

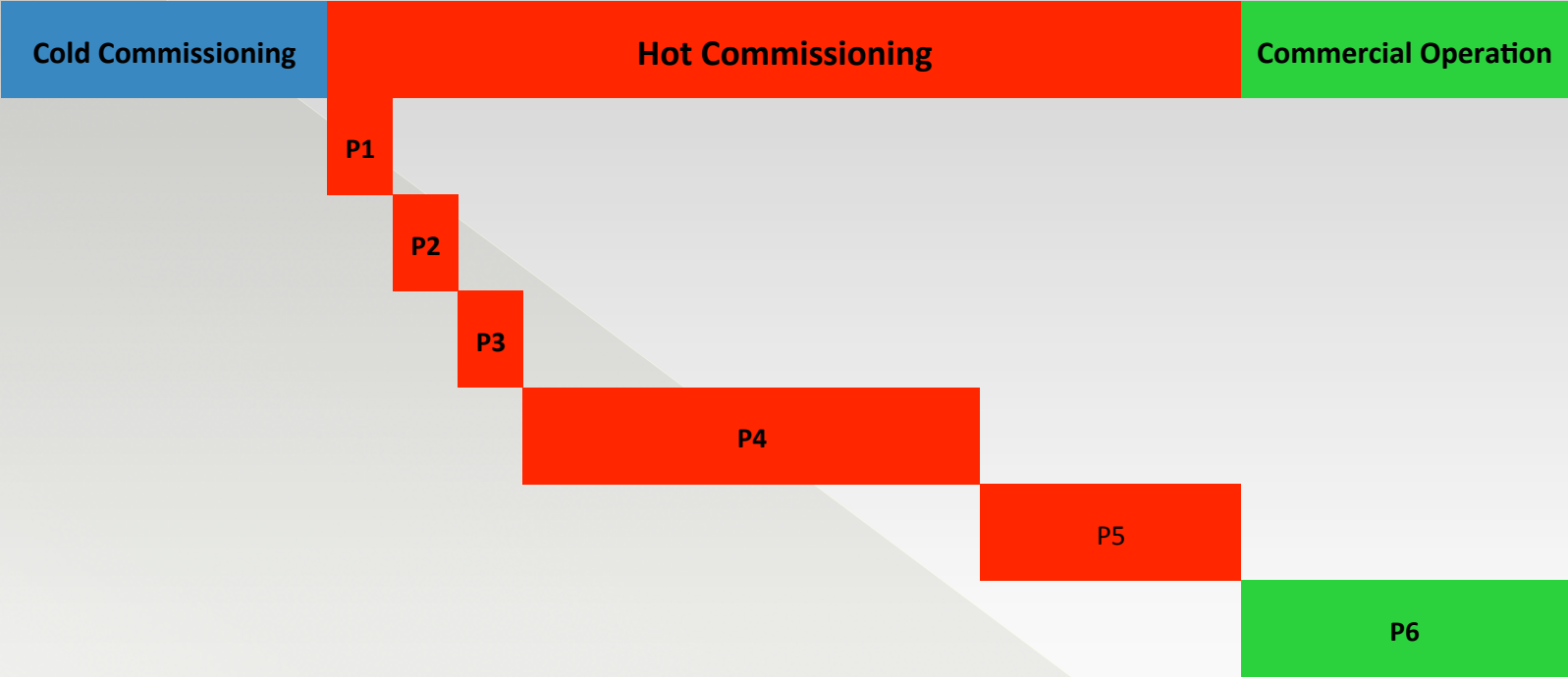
Envirecover Energy From Waste

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What We'll Cover Today

- Commissioning Plan
- Commissioning Activities
- Activities of specific interest

Commissioning Time Line



Commissioning Phases

- Phase 1 to 2
- Phase 3
- Phase 4
- Phase 5
- Phase 6



Phase 1 to 2

◉ Phase 1

- Refractory Lining dry out 6 days and boil out 6 days
 - Emissions monitored by CEMS
 - Low noise operation
 - No Waste burnt

◉ Phase 2

- Start up on normal auxiliary burners 15 days
 - Emissions monitored by CEMS
 - Low noise operation steam flow through a silencer
 - Plant operation will be in line with the Commissioning protocol
 - No Waste Burnt



Phase 3

◉ Phase 3

- > 3.1 First fire with waste and steam circuit testing 10 days
 - Emissions monitored by CEMS – Emissions tuning with Abatement in service
 - Plant operation will be in line with the commissioning protocol
- > 3.2 Steam Turbine testing 10 days
 - Testing and synchronization
 - Fine set up of the CEMS
- > 3.3 Operational tests 5 days



Illustration of Operation

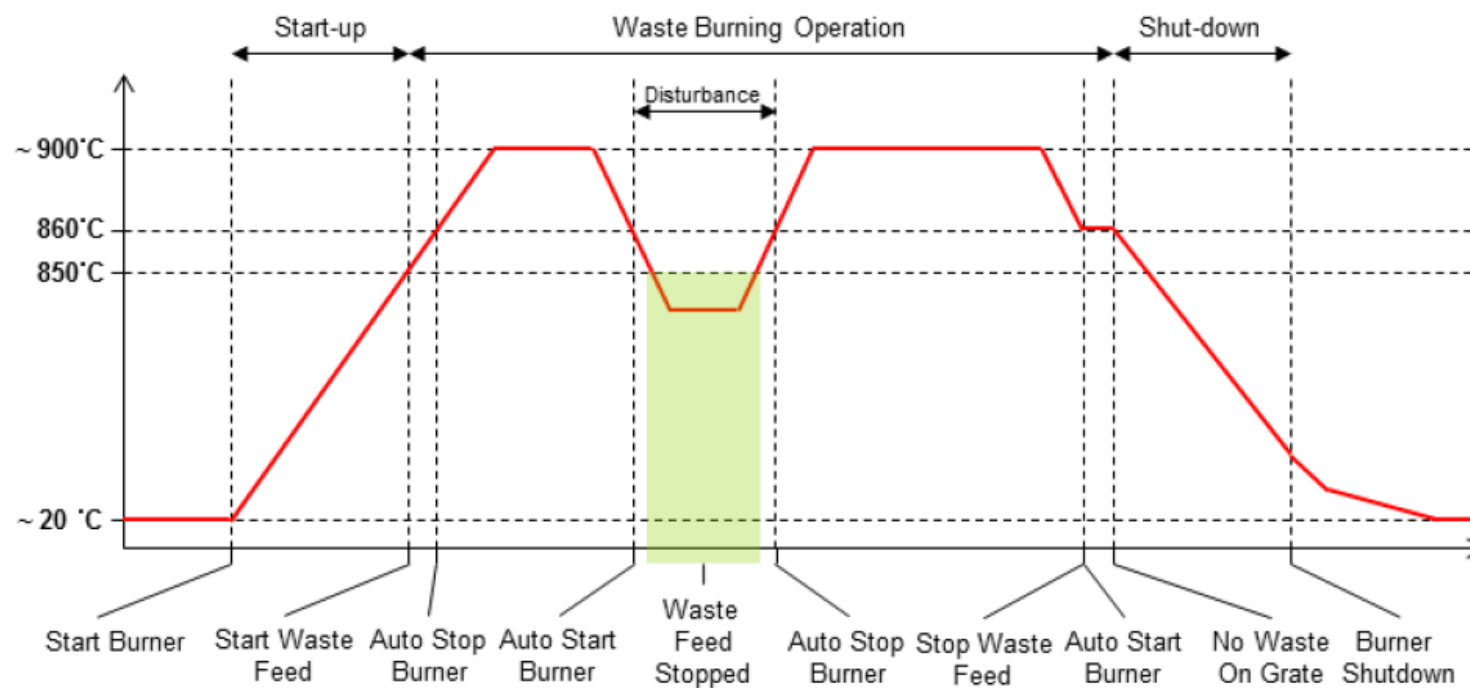


Figure 3: burner operation and waste feed vs. temperature

Phase 4

- Optimisation of the process 8 weeks
 - Optimises the plant operation
 - Testing of Turbine and Generator
 - Emissions monitored by CEMS
 - QAL 2 (Emissions extractive test completed)



Phase 5

- ◉ Take over tests 5 weeks
 - > Live tests – Main plant operation
 - Plant start and stop
 - Full abatement in service
 - Monitored by CEMS
 - > Compliance with contract conditions
 - EA permit compliance
 - 14 days stable operation



Phase 6

- ◎ Reliability tests
 - > 60 days continuous operation
 - > Performance tests
 - > Full abatement in service
 - > Monitored by CEMS
- ◎ Commercial handover



Emissions

- Phase 1 and 2 CEMS monitored
- Phase 3 to 6 CEMS Monitored and recording
- Phase 3 and 4 Permit in action and EA Notified if Emissions exceeded
- Phase 5 and 6 EA Permit enforced and applied to plant operation



Activities of special interest

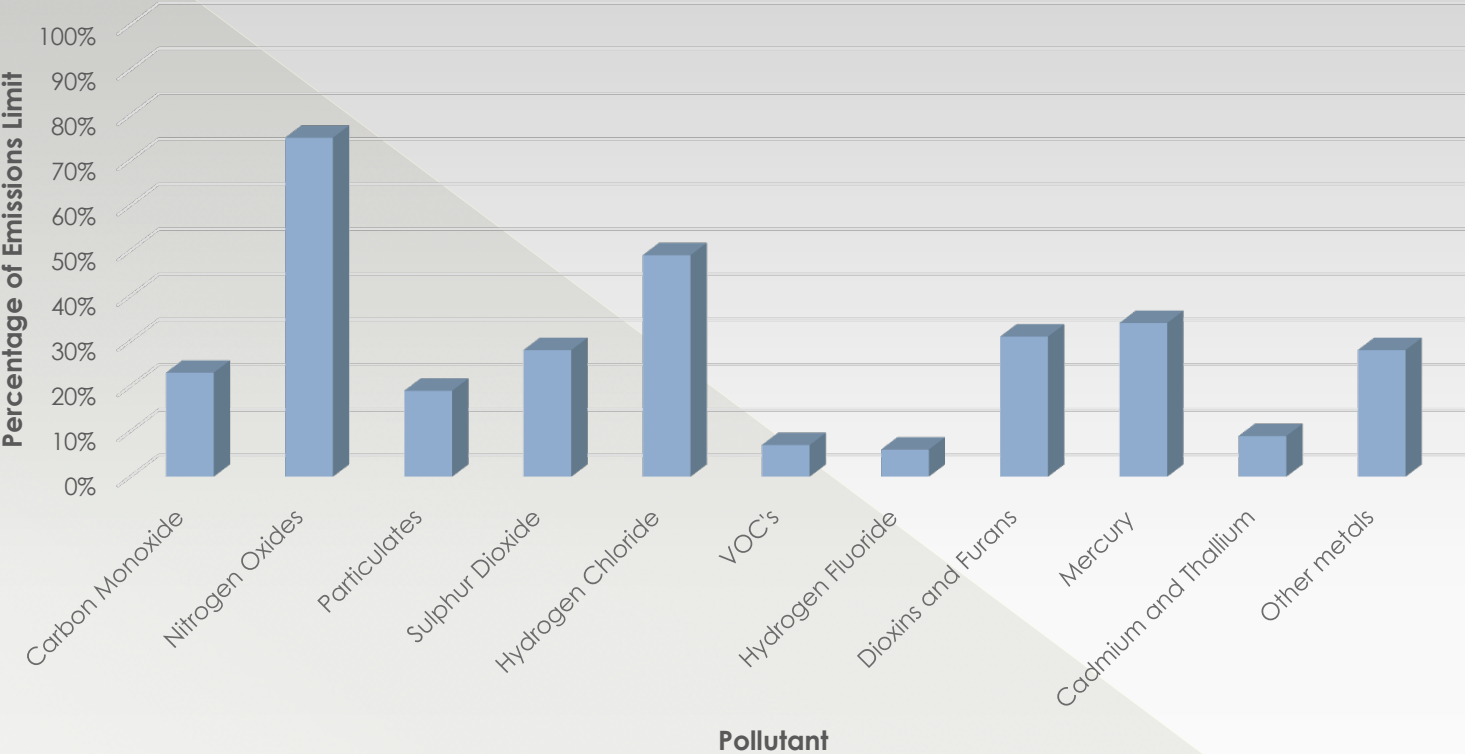
◉ Refractory dry out

- > Utilising external auxiliary burners
- > Interest to the operations team – Correct dry out = robust and effective refractory

◉ Boiler Boil Out

- > Boil and blow out of any debris left in the steam piping
- > Utilises a low pressure and low velocity steam flow technique
- > Low pressure and low velocity – low noise and visual impact

Average emissions performance of UK Energy from Waste Plants



Questions and Answers

