

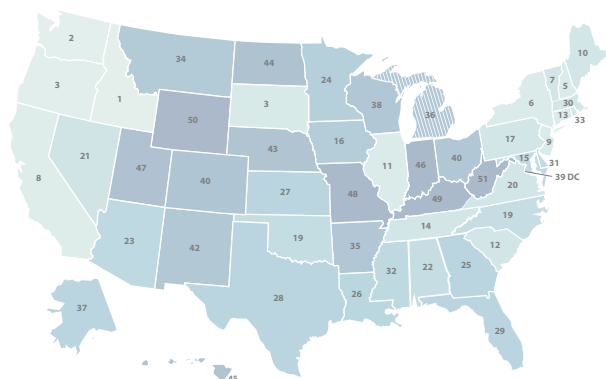
# HOW DOES MICHIGAN STACK UP ON CLEAN ENERGY?



DATA AS OF 2020



## LOWEST CO<sub>2</sub> EMISSIONS RATE

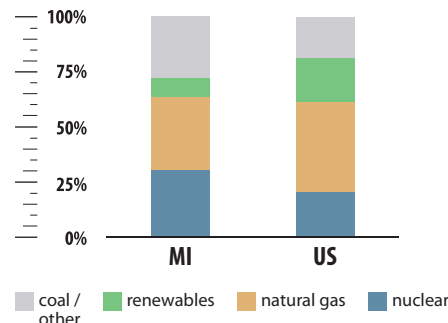


# #36

0.46 tCO<sub>2</sub>/MWh



## ELECTRICITY SOURCES



## CLEAN ENERGY JOBS

# #7

106,869 (2020)



COVID-19 job losses totaled at least 21,946 March-December 2020 (cumulative).



## CLEAN ENERGY RANKINGS

# #13

ENERGY EFFICIENCY SCORE = 29



# #27

34% GENERATION FROM NATURAL GAS



# #36

10% GENERATION FROM RENEWABLES



## RENEWABLE ELECTRICITY CAPACITY

# #8

1,304 MW (2020)

NEW BUILD



# #19

4,489 MW

CUMULATIVE



# ENERGY INNOVATION IN A 21<sup>ST</sup> CENTURY ECONOMY



## WHAT ENERGY INNOVATION MEANS FOR MICHIGAN



**\$64.8 MILLION** Office of Energy Efficiency and Renewable Energy Grants in FY20

**\$108.8 MILLION** Office of Science grants in FY20

**\$99.4 MILLION** State and Indian energy programs, environmental cleanup, and other routine activities in FY20

**\$84.2 MILLION** Advanced Research Projects Agency-Energy grants since FY2009

**33 GRANTS** By ARPA-E since 2009

**#14** 1,200 JOBS SUPPORTED

**#15** \$122 MILLION CONTRIBUTED TO GDP

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

## BUSINESS SPOTLIGHT

FLASH STEELWORKS (WASHINGTON, MI) | [FlashBainite.com](http://FlashBainite.com)



Flash Steelworks is the innovator of technology to make steel lighter and stronger, with dramatic potential benefits for fuel efficiency (i.e., vehicle lightness), military applications, and a range of other beneficial uses. The company is based in Michigan's Lower Peninsula and has worked with Oak Ridge National Laboratory in Tennessee to help develop the technology, with support from a number of Department of Energy Small Business Innovation Research (SBIR) awards. The firm is now launching commercial production of its steel. In 2017, the company was recognized as Department of Energy's SBIR Small Business of the Year.