COMMITTEE PRINT OF H.R. 34

[As forwarded by the Subcommittee on Energy of the Committee on Science, Space, Technology on March 27, 2019]

SECTION 1. SHORT TITLE.

This Act may be cited as the “Energy and Water Research Integration Act of 2019”.

SEC. 2. INTEGRATING ENERGY AND WATER RESEARCH.

(a) IN GENERAL.—The Secretary of Energy shall integrate water considerations into energy research, development, and demonstration programs and projects of the Department of Energy by—

(1) advancing energy and energy efficiency technologies and practices that meet the objectives of—

(A) minimizing freshwater withdrawal and consumption;

(B) increasing water use efficiency;

(C) utilizing nontraditional water sources with efforts to improve the quality of the water from those sources; and

(D) minimizing deleterious impacts on water bodies, groundwater, and waterways;
(2) considering the effects climate variability may have on water supplies and quality for energy generation and fuel production; and

(3) improving understanding of the energy-water nexus.

(b) Strategic Plan.—

(1) In general.—Not later than 12 months after the date of enactment of this Act, the Secretary shall develop a strategic plan identifying the research, development, and demonstration needs for Department programs and projects to carry out subsection (a). The strategic plan shall include technical milestones for achieving and assessing progress toward the objectives of subsection (a)(1).

(2) Specific Considerations.—In developing the strategic plan, the Secretary shall consider—

(A) new advanced cooling technologies for energy generation and fuel production technologies;

(B) performance improvement of existing cooling technologies and cost reductions associated with using those technologies;

(C) innovative water reuse, recovery, and treatment technologies in energy generation and fuel production;
(D) technology development for carbon capture and storage systems that utilize efficient water use design strategies;

(E) technologies that are life-cycle cost effective;

(F) systems analysis and modeling of issues relating to the energy-water nexus;

(G) technologies to treat and utilize wastewater and produced waters discharged from oil, natural gas, coalbed methane, and any other substance to be used as an energy source;

(H) advanced materials for the use of non-traditional water sources for energy generation and fuel production;

(I) biomass production and utilization and the impact on hydrologic systems;

(J) technologies that reduce impacts on water from energy resource development;

(K) energy efficient technologies for water distribution, treatment, and collection systems;

(L) technologies for energy generation from water distribution, treatment, and collection systems; and

(M) any other area of the energy-water nexus that the Secretary considers appropriate.
(3) **Collaboration and Nonduplication.**—

In developing the strategic plan, the Secretary shall coordinate and avoid duplication—

(A) with other Federal agencies operating related programs, if appropriate; and

(B) across programs and projects of the Department, including with those of the National Laboratories.

(4) **Relevant Information and Recommendations.**—In developing the strategic plan, the Secretary shall consider and incorporate, as appropriate, relevant information and recommendations, including those of the National Water Availability and Use Assessment Program under section 9508(d) of the Omnibus Public Land Management Act of 2009 (42 U.S.C. 10368(d)).

(5) **Additional Participation.**—In developing the strategic plan, the Secretary shall consult and coordinate with a diverse group of representatives from research and academic institutions, industry, public utility commissions, and State and local governments who have expertise in technologies and practices relating to the energy-water nexus.

(6) **Submission to Congress.**—Not later than 12 months after the date of enactment of this Act,
the Secretary shall submit to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Energy and Natural Resources of the Senate the strategic plan.

(7) **Updating the Strategic Plan.**—Not later than 3 years after the date of enactment of this Act, and at least once every 5 years thereafter, the Secretary shall—

(A) utilize relevant information produced by Federal Government agencies, academia, States, and industry to update the strategic plan;

(B) include in the updated strategic plan a description of the changes from the previous strategic plan and the rationale for such changes;

(C) include a review of progress made towards the milestones outlined in the previous strategic plan; and

(D) submit the updated strategic plan to the Committee on Science, Space, and Technology of the House of Representatives and the Committee on Energy and Natural Resources of the Senate.
(c) ADDITIONAL ACTIVITIES.—The Secretary may provide for such additional research, development, and demonstration activities as appropriate to integrate water considerations into the research, development, and demonstration activities of the Department as described in subsection (a).

SEC. 3. ENERGY-WATER OVERSIGHT AND COORDINATION.

(a) IN GENERAL.—The Secretary, in coordination with other relevant Federal agencies, shall establish an Energy-Water Subcommittee of the Energy Advisory Board to promote and enable improved energy and water resource data collection, reporting, and technological innovation. The Subcommittee shall consist of—

(1) representation from each program within the Department and each Federal agency that conducts research related to the energy-water nexus; and

(2) non-Federal members, including representatives of research and academic institutions, States, public utility commissions, and industry, who have expertise in technologies and practices relating to the energy-water nexus.

(b) FUNCTIONS.—The Subcommittee shall—

(1) make recommendations on the development and integration of data collection and data commu-
nication standards and protocols to agencies and ent-
ties currently engaged in collecting the data for the
energy-water nexus;

(2) recommend ways to make improvements to
Federal water use data to increase understanding of
trends in energy generation and fuel production;

(3) recommend best practices for utilizing infor-
mation from existing monitoring networks to provide
nationally uniform water and energy use and infra-
structure data; and

(4) conduct annual technical workshops, includ-
ing at least 1 regional workshop annually, to facili-
tate information exchange among Federal, regional,
State, local, and tribal governments and private sec-
tor experts on technologies that encourage the con-
servation and efficient use of water and energy.

(c) REPORTS.—Not later than 1 year after the date
of enactment of this Act, and at least once every 2 years
thereafter, the Subcommittee, through the Secretary, shall
transmit to Congress a report on its findings and activities
under this section.

SEC. 4. MANDATES.

Nothing in this Act shall be construed to require
State, tribal, or local governments to take any action that
may result in an increased financial burden to such gov-
ernments by restricting the use of water by such govern-
ments.

SEC. 5. COORDINATION AND NONDUPLICATION.

To the maximum extent practicable, the Secretary
shall coordinate activities under this Act with other pro-
grams of the Department and other Federal research pro-
grams.

SEC. 6. DEFINITIONS.

In this Act:

(1) DEPARTMENT.—The term “Department”
means the Department of Energy.

(2) ENERGY-WATER NEXUS.—The term “en-
ergy-water nexus” means the energy required to pro-
vide reliable water supplies and the water required
to provide reliable energy supplies throughout the
United States.

(3) SECRETARY.—The term “Secretary” means
the Secretary of Energy.

(4) SUBCOMMITTEE.—The term “Sub-
committee” means the Energy-Water Subcommittee
of the Energy Advisory Board established under sec-
tion 3(a).