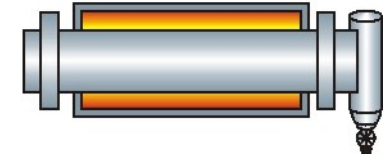




DGEngineering

Clean Clean Project from Lignite

Semirara 2006



A small Philippine island and a major problem ...



There are living people, which are cooking at an open fire in-house.

Gasoline or diesel cookers are too expensive, electric power is often down, so they are using wood....

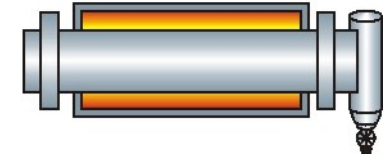
But:

Trees for cutting down are not enough on these island!

There are a lot of mangroves which give good fire wood...

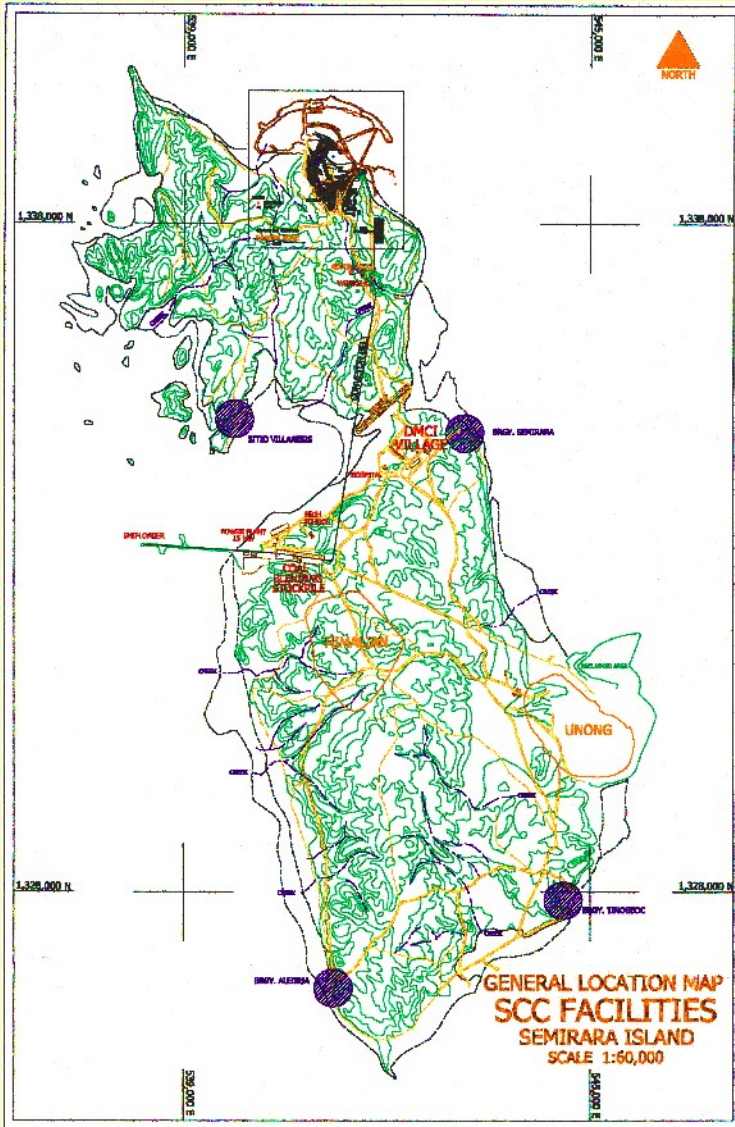
But:

This will destroy the coast protection!



Semirara Island

- Size: appr. 10 x 5 km
- Four villages
- Residents estimated 7,500 to 12,500
- One hospital with dedicated personal
- One residence area (once Voest Alpine Camp)
- One seaport for lignite freighters
- One airstrip
- One flooded mine "Unong"
- One active mine "Panian"
- One lignite power Station with 7.5 MWeI.

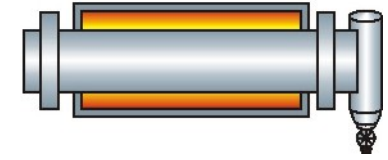




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Clean Clean Project from Lignite

Semirara 2006



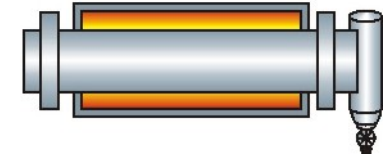
May there a solution in
a big lignite mine?

One of Philippines's
biggest lignite mines is
on these island.

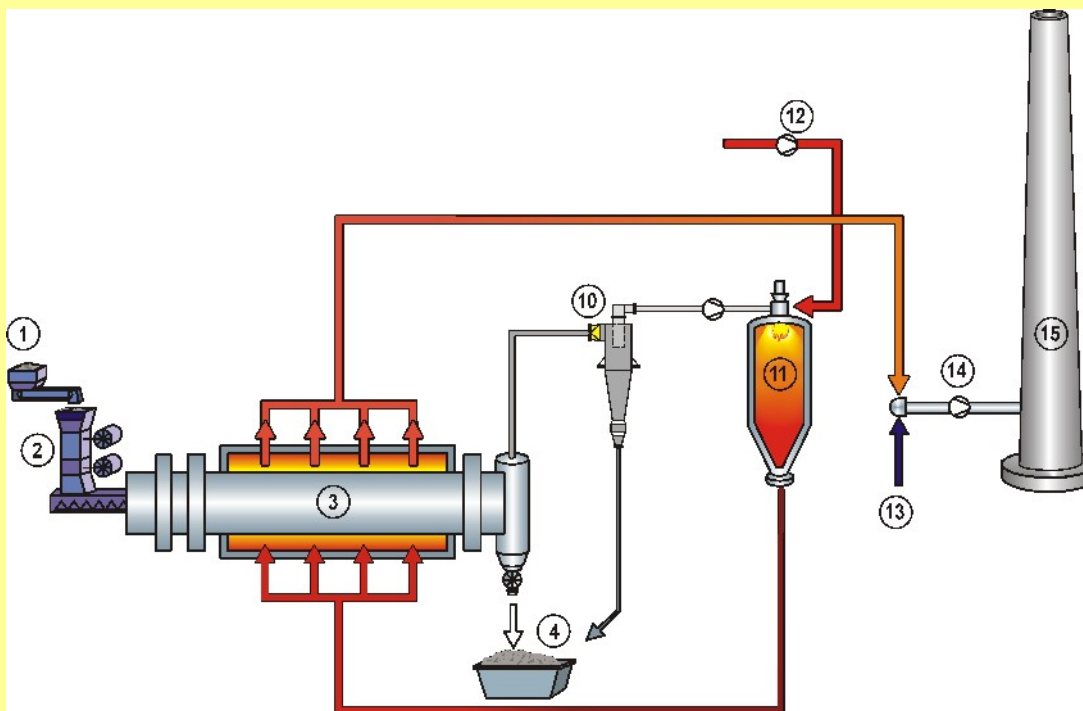


But:
Do you want to cook
on a lignite fire?

No!



The idea: autotherm pyrolysis process of lignite



1 manual feeding

2 sluice system

3 rotary pyrolysis kiln

4 lignite coke

10 pyrolysis gas treatment

11 combustion chamber

12 combustion air

13 cooling air

14 off gas fan

15 stack

Only for heat up approx. 20 liters diesel are required.

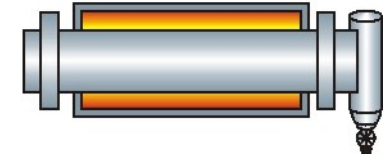
The process heat is normally get from the combusted pyrolysis gas.



DGEngineering

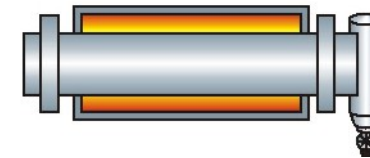
Clean Clean Project from Lignite

Semirara 2006



Manufacturing in Germany





Pictures made by Jörg Weigandt (Kobra)

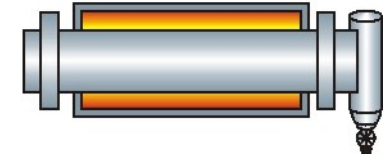




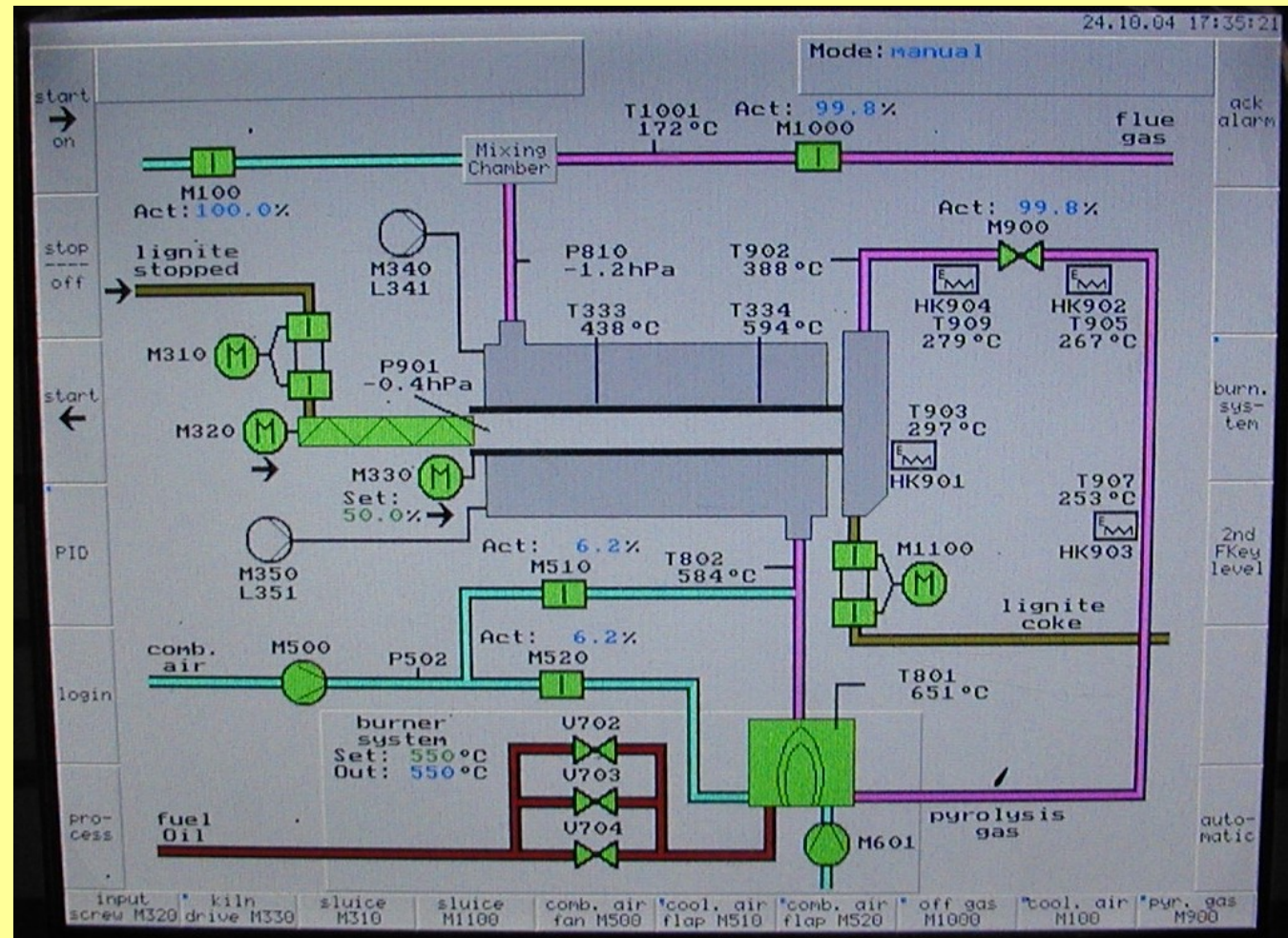
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Semirara 2006



Start up & problem solving

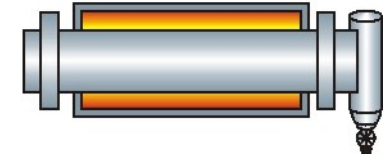




DGEngineering

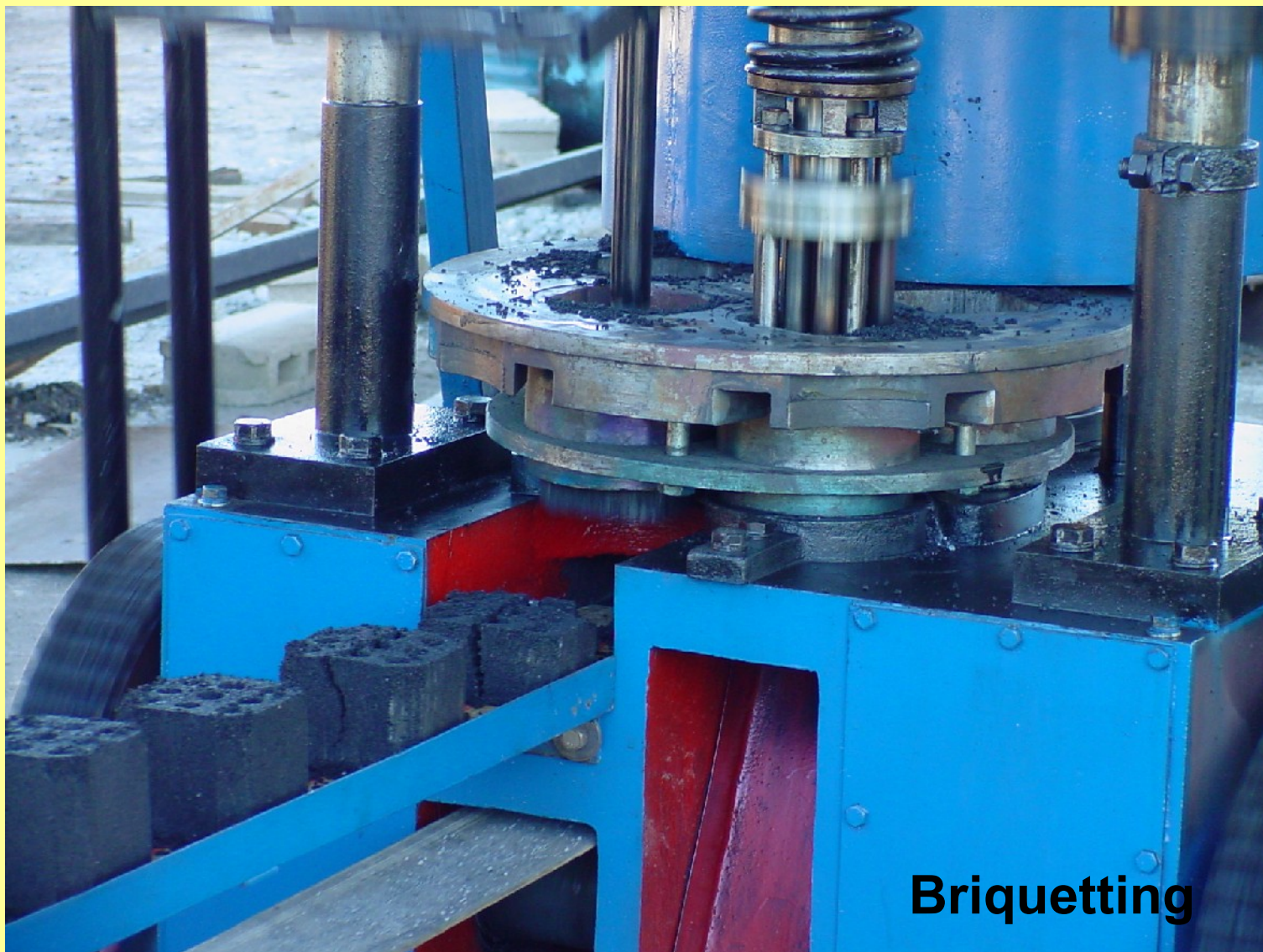
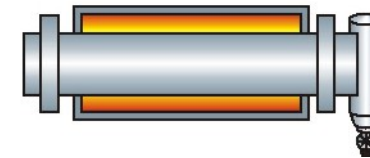
Clean Clean Project from Lignite

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Preparation - Explanation - Education - Operation





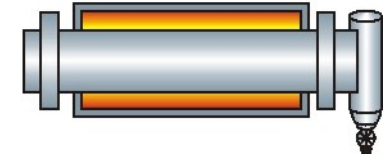
Briquetting



DGEngineering

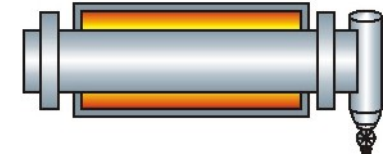
Clean Clean Project from Lignite

Semirara 2006



Clean Coal Briquettes

- Burning 2 hours
- Nearly smokeless
- Made from lignite
- Ignitable by lighters
- Quick and safe heat



Cooking with clean coal briquettes



igniting with lighter



waiting a minute



cooking starts



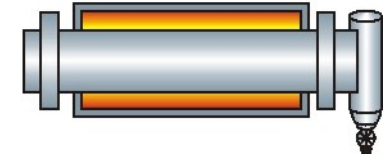
Smokeless & Hot & Safe



DGEngineering

Clean Clean Project from Lignite

Semirara 2006

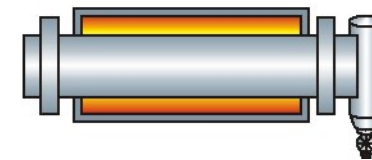


Clean Coal Barbeque Briquettes

also for Semirara fish

and also for German „Bratkartoffel“





The End...

in 2006 of Semirara Story

