

Manufacturing, Climate, and Innovation

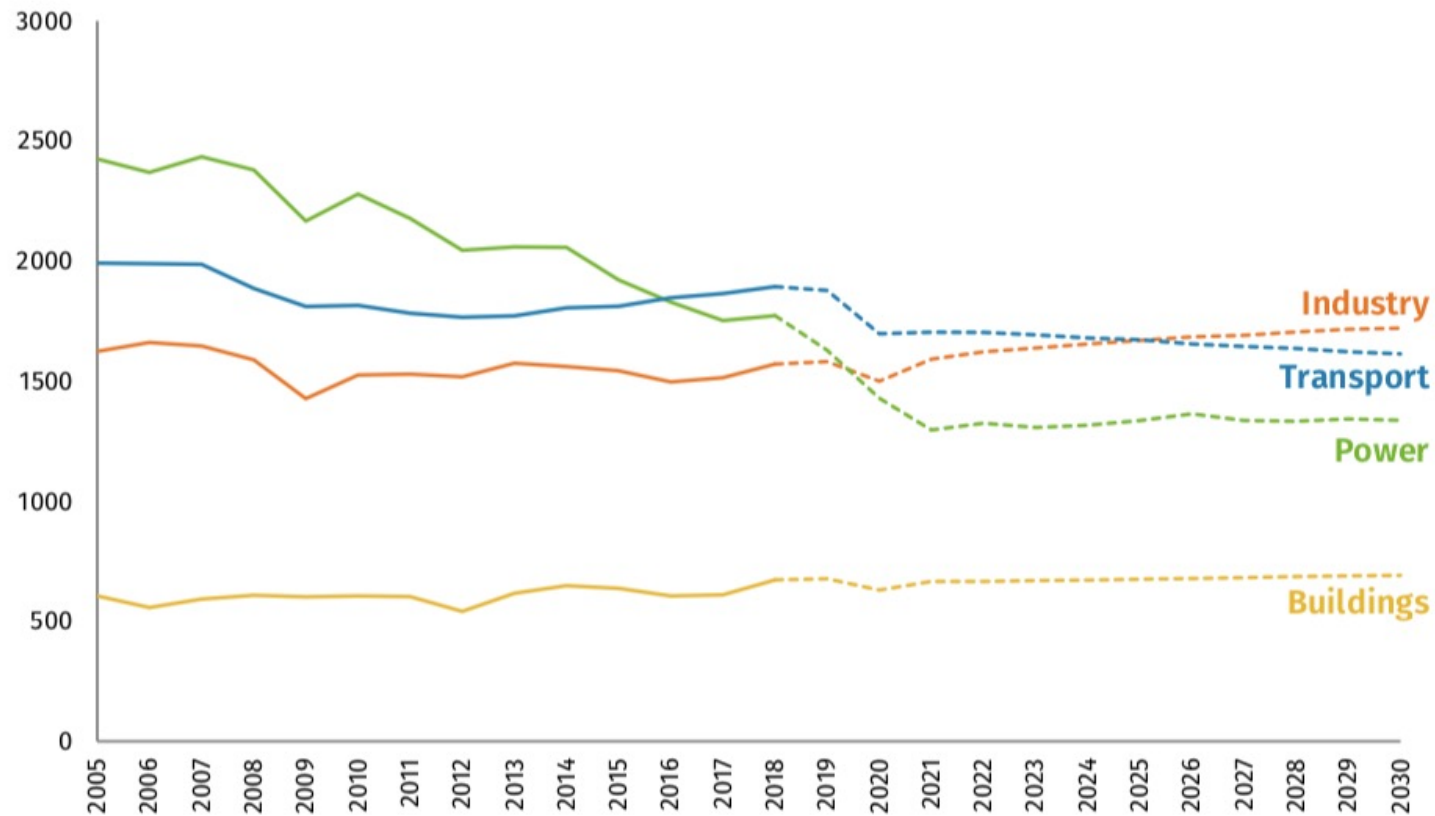
Rebecca Dell

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Industry is on track to become the highest GHG-emitting sector in the next five years.

US greenhouse gas emissions in key sectors¹, 2005-2030

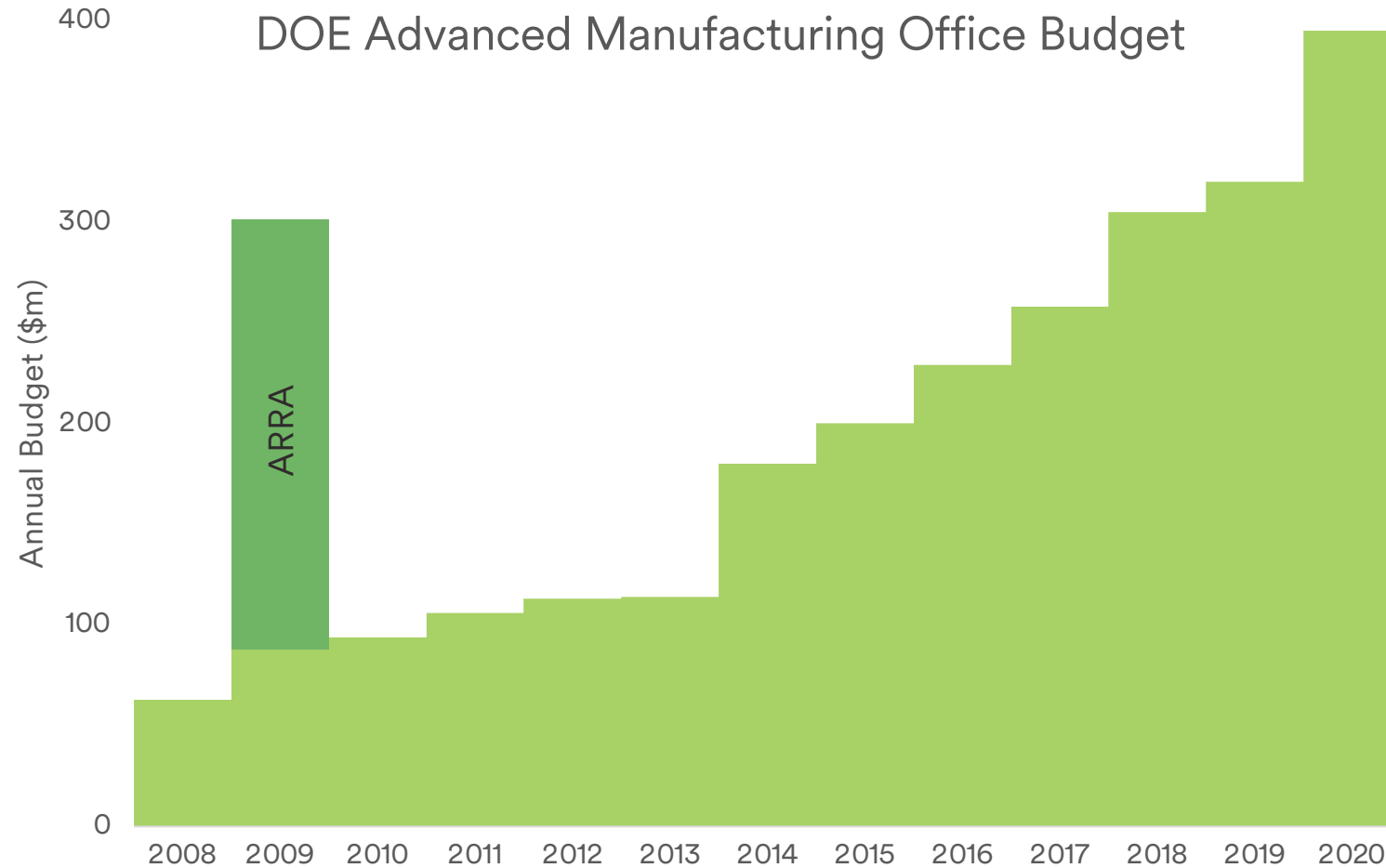
Million metric tons of CO₂-equivalent (CO₂e)



Source: Rhodium Climate Service

In addition, the U.S. imports the equivalent of another 800 MtCO₂e of net industrial emissions embodied in products manufactured overseas.

Current manufacturing R&D investment goes primarily through DOE and NIST.

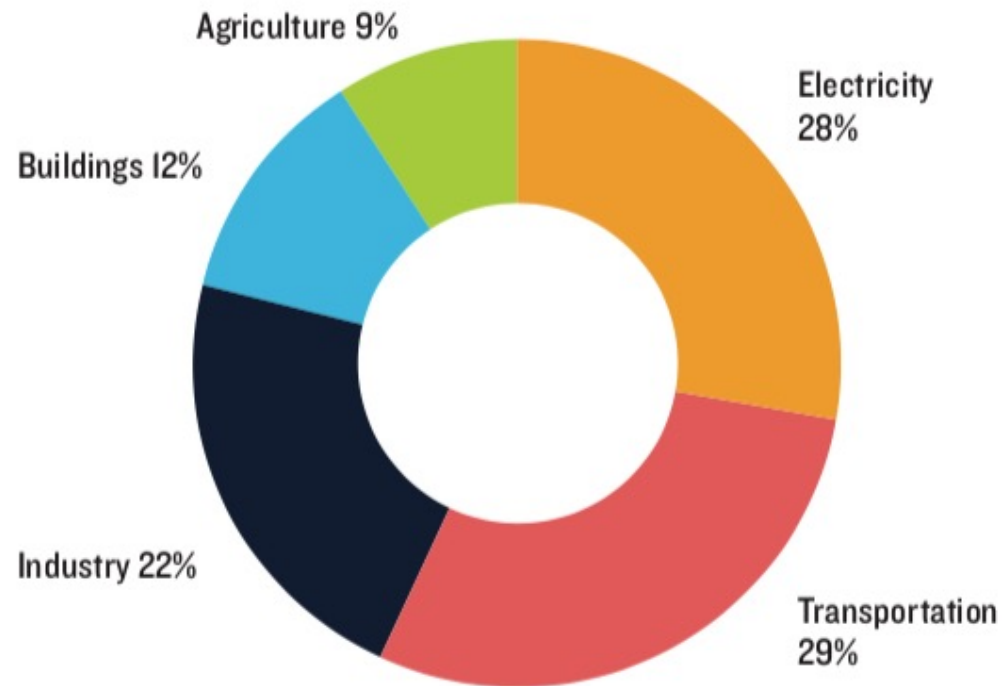


In addition, the Manufacturing USA Institutes receive \$130 million through the NIST, DOD, and NIH budgets and the Manufacturing Extension Partnership through NIST receives \$140 million.

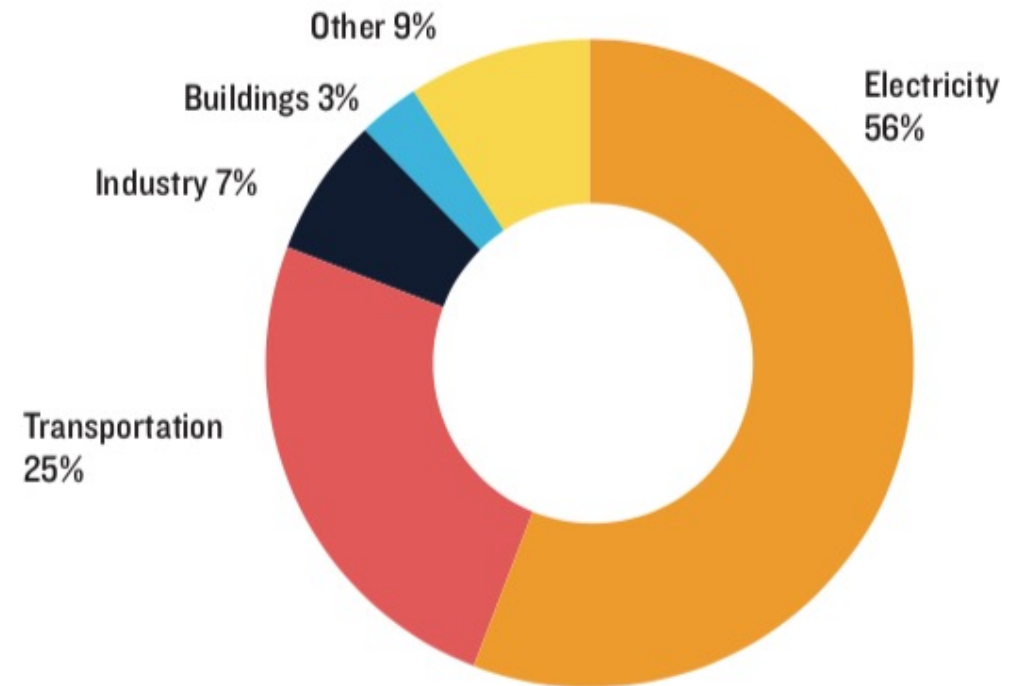
The total applied research and technical assistance expenditure across the entire government is about **\$800 million per year.**

DOE's current R&D allocation grossly underfunds the industrial sector.

GREENHOUSE GAS EMISSIONS (2017)



DEPARTMENT OF ENERGY RESEARCH AND DEVELOPMENT SPENDING (FY2016)



Current R&D funding is also poorly aligned with our social and sectoral needs.

Existing authorizations emphasize energy efficiency and energy productivity. They do not include goals like:

- Climate performance
- Pollution reduction and environmental justice
- Worker safety and job quality

Many stakeholders have no opportunity to influence R&D priorities.

Manufacturing, construction, and waste processing are not integrated.

Commercial-scale demonstration of new process technologies is difficult or impossible.

There have been promising new developments, but not at the scale required.

Energy Act of 2020: Industrial Emissions Technology Program

- \$20 million authorization increasing to \$150 million in 2025
- Industry decarbonization roadmap from DOE and OSTP

American Jobs Plan:

- 15 hydrogen demonstrations
- 10 carbon capture, utilization, and storage demonstrations
- \$15 billion over eight years for demonstrations
- Additional funding through Commerce and NIST

In addition to increasing funding,
we need to elevate and improve governance.

Total industrial innovation investment should be in the range of **\$5 billion per year** across the government.

Currently, the highest-ranking person in the federal government whose job it is to advance the future of American manufacturing has the rank of acting office director. DOE needs an assistant secretary for manufacturing and industry.

The innovation agenda needs to be integrated with policies that create markets, invest in our workforce, ensure fair trade, and enforce the rules.

With smart and sufficient investment,
we can lead the world in **making clean products**
and **making all products in a clean way.**

Rebecca Dell

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Report: ***Build Clean – Industrial Policy for Climate and Justice***
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