

**2010 -- S 2439 SUBSTITUTE A AS AMENDED**

=====  
LC01816/SUB A  
=====

**STATE OF RHODE ISLAND**

**IN GENERAL ASSEMBLY**

**JANUARY SESSION, A.D. 2010**

-----  
A N A C T

RELATING TO HEALTH AND SAFETY -- CLIMATE RISK REDUCTION ACT

Introduced By: Senator Joshua Miller

Date Introduced: February 11, 2010

Referred To: Senate Environment & Agriculture

It is enacted by the General Assembly as follows:

1 SECTION 1. Title 23 of the General Laws entitled "HEALTH AND SAFETY" is hereby  
2 amended by adding thereto the following chapter:

3 CHAPTER 84

4 THE RHODE ISLAND CLIMATE RISK REDUCTION ACT OF 2010

5 **23-84-1. Short title.** – This chapter shall be known and may be cited as “The Rhode  
6 Island Climate Risk Reduction Act of 2010.”

7 **23-84-2. Legislative findings.** -- It is hereby found and declared by the general assembly  
8 as follows:

9 (1) Climate change impacts have already arrived in Rhode Island. Average temperatures  
10 in the state have increased by one point five degrees Fahrenheit (1.5°F) since 1970 and mean  
11 winter temperatures in the state are up by four degrees Fahrenheit (4°F). The annual mean surface  
12 temperature of Narragansett Bay has increased two point seven degrees Fahrenheit (2.7°F) since  
13 the 1960s. Droughts are becoming longer and more frequent, storms cause worse flooding, and  
14 the sea level is measurably rising over eight inches (8") since 1930 at an accelerated rate. Gases  
15 released by the consumption of fossil fuels explain most of these trends very well; since these  
16 gases stay in the atmosphere and trap heat for decades, the residents of Rhode Island are being  
17 locked into serious disruptions in their way of life.

18 (2) If emissions continue at the current high rate, the annual number of days over ninety  
19 degrees Fahrenheit (90°F) is expected to grow sharply from about five (5) per year today to about

1 fifty (50) to sixty (60) per year at the end of the century. Rhode Island is expected to experience  
2 roughly twenty-five (25) days over one hundred degrees Fahrenheit (100°F) every summer if we  
3 continue on a high emissions pathway. Under these scenarios, Rhode Island's summer heat index  
4 in 2100 will resemble Georgia's current summers. Such scenarios could see Rhode Island seas  
5 rise three (3) to five (5) feet by 2100. Increased flooding and droughts are widely recognized in  
6 climate models to dominate Rhode Island's expected weather patterns as the potential for more  
7 intense storms increases.

8 (3) Rhode Island's residents and the ecosystems that sustain us face three (3) main types  
9 of increasing risks: (i) Rising temperatures (which put stress on human health and ecosystems);  
10 (ii) More extreme weather (bringing more frequent heavy thunderstorms and flooding, heat waves  
11 and more intense coastal storms and hurricanes); and (iii) Flooding and damage to homes,  
12 businesses, public infrastructure and coastal habitats along the state's over four hundred (400)  
13 miles of coastline by storm surges and rising sea levels.

14 (4) While Rhode Island has taken leadership in developing and adopting a sea level rise  
15 policy and draft guidelines, identifying climate issues within the state's coastal program and its  
16 special area management plans and compiling existing research on various trends associated with  
17 climate change, there is no comprehensive state-wide assessment of projected impacts of climate  
18 change to human health and safety, economic and natural resources of the state. Many states in  
19 the region have begun to develop commission and statewide strategies for climate change.

20 (5) Communities around the United States and the world are beginning to address these  
21 increased risks by adjusting their building codes, improving and updating their emergency plans,  
22 identifying their greatest vulnerabilities and prioritizing actions to address them and incorporating  
23 climate change projections in planning for long-term infrastructure investments. Rhode Island can  
24 learn from and build upon these efforts. Some communities are even discovering opportunities in  
25 this crisis to address longstanding vulnerabilities, and the potential to develop new industries to  
26 supply adaptation technology and advice to communities.

27 (6) Natural ecosystems and habitats, both coastal and upland, provide critical ecosystem  
28 services including, fisheries habitat, drinking water, and flood protection. These resources play  
29 an important role in minimizing risks and hazard exposure to climate change impacts such as  
30 coastal and riverline flooding. Forested watersheds provide increased protection from the impacts  
31 of both flooding and droughts, absorbing water during storm events, and releasing it slowly over  
32 time.

33 (7) Tree canopy cover is a cost-effective adaptation to climate change, particularly in the  
34 urban environment. In particular, increasing urban tree canopy cover has been found to reduce

1 summer high temperatures, reduce energy consumption, have a positive impact on stormwater  
2 management and air quality, and improve groundwater quality. Increasing tree canopy cover will  
3 also help the state achieve its goal of mitigating carbon dioxide emissions by enhancing biotic  
4 sequestration and reducing energy consumption.

5 (8) An October 2008 study by the National Research Council found that some of the  
6 benefits of green infrastructure include a reduction of stormwater runoff, surface water discharge,  
7 stormwater pollution and stormwater flows.

8 (9) While increasing the urban tree canopy is critical to reducing the urban heat island  
9 effect, strategies incorporating other forms of green infrastructure, including green roofs and  
10 walls, hold significant cooling potential; a 2007 study in Bioscience revealed that if the city of  
11 Toronto greened fifty percent (50%) of its roof space, the temperature of the entire city would  
12 drop by two degrees Fahrenheit (2°F), and because there is more wall space than roof space, green  
13 facades and living walls are ideal supplements.

14 (10) Existing federal programs and potential federal climate change legislation may  
15 provide significant funding and other resources to help states and localities begin planning and  
16 taking adaptation actions. To receive these funds, state governments may be required to complete  
17 climate change response plans; this chapter seeks to assist the state in beginning the process of  
18 preparing such a plan.

19 (11) This chapter seeks to protect the historic culture, heritage, economy, public  
20 infrastructure, natural resources and the current and future well-being of the population of the  
21 State of Rhode Island while helping move the state to an active response to climate change  
22 impacts by identifying some of the most critical issues that will have to be addressed, and by  
23 investigating and implementing cost-effective solutions and/or adaptation strategies for the state  
24 and its municipalities.

25 **23-84-3. Creation of The Rhode Island Climate Change Commission.** – (a) There is  
26 hereby created an independent commission known as "The Rhode Island Climate Change  
27 Commission" consisting of twenty-eight (28) members as follows: three (3) of whom shall be  
28 members of the senate, to be appointed by the senate president, not more than two (2) from the  
29 same political party; three (3) of whom shall be members of the house of representatives, to be  
30 appointed by the speaker of the house not more than two (2) from the same political party; one  
31 of whom shall be the director of the department of environmental management, or his or her  
32 designee; one of whom shall be the executive director of the coastal resources management  
33 council, or his or her designee; one of whom shall be the director of the department of  
34 transportation, or his or her designee; one of whom shall be the chair of the Rhode Island bays,

1 rivers, and watersheds coordination team; one of whom shall be the director of the Rhode Island  
2 department of health, or his or her designee; one of whom shall be the chief of staff of the water  
3 resources board, or his or her designee; one of whom shall be the director of the division of  
4 planning, or his or her designee; one of whom shall be the state building commissioner, or his or  
5 her designee; one of whom shall be the director of the Rhode Island emergency management  
6 agency, or his or her designee; two (2) of whom shall represent municipal governments of coastal  
7 municipalities one appointed by the senate president and one appointed by the speaker of the  
8 house; two (2) of whom shall be representatives of environmental non-profit organizations,  
9 appointed by the environment council of Rhode Island; two (2) of whom shall be representatives  
10 of business, one designated by the greater Providence chamber of commerce and one designated  
11 by the Rhode Island chamber of commerce coalition; two (2) of whom shall be representatives of  
12 higher education institutions, one appointed by the board of governors for higher education and  
13 one appointed by the association of independent colleges and universities of Rhode Island; one of  
14 whom shall be a representative of a utility distribution company having greater than one hundred  
15 thousand (100,000) customers to be appointed by the senate president; one of whom shall be the  
16 executive director of the Rhode Island realtors association, or his or her designee; one of whom  
17 shall be the executive director of the Rhode Island builders association, or his or her designee;  
18 one of whom shall be the executive director of the American institute of architects of Rhode  
19 Island, or his or her designee; and one of whom shall represent the medical profession, including,  
20 but not limited to, a doctor or nurse, to be appointed by the speaker of the house.

21 (b) The purposes of the commission shall be to study the projected impacts of climate  
22 change on Rhode Island, to identify and report methods of adapting to these climate change  
23 impacts in order to reduce likely harm and increase economic and ecosystem sustainability, and  
24 to identify potential mechanisms to mainstream climate adaptation into existing state and  
25 municipal programs including, but not limited to, policies plans, infrastructure development and  
26 maintenance.

27 (c) The commission shall support its purposes by undertaking the following duties  
28 including but not limited to:

29 (1) Recommending how to mainstream climate change, using a climate “lens”, into  
30 existing state and local programs, policies and standards, and identify potential options to  
31 incorporate adaptation strategies.

32 (2) Compiling existing studies, research and programs relevant to climate change trends  
33 and potential impacts in Rhode Island and identifying gaps in the research available.

34 (3) Conducting a comprehensive overview of the risks Rhode Island may face as a result

1 of rising air and water temperatures and sea level, increased storminess, and more intense  
2 droughts and rainfall events.

3 (4) Investigating the vulnerability of critical roads, bridges, protection infrastructure such  
4 as hurricane barriers, dams, and revetments, and public facilities such as hospitals, schools,  
5 sewage treatment plants, parks and beaches and other critical utilities to sea level rise, increased  
6 flooding and extended extreme summer heat.

7 (5) Exploring potential changes to floodplains and ways to notify homeowners, renters  
8 and commercial property owners of not only a property's flooding history but also its expected  
9 risk under projected levels of climate change and sea level rise.

10 (6) Assessing ecosystem impacts such as salt marshes, forests, and urban tree canopy and  
11 researching tree and plant species that will be most resilient to climate change expected in Rhode  
12 Island, as well as ways to secure additional funding to support the expansion of urban tree canopy  
13 to thirty percent (30%).

14 (7) Identifying potential ecosystem based adaptation options where conservation or  
15 restoration of natural ecosystems can provide key ecosystems services by minimizing risks and  
16 hazards from flooding and drought cycles.

17 (8) Identifying ways to increase Rhode Islanders' access to critical community health  
18 services that are expected to become more important as a result of projected climate impacts.

19 (9) Investigating potential impacts from non-point source pollution due to hydrological  
20 changes including stormwater runoff options for the Phase 2 Narragansett Bay Commission's  
21 Combined Sewer Overflow project, and implementing small-scale projects such as increasing the  
22 percentage of pervious surfaces in residential areas such as yards and gardens.

23 (10) Exploring possibilities to make funds or low interest loans available for  
24 governmental entities, non-profit entities and businesses to implement adaptation strategies,  
25 including green infrastructure projects on their properties, including green roofs, walls, and  
26 bioretention areas.

27 (11) Investigating possibilities to expand energy efficiency and weatherization programs  
28 as an adaptation option.

29 (12) Reviewing, among other things, existing local ordinances, provisions adopted by  
30 associations, deed restrictions, covenants, declarations or similar binding agreements, which  
31 prohibit or have the effect of prohibiting the installation of solar collectors, clotheslines,  
32 weatherization improvements, gardens or other energy devices based on renewable resources and  
33 proposing alternatives that would eliminate said prohibitions and authorize these types of uses as  
34 climate change mitigation and adaptation strategies for local implementation.

1           (13) Reviewing possibilities to amend regulations to allow street parking to reduce  
2 impervious surfaces in urban areas and runoff.

3           (14) Investigating how to support local agriculture including urban community gardens,  
4 and encouraging municipalities to foster neighborhood gardens in empty lots and parks.

5           (15) Developing a plan to expand access to cooling and relief centers by extending hours  
6 at libraries, community centers and opening pools to the public.

7           (16) Identifying examples and options for outreach and communication on climate  
8 change and adaptation options and recommending opportunities for coordinated outreach  
9 programs within Rhode Island.

10           (d) One senator and one representative appointed to the commission shall serve as co-  
11 chairs and shall call the first meeting of the commission. Vacancies shall be filled in like manner  
12 as the original appointment. The membership of the commission shall receive no compensation  
13 for their services. All departments and agencies of the state shall furnish such advice and  
14 information, documentary and otherwise, to the commission and its agents as is deemed  
15 necessary or desirable by the commission to facilitate the purposes of this chapter. The joint  
16 committee on legislative services is hereby authorized and directed to provide suitable quarters  
17 for the commission.

18           (e) The commission shall provide a report of its findings and recommendations to the  
19 governor and the general assembly no later than March 1, 2011, and every March 1 thereafter.

20           SECTION 2. This act shall take effect upon passage.

=====  
LC01816/SUB A  
=====

EXPLANATION  
BY THE LEGISLATIVE COUNCIL  
OF  
A N A C T  
RELATING TO HEALTH AND SAFETY -- CLIMATE RISK REDUCTION ACT

\*\*\*

- 1           This act would create the Rhode Island Climate Risk Reduction Act of 2010 in order to
- 2 help move the state to an active response to climate change impacts.
- 3           This act would take effect upon passage.

=====  
LC01816/SUB A  
=====

2010 -- S 2439  
SUBSTITUTE A

H.

A N A C T

RELATING TO HEALTH AND SAFETY -- CLIMATE RISK REDUCTION ACT

=====  
LC01816/SUB A  
=====

-----  
Presented by