



HEIDI LANDIS

DU alt-energy redux

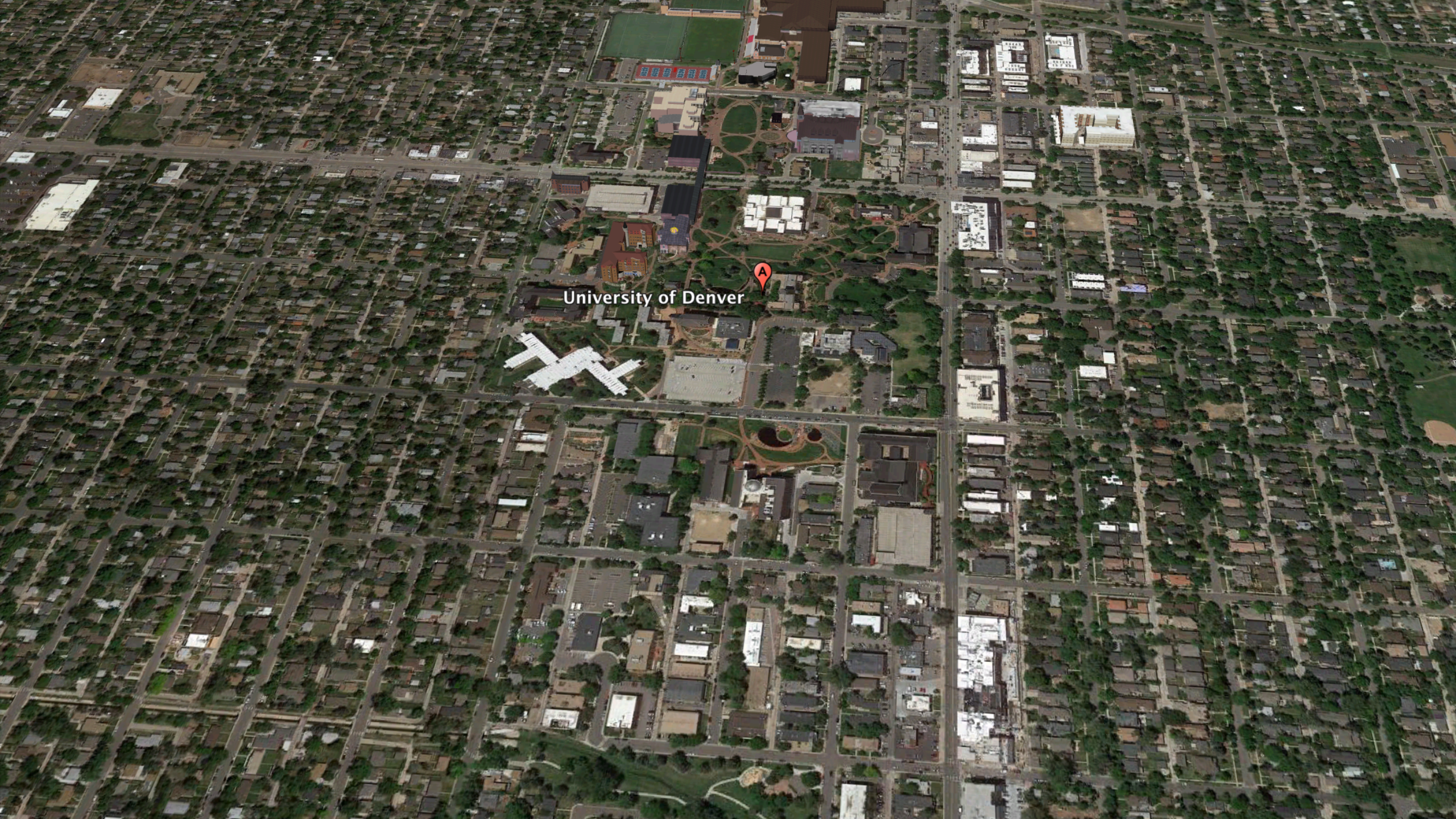
EDPX 4350 – WINTER 2018

ASSIGNMENT



ASSIGNMENT

- Analyze site
- Look at DU for alt energy opportunities
- Solar and/or Wind power (no hydro or coal)
- Design with potential lifecycle component
 - Important to think about distribution of resources



University of Denver





University of Denver



CHALLENGES



CHALLENGES

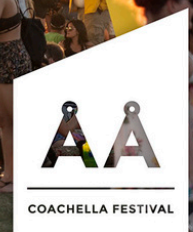
- Funding / Support
- Aesthetics (revision to existing structures)
- Academia / Approvals

CREATIVE INSPIRATION





Alex Arrechea – *Katrina Chairs* (Coachella 2016)



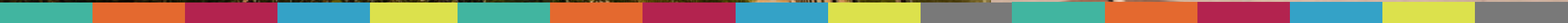


Tim Hawkinson – *Bear* (2005)





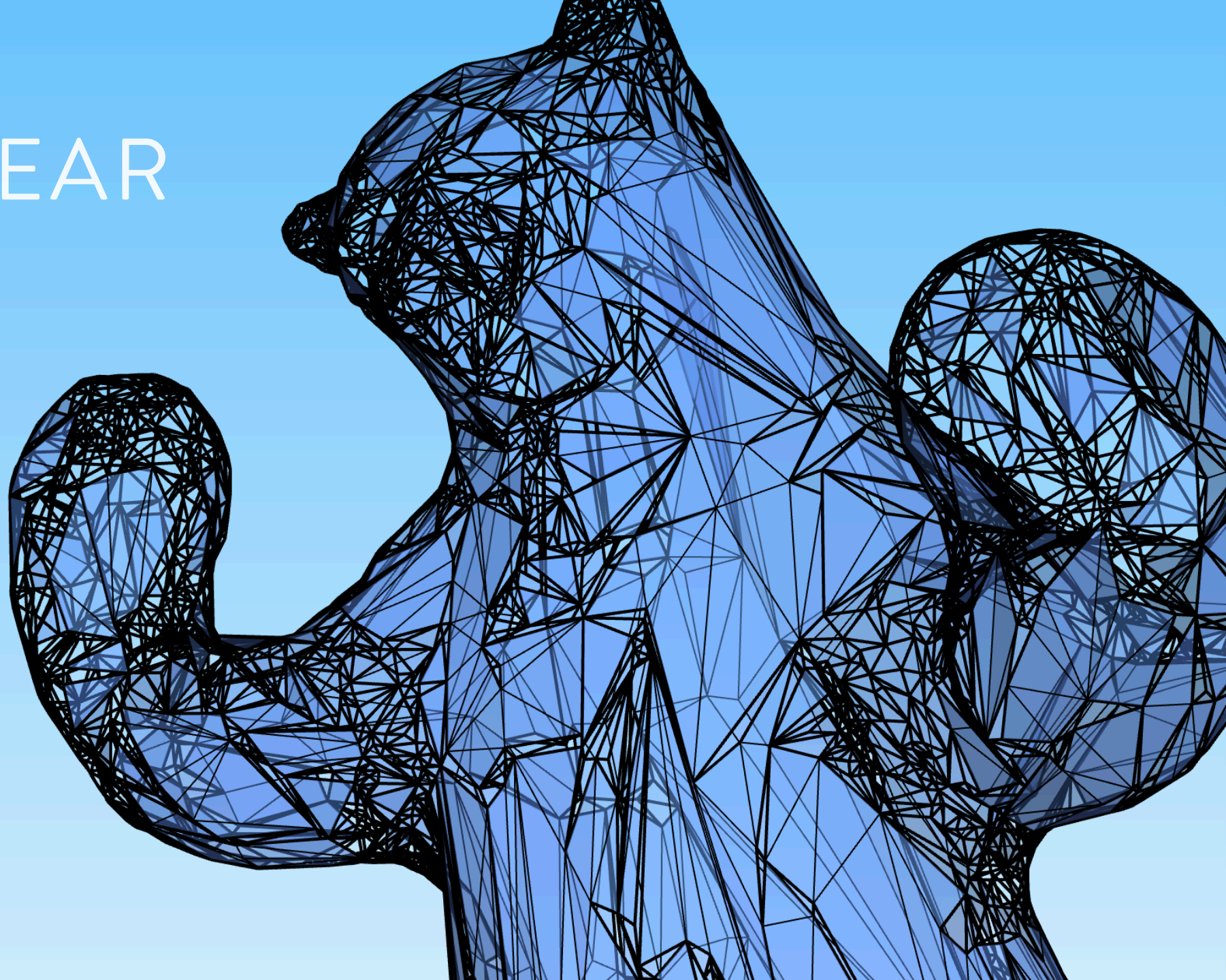
Lawrence Argent - *I See What You Mean* (Denver Convention Center 2005)



RECOMMENDATION



SOLAR BEAR

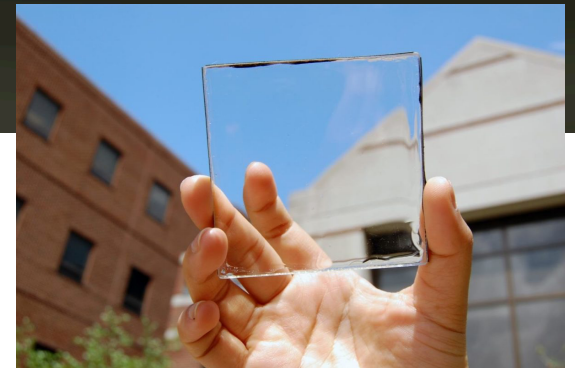


SOLAR BEAR



- Approx. 50' tall
- Made of solar glass (blue tint)

- Rotating upper platform to provide maximum sun exposure (must ensure gain > use)






SOLAR BEAR

SOLAR BEAR

27,351 kWh/Year*

PVWatts Calculator 

My Location: 2121 Asbury Avenue Denver CO HELP FEEDBACK ALL NREL SOLAR TOOLS

RESOURCE DATA SYSTEM INFO **RESULTS**

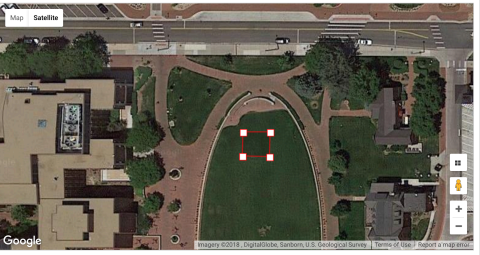
RESULTS Print Results

27,351 kWh/Year*

System output may range from 25,176 to 28,324 kWh per year near this location. [Click HERE](#) for more information.

Month	Solar Radiation (kWh / m ² / day)	AC Energy (kWh)	Energy Value (\$)
January	5.15	1,868	171
February	5.86	1,875	172
March	7.36	2,570	235

System Capacity: 13.8 kWdc (92 m²)



Map Satellite

Module Type	Standard
Array Type	1-Axis Backtracking
Array Tilt	39.7°
Array Azimuth	180°
System Losses	14%



SOLAR BEAR

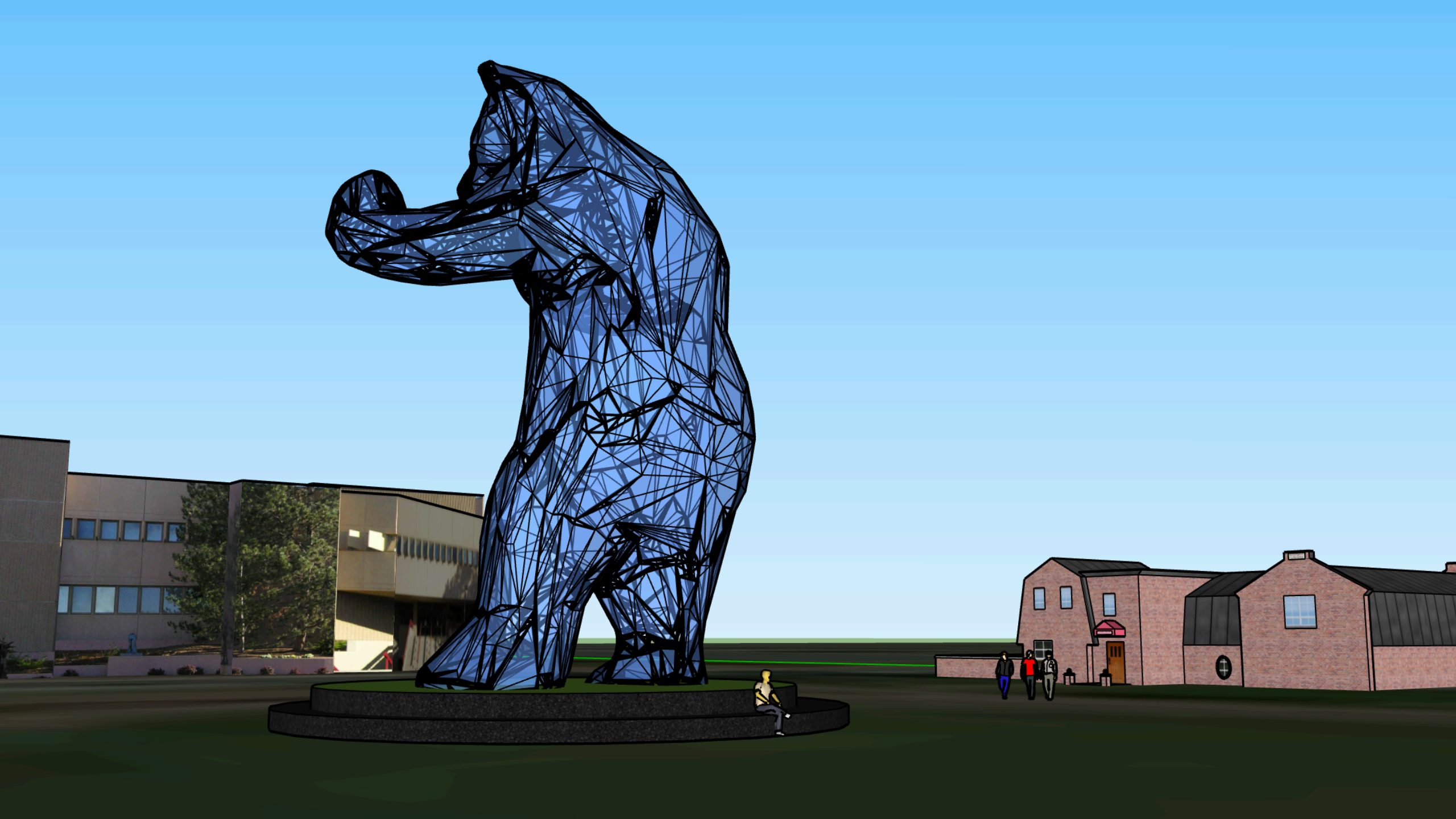
- 1,000 sq. ft. / 92 meters
- Small area of coverage
 - The level of energy offset is fairly low
- Gain in (27,351 kWh/year)
 - vs Ritchie Center which averages 6,124,751 kWh/Year* (if covered)

SOLAR BEAR

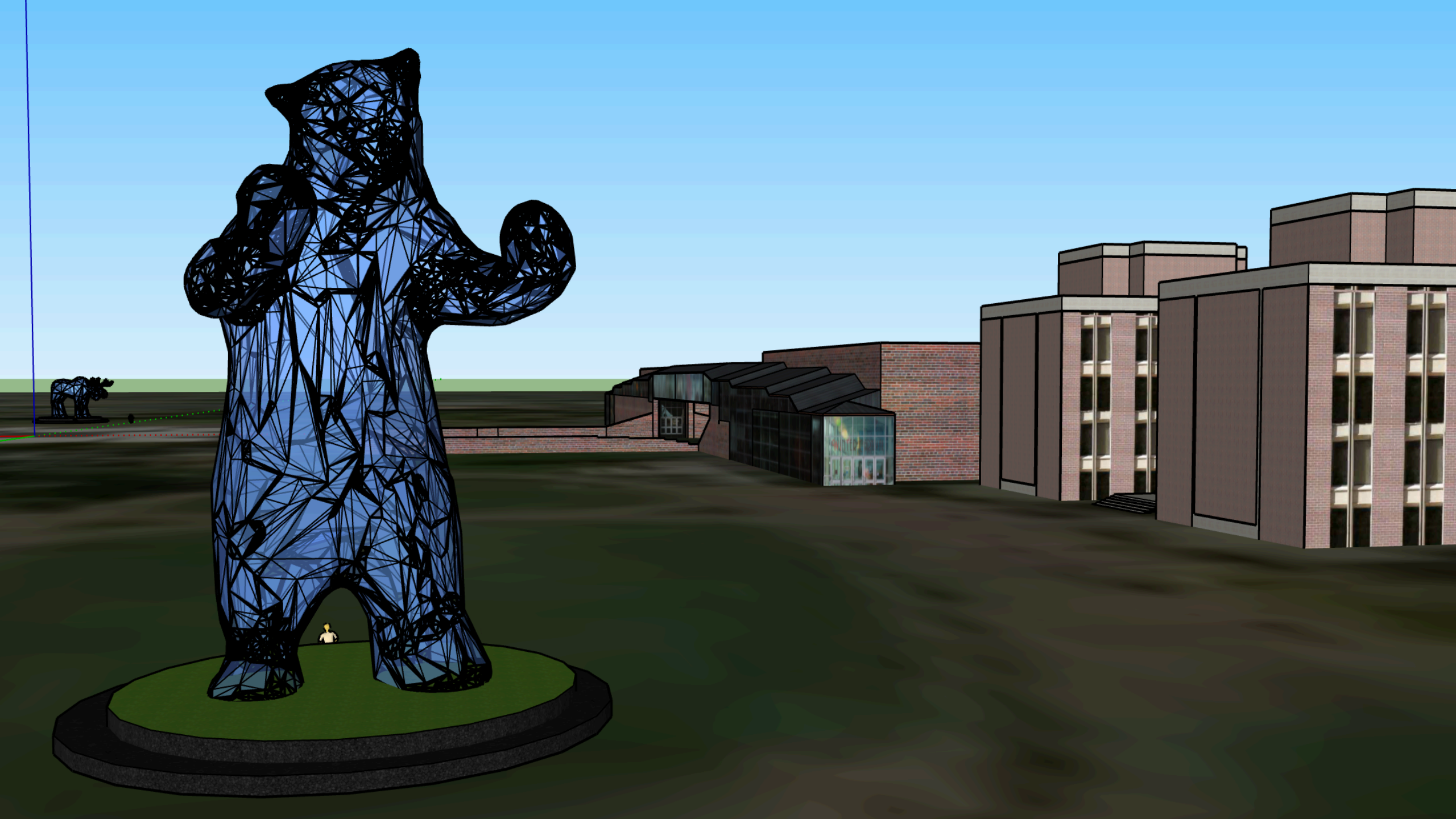
- Social Sustainability
- Shade-making / Gathering
 - Encourage communal gathering/use of ' campus green'
- Awareness (sustainability / alt energy)
 - Position DU as progressive/mindful of sustainability
 - Conservation Initiative (MEGAFUNA)
- Illuminate at night for campus safety
 - Illumination of the bear from within (glow, dusk to dawn)
- BYOC charging stations, not unlike existing umbrella >>>>>

SOLAR BEAR

- Honor to DU staff member (donors/alumni/educators)
- Iconic imagery of Colorado / Rockies
- Low poly (juxtaposition to DU traditional architecture)









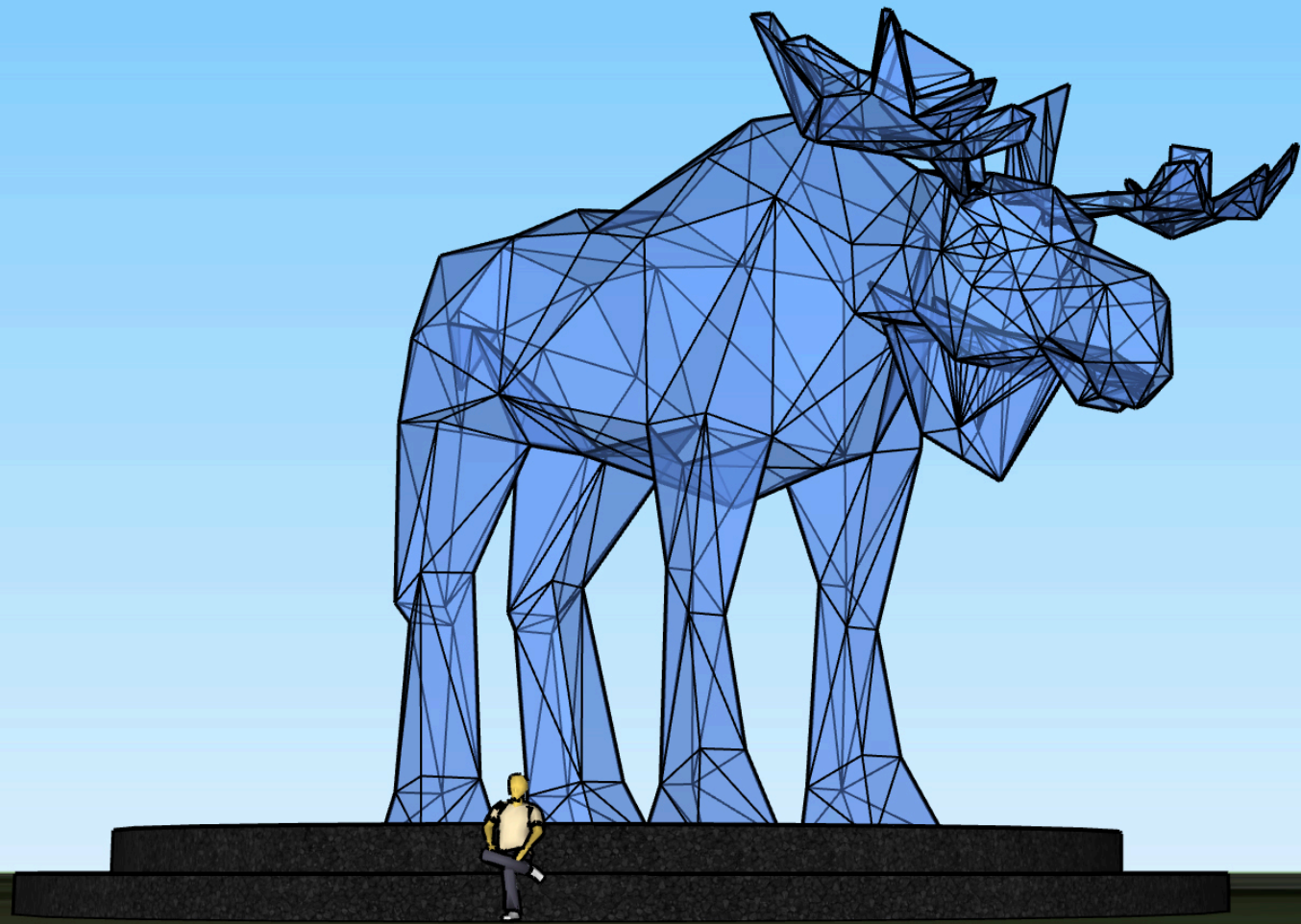
S O L A R B E A R

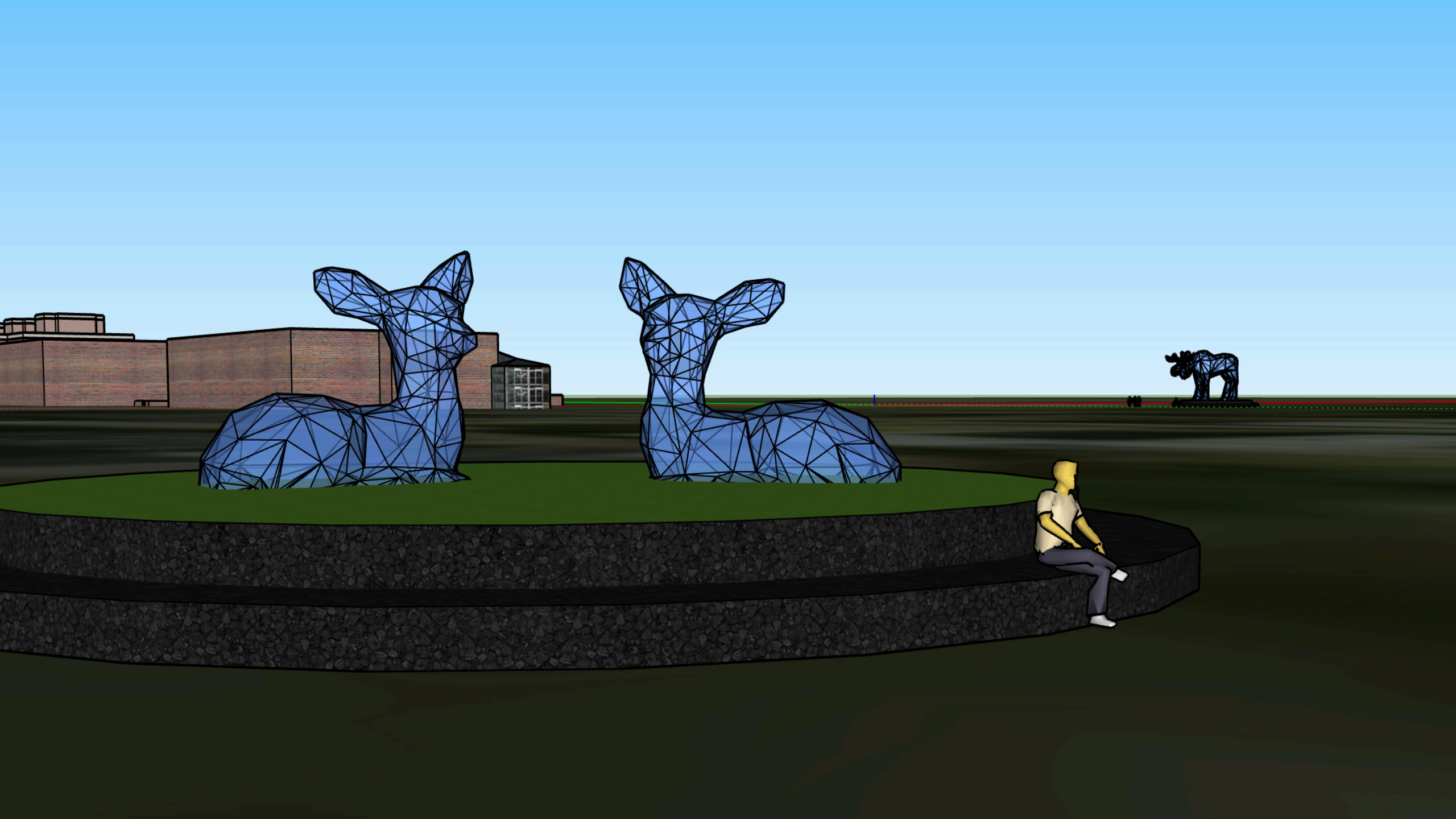
OTHER OPPORTUNITIES

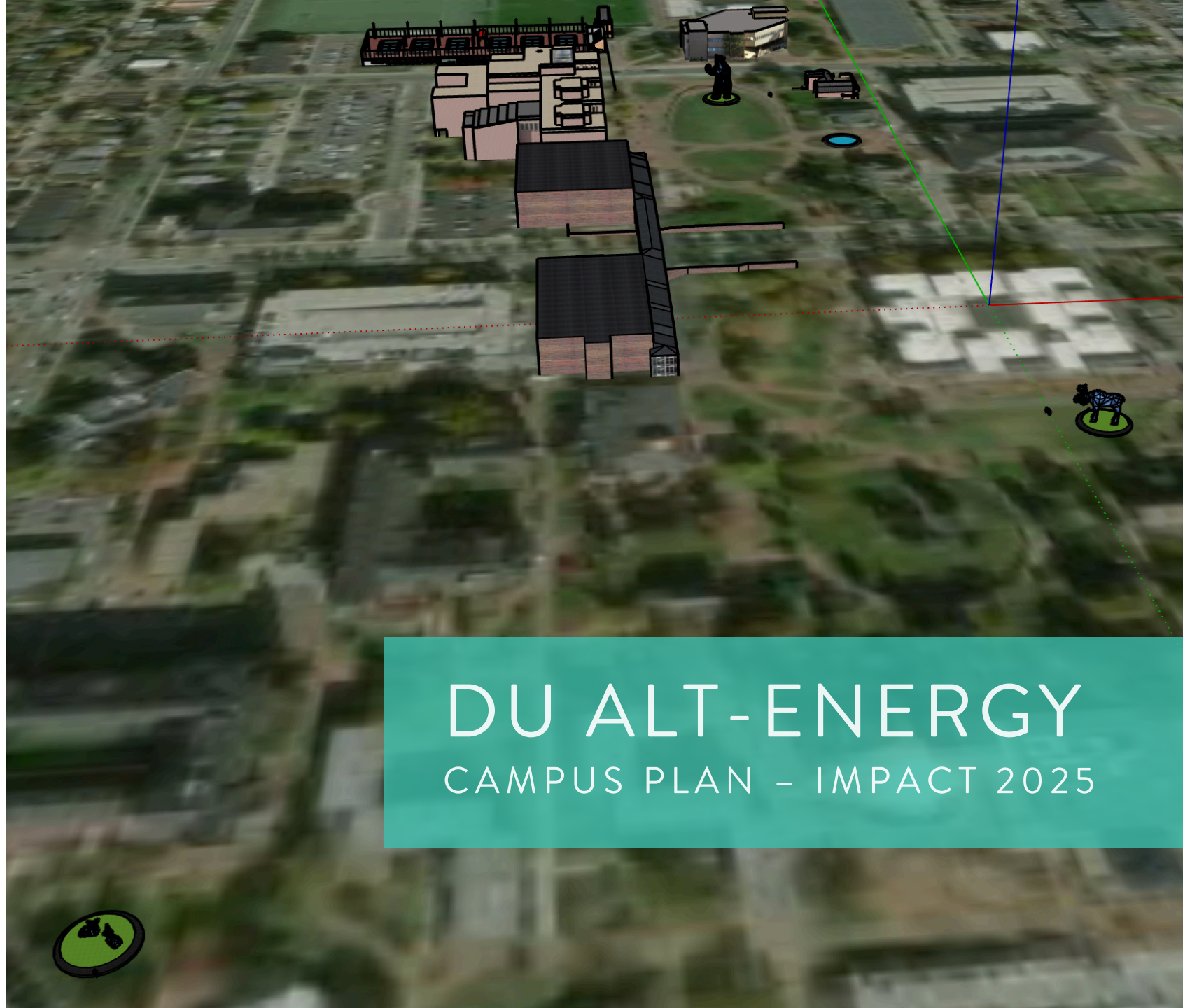
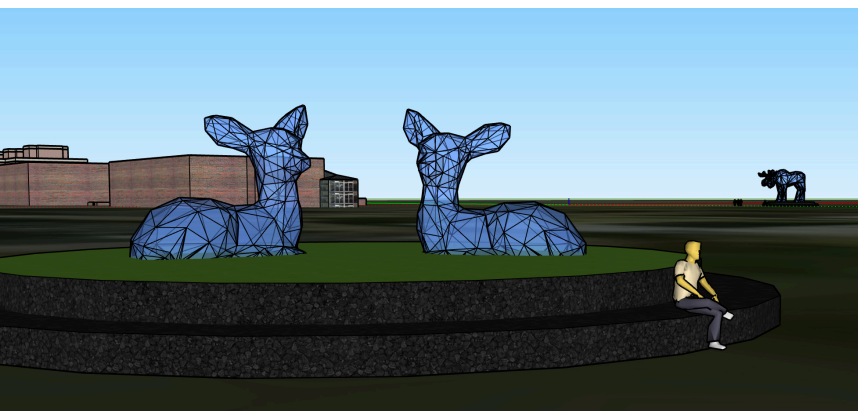
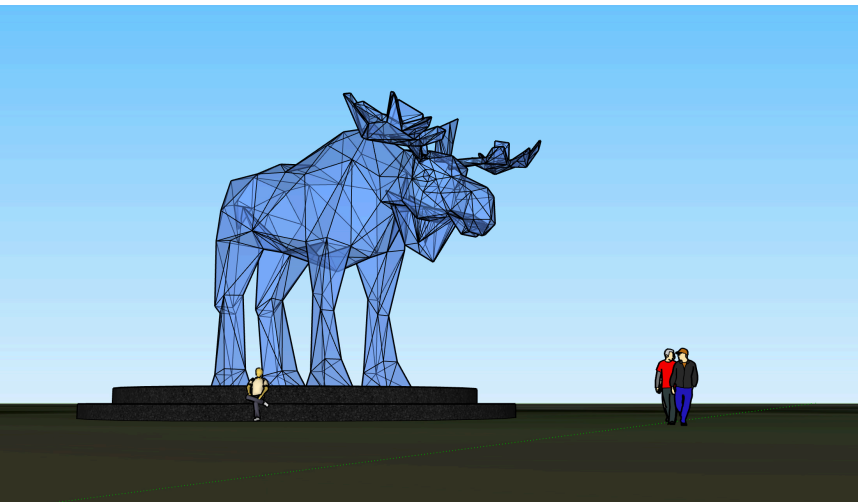
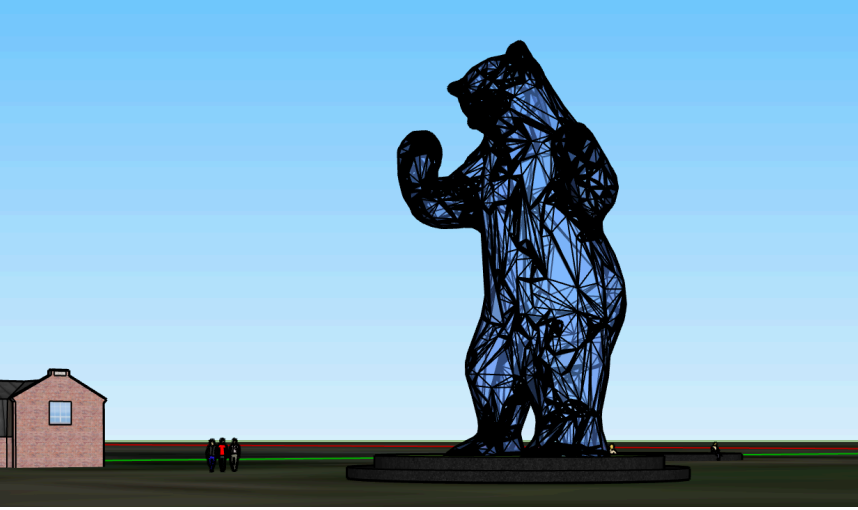


OTHER OPPORTUNITIES

- Additional WILDLIFE
 - Highlight importance of megafauna preservation
- Provide power for other areas of Sustainable Development (clean air, water, food)
 - Lifecycle component to have circular element of generation







DU ALT-ENERGY
CAMPUS PLAN - IMPACT 2025

SOLAR BEAR

