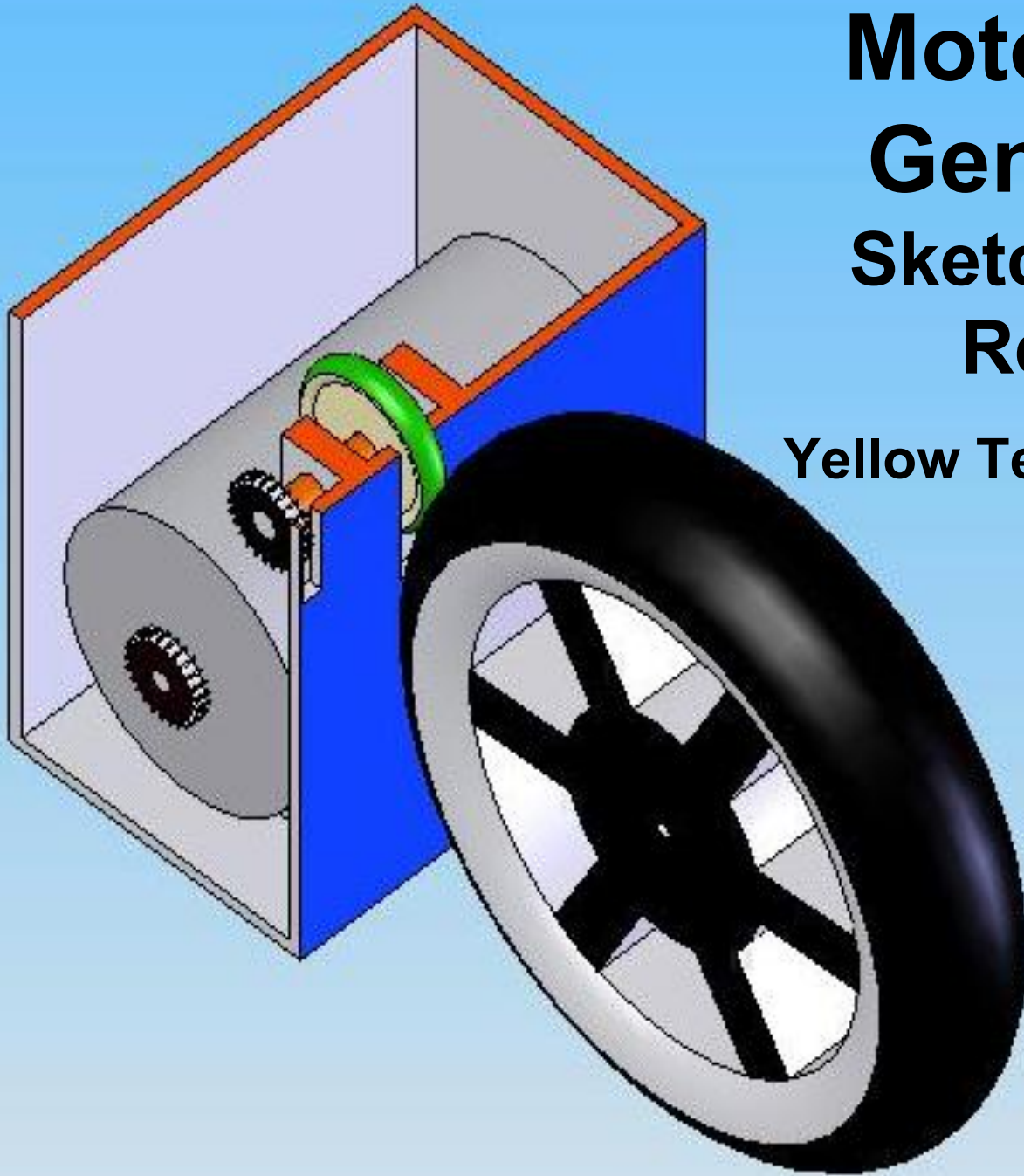


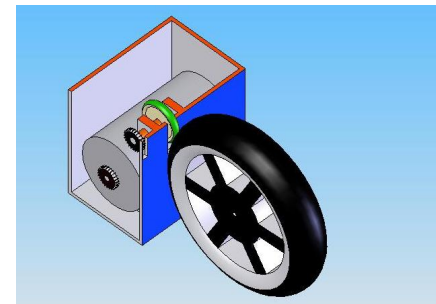
Motorcycle Generator Sketch Model Review

Yellow Team Section B

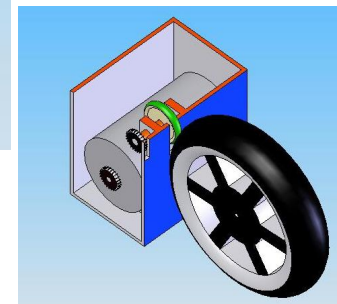
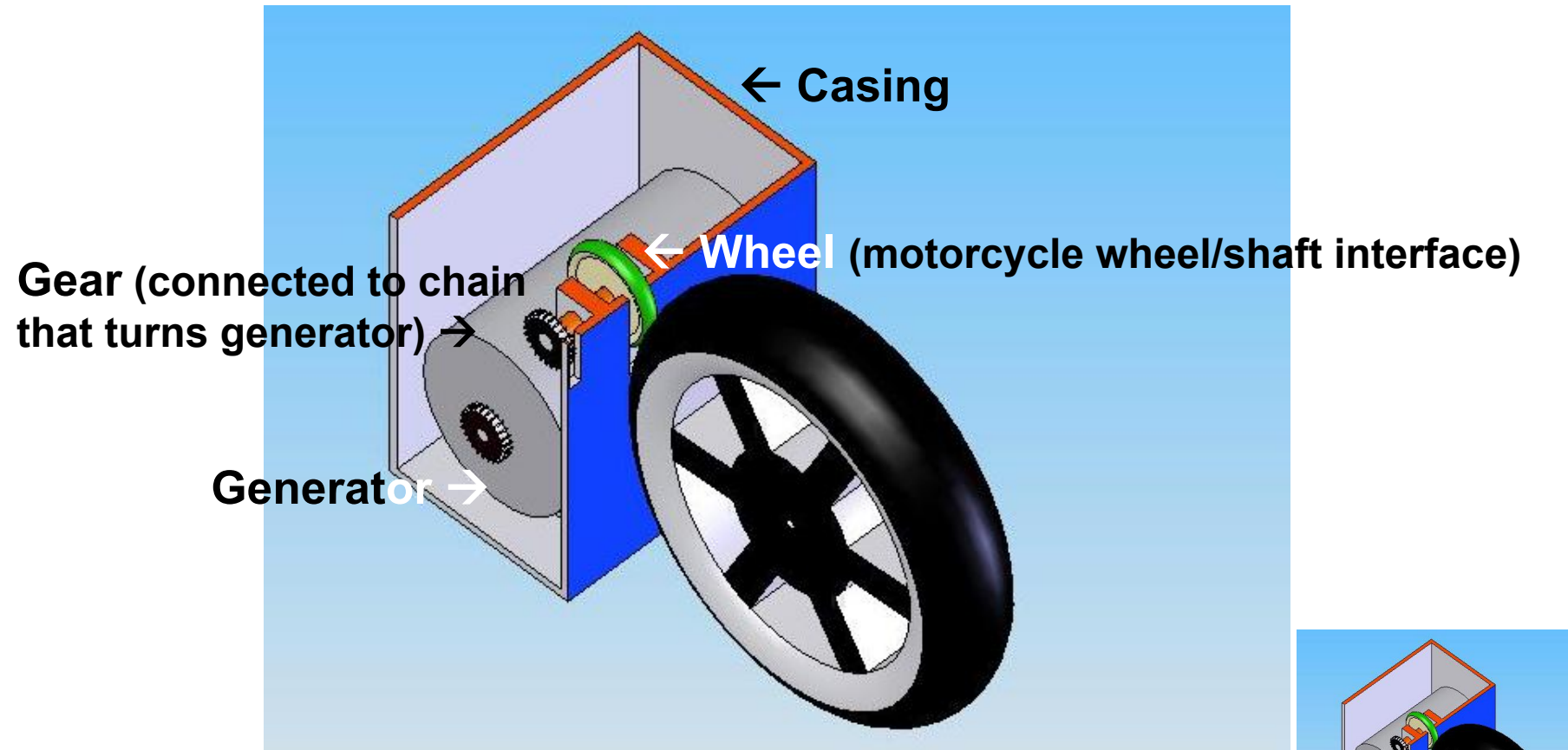


Market and Customer needs

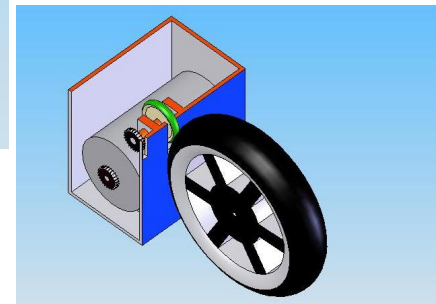
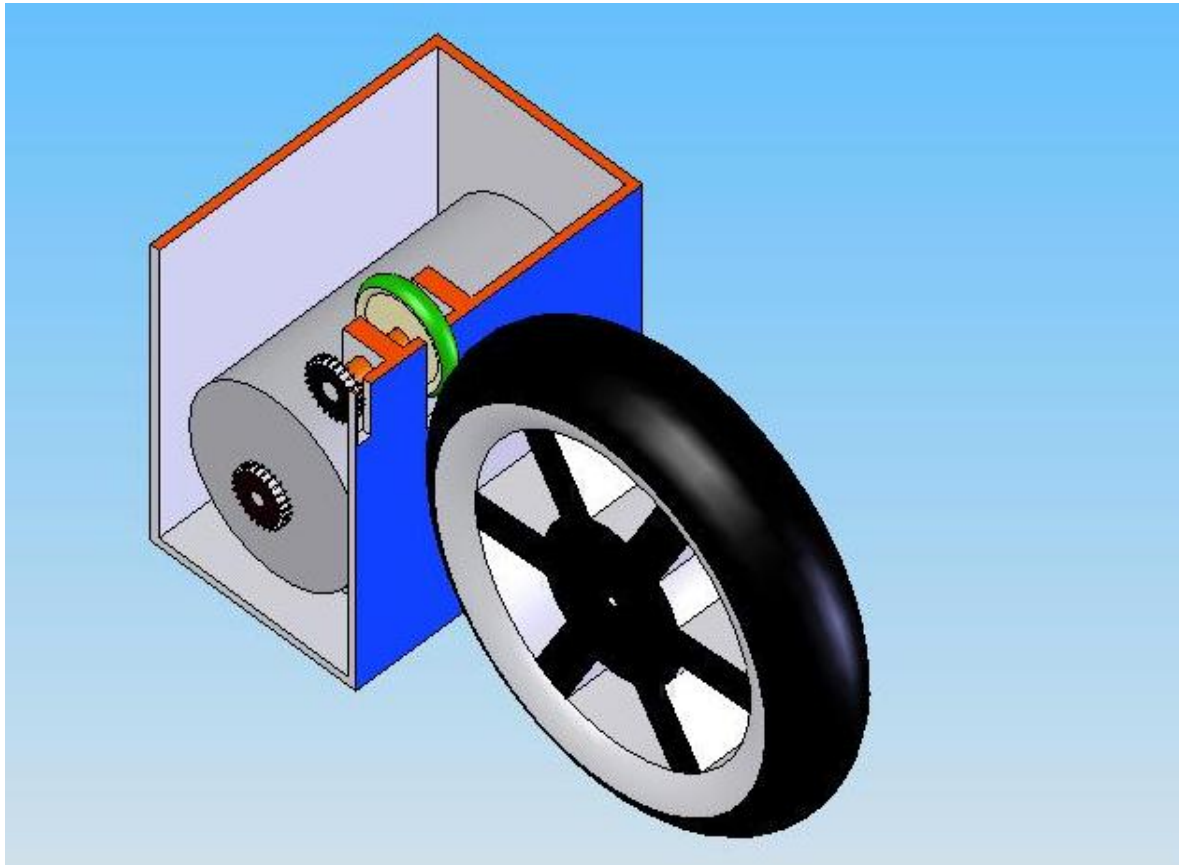
- **Market: South Asia**
 - Highest motorcycle registration rates
 - Lowest per capita energy consumption
- **Customer: Motorcycle-owning low income families in rural areas**
 - Most popular brand: Honda Splendor (97.2CC, 7.5bhp)
- **Customers need a method of generating electricity for household use**
 - Cheap – cost less than generator
 - Easy to do – for all ages and skill levels
 - Utilizes existing resources



Our Solid Model



Our Sketch Model



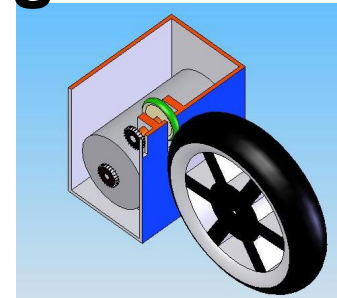
Motorcycle Generator

Yellow B

After the Sketch Model

We are now able to...

- **Optimize dimensions with relation to**
 - Size of generator
 - Popular motorcycle types
- **Analyze the interface between the motorcycle and the generator**
- **Look closer at various manufacturing techniques**



Concerns/Areas for Optimization

- **Emissions**

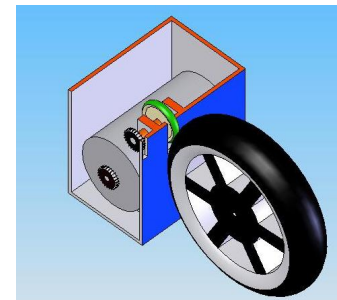
Won't leaving a motorcycle on for hours at a time contribute to the problems of emissions?

- **No, current contribution from motor vehicles is small**

- **Mechanical input into the generator**

What is the best way to translate the mechanical rotation into energy the generator can use? With smaller bikes?

- **Currently considering 2 ways**
 - Chain driven
 - Perpendicular friction wheel



Concerns/Areas for Optimization

- **Cooling device**

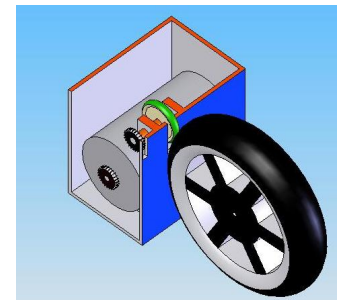
When leaving the motorcycle running won't it over heat?

- **Larger bikes, ~250cc+, typically have own cooling system**

- **Long term cost factor**

Is it cheaper to burn gas to power your home versus purchasing and/or charging batteries?

- **This would change based upon the type of generator, motorcycle and interface**



Conclusion

- **Motorcycle generator is feasible!!!**
 - **Size is compatible with living conditions in market area**
 - **Cost target: Half the cost of a comparable generator**
 - **Already a potential customer**
 - Connor James Walsh, IDEAS Fair presenter

