Beta Renewables is a joint venture, created in October 2011, between BioChemtex and the investment firm TPG (Texas Pacific Group).

Novozymes, Denmark-based world-class biotech company acquired 10% share of Beta Renewables in October 2012.

Beta Renewables owns and licenses the Proesa® technology for production of fermentable sugars from cellulosic biomass.

1st commercial-scale 2GE biofuels plant operating in Crescentino (Italy) – 40 ktpy = 13 million gallons per year capacity.
M&G Chemicals has publicly announced the plan to build a 2nd generation biorefinery in the **Fuyang** region, China, in partnership with Guozhen (Anhui).
The transport sector is responsible for about 25% of global CO₂ emissions.

An advanced biofuel like cellulosic ethanol will reduce GHG emissions by approximately 115%.

Sources: UN-Energy, International Monetary Fund, US DoE and EPA
Beta Renewables

Opportunities for production in SEA

- **Palm Oil residuals (EFBs), dedicated energy crops (i.e. Napier Grass), rice straw**
  - Indonesia

- **Palm Oil residuals (EFBs), dedicated energy crops (i.e. Napier Grass), rice straw**
  - Malaysia

- **Sugar cane (bagasse / straw), dedicated energy crops (i.e. Napier Grass), rice straw**
  - Philippines

- **Sugar cane (bagasse / straw), rice straw, dedicated energy crops (i.e. Napier Grass)**
  - Thailand
Beta Renewables
How to drive investment and growth in SE Asia

- Implement certain and stringent blending mandates
- Remove subsidies of conventional fossil fuels
- Incentivize electricity from renewable sources
- Fair profit sharing mechanism with local biomass suppliers
- Penalize uncontrolled burning of agri-residuals on the field