



TECNOLOGIE E PROCESSI PER LE NUOVE FRONTIERE AMBIENTALI

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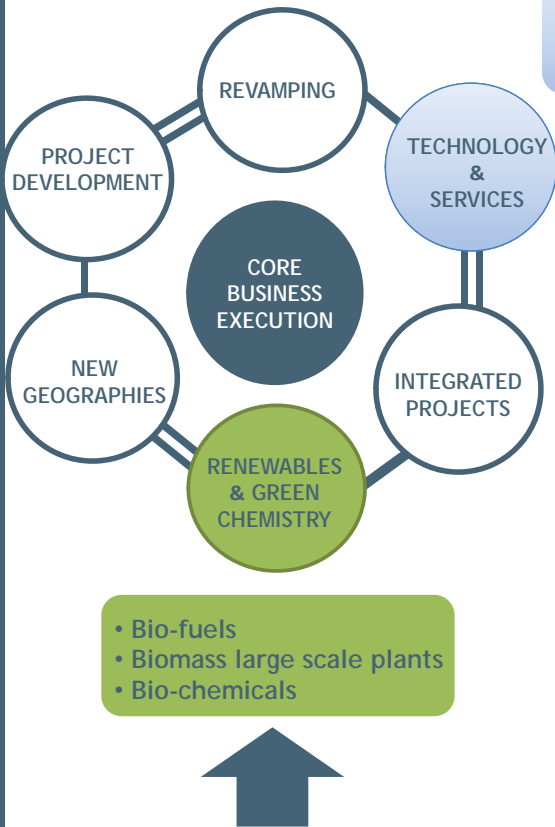
SUMMARY

1. Maire Tecnimont Business Model
2. CO₂ Capture
3. Gas Flaring monetization
4. H₂S Cracking
5. Bio-Chemical / Recycling





MAIRE TECNIMONT BUSINESS MODEL



- CO₂ Capture
- Gas Flaring Monetization
- Gas treatment rich in CO₂ e H₂S

Sustainability

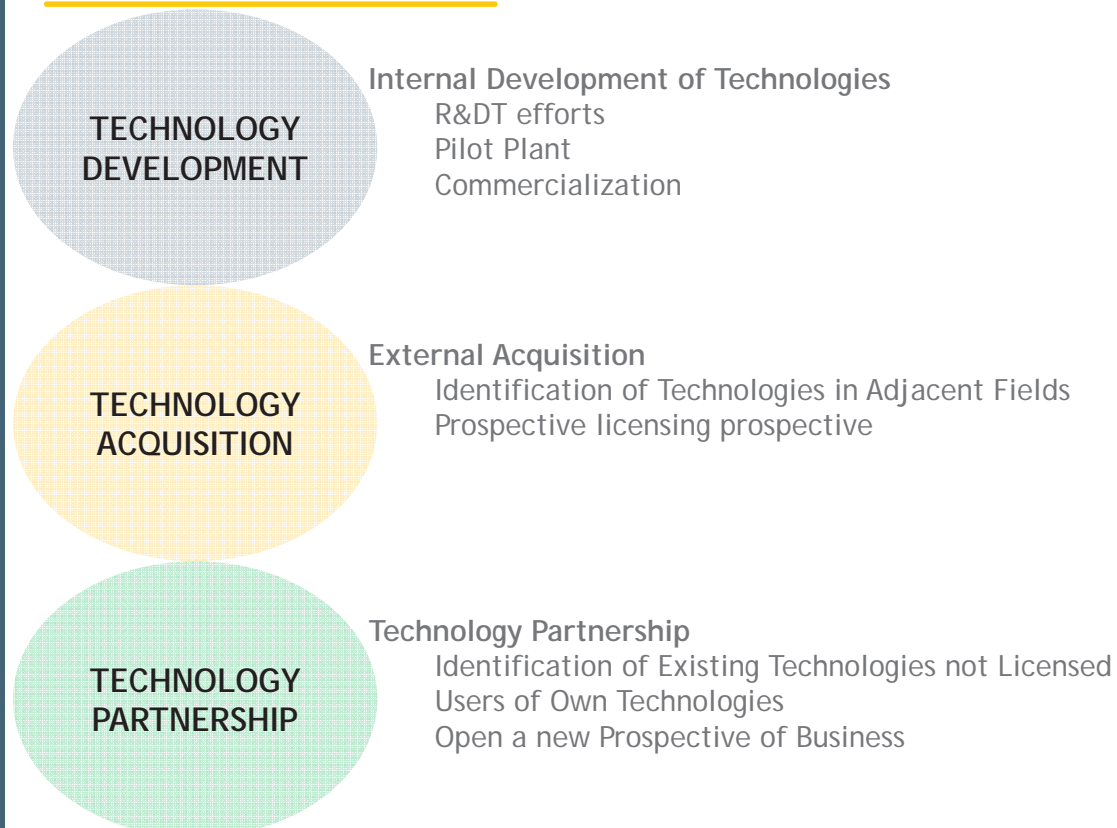
A classic definition consider sustainability as providing for current needs without compromising the ability to satisfy these needs in the future. There is a general agreement among "expert" in sustainability that there are three components to the concept

- | | |
|------------------------------|----------|
| Economic sustainability | → Profit |
| Environmental sustainability | → Planet |
| Social sustainability | → People |

The fact that economic viability is necessary for sustainability remove the need for economics to be considered a separate item of importance. If isn't economical, then by definition will not be sustainable.



MAIRE TECNIMONT BUSINESS MODEL



Internal Development of Technologies

R&DT efforts
Pilot Plant
Commercialization

TECHNOLOGY
DEVELOPMENT

External Acquisition

Identification of Technologies in Adjacent Fields
Prospective licensing prospective

TECHNOLOGY
ACQUISITION

Technology Partnership

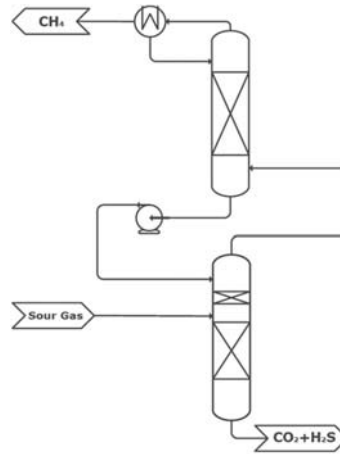
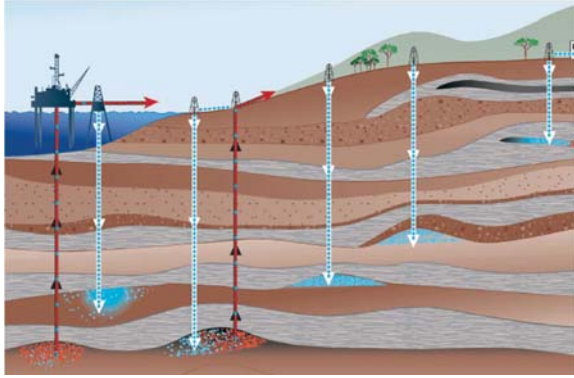
Identification of Existing Technologies not Licensed
Users of Own Technologies
Open a new Prospective of Business

TECHNOLOGY
PARTNERSHIP



CO2 CAPTURE

The 'Acid Gas' technology* jointly developed by Politecnico di Milano and Maire Tecnimont Group works out the CO₂ solidification issue through a whole new approach: the cryogenic distillation is carried out by means of two columns working at different pressures.

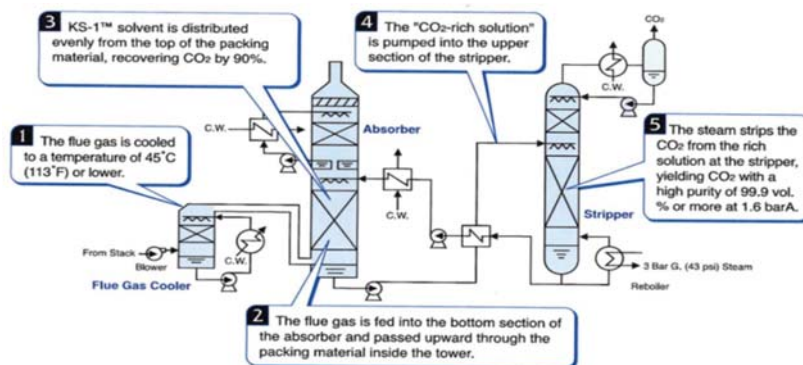


Pilot Plant



CO2 CAPTURE

Use of established technologies on the market which through chemical adsorption "capture" CO₂. Technical solutions that TCM can apply to existing systems that need to comply with environmental standards



CO₂ Recovery Plant in India (Phulpur)

Location: Phulpur, India Start-up: December 2006

Plant Outline

CO ₂ recovery capacity	450 ton/day
Solvent	KS-1™ solvent
Use of CO ₂	Urea production
Client	Indian Farmers Fertiliser Co-operative Ltd.
Flue gas source	Natural gas fired steam reformer flue gas

Process Description

CO₂ is recovered from steam reformer flue gases. CO₂ is compressed and then used for urea synthesis. Flue gas is cooled and SO_x is removed before entering CO₂ absorber.



CO₂ Recovery Plant in India (Aonla)

Location: Aonla, India Start-up: December 2006

Plant Outline

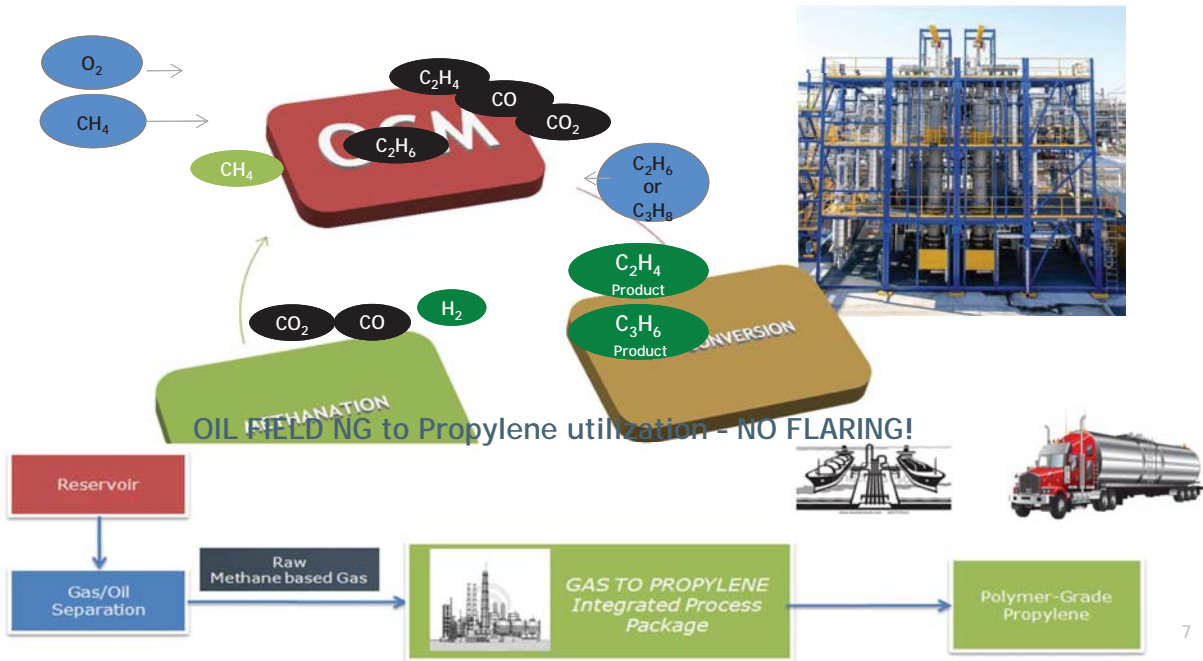
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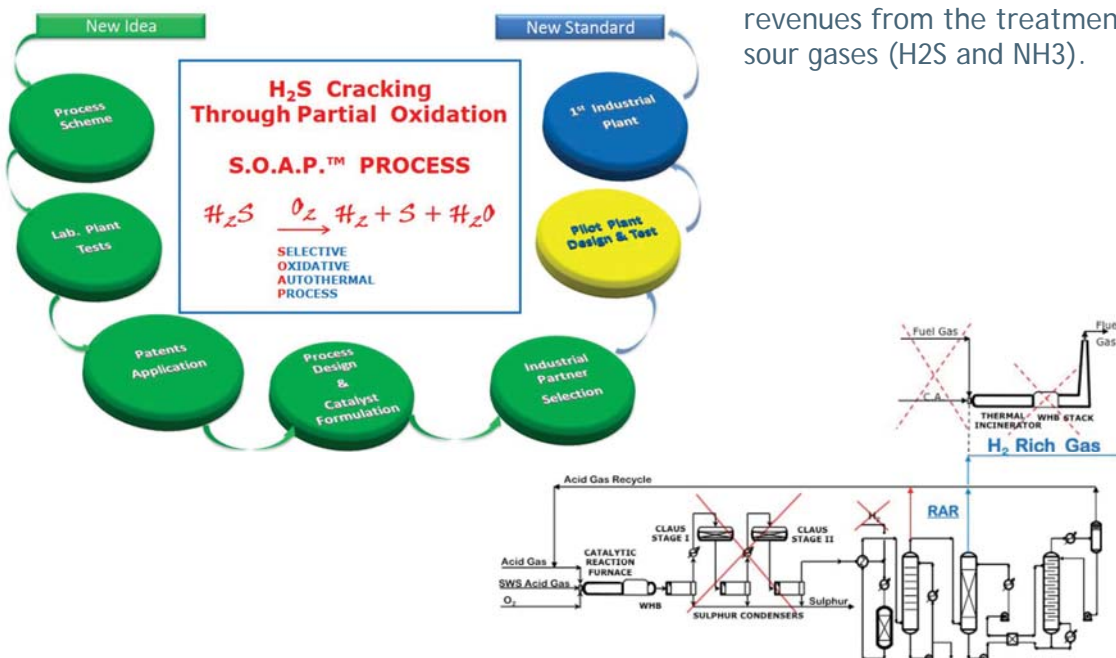
Disruptive technology able to convert Methane Rich Gas (the most abundant and cheap hydrocarbon raw material) directly in Olefins



H2S CRACKING : CO2 E H2S GAS RICH TREATMENT

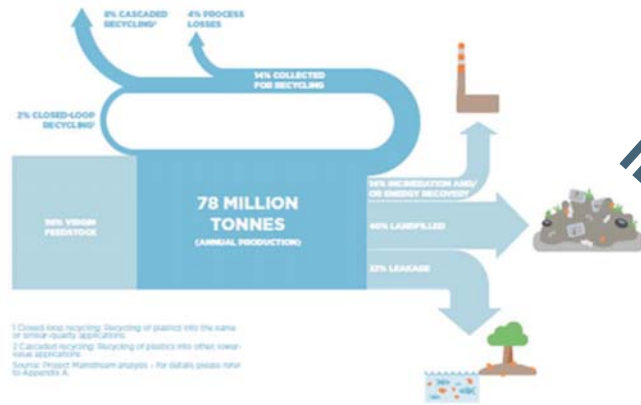
The distinguishing feature of Kinetic Technology "Sour Gas SOAP™" (Selective & Oxidative Auto-thermal Process) is the production of valuable products: hydrogen and liquid sulphur through sour gas catalytic cracking partial oxidation, instead of production of waste gases (SO2) as per benchmark process technology. In this way, it is capable to generate

revenues from the treatment of sour gases (H2S and NH3).

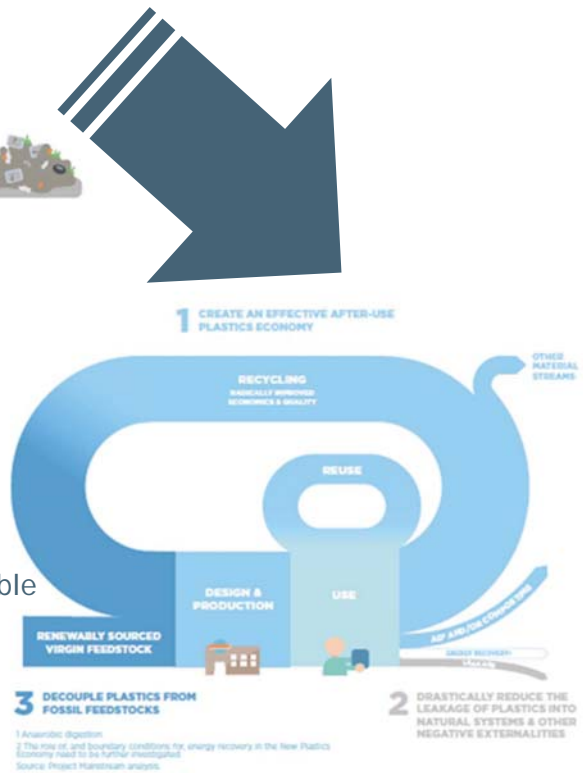




BIO-CHEMICAL REASONING/RECYCLING



- Mechanical Recycling
- Chemical Recycling
- Bio-Chemicals Production from Renewable sources



Source : The New Plastic Economy - ELLEN MACARTHUR FOUNDATION



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