



Greenway Challenge 2021-2022

SUSTAINABLE ENERGY AND CLEAN WATER CHALLENGE!

Design and build a technology that improves access to clean water somewhere on the globe.

Your technology must be powered by solar energy and improve human health, ecosystem stability, agriculture or climate change resilience through increasing access to clean water. As a team, choose a clean water issue to address either in Vermont or somewhere around the world, and build a prototype or a full scale model that addresses that problem, without fossil fuels.



Possible projects could:

- Prevent farm waste from polluting and eutrofying a freshwater body
- Expand clean water access in a community to improve health and sanitation
- Design a solar-powered water system for an off-grid camp
- Design a system around hydroelectric dams to minimize disturbance of aquatic ecosystems
- Filter and reuse greywater, to mitigate the impacts of water shortage
- Or solve any other clean water issue

We want you:

- To think outside the box
- To tackle challenging problems with novel solutions
- To be willing to test a design and make mistakes
- To solve a problem that you are passionate about!

Additional Challenge details

- Teams should include between 3 and 7 members, and can be HS, MS or mixed HS/MS. Organizers feel that for the greatest effectiveness, combined teams are advised, and we encourage MS teams to seek HS partners.
- Teams must be student led, and communication between teams and Greenway will be conducted through students.
- To ensure all participants have equitable access to an energy source, we will provide you with a solar panel (54 Volt max, 10 Amp max, 400 Watt max) and two 12-volt batteries
- Your budget for other materials should be under \$1500 and needs to be approved by Greenway for fairness among teams.
- Financial support is available to all teams, after review and approval of project proposals.



Greenway Challenge Schedule/Dates:

Dec 1: Announcement of Challenge, Greenway Team available to consult with student teams

Dec 20: Deadline for teams to submit a one-page letter of intent to participate. Greenway and teams may confer on the proposal by phone or zoom (to be scheduled).

Dec 20: Early bird deadline: Teams will submit a design proposal. Greenway appreciates early proposals and will respond in the order they are received.

Jan. 17, 2022: Final deadline for proposals

Feb 7: Deadline by which Greenway will respond to all teams and work with teams to schedule pick up of panels and notification of funding for budgets.

From January to May, teams can consult, as needed, with a Greenway-provided mentor, typically once a month.

(Note: participants may also want to participate in the VT SBDC's [2022 Virtual Entrepreneurship Day](#).)

March 28: Submit a brief progress report to Greenway, updating on progress and identifying any engineering challenges to be resolved, if any.

May 1: Sustainability Challenge: Demonstration Day with panels of experts. (At Windsor Technology Park or Norwich Technologies site in Windsor or Hartland, TBD)

Prizes will include over \$2500 in cash prizes awarded by Greenway and prizes from local businesses and organizations.

Find all other challenge details including design specifications, evaluation criteria, proposal expectations and FAQs, at our website: greenwayinstitute.org/sustainability-challenge/