

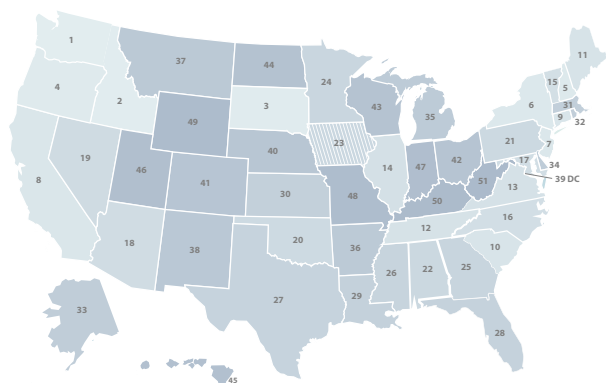
HOW DOES IOWA STACK UP ON CLEAN ENERGY?



DATA AS OF 2021

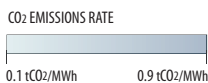


LOWEST CO₂ EMISSIONS RATE

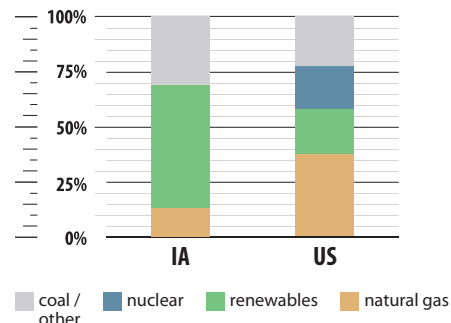


#23

0.36 tCO₂/MWh



ELECTRICITY SOURCES



CLEAN ENERGY JOBS

#32

33,624 (2021)



Growth/recovery since 2020 totaled 983 jobs (3%).



CLEAN ENERGY RANKINGS

#36

ENERGY EFFICIENCY SCORE = 13



#41

12% GENERATION FROM NATURAL GAS



#7

57% GENERATION FROM RENEWABLES



RENEWABLE ELECTRICITY CAPACITY

#17

585 MW (2021)

NEW BUILD



#5

12,531 MW

CUMULATIVE



ENERGY INNOVATION IN A 21ST CENTURY ECONOMY



WHAT ENERGY INNOVATION MEANS FOR IOWA



\$33.8 MILLION Total Department of Energy funding in FY21

\$10.5 MILLION Office of Energy Efficiency and Renewable Energy Grants in FY21

\$18.8 MILLION Office of Science grants in FY21

\$14.1 MILLION Advanced Research Projects Agency-Energy grants since FY2009

10 AWARDS DOE Small Business Innovation Research (SBIR) since 2012

IMPACTS OF FEDERAL R&D IN ENERGY SECTOR (TOTAL, 2018)

#13 1,670 JOBS SUPPORTED

#13 \$159 MILLION CONTRIBUTED TO GDP

BUSINESS SPOTLIGHT

FRONTLINE BIOENERGY (AMES, IA) | FrontLineBioEnergy.com



Frontline Bioenergy converts biomass and waste-based feedstocks into valuable products such as energy, fuels, and chemicals. The company received a Department of Energy grant to develop a pilot biomass-to-jet/diesel fuel plant using an innovative gasification and Fischer-Tropsch process, based on Frontline's patented gasification technology. Separately, the company is developing an estimated \$130 million renewable natural gas project near Bakersfield in the San Joaquin Valley of California.