

Assembly Bill No. 2800

Passed the Assembly August 25, 2016

Chief Clerk of the Assembly

Passed the Senate August 22, 2016

Secretary of the Senate

This bill was received by the Governor this _____ day
of _____, 2016, at _____ o'clock ____M.

Private Secretary of the Governor

AB 2800

— 2 —

CHAPTER _____

An act to add and repeal Section 71155 of the Public Resources Code, relating to climate change.

LEGISLATIVE COUNSEL'S DIGEST

AB 2800, Quirk. Climate change: infrastructure planning.

Existing law requires the Natural Resources Agency, by July 1, 2017, and every 3 years thereafter, to update the state's climate adaptation strategy to identify vulnerabilities to climate change by sectors and priority actions needed to reduce the risks in those sectors.

This bill, until July 1, 2020, would require state agencies to take into account the current and future impacts of climate change when planning, designing, building, operating, maintaining, and investing in state infrastructure. The bill, by July 1, 2017, and until July 1, 2020, would require the agency to establish a Climate-Safe Infrastructure Working Group for the purpose of examining how to integrate scientific data concerning projected climate change impacts into state infrastructure engineering, as prescribed. The bill would require the working group to consist of registered professional engineers with specified relevant expertise from the Department of Transportation, the Department of Water Resources, the Department of General Services, and other relevant state agencies; scientists with specified expertise from the University of California, the California State University, and other institutions; and licensed architects with specified relevant experience. The bill would require the working group, by July 1, 2018, to make specified recommendations to the Legislature and the Strategic Growth Council.

The people of the State of California do enact as follows:

SECTION 1. The Legislature finds and declares all of the following:

(a) The impacts of climate change are already being felt in California and include record-breaking drought, wildfires, flooding, sea level rise, coastal erosion, and heat waves. These impacts are

projected to worsen with a future punctuated by what are now considered extreme weather events.

(b) As the climate warms, California will need to design and maintain infrastructure, including, but not limited to, roads, bridges, buildings, and water systems, to withstand increasingly severe impacts.

(c) The scientific community is developing sound scientific understanding of projected impacts from climate change. The engineers responsible for overseeing, designing, and building state infrastructure must consider the influence of climate change impacts on siting and design standards and specifications.

(d) As California spends billions of dollars on infrastructure, expecting it to last many decades, state engineers should be provided with practicable information on projected climate change impacts that they should consider when establishing standards and planning and designing structures that are critical to California's economy and public safety.

(e) Prolonged heat waves, extreme precipitation events, severe drought, increasing wildfires, and other potentially dangerous climate change impacts will require significant changes in designing and building projects, such as roads, bridges, buildings, and water infrastructure, and require planning for the resilience and restoration of natural systems.

(f) There is a significant body of climate science being developed and continually updated to inform decisionmakers and provide guidance on the predicted impacts. Infrastructure project planning and design must incorporate design standards and specifications for climate change impacts.

(g) Due to Executive Order B-30-15, current efforts by state agencies provide built-in resources, processes, and expertise that can be utilized to provide coordination between scientists and those responsible for designing, building, and overseeing critical state infrastructure.

SEC. 2. Section 71155 is added to the Public Resources Code, to read:

71155. (a) Consistent with this part, state agencies shall take into account the current and future impacts of climate change when planning, designing, building, operating, maintaining and investing in state infrastructure.

AB 2800

— 4 —

(b) (1) By July 1, 2017, the agency shall establish a Climate-Safe Infrastructure Working Group for the purpose of examining how to integrate scientific data concerning projected climate change impacts into state infrastructure engineering, including oversight, investment, design, and construction.

(2) The working group shall consist of the following:

(A) Professional engineers registered in accordance with Chapter 7 (commencing with Section 6700) of Division 3 of the Business and Professions Code with relevant expertise in state infrastructure design from the Department of Transportation, the Department of Water Resources, the Department of General Services, and other relevant state agencies, as applicable.

(B) Scientists from the University of California, the California State University, and other institutions who have expertise in climate change projections and impacts across California.

(C) Licensed architects with relevant experience in state infrastructure design, as applicable.

(3) The two groups specified in subparagraphs (A) and (B) of paragraph (2) shall be equitably represented in the membership of the working group, to the extent reasonable and appropriate.

(4) The working group shall work in coordination with other state climate adaptation planning efforts and shall consider and build upon existing information produced by the state, including information from the most recent California Climate Change Assessment conducted pursuant to Executive Order S-3-05, the plan, and the State of California Sea-Level Rise Guidance Document completed pursuant to Executive Order S-13-08, among other resources.

(5) The working group shall work in coordination with other state agencies that advance sustainability in infrastructure, including the council and the Government Operations Agency.

(c) The working group shall consider and investigate, at a minimum, the following issues:

(1) The current informational and institutional barriers to integrating projected climate change impacts into state infrastructure design.

(2) The critical information that engineers responsible for infrastructure design and construction need to address climate change impacts.

(3) How to select an appropriate engineering design for a range of future climate scenarios as related to infrastructure planning and investment.

(d) (1) By July 1, 2018, the working group shall make recommendations to the Legislature that address the issues listed in subdivision (c), including recommendations for all of the following:

(A) Integrating scientific knowledge of projected climate change impacts into state infrastructure design.

(B) Addressing critical information gaps identified by the working group.

(C) A platform or process to facilitate communication between climate scientists and infrastructure engineers.

(2) By July 1, 2018, the recommendations submitted pursuant to paragraph (1) also shall be submitted to the council to inform its review, conducted pursuant to Section 75125, of the five-year infrastructure plan developed pursuant to Article 2 (commencing with Section 13100) of Chapter 2 of Part 3 of Division 3 of Title 2 of the Government Code.

(e) This section shall become inoperative on July 1, 2020, and, as of January 1, 2021, is repealed, unless a later enacted statute, that becomes operative on or before January 1, 2021, deletes or extends the dates on which it becomes inoperative and is repealed.

Approved _____, 2016

Governor

CONCURRENCE IN SENATE AMENDMENTS

AB 2800 (Quirk)

As Amended August 17, 2016

Majority vote

ASSEMBLY: 59-19 (June 1, 2016)

SENATE: 32-6 (August 22, 2016)

Original Committee Reference: **NAT. RES.**

SUMMARY: Establishes a Climate-Safe Infrastructure Working Group (Working Group) to examine how to integrate scientific data concerning projected climate change impacts into state infrastructure engineering. Specifically, **this bill:**

- 1) Requires state agencies to take into account the current and future impacts of climate change when planning, designing, building, and investing in state infrastructure.
- 2) Requires Natural Resources Agency (NRA), by July 1, 2017, to establish the Working Group to examine how to integrate scientific data concerning projected climate change impacts into state infrastructure engineering.
- 3) Requires the Working Group to make recommendations on how better integrate scientific knowledge of projected climate impacts into state infrastructure planning and a platform or process to facilitate communication between climate scientists and infrastructure engineers.

The Senate amendments:

- 1) Require professional engineers serving on the Working Group to be registered with the state.
- 2) Require professional engineers and scientists to be equally represented in the membership of the Working Group, and adds licensed architects to the Working Group.
- 3) Require the Working Group to work in coordination with other state climate adaptation planning efforts and other state agencies that advance sustainability in infrastructure, including the Strategic Growth Council and the Government Operations Agency.
- 4) Eliminate the authorization for the Working Group to develop practicable guidelines for planning and designing infrastructure that is more resilient to the expected impacts of climate change.
- 5) Create a sunset date of July 1, 2020 for the Working Group.

EXISTING LAW:

- 1) Pursuant to Executive Order B-30-15 (Brown), in addition to establishing a 40% Greenhouse Gas (GHG) emission reduction goal by 2030, requires several actions on adaptation including:
 - a) Requires NRA to update the state's climate adaptation strategy every three years and ensure that its provisions are fully implemented. Requires the state's climate adaptation strategy to:

- i) Identify vulnerabilities to climate change by sector and regions, including, at a minimum, the following sectors: water, energy, transportation, public health, agriculture, emergency services, forestry, biodiversity and habitat, and ocean and coastal resources;
 - ii) Outline primary risks to residents, property, communities, and natural systems from these vulnerabilities and identify priority actions needed to reduce these risks; and,
 - iii) Identify a lead agency or group of agencies to lead adaptation efforts in each sector.
 - b) Requires each sector lead to prepare an implementation plan by September 2015 to outline the actions that will be taken as identified in state's climate adaptation strategy, and report back on those actions to the NRA.
 - c) Requires state agencies to take climate change into account in their planning and investment decisions, and employ full life-cycle cost accounting to evaluate and compare infrastructure investments and alternatives.
 - d) Requires state agencies' planning and investment to be guided by the principles of climate preparedness, flexibility and adaptive approaches for uncertain climate impacts, protective of vulnerable populations, and prioritization of natural infrastructure solutions.
 - e) Requires the state's Five-Year Infrastructure Plan to take current and future climate change impacts into account in all infrastructure projects.
 - f) Requires Office of Planning and Research (OPR) to establish a technical advisory group to help state agencies incorporate climate change impacts into planning and investment decisions.
 - g) Requires the state to continue its rigorous climate change research program focused on understanding the impacts of climate change and how best to prepare and adapt to such impacts.
- 2) Requires the NRA to update its climate adaptation strategy, the Safeguarding California Plan (Plan), by July 1, 2017, and every three years thereafter, by coordinating adaptation activities among lead state agencies in each sector.

FISCAL EFFECT: According to the Senate Appropriations Committee:

- 1) Approximately \$150,000 to the NRA (General Fund) for staff and contracting costs.
- 2) Unknown costs, likely absorbable, for the state agency members of the Working Group (Department of Transportation, Department of Water Resources, and Department of General Services).
- 3) Unknown costs, likely absorbable, for the California State University and University of California to participate on the Working Group.
- 4) Absorbable costs for state agencies to account for the impacts of climate change when investing in state infrastructure. The recommendations provided by the Working Group may provide cost savings for state agencies' plans and projects.

COMMENTS: According to a report by the American Society of Civil Engineers entitled, *Adapting Infrastructure and Civil Engineering Practice to a Changing Climate*:

Engineers should engage in cooperative research involving scientists from across many disciplines to gain an adequate, probabilistic understanding of the magnitudes of future extremes and their consequences. Doing so will improve the relevance of modeling and observations for use in the planning, design, operation, maintenance and renewal of the built and natural environment. It is only when engineers work closely with scientists that the needs of the engineering community become fully understood, the limitations of the scientific knowledge become more transparent to engineers, and the uncertainties of the projections of future climate effects become fully recognized for engineering design purposes.

This bill would implement the approach outlined above by creating the Working Group of both engineers and scientists. This is a very different approach than past adaptation bills. Prior bills focused on a top down approach to incorporating adaptation into state and local government decisions. This bill focuses on collaboration between practitioners to drive systematic change. This bill also codifies one of points in the Governor's Executive Order B-30-15 related to state infrastructure.

Analysis Prepared by: Michael Jarred / NAT. RES. / (916) 319-2092

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