

# U.S. Solar Heating & Cooling Alliance

- a Division of 

June 5, 2014

New York State Energy Research and Development Authority  
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Submitted via [rggiprograms@nyserda.ny.gov](mailto:rggiprograms@nyserda.ny.gov)

RE: 2014 RGGI Operating Plan Draft Amendment

To Whom it May Concern:

The U.S. Solar Heating and Cooling Alliance- a division of the Solar Energy Industries Association (SEIA) would like to express our appreciation for the opportunity to provide comments and feedback on the 2014 RGGI Operating Plan Draft Amendment. Our comments herein pertain to solar heating and cooling (SHC) technologies, and reflect the views of the companies represented by the U.S. Solar Heating and Cooling Alliance.

We respectfully request that the 2014 RGGI Operating Draft Plan Amendment be modified to reflect the significant contribution that SHC technologies can make to reducing the carbon emissions from the building and industrial sector. While we are encouraged by the increased investment available to other renewable thermal technologies (i.e. biomass technologies are supported through the Renewable Heat NY program), the current funding for solar thermal technologies<sup>1</sup> should be increased from the proposed \$963,779 to reflect this contribution.

Increasing the amount of funding available for SHC programs would also allow the 72 SHC companies located in NY to significantly grow, creating more jobs and leading to a long-term sustainable market for SHC systems in NY.<sup>2</sup>

## **I. Introduction**

The U.S. Solar Heating & Cooling Alliance (the Alliance) is a division of SEIA. The Alliance is focused on growing solar heating & cooling markets by reducing barriers and advocating for supportive policies on the federal, state, and local levels. It is the SHC Alliance's mission to serve as the leading proponent and

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<sup>1</sup> "Solar thermal" technologies are hereafter referred to as solar heating and cooling (SHC) technologies.

<sup>2</sup> National Solar Database, 2014. Available at [www.seia.org](http://www.seia.org).

provider of advocacy, knowledge, and community to installers, manufacturers, financiers, and other entities with a business interest in SHC applications.

## II. **Comments on the 2014 RGGI Operating Plan Draft Amendment**

The Alliance respectfully offers these comments in response to the 2014 RGGI Operating Plan Draft Amendment:

### **A. Buildings and industry represent a significant proportion of primary energy use in NY State.**

The 2014 NY State Energy Plan states that buildings and industry in NY account for 72% of the total primary energy used in 2012, while Table 7 of the Plan shows the break-down of space heating use by fuel.<sup>3</sup> Furthermore, Table 7 shows that almost a third of New Yorkers still rely on oil for home heating, which subjects the residents to higher costs and the communities to poorer air quality.<sup>4</sup> According to the NYC Mayor's Office, in 2011 "roughly 10,000 of NYC's largest buildings used residual fuel oil, a viscous fuel that is nearly as dirty as coal."<sup>5</sup> Despite these facts, the 2014 RGGI Operating Draft Plan Amendment includes little support for SHC technologies, a renewable technology that can reduce and even eliminate the need for these dirtier sources of fuel. SEIA strongly advocates that there is a roll for solar heating and cooling to play in addressing this energy usage through the deployment of solar water heating and solar air heating systems.

### **B. SHC meets the important objectives identified by the CO<sub>2</sub> Allowance Auction Program and can significantly reduce emissions as SHC technologies displace fossil fuels and electricity otherwise needed for heating and cooling of buildings and industrial processes.**

Part 507 of the CO<sub>2</sub> Allowance Auction Program was set up by NYSERDA to establish administrative procedures for the auction process, and provides direction for how the auction proceeds should be spent. The regulations state that the proceeds from the sale of the allowances will fund projects and programs for "energy efficiency, renewable or non-carbon emitting technologies, and innovative carbon emissions abatement technologies with significant carbon reduction potential."<sup>6</sup> SHC technologies meet these important objectives since SHC technologies emit zero pounds of CO<sub>2</sub> per MWh<sub>th</sub> of energy generated. Like solar photovoltaic (PV) systems, solar heating and cooling systems generate energy- the

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<sup>3</sup> See page 41 of Volume II of the 2014 NY State Energy Plan.

<sup>4</sup> See page 13 of Volume I of the 2014 NY State Energy Plan.

<sup>5</sup> See page iii of the NYC Solar Water Heating Roadmap, available at:

[http://www.cuny.edu/about/resources/sustainability/solar-america/solarthermal/CUNY\\_NYC\\_Solar\\_Thermal\\_FINAL.pdf](http://www.cuny.edu/about/resources/sustainability/solar-america/solarthermal/CUNY_NYC_Solar_Thermal_FINAL.pdf)

<sup>6</sup> 21 NYCRR Part 507.

difference being that SHC systems generate thermal energy to *displace* fossil fuels and electricity, while solar PV systems *directly* generate electricity. The basic method by which SHC technologies operate is simple: when the sun shines, solar heating and cooling systems capture this energy for use in processes that are essential to our everyday lives. Given modern advances, this energy can be captured more efficiently and safely than at any point in history. Solar heating systems typically produce 45 kWh<sub>th</sub> to 102 kWh<sub>th</sub> per square foot of installed collector area per year (or 1.5 to 3.5 therms/ft<sup>2</sup> in equivalent heat units), which is up to 80% of all the available solar energy hitting the surface of the collector.<sup>7</sup> Systems are typically sized to the specific water heating or space conditioning loads of the building.

In addition, because SHC technologies are located at the point of demand for most applications, SHC has a significant impact on displacing combustion pollutants generated within homes or places of business, supporting a reduction in the amount of pollutants people breathe every day.<sup>8</sup> Distributed SHC systems can also mitigate localized environmental damage through the partial displacement of fossil fuel related drilling, extraction, transportation, and storage. SHC technologies reduce emissions of CO<sub>2</sub> and other air pollutants while stimulating local job and economic growth.

**C. The current NYSERDA Solar Thermal program will not capitalize on the carbon reduction potential from SHC technologies, and should be supported by an increased investment from RGGI funds.**

SHC technologies have been dramatically underutilized in NY. While NY State included SHC as part of the RPS through the Solar Thermal program, the program is limited to only those customers who heat their water with electricity. The lack of participation in the Solar Thermal program shows that there is a current mismatch between the intent of the policy – to create a sustainable market for SHC systems in NY- and the result of the policy. The majority of conventional heating in NY State is done with natural gas, heating oil, or propane, and not electricity. Out of a potential 7.1 million households, there are less than 900,000 residential households with electric heated water in NY. It is difficult for installers market and sell to these scattered customers, and raises the cost of the sale as well. On the commercial scale, this leads to capital providers being hesitant to enter the market.

The current NYSERDA Solar Thermal program completely excludes those customers who heat their water and homes with natural gas, heating oil and propane. In order to remedy this exclusion, we respectfully request that NY State use RGGI funds to establish a fuel-neutral SHC program that will enable oil, gas, propane, and electric water heating customers to install SHC projects.

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<sup>7</sup> One therm is equal to 100,000 BTUs.

<sup>8</sup> Solar Heating and Cooling: Energy for a Secure Future. Full report available here: [www.seia.org/shca](http://www.seia.org/shca)

This will allow the SHC industry to achieve market transformation and create widespread uptake in the residential, commercial and industrial sectors.

**III. Conclusion**

With the enormous potential for SHC technologies in NY, and for all of the above reasons, we respectfully request that the current 2014 RGGI Operating Plan Draft Amendment be modified to reflect the significant contribution that SHC technologies can make to reducing carbon emissions from the building and industrial sector through an increased investment from RGGI funds.

If you have any questions, please do not hesitate to contact the undersigned.

Thank you.

Respectfully,

A handwritten signature in black ink that reads "Carrie Cullen Hitt". The signature is written in a cursive style with a large, stylized initial "C".

Carrie Cullen Hitt  
Senior Vice President for State Affairs

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