

Sustainable Heating



TIPS presentation

Global Warming is real

And now is the time to act

2015

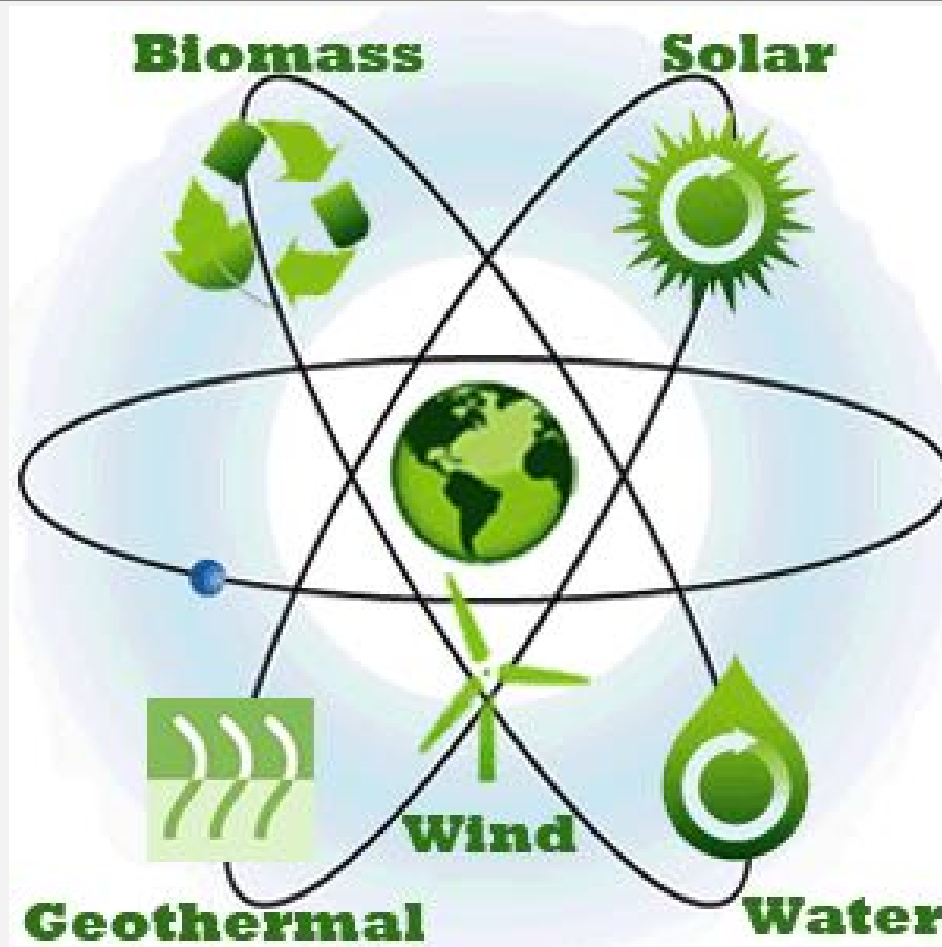


2100



Renewable energies

As a way to reduce global warming



Chimney stack CO2 emissions

An average size industry

An average size industry:

- Burns 630.000 litres of Fuel/Month
- 2000 Tons CO2 emitted

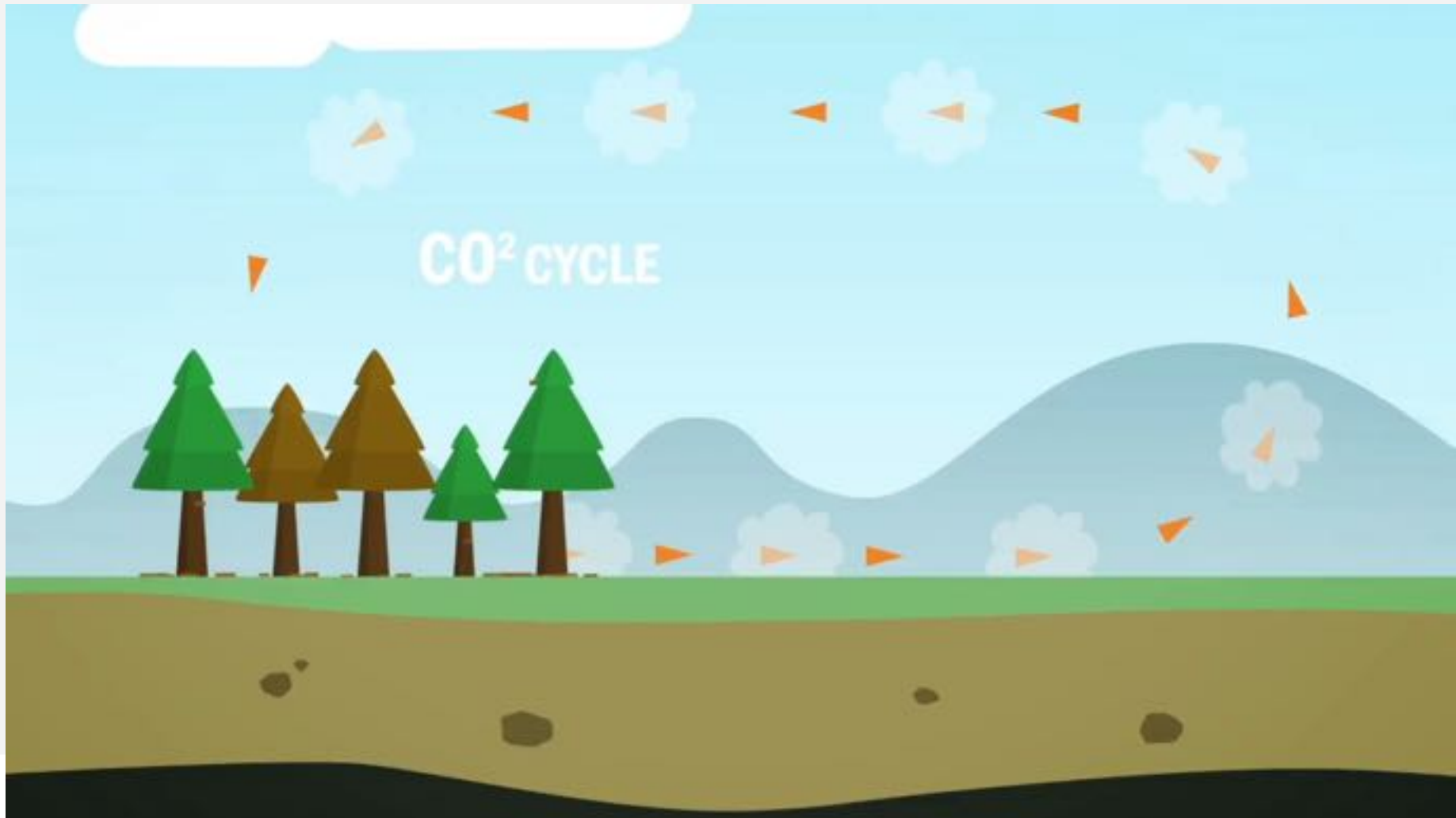
To balance out, you need:

- 265.000 Mature trees
- 105 Ha of Forest



Biomass is Carbon-neutral

And is an excellent substitute for Fossil-fueled technologies



Sustainable Heating



Biomass energy specialists in Africa

- ✓ We deliver solutions to our customer's heating, steaming and Electrical ~~problems~~ CHALLENGES.
- ✓ We partner with our clients to help them with assessing, planning, designing, implementing and running their heating and steaming system.
- ✓ We work closely with our clients to help them to reduce their heating costs and their carbon footprint.

WE ARE A HEATING SOLUTIONS COMPANY

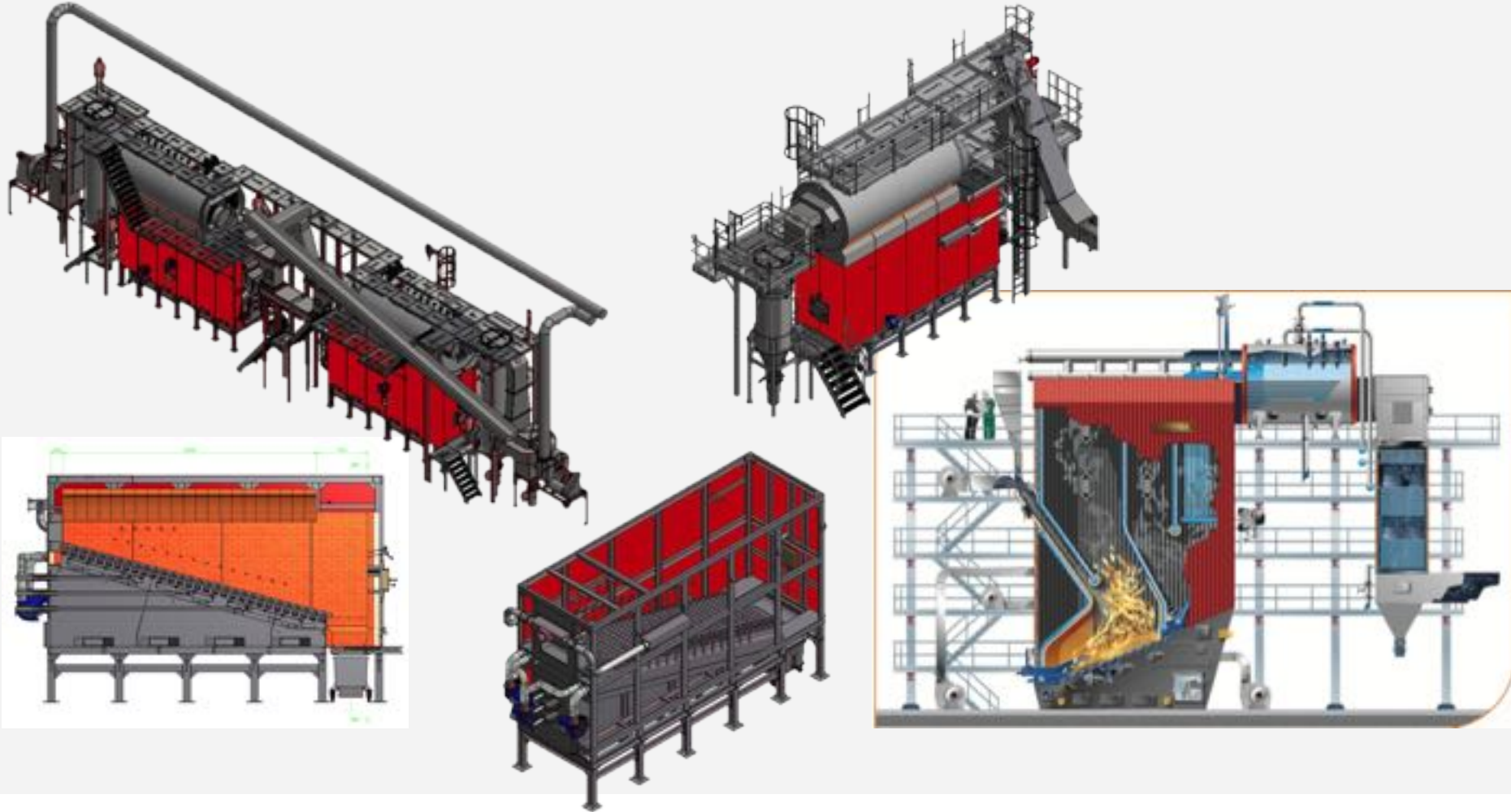
Major challenges: The Technology

BOILERS

LOADING SYSTEM

FUEL

MONITORING



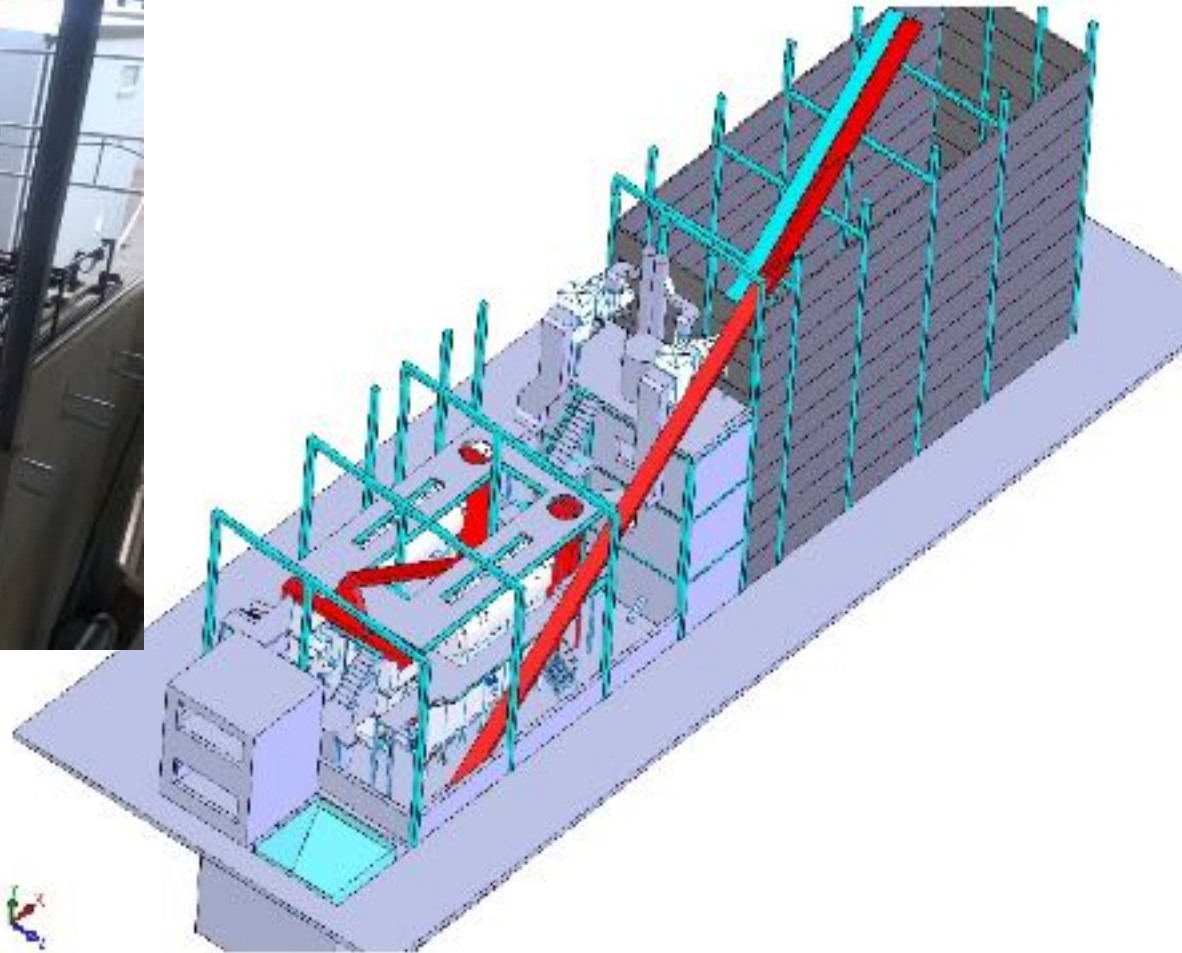
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- Our furnaces can process a wide fuel range with various moisture content up to 50%. (E.g. Saw dust, woodchips, briquettes, energy crops pellets, bagasse, rice husks, sunflower husks, etc.)
- We operate chipping facilities and have tied in contracts reliable suppliers around the country



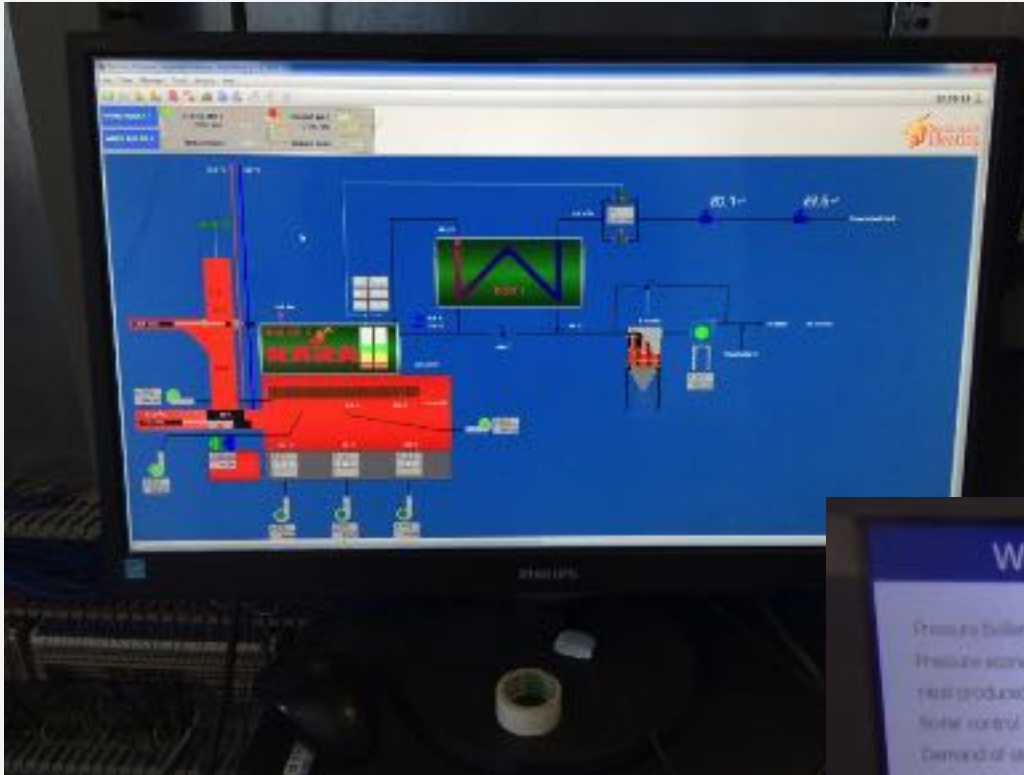
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Wood fired boiler installation Sustainable

Pressure boiler:	7.51 Bar	Status:	Operation
Pressure economiser	2.40 Bar	Flue gas temp after boiler:	182 °C
Heat produced:	783 kW	Flue gas temp after econ:	138 °C
Boiler control value:	55 %	Furnace temperature:	603 °C
Demand of steam:	65 L/hr	Water temp water to econ:	47.6 °C
Flue gas oxygen level:	13.2 %	Water temp economiser:	76.9 °C
Furnace under pressure:	-6 mmWG	Water temp cooling beam outlet:	47.5 °C
Cyclone differential pressure:	125 mmWG	Water temp cooling beam inlet:	33.0 °C
Temperature 1 under moving grate:	107 °C		
Temperature 2 under moving grate:	201 °C		
Temperature 3 under moving grate:	156 °C		

Achievements



SUCCESSFUL INSTALLATIONS

- 6 installations running successfully throughout the country
- Permanent jobs created: 52
- Capacity installed: 21 MWh Thermal
- Carbon savings: 70.580 Tons CO2 per year
- Equivalent to: 806.000 mature trees absorbing CO2 constantly.

- AND EXPANDING IN OTHER AFRICAN COUNTRIES

Acknowledgment



Without funding, there is no project

- None of this would have been possible without the AFD, KFW, IDC and Mergence.
- Thanks to them we have commissioned installations that will save up to 1 million tons of CO2 over the contracts lifetimes!
- And this is only the beginning, we are ready to grow in South Africa and in many other countries.

Conclusion

Never, ever ever give up!

