

## EPRI Energy Systems and Climate Analysis Group Research on the Value and Costs of Nuclear Generation

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This is a summary of all of EPRI's Energy Systems and Climate Analysis (ESCA) Group's research on the economics of nuclear generation, including work in progress. Web links are included where available. Publications marked with an \* are available to the public free of charge or are published in academic journals. Other publications are available to EPRI member companies that fund certain program(s), as indicated with a number in brackets preceding the publication title and can be purchased by members of the public who may be interested in doing so, subject to EPRI's product distribution requirements. For a full listing of ESCA research that is free to the public, please visit the ESCA public website at <http://eea.epri.com/research.html>. To receive the ESCA group's quarterly newsletter with research updates, please email your request to [eea@epri.com](mailto:eea@epri.com).

### ECONOMICS OF EXISTING NUCLEAR

\* Bistline, J., M. Brown, S. Siddiqui, and K. Vaillancourt *Electric Sector Impacts of Renewable Policy Coordination: A Multi-Model Study of the North American Energy System* (in review)

\* *Impacts of Recent State Renewable Policies in the U.S.*, EPRI Program 201 Back Pocket Insight, December 2019, <https://eea.epri.com/pdf/Back-Pocket-Insights/P201-Back-Pocket-Insight-Recent-State-Policies.pdf>

(201-C, 41.13) *The Economics of Nuclear Plant Modernization in U.S. Markets*, EPRI Report 3002014737, January 2019, <https://www.epri.com/#/pages/product/3002014737/>

(103) *Early Retirement Risks for Nuclear in U.S. Markets* December 2017, <https://membercenter.epri.com/Programs/109396/pages/eventdetails.aspx?eventID=E5E0F8F6-506B-47D0-BBDB-9C3FBDA2A3A6>

(103) *Environmental Value of Retaining Existing Nuclear Units* June 2016, <https://membercenter.epri.com/Programs/109396/pages/eventdetails.aspx?eventID=9c2c3e19-0b97-4985-bfcc-16a8d0d2575d>

### ECONOMICS OF ADVANCED NUCLEAR

\* Bistline, J.E.T., James, R., and A. Sowder *Technology, Policy, and Market Drivers of (and Barriers to) Advanced Nuclear Reactor Deployment in the United States After 2030*. *Nuclear Technology* 205:1075-1094, 2019. <https://doi.org/10.1080/00295450.2019.1574119>

\* *Exploring the Role of Advanced Nuclear in Future Energy Markets: Economic Drivers, Barriers, and Impacts in the U.S.*, EPRI Report 3002011803, March 2018, <https://www.epri.com/#/pages/product/000000003002011803/>

### SCENARIO ANALYSES INCLUDING NEW NUCLEAR

\* Bistline, J. and G. Blanford *Value of Technology in the U.S. Electric Power Sector: Impacts of Full Portfolios and Technological Change on the Costs of Meeting Decarbonization Goals*. *Energy Economics* 84:104694, February 2020. <https://doi.org/10.1016/j.eneco.2020.104694>

(178-B) **2019 REGEN Scenarios Analysis: Understanding Key Factors That May Impact the Evolution of Electricity Generation in the United States 2015-2050**, EPRI Report 3002016570, December 2019, <https://www.epri.com/#/pages/product/3002016570/> .

(201-C) **Program 201-C Webcast on the Economics of Storage under Very High Renewable Penetration**, May 2019, <https://membercenter.epri.com/Programs/109396/pages/eventdetails.aspx?eventID=010ED223-F0BA-4260-9708-5590E23FDDF3> (webcast recording also available via this link)

(178-B) **2018 REGEN Scenarios Analysis: Understanding Key Factors That May Impact Future Electricity Generation**, EPRI Report 3002013733, December 2018, <https://www.epri.com/#/pages/product/000000003002013733/?lang=en> .

\* Mai, T., J. Bistline, Y. Sun, W. Cole, C. Marcy, C. Namovicz, and D. Young **The Role of Input Assumptions and Model Structures in Projections of Variable Renewable Energy: A Multi-Model Perspective of the U.S. Electricity System**. *Energy Economics* 76:313-324, October 2018. <https://doi.org/10.1016/j.eneco.2018.10.019>

\* **Value of Technology in the Electric Power Sector**, EPRI Program 201 Back Pocket Insight, August 2018, <https://eea.epri.com/pdf/EPRI-P201-Value-of-Technology.pdf>

\* Bistline, J., E. Hodson, C. G. Rossmann, J. Creason, B. Murray, and A. R. Barron. **Electric Sector Policy, Technological Change, and U.S. Emissions Reductions Goals: Results from the EMF 32 Model Intercomparison Project**. *Energy Economics* 73:307-325, June 2018. <https://doi.org/10.1016/j.eneco.2018.04.012>

\* **Value of Technology in the Electric Power Sector: Modeling and Insights in US-REGEN**, EPRI Report 3002012171, December 2017, <http://membercenter.epri.com/abstracts/Pages/ProductAbstract.aspx?ProductId=000000003002012171>

(178-B) **2017 REGEN Scenarios Analysis: Understanding Key Factors That May Impact Future Electricity Generation**, EPRI Report 3002011044, December 2017, <https://www.epri.com/#/pages/product/000000003002011044/?lang=en> .

(178-B) **2016 REGEN Scenarios Analysis: Understanding Key Factors That May Impact Future Electricity Generation**, EPRI Report 3002008451, December 2016, <https://www.epri.com/#/pages/product/000000003002008451/?lang=en> .

(178-B) **2015 REGEN Scenarios Analysis: Understanding Key Factors That May Impact Future Electricity Generation**, EPRI Report 3002005839, December 2015, <https://www.epri.com/#/pages/product/000000003002005839/?lang=en> .

(178-B) **2014 REGEN Scenarios Analysis: Understanding Key Factors That May Impact Future Electricity Generation**, EPRI Report 3002004880, December 2014, <https://www.epri.com/#/pages/product/000000003002004880/?lang=en> .

## NUCLEAR TECHNOLOGY COST AND PERFORMANCE

(178-A) **Technical Assessment Guide Web (TAGWeb) Database & Software**, version 3.5, EPRI Software 3002012114, 2018, <https://www.epri.com/#/pages/product/3002012114/>

(178-A) **Technical Assessment Guide for Power Generation and Storage Technology Options**, EPRI Report 3002006280 (Chapter 7), September 2016, <https://www.epri.com/#/pages/product/3002006280/>

(178-A) **Technical Assessment Guide for Power Generation and Storage Technology Options**, EPRI Report 1024063 (Chapter 9), March 2013, <https://www.epri.com/#/pages/product/1024063/>

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