



CABIN SHAPED GREENHOUSE

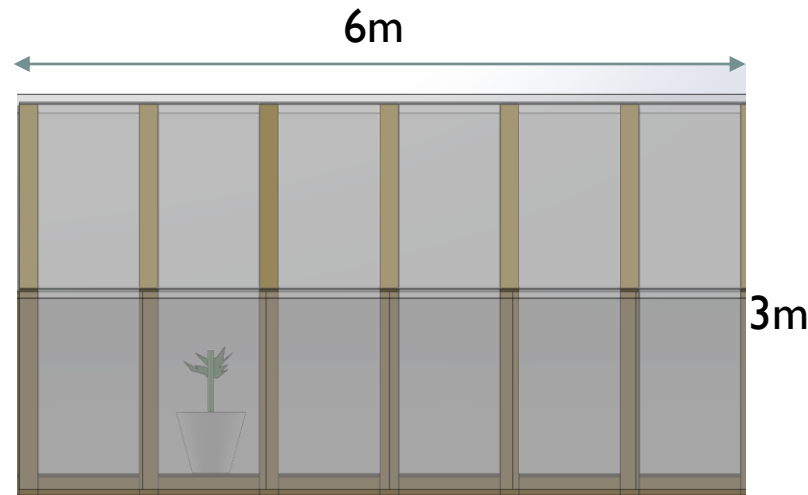
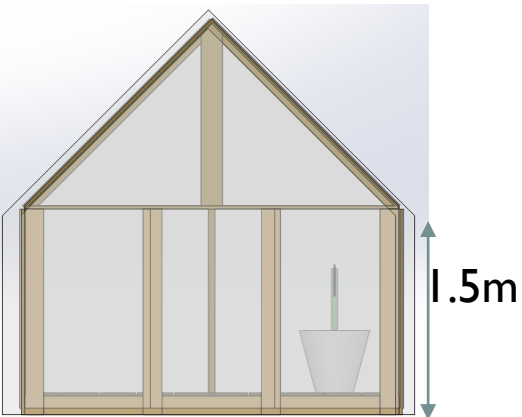
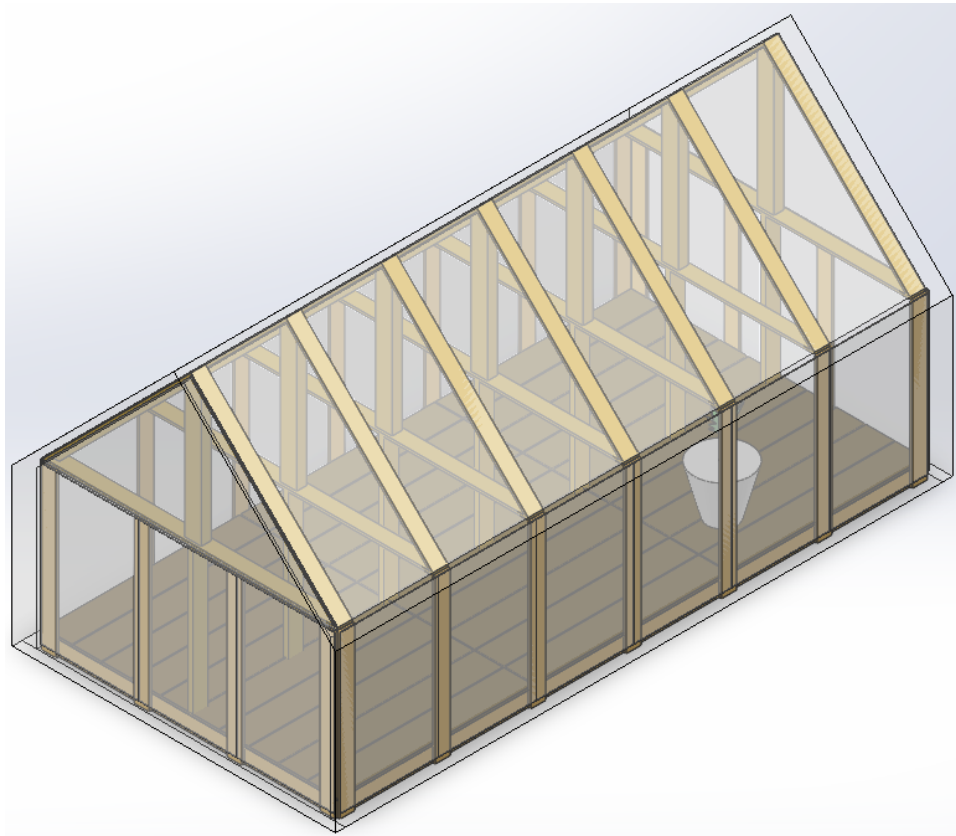
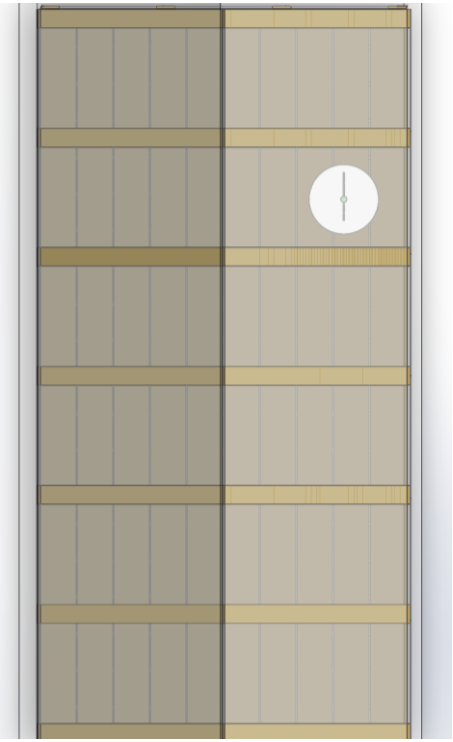
Introduction & Heat Transfer Analysis

Chief Mechanical Engineer Mingxuan Yang,

260832163

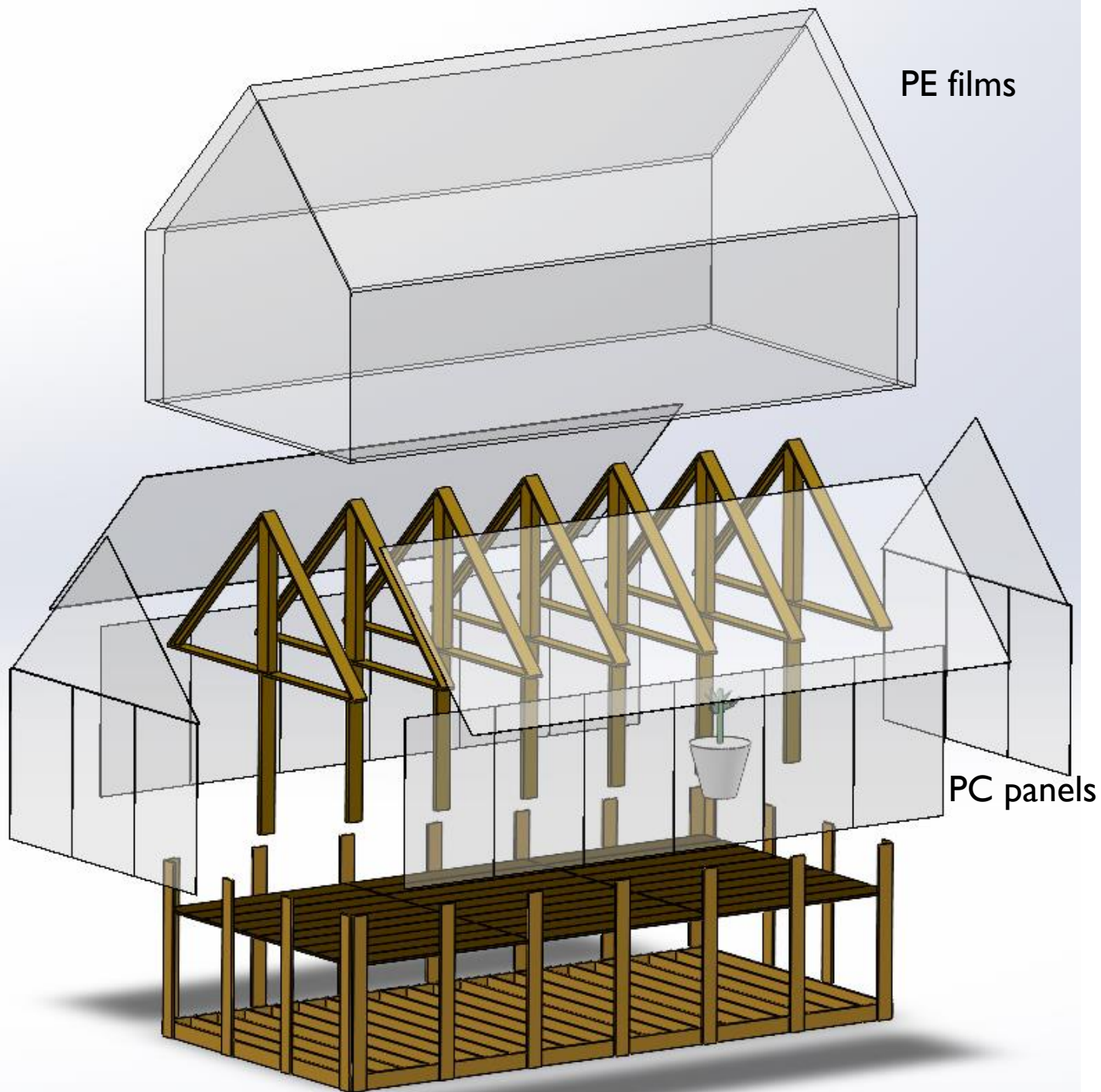
Chief Structural Engineering Zongxuan Lin,

260780979



SPECIFICATIONS

- Height: 3m (Excluding base), 3.1524m (Base included)
- Roof Tilt Angle: 45 degrees
 - Wall Height: 1.5m
 - Width: 3m
 - Length: 6m
- Material: Oak wood for support and flooring
 - Wall: 10mm thick poly carbonate twin wall panels
 - Supplementary Insulation material: 6mil polyethylene films



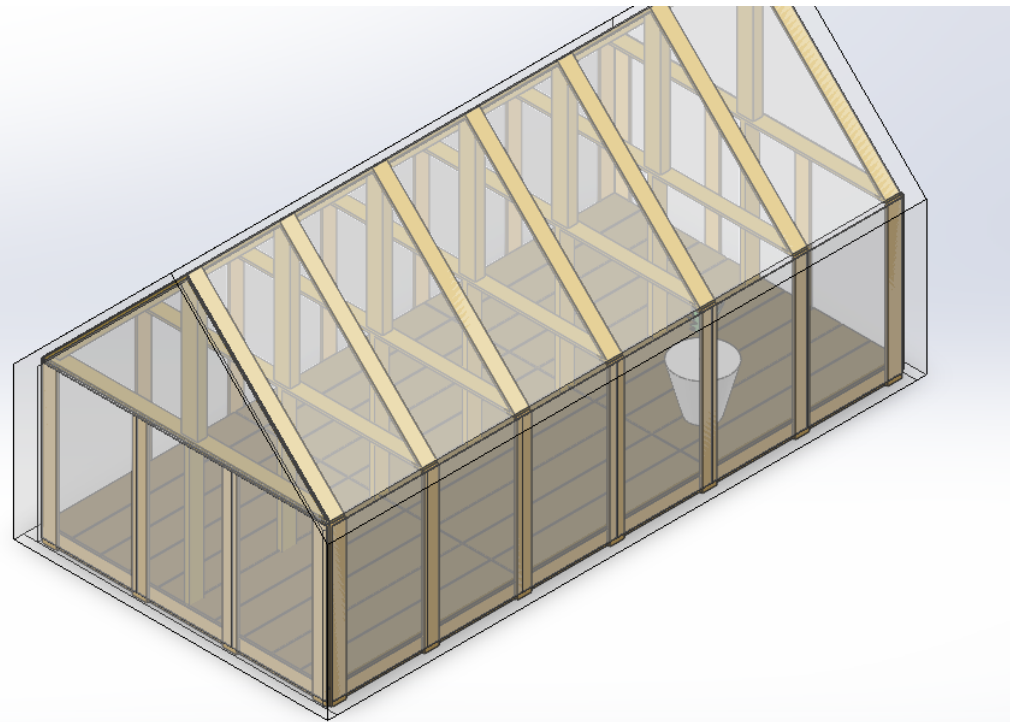
MONTREAL WINTER COMBO HIGHLIGHTS

- Wind speed 16m/s
- Dry bulb Air temperature:-20c
- Average Solar radiation :300W/m²
- Day time length:6hours
- 112m² of high efficiency solar panels to store energy for nighttime heating
- 3 tesla power wall 2 to store energy (or equivalent)
- 8 sheet of polyethylene films applied during the day
- 20 sheets of polyethylene films during the night. Films will be knitted together.(8 layer*1, 4layer*2,2layer*2,&single layer *1)

WHAT CAN OUR DESIGN DO?

- It keeps average internal temperature of above 16 Celsius. Our clients can grow a variety of plants: tomatoes, basil, coriander, most of flowers, and many other fruits and vegetables.
- No need for extra heating during the day, 36kwh of energy consumed during night.
- Guarantee survival of Montrealer's plants even in the worst time of the year.
- Clients can adjust number of PE films to adapt to varying weather conditions.





ENJOY GARDENING WITH OUR
GREENHOUSE!