

Analysis of different Bio-H₂ production routes from biomass gasification

Objectives

- **Study of bioH₂ production from biomass gasification, followed by conditioning of the produced gas, water gas shift reaction (to increase the H₂ content) and H₂ separation.**
- **Research and comparison of existing technologies.** These technologies are known, but the use of biomass brings some challenges.
- **Analysis of existing technologies to select those that ensure greater overall efficiency in the bioH₂ production process, overall cost reduction and lower environmental impact.**

This thesis is developed within the scope of a project funded by P2020 - Move2LowC – Biomass-based biochemical and thermochemical technologies for producing biojet fuels – Project n°. 46117 (2020 – 2023).

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Supervisor:

Filomena Pinto (filomena.pinto@lneg.pt; mfpinto@fc.ul.pt)

Co-Supervisor:

Paula Costa (paula.costa@lneg.pt; pacosta@fc.ul.pt)

Main Activities:

Carrying out activities within the scope of a research project funded by P2020 - Move2LowC – Biomass-based biochemical and thermochemical technologies for producing biojet fuels

Methodology:

Research, comparison of processes and related calculations

Local:

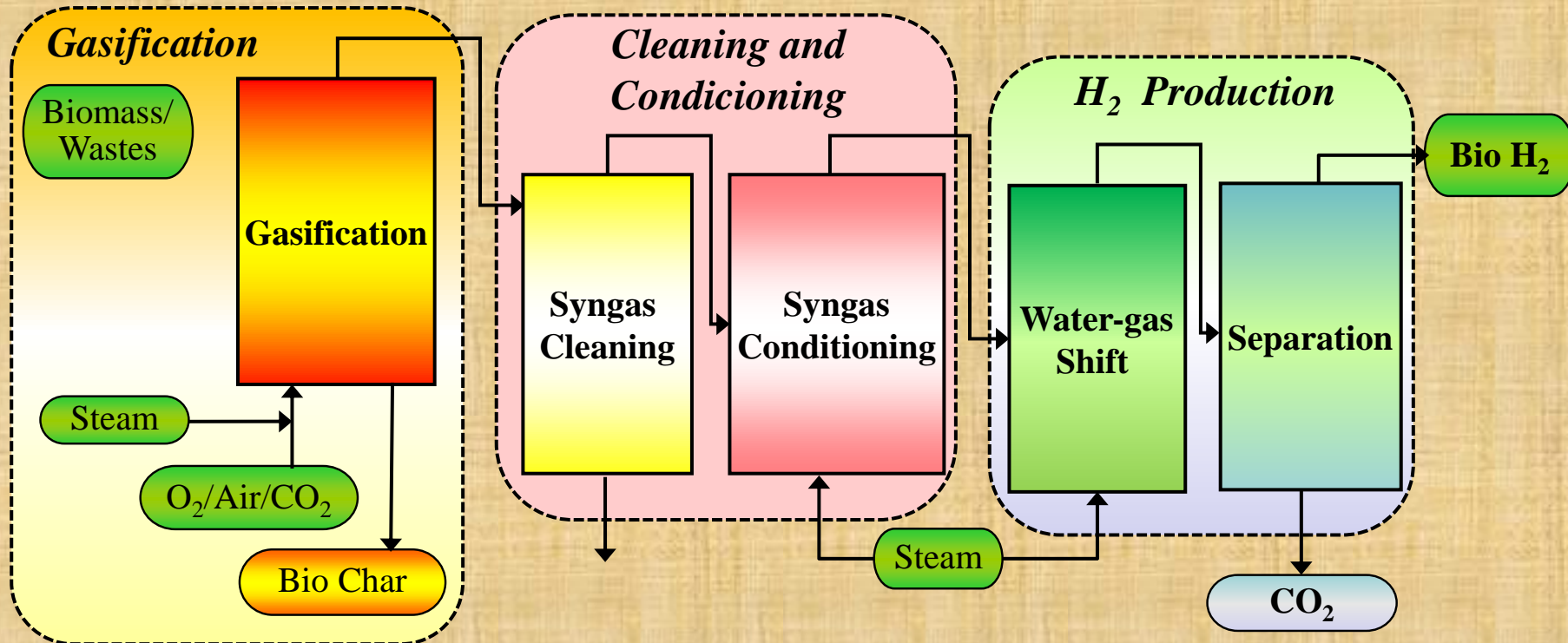
Lumiar – LNEG/UBB

LNEG – National Laboratory of Energy and Geology

UBB – Bioenergy and Biorefinery Department

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Integrated biomass gasification process for bioH₂ production



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Filomena Pinto

filomena.pinto@Ineg.pt

mfpinto@fc.ul.pt

210 92 4787



Paula Costa

paula.costa@Ineg.pt

pacosta@fc.ul.pt

210 92 4406

Análise de diferentes rotas de produção de Bio-H₂ a partir de gasificação de biomassa

Objetivos

- **Estudo da produção de bioH₂ por gasificação de biomassa**, a que se segue condicionamento do gás produzido, reação de *water gas shift* (para aumento do teor em H₂) e separação do H₂.
- **Pesquisa e comparação das tecnologias existentes**. Estas tecnologias são conhecidas, mas o uso de biomassa é um desafio.
- **Análise das tecnologias existentes para selecionar as que garantem maior eficiência global do processo de produção de bioH₂, redução global de custos e menor impacto ambiental**.

Esta tese é desenvolvida no âmbito de um projeto financiado pelo P2020 - Move2LowC – Combustíveis de Base Biológica (Biomass-based biochemical and thermochemical technologies for producing biojet fuels) – N° de Projeto: 46117 (2020 – 2023).

Análise de diferentes rotas de produção de Bio-H₂ a partir de gasificação de biomassa

Orientador:

Filomena Pinto (filomena.pinto@lneg.pt; mfpinto@fc.ul.pt)

Co-orientador:

Paula Costa (paula.costa@lneg.pt; pacosta@fc.ul.pt)

Principais Atividades:

Realização de atividades no âmbito de um projeto de investigação financiado pelo P2020 - Move2LowC – Combustíveis de Base Biológica; N° de Projeto: 46117

Metodologia:

Pesquisa, comparação de processos e cálculos associados

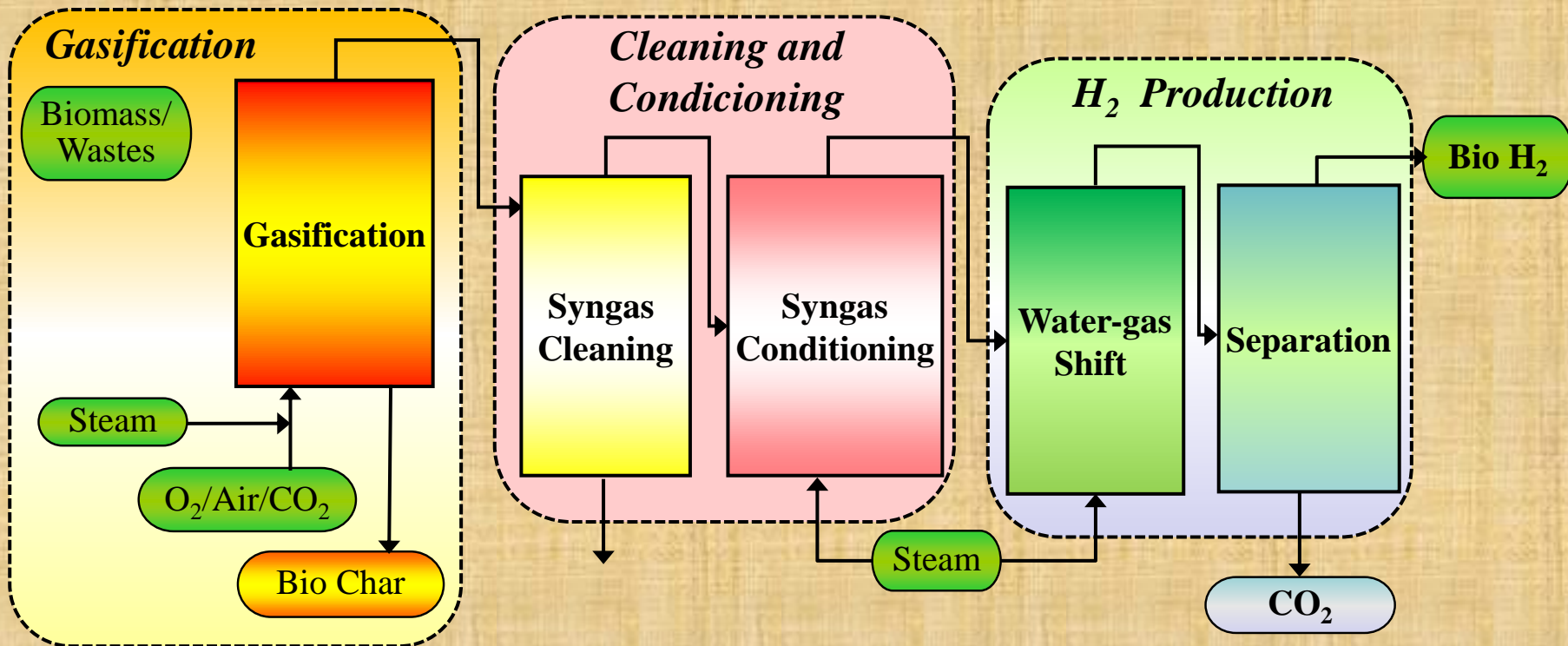
Local:

Lumiar - Instalações da UBB/LNEG

UBB - Unidade de Bioenergia e Biorrefinaria

Análise de diferentes rotas de produção de Bio-H₂ a partir de gasificação de biomassa

Processo integrado de gasificação de biomassa para produção de bioH₂



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Filomena Pinto

filomena.pinto@Ineg.pt

mfpinto@fc.ul.pt

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paula.costa@Ineg.pt

pacosta@fc.ul.pt

210 92 4406