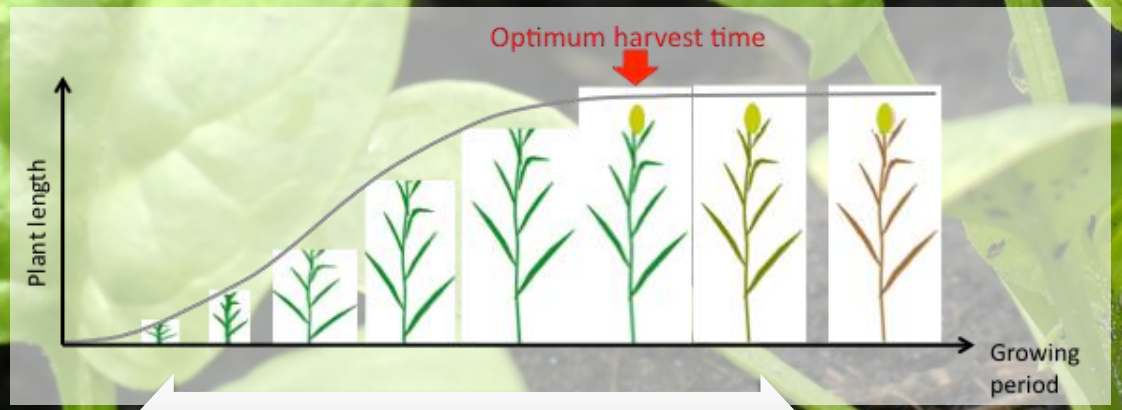
PEATS INTERNATIONAL COMPOST SYSTEMS

Peats Soil and Garden Supplies Pty Ltd
Biodiesel Pilot Production Plant, Brinkley SA



Sorghum – a reliable future crop

SWEET SORGHUM SILAGE



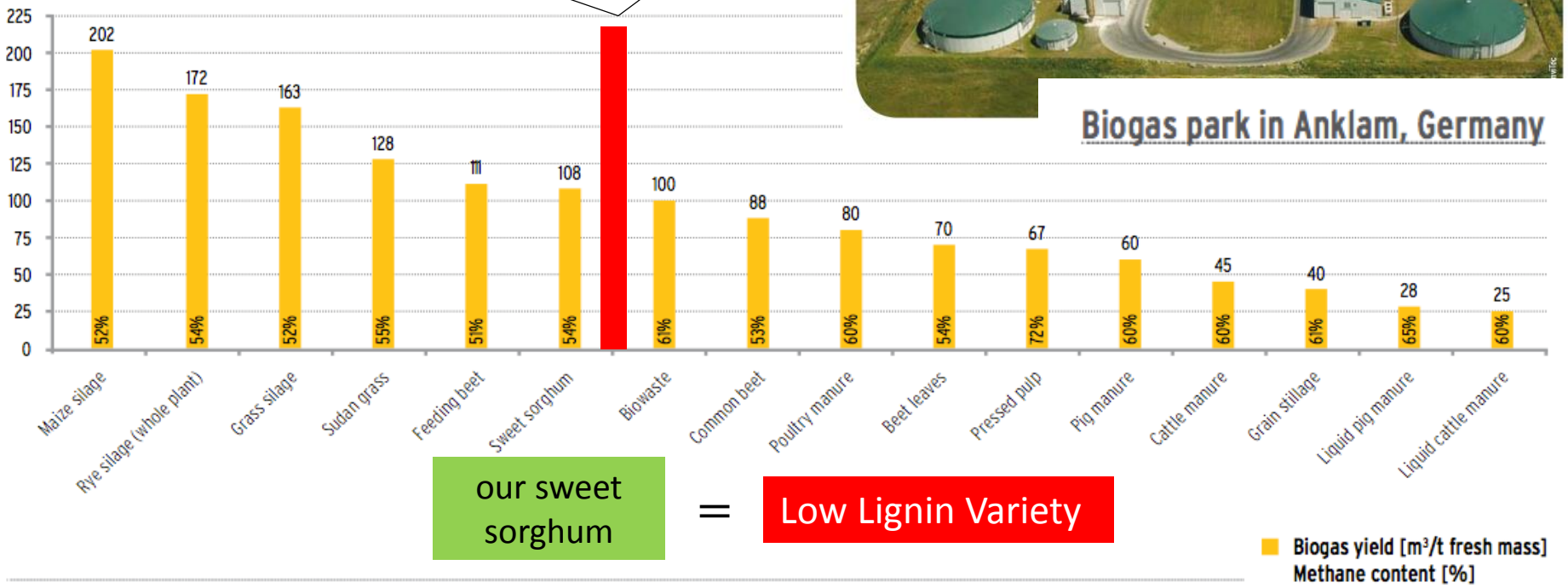
November~May (SA)

Biogas yield of our technology with sorghum show highest performance

Sorghum Biomass≒Maize × 2

216 m^3 Biogass/ t fresh mass,
56% Methane content

Biogas park in Anklam, Germany



our sweet sorghum = Low Lignin Variety

[4] Handreichung Biogas, Fachagentur Nachwachsende Rohstoffe, 2006; Energiepflanzen, KTBL, 2006

A NEW AGRICULTURAL FRONTIER

Soil improvement through composted manures

Smart Agriculture
Drip Irrigation
Organic Fertilisers
Microbe Assisted Nutrition
Bio-Char & Humified Matter

AGRICULTURAL RE-CYCLE & DUAL CROP

SILAGE

+

FOOD AND/OR FUEL

COMBINED INDUSTRIALISATION & PROCESSING
-SUGAR / HFSyrup
-ETHANOL
-ANIMAL FEEDSTOCK
-ENERGY FUEL

Multiple sources of income

THANK YOU

Waste to ENERGY

Developing Novel Technologies for Green Electricity, Gas and Biodiesel Production from Low-Quality, Organic and Food-Waste Feedstocks

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