PROJECT TWO: MILESTONE 2 – COVER PAGE

Team Number: 03

Please list full names and MacID's of all *present* Team Members

Full Name:	MacID:
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MILESTONE 2 (STAGE 1) – REFINED PROBLEM STATEMENT FOR A WIND TURBINE

Team Number: 03

The Title of The Assigned Engineering Scenario

The Roof Generator

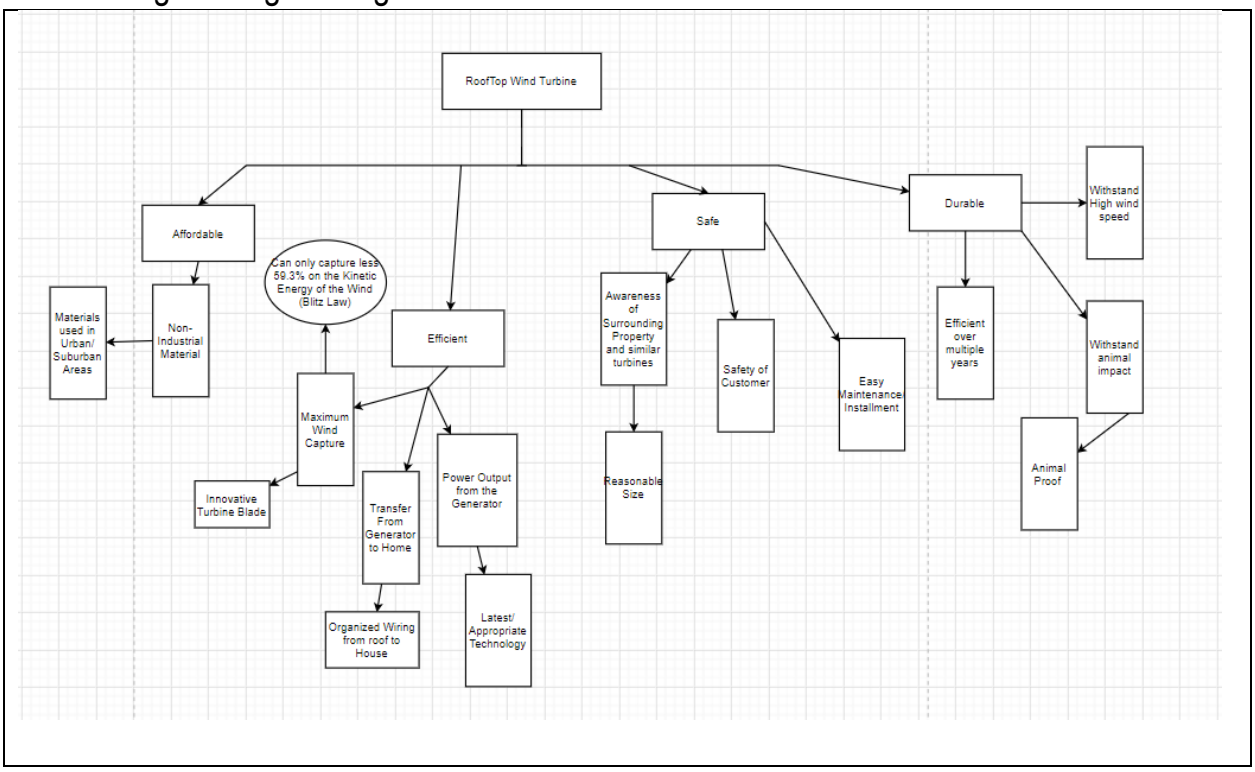
Write the Initial Problem Statement Below

→ This is a *copy-and-paste* submission of what you submitted for Milestone 1

To be able to generate more than a sufficient amount of energy in all types of climate conditions, and withstand high levels of windspeeds at different altitudes, while maximizing cost efficiency.

Finalized Objective Tree of Wind Turbine for Your Assigned Engineering Scenario

→ Please have a copy of your finalized team objective tree of wind turbine for your assigned engineering scenario.



Refined Problem Statement:

→ Write the refined problem statement for the design of wind turbine based on your assigned scenario.

Create a Roof Wind Turbine to help generate power for the house to reduce electricity intake for residential house owners.

MILESTONE 2 (STAGE 2) – DESIGN REQUIREMENTS FOR A TURBINE *BLADE*

Team Number: 03

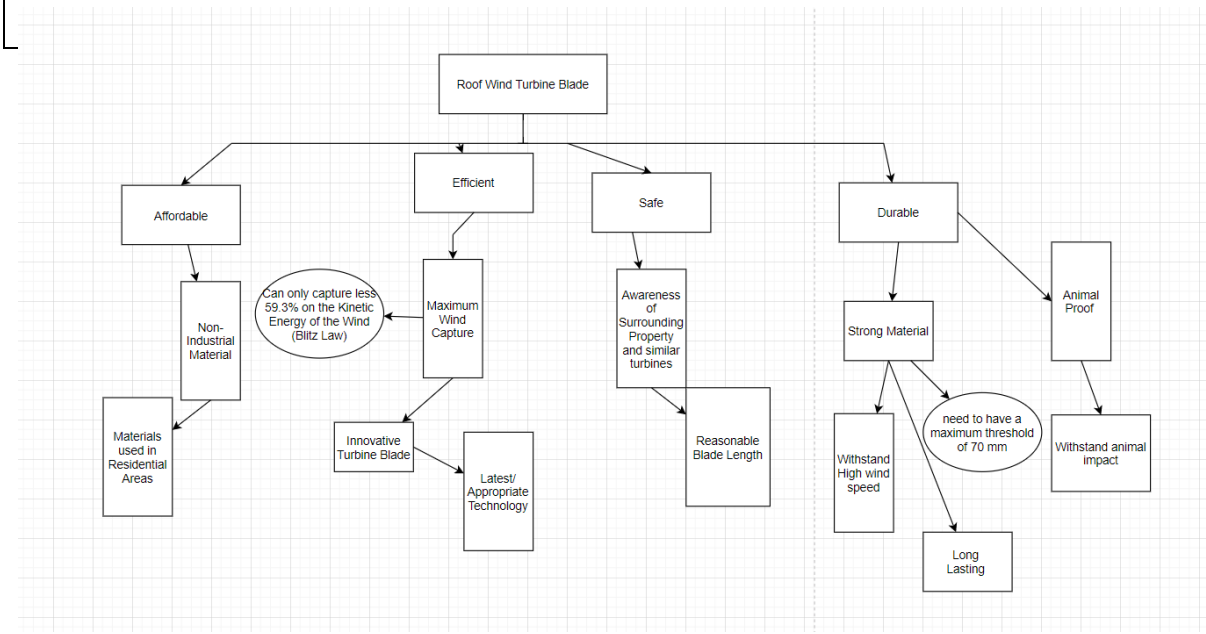
Turbine Blade Problem Statement:

→ Write a complete problem statement for the design of turbine *blade* based on your assigned engineering scenario.

To create a durable and environmentally friendly wind turbine blade that efficiently captures high-speed wind on the rooftops of residential houses.

Objective Tree of turbine blade for assigned engineering Scenario

→ Please have a copy of your team objective tree for the design of turbine blade of your assigned engineering scenario.



MILESTONE 2 (STAGE 3) – SELECTION OF TOP OBJECTIVES FOR A TURBINE BLADE

Team Number: 03

List the top three objectives of a turbine blade for your assigned engineering scenario

1: Efficiency
2: Durability
3: Safety

Include a rationale for selecting each of these objectives

→ Write *maximum* 100 words for each objective

Objective 1: Efficiency

Rationale: Efficiency is the main reason why consumers are buying the product; the sole purpose is to use the highspeed winds to get more energy to be a substitute from getting energy from the grid. So, the more efficient the blade the more energy generated towards the house, thus it is the more appealing it is to consumers.

Objective 2: Durability

Rationale: The Turbine blade needs to last long, for it to last long the blade needs to be durable. Durability means it needs to withstand the high winds as well as impact from animals (birds, squirrles etc).

Objective 3: Safety

Rationale: The safety of the wind turbine blade should always be considered if most if not all houses will install a wind turbine. As it is placed on the highest part of the house it should be at a reasonable length while also taking account for safety of the house owners and pedestrians if it breaks. These blades should not be able to catch on fire, cause damage to pedestrians, or any hazards of the sort.

MILESTONE 2 (STAGE 4) – METRICS

Team Number: 03

For your selected top three objectives fill out the table below with associated metrics (including units) for each objective.

Objective 1:	Efficiency
Unit/Metric:	Rating of how much wind is turned into wind energy Most of the wind captured (Best)- No wind captured (Worst)

Objective 2:	Durability
Unit/Metric:	Rating of how much force the blade withstands. High level of stiffness (Best)- Brittle (Worst)

Objective 3:	Safety
Unit/Metric:	Rating of how safe the blade is to other properties and people No reported injuries (Best)-Mechanical failure (Worst)