

# Highway Wind Turbines

## Problem Statement:

- A major detriment to the growth in wind energy technology is that natural wind is not adequate in many parts of the world.
- Highways can provide a constant source of wind power .

## Objective:

The objective of the project is to design a wind turbine to recapture wind energy from vehicles on the highway.

- Perform computational fluid analysis to estimate wind patterns developed by vehicles
- Assemble a working prototype of a highway wind turbine.
- Design a storage system for the power generated.



## Design Considerations:

- Noise Level
- Effects on the Environment
- Placement (Spacing concerns)
- Public Safety
- Energy Storage
- Labeling

## Motivation:

- To Contribute towards the Global trend of clean energy in a feasible way.
- Wind energy is the fastest growing source of green energy.
- Highways can provide a near constant source of wind power due to the high volume of traffic creating wind drafts.

## Timeline

Task Name	Start Date	End Date	Assigned To	Timeline																		
				Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul
Research possible topics	02/04/13	02/13/13	All Member																			
Project Overview	02/14/13	03/06/13	Geatjens AI																			
Global Design Considerations	03/06/13	03/08/13	Bruce Chan																			
Design Survey	03/08/13	03/20/13	Geatjens AI																			
Proposed Design	03/21/13	04/05/13	Bruce Chan																			
Solid works Model	04/07/13	04/10/13	Geatjens AI																			
Fluid Analysis	05/01/13	07/30/13	All Member																			
Cost Analysis and Material Selection	08/01/13	08/05/13	Bruce Chan																			
Simulations	08/06/13	08/22/13	Antonia Sim																			
Prototype completed	08/23/13	10/01/13	All Member																			
Test prototype and compare Theoretical vs. Experimental	10/02/13	10/10/13	Geatjens AI																			
Cost Analysis	10/11/13	10/15/13	Antonia Sim																			
Optimize prototype	10/16/13	10/30/13	All Member																			
Complete Project	11/01/13	11/01/13																				



Bruce Champagnie



Antonia Simonis



Geatjens Altenor

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