

Dear EMP Committee and Clean and Renewable Power Committee,

**What is clean energy?** Energy that does not utilize fossil or nuclear based fuels in all stages of energy (Sourcing, Fuels, Storage and Transmission). Clean energy does not have any greenhouse gas emissions or toxic byproducts in the activities of energy sourcing, fuels, storage and transmission. **Clean Source** is energy sourced only from **Renewable** sources. The currently only available **Clean Fuel** is **Hydrogen**. The only **Clean Storage** is **Hydrogen**. The **Clean Transmission** only includes **Electricity** and **hydrogen** presently. This is why Europe, China, Japan, UK and California have dramatically invested and shifted towards a Hydrogen Energy Economy.

## Clean and Renewable Power

- **Energy**
  - **Sourcing**
    - Mining oil, uranium, natural gas
    - Renewable sourced energies (sunlight, wind, rain, tides, waves, and geothermal)
  - **Fuels**
    - Fossil fuels (oil, gasoline, natural gas, propane)
    - Nuclear fuel
    - Hydrogen
  - **Storage**
    - Batteries (lead acid, lithium, etc..)
    - Fossil Fuel storage
    - Hydrogen storage
  - **Transmissions**
    - Electrical
    - Pipelines (oil, natural gas, hydrogen)
    - Trucking/rail (oil, natural gas, propane, nuclear, hydrogen)
- **What is clean?**
  - **Clean energy source: Renewable energy (sunlight, wind, rain, tides, waves, and geothermal)**
  - **Clean energy fuels: Hydrogen**
  - **Clean energy storage: Hydrogen**
  - **Clean Energy transmission: Electrical & Hydrogen**
- **Goal: 100% clean energy by 2050**
  - Transforming **Sourcing** from national sourced mining to New Jersey renewable energy sources
  - Transforming **Fuels** from fossil and nuclear fuels to state smart distributed hydrogen fuel
  - Transforming New Jersey energy **Storage** from fossil fuels and batteries to Hydrogen storage
  - Transforming **Transmissions** from fossil fuels and nuclear to electrical and hydrogen

This is the only answer and definition that is true for what is Clean Energy. Any answer that includes fossil fuels or nuclear with the claim that these are bridges or intermediate term clean energies tarnishes and demeans the true definition of clean energy that is currently available. There will be future clean energy sources, fuels, storage and transmissions, but they need to be discovered and developed. For now, **Renewables, Hydrogen and Electricity** are the **core components** of what we have available today for **Clean Energy**.

The 2019 Draft Energy Master Plan must use this as the definition for Clean Energy. Then the agencies can determine and assess how to change New Jersey towards achieving Clean Energy.