

## Powering the Planet: Renewable Energy Discussion Questions

1. List at least two ways we get the energy to power our lives.
2. In the virtual field trip, Dr. Alex Wegmann talked about the importance of the bird guano to the ecosystem. Describe the role that guano plays on Palmyra Atoll.
3. Why is Palmyra a perfect place to study how a marine ecosystem responds to climate change?
4. What is the difference between renewable and nonrenewable resources? Provide examples of each.
5. What is the reason for the special design of Palmyra's wind turbine (shown below)?



Credit: Cindy Coker

6. Why was it necessary to install both solar panels and a wind turbine on the atoll?

7. What is the relationship between fossil fuels and carbon dioxide?
  
8. What is an important chemical component of solar cell (also known as a photovoltaic cell)?
  
9. Describe what happens when a photon (a packet of light energy from the sun) hits a solar cell.
  
  
  
  
  
  
  
  
  
  
10. How does concentrating solar power (CSP) differ from photovoltaic cells?
  
  
  
  
  
  
  
  
  
  
11. How do fossil fuels contribute to climate change?
  
  
  
  
  
  
  
  
  
  
12. How do engineers and scientists decide where to locate solar facilities?
  
  
  
  
  
  
  
  
  
  
13. In the United States (in 2015) how much electric power was generated from renewable resources?
  
  
  
  
  
  
  
  
  
  
14. What are some ways the students and other people can help to make a difference when it comes to energy use?