

Connect 1 OMV

November 2019

Challenge:

Develop an economically competitive production process for second generation biofuel - which is derived from biomass that does not displace agricultural land - in order to close the gap of market accessibility.

- Production volume must be >20,000 tonnes per year

Challenge Sponsor: OMV

Challenge Facilitators: Foresight & Trade Commissioner Service of Canada

Budget: \$100M-\$200M

Finalist: Ensyn

Semi-Finalists:

Ensyn, Rapid Thermal Processing (RTP®):

- Non-catalytic fast pyrolysis process to convert second generation cellulosic feedstocks to biofuels for commercial operations with 68,000 MT/year production capacity.
- Biomass includes agricultural and forest harvest residue, construction waste, etc.

PyroGenesis:

- Proposes gasification of black liquor (from conversion of wood into wood pulp) in a steam plasma fired reactor to create synthetic gas for biofuel production
- Product gas contains H₂ and CO, and can be further upgraded into biofuel

Reinforest Energy Corp.:

- Commercial-scale high-octane gasoline production from wood biomass, minimum 45,000 MT/year output

Environmental Benefits:

- End product is a renewable, low-carbon transportation fuel (either gasoline, diesel, or liquified petroleum gas)
- Yields significant greenhouse gas emissions savings

Outcomes:

Ensyn was chosen by OMV as the finalist after checking each solution's technology readiness level, scalability, and the team's practical experience running a plant.



Production Capacity

68,000
MT per Year



GHG Reductions

In Line
with Government
Targets

Conclusion:

OMV continues to work with Ensyn to check the processability of the biocrude and evaluate overall project feasibility. Since the plant is lacking a dedicated injection system, the next opportunity to install Ensyn's solution will be in 2023 when the plant is scheduled to be shut down for routine maintenance.

