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S T A T E O F R H O D E I S L A N D

IN GENERAL ASSEMBLY

JANUARY SESSION, A.D. 2016

A N A C T

RELATING TO HEALTH AND SAFETY -- GEOENGINEERING

Introduced By: Representatives MacBeth, and Price

Date Introduced: February 11, 2016

Referred To: House Environment and Natural Resources

It is enacted by the General Assembly as follows:

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

CHAPTER 23.8

THE CLIMATE GEOENGINEERING ACT OF 2016

23-23.8-1. Short title. -- This chapter shall be known and may be cited as "The Climate Geoengineering Act of 2016."

23-23.8-2. Definitions. -- As used in this chapter, the following words and phrases shall have the following meanings:

(1) "Air contaminant" means soot, cinders, ashes, dust, fumes, gas, aerosol particles, including genetically modified particles, mist, or smoke, vapor, odor, toxic, or radioactive materials, particulate matter, or any combination of these.

(2) "Air pollution" means presence in the outdoor atmosphere of one or more air contaminants in sufficient quantities, which either alone or in connection with other emissions, by reason of their concentration and duration may be injurious to human, plant or animal life, or cause damage to property or which unreasonably interfere with the enjoyment of life and property. This threshold is set forth in §23-23.8-5.

(3) "Area" means not only that portion or portions of the state as shall be described in the air pollution episode declaration of the governor, but also to any other portion or portions of the state where activities are carried on which contribute or may contribute to the air pollution

episode in the portion or portions of the state described in the governor's declaration.

(4) "Department" means the Rhode Island department of environmental management.

(5) "Director" means the director of the department of environmental management or any subordinate or subordinates to whom the director has delegated the powers and duties vested in them by this chapter.

(6) "Climate geoengineering" is defined as large-scale manipulation of the global environment intended to manipulate the climate with the primary intention of reducing undesirable climatic change caused by human beings. Such options may include, but are not limited to, the following:

(i) Attempts to remove carbon dioxide from the atmosphere to reduce radiative forcing, and thus global warming; and

(ii) Solar radiation management approaches focused on reducing the amount of solar radiation absorbed by the Earth by an amount sufficient to offset some, or all, of the increased trapping of infrared radiation by rising levels of greenhouse gases. These options include, sulfur aerosol injection in the stratosphere to reflect incoming shortwave radiation from the sun back into space, and marine cloud brightening, which contemplates injecting marine stratiform clouds with seawater droplets to increase their reflectivity to reflect more shortwave radiation back into space.

(7) "Person" means any individual, trust, firm, joint stock company, corporation (including a quasi-governmental corporation), partnership, association, syndicate, municipality, municipal or state agency, fire district, club, nonprofit agency, or any subdivision, commission, department, bureau, agency, or department of state or federal government (including quasi-government corporation), or any interstate body.

23-23.8-3. Findings of fact. -- The general assembly finds and declares as follows:

(1) Solar radiation management and climate geoengineering research is in an extremely early stage, but if unrestricted and unregulated, could have an economic impact on the state by potentially allowing increased amounts of air contaminants and air pollution throughout all areas of the state.

(2) Solar radiation management and climate geoengineering approaches could also have a negative impact on the state’s economy, as well as environmental, soil, water, and air quality.

(3) Geoengineering could have a negative impact on the state by masking some impacts of greenhouse gases on the climate system, while doing nothing to address the long-term climatic consequences of increased carbon dioxide (CO_2) concentrations in the atmosphere, including ocean acidification, a phenomenon that poses significant risks for ocean ecosystems, particularly

marine life.

(4) Potential but foreseeable hazards of solar radiation management and climate geoengineering could include:

(i) Decreased precipitation and evaporation, including alteration of monsoon patterns, and potentially delayed recovery of the ozone hole;

(ii) Producing reductions in regional rainfall that could rival those of past major droughts, leading to winners and losers among the human population and possible conflicts over water;

(iv) Reducing the total amount of direct sunlight reaching earth's surface, which could reduce the effectiveness of solar energy systems;

(vi) Promoting an increase in acid rain loads from injection of sulfur, aluminum oxide particles, gases or other compounds, which would cause adverse impacts when such compounds eventually fall into the trososphere and "rain out" onto the land and ocean, including impacts on forests, crops, built structures, and ocean ecosystems; and

(x) Numerous other potential consequences that would produce air pollution, air contaminants, and other as yet unforeseen environmental harms.

23-23.8-4. Declaration of solar radiation management climate geoengineering policy. -- (a) With respect to solar radiation management and climate geoengineering options as described in this chapter, the general assembly declares that while the potential use of solar radiation management climate geoengineering options is a topic worthy for both scientific and other public investigation and debate, research and potential deployment should be strictly regulated by the state. Such regulation should include environmental impact assessment for research or deployment above certain thresholds set forth in §23-23.8-5 and the opportunity for input and comment from the general public, as well as from the medical, environmental, and scientific communities.

(b) Assessments of the impact of solar radiation climate and geoengineering research and/or deployment must be performed on a continuous basis to ascertain potential impacts on the environment.

23-23.8-5. Limitations on solar radiation management and climate geoengineering. -- (a) Any person seeking to implement, conduct, or engage in any form of solar radiation management and climate geoengineering in any area of the state shall first file an application to do so with the director of the department of environmental management.

The application should include all of the following information, as well as other information deemed pertinent by the director and set forth in regulations for climate geoengineering approaches:

(1) A detailed description of the proposed project, including its purpose, scope, and methods to ensure transparency for reporting of results;

(2) A description of the qualification of researchers and methods to ensure that potential impacts are minimized.

(c) Upon receipt of a proposal for solar radiation management and climate geoengineering research or deployment, the director will conduct an environmental impact statement conforming to the United States' Environmental Protection Agency standards under the National Environmental Policy Act (NEPA) in all cases where the potential environmental impact is above that of common commercial activities, with an initial threshold $\Delta \approx 10^{-6} Wm^{-2}$. Upon receipt of such application, the director shall also convene a set of public hearings to review the proposal, which shall include a minimum of two (2) hearings where public comment on the application may take place.

(d) The director shall also solicit comment on the application proposal from the department of health, the coastal resources management council, and various divisions from the department of environmental management.

(e) After the conducting of the environmental impact statement, public hearings and soliciting agency comments, the director shall render a decision on whether to permit the proposed application for solar radiation and management climate geoengineering activities, and if permitted, what limitations and safeguards, if any, shall be placed upon the activity.

(f) Any person aggrieved by a decision of the director may pursue an appeal of such decision through chapter 35 of title 42 administrative procedures act.

(g) In all cases where the application assesses the potential environmental impact to be below the threshold established in subsection (c) of this section, the proposal will not be subject to an environmental impact assessment; however, public hearings as set forth above, will still be conducted, as well as solicitation of comments from state agencies, set forth above.

23-23.8-6. Penalty for violations. -- (a) Any person who knowingly engages in solar radiation management climate geoengineering within any area of the state or who knowingly fails to comply with the decision of the director shall be punished by a fine of not more than five hundred dollars ($500) or by imprisonment for not more than ninety (90) days or by both fine and imprisonment, and every person shall be guilty of a separate and distinct offense for each day during which the act of solar radiation management climate geoengineering shall be conducted, repeated, or continued.

(b) Any person who knowingly engages in solar radiation management and climate geoengineering within any area of the state or who knowingly fails to comply with the decision of

the director shall also be deemed to be a violation of the air pollution episode control act pursuant to chapter 23 of title 23, and shall be subject to the provisions of that chapter, including, but not limited to, the use of executive orders to limit and restrain the actions of the person in violation thereof.

23-23.8-7. Rules and regulations. -- The director shall promulgate rules and regulations to implement the provisions of this chapter, including, but not limited to, rules and regulations governing the application process to implement solar radiation management climate geoengineering, the contents of the application, and the standards to be applied in making determinations as to whether to approve, disallow, or modify the application.

SECTION 2. This act shall take effect upon passage.

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EXPLANATION

BY THE LEGISLATIVE COUNCIL

OF

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RELATING TO HEALTH AND SAFETY -- GEOENGINEERING

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This act would define and limit the use of solar radiation management climate geoengineering in the state. The act would define geoengineering as activities specifically and deliberately designed to effect a change in the area climate. That act would further provide that no person would implement solar radiation management climate geoengineering in any area of the state without first obtaining the permission of the director of the department environmental management to do so. The process to obtain such permission would require an environmental impact statement for research or deployment with potential impacts above a minimum threshold, as well as a minimum of two (2) public hearings prior to any decision being issued.

This act would take effect upon passage.

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