

# Solar Project Profile Form (Advanced)

Team Name: \_\_\_\_\_ School Name: \_\_\_\_\_

This document is meant to help guide your design process and provide documentation to the judges about your solar device. You should present this document to the judges at your KidWind Challenge event.

## 1. Does your device fit in the 1m square cube?

☐ Yes ☐ No

## 2. Number of Solar Panels: \_\_\_\_\_

## 3. What is the rated size and output of each solar panel? \_\_\_\_\_

\_\_\_\_\_

## 4. Are your panels wired in **series** or **parallel**? (circle one)

## 5. Are your panels **attached to your device** or are they in a **separate bank**? (circle one)

## 6. Can your panels move to track the sun if needed?

☐ Yes ☐ No

## 7. Max Voltage Output of your Solar Array \_\_\_\_\_ V

## 8. Max Current Output of your Solar Array \_\_\_\_\_ A

## 9. Total Maximum Power Output of your Solar Array \_\_\_\_\_ W

Don't forget to bring the following items to the Challenge:

- Your solar powered device
- This form!
- Any notebooks, drawings, videos that you kept while building your structure
- Wiring Drawing that details your circuit

## Loads

Describe all your loads.

| Load | How Many? | Current Draw per 1 Unit |
|------|-----------|-------------------------|
|      |           |                         |
|      |           |                         |
|      |           |                         |
|      |           |                         |
|      |           |                         |

**10.** If all the loads in your device are powered on what is the power and current consumption?

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**11.** Detail any methods you have utilized for reducing the power consumption of your loads.

☐ No consumption reduction plan.

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**12.** We may turn off the lights as we test your solar device to test your device's ability to store electricity. Describe any mechanisms or capacitors you have used to store electricity?

☐ No electricity storage.

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**13.** Detail any microcontrollers integrated into your device. Describe the goal and the benefit of your microcontroller(s).

☐ No microcontroller.

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**14.** Detail any advanced manufacturing used to create your solar device turbine (i.e. laser cutting, 3D printing, etc.).

☐ No advanced manufacturing.

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Don't forget to prepare a wiring diagram. You can do this by completing the diagram template found in the Rulebook, through a digital program, or through other inventive ways. Just make sure the diagram allows the judges to tell what circuitry is happening within your device!