

## R&D GREET Electricity and Electric Infrastructure Quiz

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Answer these questions using R&D GREET 1, R&D GREET 2, a calculator, and your notes from the session.



GREAT PLAINS  
INSTITUTE

Argonne  
NATIONAL LABORATORY

U.S. Department of  
ENERGY

\* Required

\* This form will record your name, please fill your name.

1. What is the electric transmission and distribution loss assumed in R&D GREET? \*

2. What is the 2022 U.S. electricity GHG intensity at the wall outlet in g CO<sub>2</sub>e/kWh?

3. What is the conversion factor for light water reactor nuclear power plants? Include units.

4. What is the assumed lifetime of a nuclear power plant in R&D GREET? \*

5. What is the primary **natural gas-based** technology used to construct a hydroelectric dam? \*

6. Define the capacity factor.

7. What is the default share of installed capacity of U.S. average, onshore wind turbines? \*

8. Which state in 2022 has an electricity grid mix with 58% wind turbine generation according to EIA Form-923? Look for the answer in R&D GREET 1. \*

9. Model a **2022 SUV BEV** using an **NMC622** battery *charged* with a **WECC** electricity generation mix in R&D GREET. What is the cradle-to-grave (**C2G**) result in g CO<sub>2</sub>e/mile? \*

10. Model a **2022 passenger car BEV** using an **NMC111** battery. Set the electricity generation mix for the vehicle's production, disposal, and assembly to be from the MRO region; however, set the electricity generation mix for the vehicle use to be from the WECC region. What is the **vehicle cycle** result in g CO<sub>2</sub>e/mile? \*

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