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# FROM BIOMASS TO BUILDING BLOCKS: *-GREEN CHEMISTRY GENERATION OF LIGNIN DERIVED TAILORED BUILDING BLOCKS FOR RENEWABLE POLYMERS*

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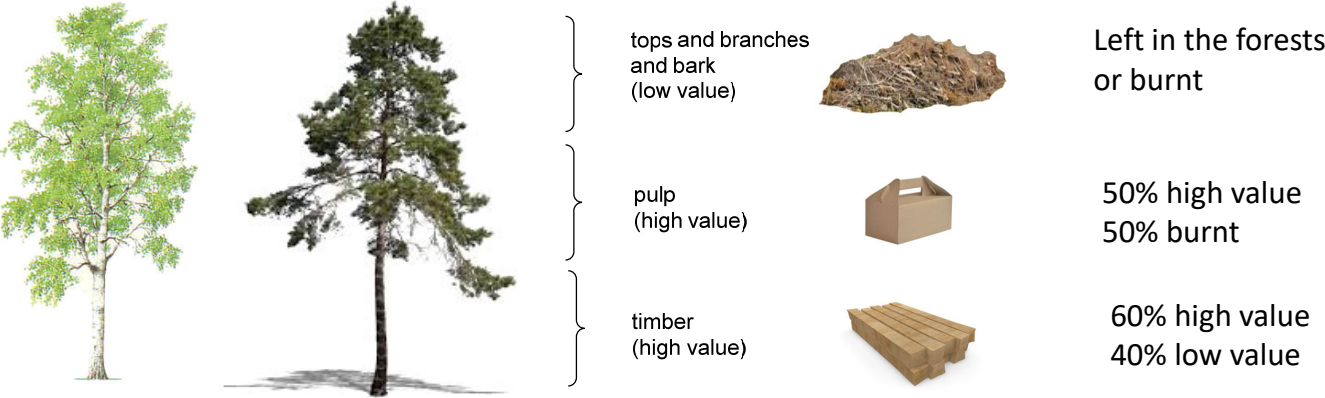
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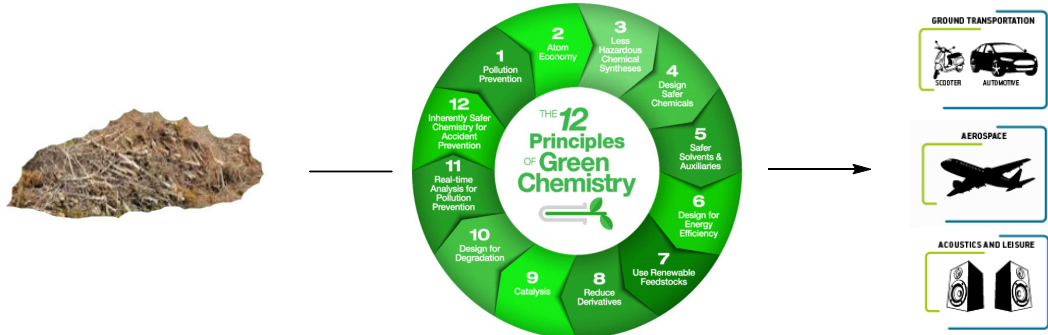
Kuntawit Witthayolankowit

# CURRENT BIOREFINERIES



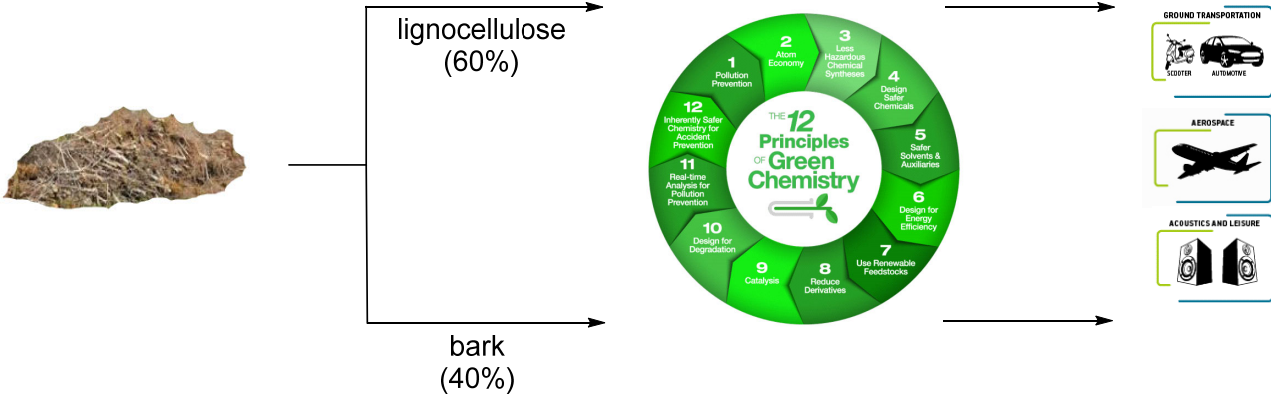
1/3 of the biomass ends up in high value products such as timber and paper  
 2/3 of the biomass ends up as heating source or is left in the forests

# OUR AMBITION



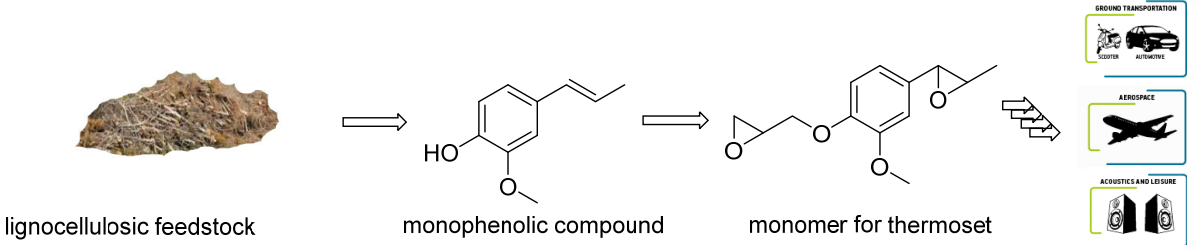
Use a under utilized feedstock and perform green chemistry to produce a renewable material for applications in automotive, aviation and sound

# OUR APPROACH

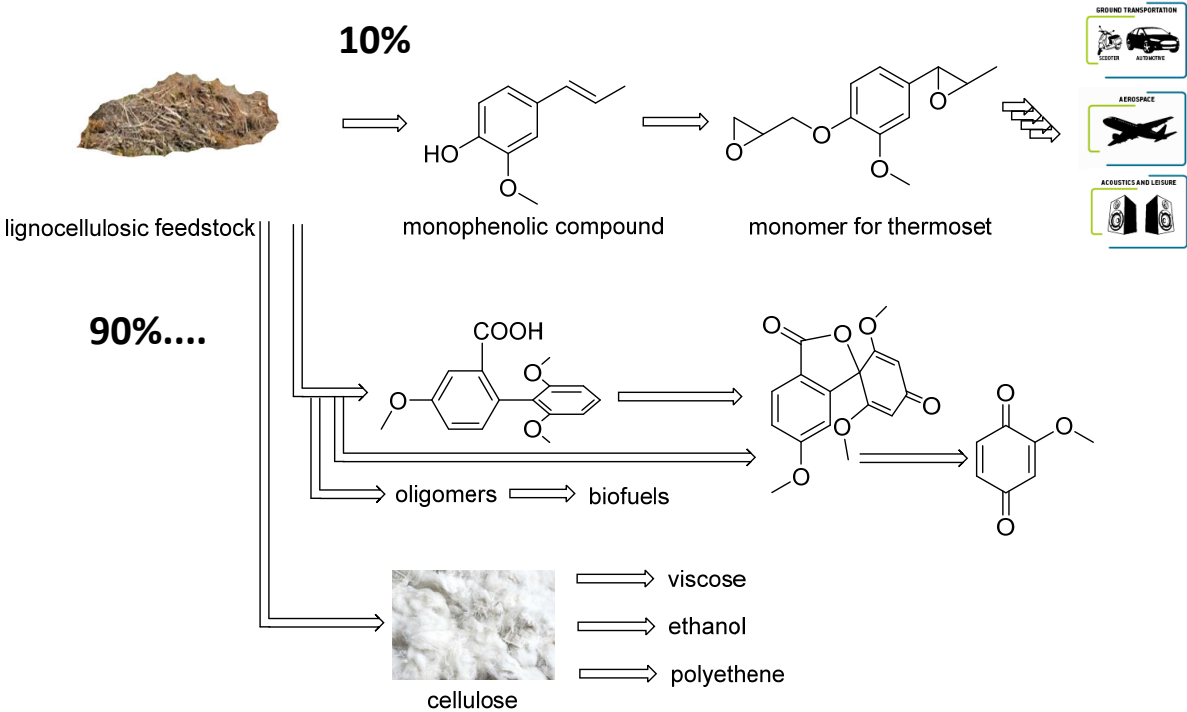


Separate the bark from the woody part and develop procedures for both

# CHALLENGES

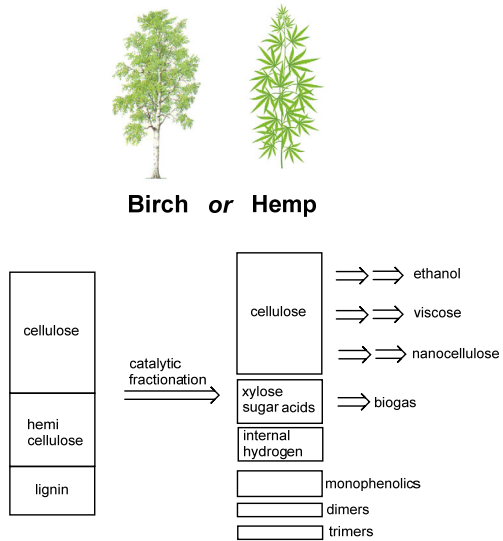


# CHALLENGES

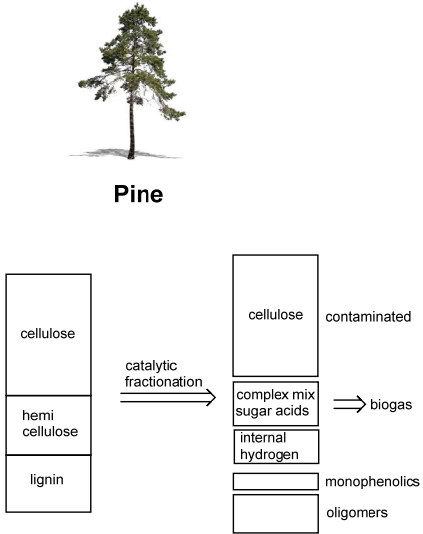


To make a route for renewable material sustainable high yields of the desired product needs to be combined with rest of the feedstock = zero waste

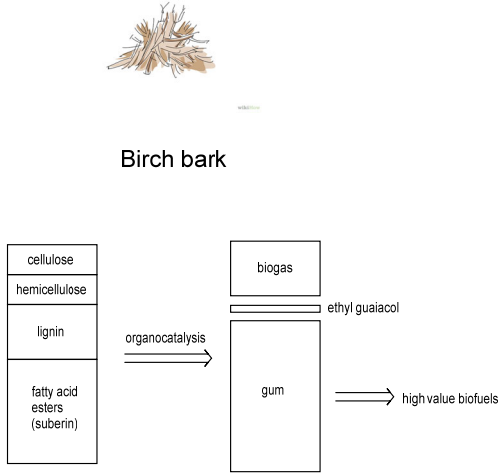
# OUR SOLUTION



- + catalytic fractionation
- ++ synthetic chemistry
- thermset properties
- LCA



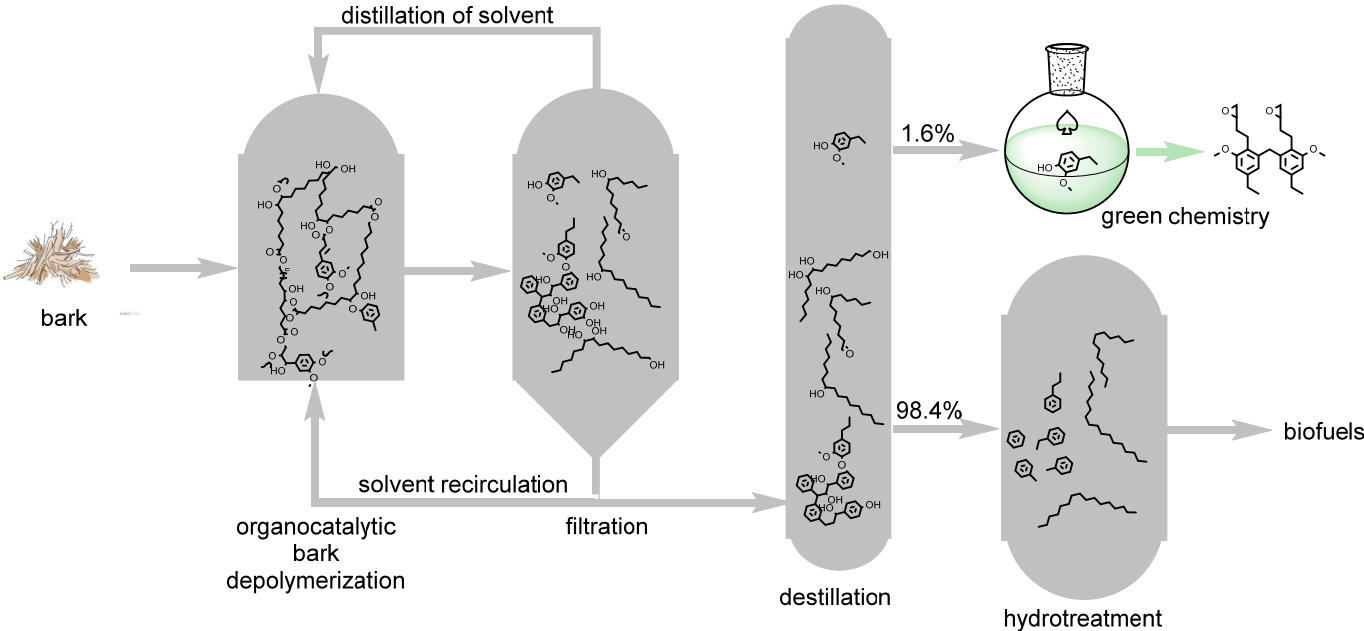
- catalytic fractionation
- + synthetic chemistry
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- ++ catalytic fractionation
- ++ synthetic chemistry
- + thermset properties
- + LCA

Systematic evaluation of different feedstocks in respect to  
 -efficiency to fractionate; -green chemistry; mechanical properties; LCA

# OUR SOLUTION



Holistic valorization of the feedstock to a good monomer as well as no waste





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**Bio-based Industries**  
Consortium



Horizon 2020  
European Union Funding  
for Research & Innovation

This project has received funding from the Bio-Based Industries Joint Undertaking under the European Union's Horizon 2020 research and innovation program under grant agreement No 744349.