



Mr. Paul DeCotis, Chairman  
State Energy Planning Board  
c/o SEP Comments  
NYSERDA  
17 Columbia Circle  
Albany, NY 12203-6399

May 15, 2009

*Re: Interim Report - 2009 New York State Energy Plan*

Dear Mr. DeCotis,

EarthKind Energy respectfully submits to you and the other members of the State Energy Planning Board the enclosed comments on the Interim Report of the 2009 New York State Energy Plan.

Respectfully,

A handwritten signature in cursive script that reads "Ron Kamen".

Ron Kamen  
Senior Vice-President  
EarthKind Energy, Inc.

**COMMENTS OF**  
**EARTHKIND ENERGY, INC (EARTHKIND)**  
**ON THE “INTERIM REPORT OF THE 2009 NEW YORK STATE ENERGY PLAN”**

**INTRODUCTION**

EarthKind Energy, Inc. is a New York State corporation formed in 2007 with a mission to Ignite Demand for Solar Heat & Hot Water, Build On-Site Solar Thermal Generation Reduce Energy Costs & Emissions & Bring Solar Thermal Manufacturing to NYS.

EarthKind respectfully submits these comments on the Interim Report of the 2009 New York State Energy Plan (“Report”), dated March 31, 2009 and issued for public comment. We fully support the Executive Order on State Energy Planning and believe the work of the Board is essential to ensure that New York reduces energy consumption and carbon emissions, decreases our reliance on foreign energy sources, and saves consumers and taxpayers money.

Our comments on the Interim Report are below, some of which reflect that fact that we do not feel the Interim Report adequately addresses the majority of energy consumed by buildings in New York State; specifically, the fossil fuels used for space heating and hot water.

In addition, we include comments which have been previously submitted regarding the State RPS and the Energy Efficiency Portfolio Standard, which are two of the most important State programs in support of clean energy. These programs merit continued support and improvement, which should be discussed in detail in the final document and provide guidance and direction on how to move New York to a green and sustainable economy.

**FUEL USE AND AVAILABILITY**

The majority of energy and carbon emissions in NYS buildings results from burning fossil fuels for heat and hot water. Even in New York City (which has the densest concentration of electric power in the world), PLANYC 2030 has identified that heat and hot water consume more energy and create more carbon emissions than electricity (51% for heat and hot water, compared to 49% for electricity).

Upstate, many rural poor communities that do not have access to natural gas are forced to rely on high cost fossil fuels for their hot water and heat.

New York should create a plan similar to the European Solar Thermal Roadmap and aim for **at least 10,000 solar thermal installations per year by 2011.**

To achieve this goal, there are four changes that we recommend to the Draft Operating Plan, as detailed below.

## **RECOMMENDED ADDITIONS TO THE NYS ENERGY PLAN**

**1. Provide \$3 million a year for a 3 year statewide Solar Thermal Market Transformation Campaign.** The “Solar Na Klar” (Solar is the Clear Choice) campaign in Germany increased solar thermal installations to 140,000 systems per year. Germany’s solar thermal market now employs over 18,000 people and provides more than \$1.6 Billion in economic activity. Other European Union states followed the same Solar Thermal Market Transformation Roadmap and exponentially increased their solar thermal installations from ~500 (the current NYS solar thermal installation level) to more than 20,000 per year. The EU model involves all stakeholders in preparing a central message; gives the public access to solar thermal information from a central website, toll-free number, and common print materials; and allows the public to rate and evaluate providers on their price, installation, and customer service.

**2. Equalize Solar Thermal and Solar Electric PV funding.** The RGGI Operations Plan identified Photovoltaics (PV) as costing \$284 per ton of Carbon, while Solar Thermal provides the same carbon reduction at one-third the cost (\$81 per ton). Solar Air Heating (such as the 4 MWs installed at Fort Drum, the similar facility at Rockland County Co-Compost Facility, and thousands of other installations around the world) provide carbon reduction at less than \$30 per ton. The effective promotion and adoption of Solar Thermal will lead to a broader public acceptance of all solar technologies, including PV. Funding for Solar Thermal should be on an equal basis with PV to facilitate the faster adoption of solar technologies by the public.

**3. Supplement the PUBLIC TRAINING PROGRAMS** (NYSERDA, vocational and community college training) **with PRIVATE CERTIFICATIONS by Solar Thermal Manufacturers.** There are already 25 solar thermal manufacturers active in New York. While the public training programs are excellent, the private sector has the ability to more quickly train and mobilize their existing distribution and installation channels. Manufacturers should be allowed to participate in a statewide incentive and marketing campaign. They can be held accountable by requiring a 5 year manufacturer system warranty, and establishing a customer rating system on the central internet database.

**4. Accept European Solar Keymark standards.** New York State has the ability to establish standards in addition to the Solar Rating Certification Center (SRCC) ratings. By accepting the stricter European “Solar Keymark” as an approved NYS standard, proven European products - which currently have to wait 2 years or more to gain SRCC ratings - will be able to quickly enter the NY market. This expansion will increase the potential to also attract new manufacturing facilities to the state.

## BACKGROUND & DISCUSSION

New York is currently installing about 500 solar thermal systems per year (the “NYSERDA Solar Domestic Hot Water Technologies Assessment Study August 2008” appraised the solar hot water market as 300-400 systems per year in 2005. In addition, new EarthKind dealers installed ~100 systems in 2008).

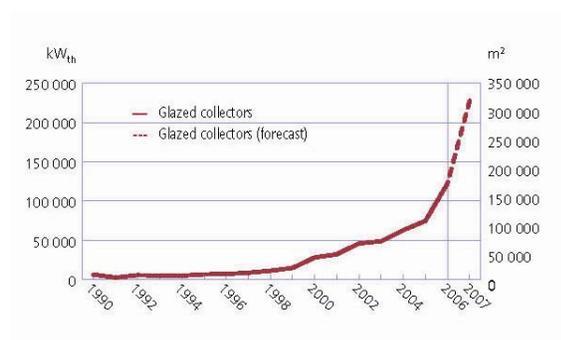
These systems are being purchased by residents who reduce their cost ~55% by taking advantage of a 30% federal tax credit, as well as a 25% New York State tax credit. Residents are joined by businesses who gain a ~60% reduction in costs - through a 30% federal tax credit, plus another ~30% (depending on their tax rate) in 5 year accelerated depreciation benefits.

As was the case in Europe, there already are significant tax incentives for both residents and businesses to adopt solar thermal technology. The reason for the relatively small number of installations isn't due to a lack of tax incentives – it's primarily because there is a lack of public understanding and acceptance of the technology.

While additional incentives are necessary (and recommended) for both low income residential and non-profit institutions, as NYSERDA states in its public PV presentations “Rebates alone will not Build a Market”.

A number of European Union States began with similar installation levels of about 500 per year – and with basically similar incentives. However, over a period of 3 to 5 years, EU States increased their installations from 500 to 20,000+ per year. The EU States built sustainable solar thermal markets in a number of ways, but the most successful has been through coordinated public-private campaigns that educated the public to solar thermal technologies and success stories, and simultaneously created a robust base of both public - and private - trained installers.

### France



### Italy



One illustration of the current situation: nearly no one knows that New York hosts the largest Solar Air Heating installation in North America. The 4 MWs of solar thermal installed in Fort Drum is composed of 100,000 square feet of Solar Air Heating which annually eliminates 2,000 tons of carbon per year – by reducing natural gas burned for heating.

In addition, a similar Solar Air Heating system at the Rockland County Co-Compost facility is unheralded, even though it is saving the County ~14,100 gallons of oil per year.

A coordinated public education and market transformation campaign would provide the knowledge base for other municipalities, institutions, businesses and residents to use more solar thermal technologies, thereby allowing decision makers to understand, demand and use what the U.S. Department of Energy heralds “...the most reliable, best performing, and lowest cost solar heating for commercial and industrial buildings available on the market today” -

If New York successfully follows the EU Solar Thermal Market Transformation blueprint and reaches a goal of 20,000+ installations per year, the NYSERDA SHW Study identified that New York State would create ~2,000 jobs:

**Table 3. Job years created in New York State at various levels of market penetration<sup>6, 8</sup>**

<b>Market Penetration Level:</b>	<b>0.1%</b>	<b>0.5%</b>	<b>2.5%</b>
<b>Systems Installed</b>	<b>1167</b>	<b>5833</b>	<b>29167</b>
Plumbing	18	88	438
SDHW Tech - install	53	263	1313
SDHW Tech - maintain	15	73	365
<b>TOTAL</b>	<b>92</b>	<b>458</b>	<b>2290</b>

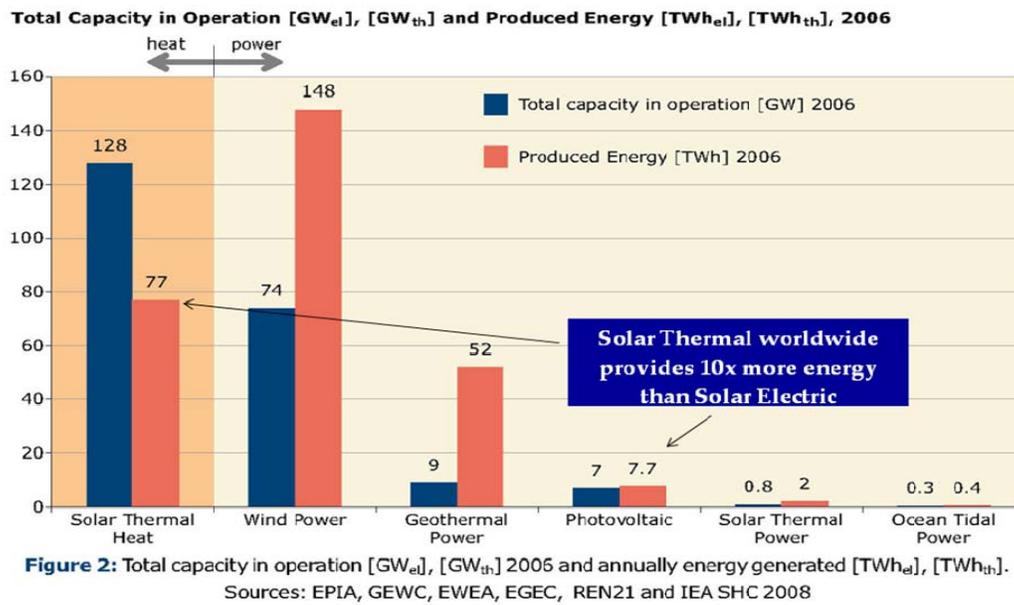
Solar Thermal’s ~500 installations per year is about equal to the current number of NYSERDA subsidized PV installations per year; even though the NYSERDA PV program is spending tens of millions of dollars in incentives.

The “NYSERDA Solar Domestic Hot Water Technologies Assessment Study August 2008” identified that:

- *“Water heating accounted for 18% of New York State household energy consumption.*
- *In 2001, a total of 2 billion kWh of electricity, 76 billion cubic feet of natural gas, and 295 million gallons of fuel oil were used to heat water in New York households.*
- *For a typical home in New York State, a Solar Domestic Hot Water (SDHW) system is capable of providing Over Half of the energy needed to heat water.*
- *In the most favorable locations – New York City and Long Island – SDHW systems are capable of providing nearly three-quarters of household water heating energy for a typical family.*
- *~1.2 million households in New York State will be able to reduce their fossil fuel consumption for DHW by 50% by using SDHW systems... (and)...would yield energy savings of 171 million kWh of electricity, 6.5 billion cubic feet of natural gas, and 25 million gallons of fuel oil annually”*

The Energy Information Agency has identified that there are more than 42 Million Solar Hot Water Systems Installed Worldwide. Solar Hot Water systems are Pre-Engineered, Mass-Produced, Reliable & Safe; they provide Supplemental heating for oil, gas, electric or propane systems; they are Affordable, Cost Effective, Modular, & Easy to install; are freeze protected to -30F; require minimum maintenance; and last 25 or more years.

**Solar Thermal compared to Solar Electric PV:**



**CONCLUSION**

New York State has the opportunity to move from our current ~500 solar thermal installations per year - to 10,000 or 20,000 within 3 to 5 years. Building a solar thermal market of 20,000+ installations per year will create 2,000 jobs, as well as produce substantial financial, energy, and environmental benefits for the people of New York.

The population in New York and within a 500 mile radius provide a GREATER MARKET OPPORTUNITY than Germany. Germany’s Solar Thermal market currently conducts 140,000 installations per year, generates \$1.6 Billion in economic activity, and supports 18,000 jobs. Germany’s 6,300 MWs of installed solar thermal capacity is reducing 4.3 Million MegaWatt Hours per year.

Taking the recommended steps will establish New York State as the Solar Thermal Technology Center in the Northeast – and enable us to take a leadership position in the entire U.S. and the world.