

Looking Ahead  
The Cornell Roosevelt Institute  
Policy Journal



Center for Energy & Environment  
Fall 2013 Issue No. 5

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# About the Cornell Roosevelt Institute

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The Roosevelt Institute at Cornell University is a student-run policy institute that generates, advocates, and lobbies for progressive policy ideas and initiatives in local, university, state, and national government. Members write for our campus policy journals, complete advocacy and education projects in the local community, host research discussions with professors, write policy and political blogs, and organize campus political debates and policy seminars.

The Roosevelt Institute at Cornell University is divided into six policy centers:

Center for Economic Policy and Development  
Center for Foreign Policy and International Studies  
Center for Energy and Environmental Policy  
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# Letter from the Director

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Dear Readers,

I am very pleased to present the fifth issue of Looking Ahead: The Cornell Roosevelt Institute Policy Journal from the Center for Energy and Environment. As the Policy Director and Editor of this journal since Fall 2012, I have had the amazing experience of producing this journal for the past two semesters, and the talent and innovation of each analyst never ceases to amaze me. I have also had the pleasure of welcoming four new analysts to the Center for Energy and Environment this semester and am very excited to display their work in this issue.

Each analyst has combined creativity and passion with careful research and hard work to produce the policy proposals that comprise this publication. I have found each piece to be enjoyable to read and incredibly thought provoking and I hope you will as well.

Sincerely,

Janisa Mahaparn

Psychology and Cognitive Science (A&S '15)

Director, Center for Energy & Environment



# Eradicating Polystyrene Food Trays in New York Public Schools

By Kelsey Clough, Major: College Scholar (A&S '15), Email: kec93@cornell.edu

*The implementation of a sustainability education initiative in New York public schools to foster the gradual elimination of polystyrene trays will significantly reduce human exposure to chemical contaminants, and diminish the degradation of marine and terrestrial ecosystems.*

## **History:**

Expanded polystyrene (EPS), or Styrofoam, trays are frequently utilized in public schools. Nationwide, over half of all kindergarten through 6th grade students, receive reduced or free meals, proving a consistent need for trays persists.<sup>1</sup> Preference for EPS trays, derived from the platter's low price and light weight, however, poses a threat to human health, environmental stability, and cultural conceptions of sustainability.<sup>2</sup>

The manufacture of polystyrene, involving petroleum and natural gas by-products through reactions of toxic chemicals contributes to tropospheric ozone depletion.<sup>3</sup> Accordingly, the environmental impact of polystyrene production, based on energy consumption, greenhouse gas effect, and total environmental effect, ranks second worst.<sup>4</sup>

Furthermore, high cost, low availability of recyclers, and difficulty in recycling contaminated trays, makes recycling EPS almost impossible.<sup>5</sup> For example, in California, only 0.2 percent of all EPS products get recycled.<sup>6</sup> Consequently, EPS trays, which do not biodegrade, collect and remain intact in landfills.<sup>7</sup> In 2006 alone, the US disposed of 1,460 tons of EPS.<sup>8</sup> Still yet, the act of "throwing away" the trays teaches our nation's youth to accept these unsustainable practices.

Many EPS products, moreover, matriculate into marine and terrestrial environments. While plastics account for 90 percent of all land-based ocean debris, EPS products, cited as the second most abundant form of beach debris, remain a particularly obstructive environmental threat.<sup>9,10</sup> EPS is easily transported by air or water, breaks into small pieces, and is ingested by marine and avian species.<sup>11</sup> Mistaking this inorganic material for food causes suffocation, dehydration, reduced body weight, starvation, clogged gizzards, increased risk of disease and sometimes death for these animals.<sup>12</sup>

Moreover, the proliferation of EPS amplifies human health risks. Chemicals such as styrene, toluene, acetone, methyl chloride, methyl ketone, benzene, and formaldehyde have all been found in EPS.<sup>13</sup> The highest risk for exposure to EPS chemicals occurs during the manufacturing process.<sup>14</sup> Chemical contaminants can also be leached into the food the EPS container is carrying.<sup>15</sup> The ingestion of EPS by fish, furthermore, provides the potential for human absorption of the chemical components through the food chain. Exposure to these chemicals causes increased risk of many forms of cancer, and respiratory and neurological disorders.<sup>16</sup> Nationally, numerous cities and counties maintain ordinances banning EPS products for local businesses.<sup>17</sup> While many school districts have advocated for the termination of EPS trays, no ordinance or law exists to aid this effort.

## **Analysis:**

The implementation of a sustainability education initiative to guide New York public schools in the five-year phasing out of EPS trays provides the possibility of reduced environment, human health, and cultural morality dilapidation. Over the five-year period, schools will be required to progressively accumulate reusable trays and to accrue a sanitizing apparatus for these trays. Maintainable change, however, is unlikely without an element of education.<sup>18</sup> New York schools should, thus, adopt some form of environmental sustainability into their curriculum, highlighting the importance of reusing and recycling.

Opponents of the eradication of EPS trays cite the high cost of switching to alternative food platters.<sup>19</sup> These cost estimates, however, often utilize price comparisons with compostable or other disposable trays.<sup>20</sup>

### **Key Facts:**

- Public schools commonly utilize disposable EPS food trays
- EPS trays significantly contribute to marine debris and land litter
- Chemicals from EPS production, use and disposal can be ingested by humans and animals
- The continuous disposal of EPS trays cultivates a culture of trash and waste for students

Also, although the cost increase of a total conversion to reusable trays, compared with a year's cost of EPS trays, has been estimated at 94 percent, the gradual implementation of this plan would defray the overall magnitude of the cost.<sup>21</sup> Additionally, the opposing cost benefit analysis fails to consider long-term savings. Reusable savings will, over time, diminish waste disposal fees, and the cost of continuous EPS tray replacement. The employment of an education initiative, moreover, would increase the probability of grants and donations to fund this proposal.

Reduction in EPS ocean debris and litter, still yet, would fortify the economy. The overall reduction in EPS trays will decrease the amount of ocean debris and land litter, ensuring sustainable sources of seafood, increased water quality, and enhanced tourism opportunities. Also, the likelihood of exposure to the toxic chemicals in EPS will dramatically digress.

Executing this proposal implicates involvement for a variety of stakeholders. Students of the approximately 4,529 schools in New York will be subject to a discourse on environmental sustainability, an increasingly important topic in society.<sup>22</sup> Allocating funds for the implementation of this plan will involve the New York State Education Department, as well as district school committees, town councils and other associations responsible for school budgeting.

Public schools within New York, especially the New York City Department of Education which serves the largest system of public schools in the country, paradigmatically leads the nation with progressive policies and initiatives.<sup>23</sup> Therefore, the successful implementation of this proposal will likely guide other states to adopt similar endeavors. Furthermore, the implementation of EPS bans in other locations, such as correctional and medical care facilities, will be aided with this proposal.

### Talking Points:

- Eliminating EPS trays in NY public schools will increase the health and mortality of marine, avian and terrestrial ecosystems
- Decreasing EPS production and use will diminish the probability of human exposure to chemical contaminants
- A sustainability curriculum, which discusses reusable trays, will guide youth towards a culture of sustainability

### Next Steps:

To achieve the overall goal of reducing EPS through the introduction of reusable trays, several steps can be undertaken. School districts and counties must begin to advocate for the introduction of a sustainability education initiative and use of reusable trays. By increasing knowledge on the negative consequences of EPS trays, and supporting their elimination, local politicians will be moved to create ordinances. Evidence of successful EPS eradication ordinances should, then, be documented to support statewide legislation.

### End Notes:

- <sup>1</sup>KWIC. "Children Receiving Free or Reduced-price School Lunch - Public Schools." Indicator Narrative Details for "NYS Kids' Well-being Indicators Clearinghouse (KWIC). [http://www.nyskwic.org/get\\_data/indicator\\_narrative\\_details.cfm?numIndicatorID=31](http://www.nyskwic.org/get_data/indicator_narrative_details.cfm?numIndicatorID=31) (accessed November 18, 2013).
- <sup>2</sup>Fiscal & Economic Impacts of a Ban on Plastic Foam Foodservice and Drink Containers in New York City." MB PUBLIC AFFAIRS, INC.. <http://plasticfoodservicefacts.com/Pages/Fiscal-Economic-Impacts-of-a-Ban-on-Plastic-Foam-Foodservice-and-Drink-Containers-in-New-York-City.pdf> (accessed November 15, 2013).
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- <sup>4</sup>Nguyen, Linda, "An Assessment of Policies on Polystyrene Food Ware Bans" SJSU ScholarWorks, San Jose State University. (2012)
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- <sup>7</sup>"Facts about Styrofoam® Litter." Clean Water Action: California. [http://www.cleanwater.org/files/publications/ca/cwa\\_fact\\_sheet\\_polystyrene\\_litter\\_2011\\_03.pdf](http://www.cleanwater.org/files/publications/ca/cwa_fact_sheet_polystyrene_litter_2011_03.pdf) (accessed November 15, 2013).
- <sup>8</sup>King County Department of Natural Resources and Parks. "Polystyrene Facts." King County Green Schools Program. [http://your.kingcounty.gov/solidwaste/greenschools/documents/polystyrene\\_facts.pdf](http://your.kingcounty.gov/solidwaste/greenschools/documents/polystyrene_facts.pdf) (accessed November 15, 2013).
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- <sup>10</sup>"Facts about Styrofoam® Litter." Clean Water Action: California. [http://www.cleanwater.org/files/publications/ca/cwa\\_fact\\_sheet\\_polystyrene\\_litter\\_2011\\_03.pdf](http://www.cleanwater.org/files/publications/ca/cwa_fact_sheet_polystyrene_litter_2011_03.pdf) (accessed November 15, 2013).
- <sup>11</sup>Stufflebean, John. "REDUCING POLYSTYRENE FOAM IN THE WASTE STREA." City of San Jose Memorandum. [http://www3.sanjoseca.gov/clerk/CommitteeAgenda/TE/20100503/TE20100503\\_d2.pdf](http://www3.sanjoseca.gov/clerk/CommitteeAgenda/TE/20100503/TE20100503_d2.pdf) (accessed November 15, 2013).
- <sup>12</sup>"Water Marine Debris." United States Environmental Protection Agency. Web. <[http://water.epa.gov/type/oceb/marinedebris/factsheet\\_marinedebris\\_debris.cfm](http://water.epa.gov/type/oceb/marinedebris/factsheet_marinedebris_debris.cfm)>
- <sup>13</sup>"Environmental Impact." SOSNYC. <http://sosnyc.org/index.html> (accessed November 15, 2013).
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- <sup>18</sup>Nguyen, Linda, "An Assessment of Policies on Polystyrene Food Ware Bans" SJSU ScholarWorks, San Jose State University. (2012)
- <sup>19</sup>"Fiscal & Economic Impacts of a Ban on Plastic Foam Foodservice and Drink Containers in New York City." MB PUBLIC AFFAIRS, INC.. <http://plasticfoodservicefacts.com/Pages/Fiscal-Economic-Impacts-of-a-Ban-on-Plastic-Foam-Foodservice-and-Drink-Containers-in-New-York-City.pdf> (accessed November 15, 2013).
- <sup>20</sup>Ibid.
- <sup>21</sup>Ibid.
- <sup>22</sup>New York State Education Department. "NUMBER OF PUBLIC SCHOOLS BY LEVEL / NEW YORK STATE." New York State Education Department. <http://www.p12.nysed.gov/irs/statistics/enroll-n-staff/TABLE6.pdf> (accessed November 15, 2013).
- <sup>23</sup>"About Us." New York City Department of Education. <http://schools.nyc.gov/AboutUs/default.htm> (accessed November 15, 2013).

# Distributed Generation: Decentralizing Energy Production

By Alex Fields-Lefkovic, Major: Government (A&S '16), Email :af395@cornell.edu:

*Distributed generation (DG) occurs when power is generated for on-site consumption, rather than at a central off-site location. Expanding this decentralized energy infrastructure can minimize the cost, complexity, and inefficiencies attributed to traditional energy transmission.*<sup>1</sup>

## History:

In 1978, Congress instituted the Public Utility Regulatory Policies Act (PURPA), which mandated that electric utility monopolies purchase some of their power from more efficient producers.<sup>2</sup> This law encouraged more competition among energy producers to pursue electricity generation from alternative energy sources. To make energy transmission more efficient, some producers began relying more on smaller-scale technology.<sup>3</sup> This shift ultimately revolutionized energy infrastructure as many smaller, more efficient power plants were built, which undermined the dominance of major utility companies. Decreasing economies of scale for energy production proved instrumental in providing a foundation to implement DG.<sup>4</sup>

Subsequently, there have been many advances in the development of technologies that can be used to support DG, including photovoltaic solar panels, microturbines, and fuel cells.<sup>5</sup> The Energy Policy Act of 2005 called for a greater examination of the feasibility and potential benefits of implementing DG on a larger scale. This legislation also attempted to give the Federal Energy Regulation Commission (FERC) the ability to enact uniform standards for interconnected DG facilities.<sup>6</sup> Specifically, these sites would be required to provide net metering services, through which electricity producers could use energy whenever they wish and receive retail credits for excess production. Electricity generated from small on-site facilities and transmitted to distribution facilities could be used in lieu of electricity provided by major centralized utility companies.<sup>7</sup> Although there has been some support for DG, it has not been implemented on a large scale because of the absence of uniform standards and interconnection supervised by the FERC.

## Analysis:

Distributed generation provides power generated on-site, which makes transmission systems much more reliable and able to avoid problems, such as those caused by inclement weather.<sup>8</sup> DG can also prevent potential power outages and current overloads.<sup>9</sup> Instead of generating large amounts of electricity, which can easily overload utility equipment, DG systems spread out production and ensure that it remains at manageable levels. By providing backup electricity to the energy grid, DG is an essential redundancy measure that can mitigate cascading blackouts.

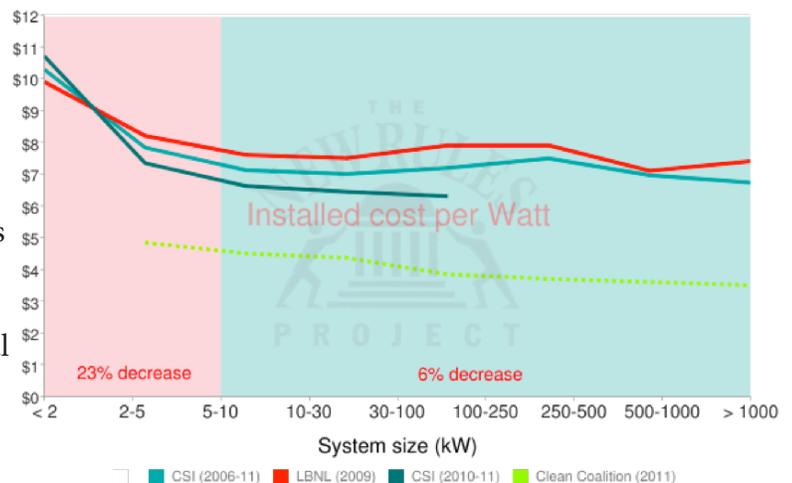
Distributed generation also greatly improves energy efficiency by providing more immediate access to power. Unlike large power plants, DG does not rely heavily on fossil fuels and can reuse thermal energy that is generated as a byproduct of electricity generation. Relying more on this infrastructure will minimize pollution typically caused by power plants, which is a major cause of climate change.

DG also mitigates the risk of global warming by encouraging the development of renewable energy

### Key Facts:

- There are about 12 million Distributed Generation units in the U.S. that generate a combined 200 GW; but most of this electricity is used for backup power.<sup>16</sup>
- By providing diverse power supplies, DG can prevent outages caused by overloaded utility equipment, which accounts for 10-30% of all outages.<sup>17</sup>
- Constructing a new power plant would require 9.21 acres of land to host electricity transmission Rights-of-Way lines, which can be avoided by using DG.<sup>18</sup>

Solar PV Economies of Scale (historic plus present)



technology, which is typically smaller-scale and more localized.<sup>10</sup> As the costs of renewable energy continually decrease, DG will become more fiscally feasible to implement on a national level.<sup>11</sup> DG has also improved transmission efficiency by minimizing the distance to the grid. Rather than having to travel across miles of wires, electricity generated by DG systems is used on-site and can enter the grid directly. This improvement is crucial as 4.2 to 8.9% of electricity generated by conventional power plants is lost because of outdated transmission equipment and reliability issues.<sup>12</sup>

### Next Steps:

Distributed generation should be more widely adopted to help diversify and expand the United States' power options. Instituting a carbon-pricing plan through a carbon tax or cap and trade system is instrumental for developing DG.<sup>13</sup> By charging power plants to pay for emitting carbon dioxide, these measures would dissuade large-scale electricity generation and account for the negative environmental externalities of energy production. Additionally, the federal government should prove DG is viable by demonstrating its capabilities and commercializing it. Policymakers should increase current federal efforts to increase the effectiveness of local planning for energy choices, particularly from alternative sources.<sup>14</sup> Individual states have been the main testing grounds for DG and will continue to play an important role in expanding this energy infrastructure. State governments can best address location-specific barriers and enforce standards for transmitting energy through DG.<sup>15</sup> However, the FERC should still oversee this technology and set national goals for instituting DG.

### Talking points:

- Large-scale utilities are inefficient, prone to blackouts, and are major producers of pollution.
- Distributed generation can make energy transmission more efficient by providing easier access to the grid and preventing overloads.
- To encourage the growth of DG, policymakers should implement carbon-pricing measures, increase DG demonstration projects, and encourage state governments to test this infrastructure.

### End Notes:

- <sup>1</sup>Bloomenergy, "What is Distributed Generation?" accessed November 5, 2013, <http://www.bloomenergy.com/fuel-cell/distributed-generation/>
- <sup>2</sup>"History of the Emergence of Distributed Generation," Distributed Generation Education Modules, accessed November 9, 2013, <http://www.dg.history.vt.edu/ch1/history.html>
- <sup>3</sup> Ibid.
- <sup>4</sup> Ibid.
- <sup>5</sup> Department of Energy, "The Potential Benefits of Distributed Generation and Rate-Related Issues that May Impede their Expansion: A Study Pursuant to Section 1817 of the Energy Policy Act of 2005," pg. ii, February 2007, accessed November 10, 2013, <http://www.ferc.gov/legal/fed-sta/exp-study.pdf>
- <sup>6</sup> Ibid. pg. i
- <sup>7</sup> "Energy Policy Act of 2005," pg. 370, August 8, 2005, accessed November 9, 2013, <http://www.gpo.gov/fdsys/pkg/PLAW-109publ58/pdf/PLAW-109publ58.pdf>
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- <sup>9</sup> Ibid., Pg. 2-9
- <sup>10</sup> Farrell, John, "The Political and Technical Advantages of Distributed Generation," July 6, 2011, accessed November 11, 2013, <http://www.ilsr.org/political-and-technical-advantages-distributed-generation/>
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- <sup>15</sup> Ibid., Pg. 81
- <sup>16</sup> Department of Energy, "The Potential Benefits of Distributed Generation and Rate-Related Issues that May Impede their Expansion: A Study Pursuant to Section 1817 of the Energy Policy Act of 2005," pg. ii, February 2007, accessed November 10, 2013, <http://www.ferc.gov/legal/fed-sta/exp-study.pdf>
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- <sup>18</sup> Ibid., Pg. 6-3
- <sup>19</sup> Photo courtesy of the Institute for Local Self-Reliance

# Using Financial Incentives and Competition to Reduce Energy Waste

By Chris Harvey, Major: Economics (A&S'15) Email: cph52@cornell.edu

*Community organizations and businesses should fund a competitive program in New York State to reward households who demonstrate a substantial reduction in home energy use.*

## History:

Residential housing comprises a substantial part of total energy use in the United States, with New York State being no exception. Because the New York housing stock is typically older, and subject to cooler weather, New York homes face higher heating and energy costs than most other states in the U.S.<sup>1</sup> To address this, The New York State Energy Research and Development Authority (NYSERDA) subsidizes a home energy efficiency program (Home Performance With ENERGY STAR), where the majority of New York State residents –those making under approximately \$150,000 per year –are eligible for a no-cost home energy assessment from a private contractor to identify significant energy wastes in the house such as drafty windows and settled insulation.<sup>2</sup>

A potential extension of the energy assessment that could reduce energy use in households is a community-based program where households who exhibit the largest decrease in energy efficiency are eligible for cash rewards. Home energy assessments, including those subsidized by NYSERDA, could be used to develop the baseline of energy waste in a house and to develop a way to evaluate gains in efficiency.

A similar program to the one proposed above is the Energy Smackdown competition started in the Boston Metropolitan Area in 2007. This program pits homeowners against each other in a friendly competition to reduce home energy consumption. Homeowners were able to earn points by logging their adoptions of energy efficient behavior and home energy efficiency improvements on the Energy Smackdown website. The program ultimately achieved substantial reductions in CO2 emissions, heating fuel consumption, and electricity consumption in participating households, all while allowing participants to have fun, foster a sense of community, and save money.<sup>3</sup> Programs such as this can increase awareness of environmental issues and prompt action more effectively than what can be accomplished solely through education on energy use and its impact.

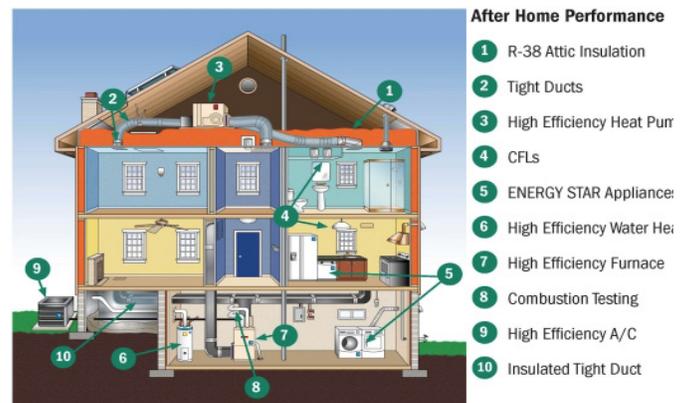
## Analysis:

A key difference between the program proposed and the Boston Energy Smackdown is that the New York State program will primarily incentivize the top energy reducing homes with cash rewards, the funding for which will come from local community organizations and businesses. By collectively raising this funding, the costs can be evenly distributed between sponsors, and increased publicity for participating businesses will bring in greater revenues than what is spent on the program.

Furthermore, creating incentives through cash awards will likely be more effective for smaller communities where competitions that thrive on solely high energy and competitive spirit will be more difficult to initiate. That being said, even in small communities, as more households participate in the program and win cash awards, it is likely that more will be eager to join in. As communities become more energy efficient, household utility bills will become lower, and residents will have more money to put into the local economy.

## Key Facts:

- Residential Housing accounts for 21 percent of energy consumption and 36.7 percent of electricity consumption in the United States.
- Energy bills cost New Yorkers \$2,500 per year, on average, compared to a national average of \$2,000.<sup>4</sup>
- Competitive community energy efficiency programs such as the Boston Energy Smackdown have reduced residential CO2 emissions by 20 percent, heating fuel consumption by 17 percent, and electricity usage by 14 percent in participating households.<sup>5</sup>



## Next Steps:

Community coordinators (who work at the state level) should be appointed to gauge/research interest in different rural communities interested in creating competitive energy efficiency programs. Such research will involve discussing the potential impact of implementation with both local politicians as well as business leaders and community organizations who will have an incentive to invest in the program in order to increase publicity. Once the appropriate stakeholders have been identified, coordinators need to work with local leaders to publicize the program and generate excitement for it in the community. Coordinators then need to develop the best framework for implementing the program and determining “winners” given the unique characteristics of each community. Using home energy assessments to audit energy use could be a way to monitor households who have made the largest gains in home energy efficiency.

## Taking Points:

- A competitive residential energy efficiency rewards program has great potential to achieve notable reductions in greenhouse gas emissions and energy use while engaging communities.
- A similar program has been implemented in Boston, where participating households reduced residential CO2 emissions by 20 percent, heating fuel consumption by 17 percent, and electricity usage by 14.
- Having local community organizations and businesses fund rewards in the program further involves these actors as stakeholders and leads to increased publicity for them. Furthermore, the rewards encourage greater household participation in the program, especially in small communities, where competitions running solely on competitive energy would be harder to implement.

## End Notes:

<sup>1</sup>“Houshold Energy Use in New York: A Closer Look at Residential Energy Consumption.” U.S. Energy Information Administration. [http://www.eia.gov/consumption/residential/reports/2009/state\\_briefs/pdf/ny.pdf](http://www.eia.gov/consumption/residential/reports/2009/state_briefs/pdf/ny.pdf) (accessed November 13, 2013).

<sup>2</sup>“Upgrade Upstate.” Upgrade Upstate. <http://www.upgradeupstate.org/> (accessed November 14, 2013).

<sup>3</sup> Fuller, Merrian, Cathy Kunkel, Mark Zimring, Ian Hoffman, Katie Soroye, and Charles Goldman. “Energy Competition: Driving Participation Through Friendly Competition.” Driving Demand for Home Energy Improvements. <http://drivingdemand.lbl.gov/reports/lbnl-3960e-esmckdn.pdf> (accessed November 13, 2013).

<sup>4</sup> United States Environmental Protection Agency. “Buildings and Their Impact on the Environment: A Statistical Summary.” Greenbuilding. <http://www.epa.gov/greenbuilding/pubs/gbstats.pdf> (accessed November 13, 2013).

<sup>5</sup> Fuller, Merrian

<sup>6</sup> Photo courtesy of SCE&G (South Carolina Energy & Gas)

# Abandoning Abandonment: Modernizing Western Water Rights

By Liam Berigan, Major: Environmental Science (CALS '17) Email: lab345@cornell.edu

*By making a few simple changes to Western water law, we can implement legislation that gives farmers increased water security and makes water conservation both simple and advantageous.*

## History:

A water right is the permission required to withdraw water in the Western United States, have remained essentially the same since the 1940s. This legislation has begun to lose its efficacy, however, and has instead begun to cause numerous problems for water users who may wish to reduce their water consumption.

One of the major problems with western water law is abandonment. This is the concept that, if a landowner fails to use the entirety of their water right for several years in a row, the state has the right to reduce or completely eliminate that right. This is an incredibly ill-informed practice and means that water users are actively punished for reducing water use, which leads to the preservation of wasteful practices, and makes water conservation incentives difficult to implement.

In 2011, Kansas passed HB 2451, which eliminated the concept of water rights abandonment in all areas of the state that are fully appropriated.<sup>1</sup> This modification has been supported by natural resource districts and farmers associations in the past, but this was the first time that these recommendations had been translated into law.<sup>2,3</sup> Other Western states should now begin to do the same.

## Key Facts:

- The abandonment or reduction of a water right legally occurs after 3-5 years of reduced water use
- The original water rights allocations for many farmers were determined over 100 years ago
- Scared of losing water rights that they might potentially need later, many farmers will refuse to take water conservation measures

## Analysis:

Abandonment, originally intended to transfer unused water rights to those who needed them, serves little purpose now that many water basins are closed to new claims.<sup>4,5</sup> Uncertainty about water laws has instead served to discourage farmers from reducing water use out of fear that they might lose their ancestral water rights, even to the point of intentionally wasting water.<sup>2,6</sup> This law needs to be changed in order to provide agricultural water security, and make water conservation legally viable.

This policy would set a political baseline for integrating water conservation with agricultural incentives, as was shown by the positive reaction to the Kansas water law. Both the Kansas Farm Bureau and the Sierra Club have expressed their support of the legislation, and various conservation and agricultural news sites are recognizing the local water conservation initiatives that have emerged since the law was instituted.<sup>7,8,9,10</sup> The elimination of abandonment in Kansas allowed legislation to be passed that incentivized water conservation, as farmers no longer have to worry that reductions in water use could result in the loss of their water right.<sup>8</sup> If this legislation is adopted, this effect could take place across the entire western United States.

Elimination of water right abandonment would benefit both agricultural and conservation stakeholders. Agricultural stakeholders will no longer have to live with the threat of their water rights being revoked over changes in water use, and will gain security in the property that has been theirs for generations. Water conservationists, on the other hand, will be better able to institute water efficiency practices now that the law no longer discourages decreases in water use. Both of these groups acknowledged these benefits and lobbied for this law when it was passed in Kansas, demonstrating a valuable instance of bilateral cooperation.<sup>7</sup>

## Next Steps:

There are 18 states in the union that use this western style of water regulation, called prior appropriations water laws, and Kansas has become the first of them to abolish the concept of water right abandonment. The next step would be to begin lobbying for other states to adopt similar legislation that would eliminate abandonment, and take other measures to protect the water rights of those who decrease their water use.

Once this is done, there are a variety of legislative options for encouraging water conservation at little to no cost. One notable strategy is described in Kansas Senate Bill 272, which offers variable annual water use through multi-year flex accounts in exchange for a commitment to a 10% reduction in water use.<sup>11</sup> Another is the institution of Local Enhanced Management Areas, which put water conservation decisions into the hands of practitioners who want to reduce their water use footprint.<sup>12</sup> Instituting legislation such as this would not only provide greater water rights security for farmers, but would be an important step towards integrating water conservation in agricultural law.

### **Talking Points:**

- By making legislation in Western states water conservation-friendly, we can take an important first step in encouraging responsible water-use practices

### **End Notes:**

<sup>1</sup> New laws will conserve and extend state water 2011b. Kansas Office of the Governor.

<sup>2</sup> Swaffar, Steve M. 2012. RE: HB 2451 an act concerning water. Kansas farm bureau policy statement. Kansas State Legislature.

<sup>3</sup> Testimony in support of house bill no. 2451, a bill relating to water right abandonment (repealing the “use-it-or-lose-it” statute) 2012. Kansas Livestock Association.

<sup>4</sup> Peck, John C., Leland E. Rolfs, Michael K. Ramsey, and Donald L. Pitts. 1988. Kansas water rights changes and transfers. The Governor’s Water Law Review Committee of South Carolina.

<sup>5</sup> Water rights in Montana. 2006. Montana DNRC.

<sup>6</sup> Ward, Frank A., Ari M. Michelsen, and Leeann DeMouche. 2007. Barriers to water conservation in the Rio Grande basin. *Journal of the American Water Resources Association* 43 (1) (FEB 2007): 237-53.

<sup>7</sup> Marso, Andy. 2012. Consensus building around water conservation. *The Topeka Capital-Journal*, January 2, 2012.

<sup>8</sup> Griekspoor, P. J. 2012. ‘Use it or lose it’ no longer the water law for Kansas. *Kansas Farmer* 2012.

<sup>9</sup> Clayton, Chris. 2013. Kansas: How farmers preserve the water aquifer and environment. *AgFax*, August 23, 2013.

<sup>10</sup> Parker, Alex. Support grows for Kansas water policy reforms. in *Sunflower Horizons* [database online]. 2012 [cited 11/18 2013]. Available from <http://sunflowerhorizons.com/groups/for-the-future/2012/jan/3/support-grows-for-kansas-water-policy-re/>.

<sup>11</sup> Kansas Senate Bill no. 272, (2011a), [http://www.kslegislature.org/li\\_2012/b2011\\_12/asures/documents/sb272\\_enrolled.pdf](http://www.kslegislature.org/li_2012/b2011_12/asures/documents/sb272_enrolled.pdf) (accessed 11/15/2013).

<sup>12</sup> LEMA fact sheet 2012a. Kansas Farm Bureau.

# Increasing Anchor Institutional Involvement in Sustainable Energy

By Angelica Cullo, Major: Biological Sciences (CALs '15) Email: afc46@cornell.edu

*Research supports the viability of transitioning New York State's all-purpose energy to a renewable energy infrastructure that includes at least 40% wind energy<sup>4</sup>. NYSERDA should revise its On-Site Wind Turbine Incentive Program (PON 2439) to offer additional incentives to projects that incorporate training and accreditation partnerships between anchor institutions and their surrounding communities.*

## **History:**

NYSERDA is committed to partnering with industries, residents, and businesses to help the state achieve energy self-sufficiency, improved energy efficiency, and economic growth. Currently, NYSERDA has both an On-Site Wind Turbine Incentive Program with \$13.8 million in incentives to encourage the installation of end-use wind energy systems for residential, commercial, institutional or government energy utilities that collect Renewable Portfolio Standards and a separate incentive program to support training accreditation, and practitioner certifications.<sup>1,2</sup>

NYSERDA's incentive program is offered as part of the Customer-Sited Tier of the state renewable portfolio standard (RPS) program. Consequently, only customers of electricity distribution utilities that collect the RPS surcharge, which includes Central Hudson Gas & Electric Corporation, Consolidated Edison Company of New York, Inc., New York State Electric & Gas Corporation, National Grid, Orange and Rockland Utilities, Inc. and Rochester Gas and Electric Corporation, and those who pay the RPS surcharge on their electric bills are eligible for program incentives.

Syracuse University is already on its way to implementing sustainability initiatives that integrate anchor institutions and communities. In 1998, Syracuse University opened its Center of Excellence (SyracuseCoE) with the goal of creating jobs and invigorating economic development in upstate New York. Syracuse University supports community collaborations through its Center for Sustainable Community Solutions, which has seen success by working closely with local governments, community organizations, state agencies, and academic institutions to train leaders and collaborate on environmentally and economically sustainable development initiatives. Cortland County also projected to benefit financially from the establishment of a wind farm in the area. Through a "Payment In Lieu Of Tax" (PILOT) scheme and "Host Community Agreements" (HCA), the County and Towns will receive annual payments directly from the wind project. These payments could be used to reduce local taxes, upgrade community facilities such as roads, or fund community events.<sup>5</sup>

While the establishment of Crown City Wind Farm represents an investment of up to \$150 million, payments to the municipality's economy from the wind farm will represent approximately \$1 million per year.<sup>5</sup>

Although other states have Renewable Portfolio Standards (RPS) that mandate compliance with renewable energy initiatives, past and current New York State wind-energy installation and accreditation incentive programs prevent applicants from combining incentives, and do not specifically incentivize wind system training and accreditation partnerships between anchor institutions and their surrounding communities.

## **Analysis:**

Revision of NYSERDA's On-Site Wind Turbine Program and the Clean Energy Certifications and Accreditation Program would ensure that the clean energy workforce is highly skilled and trained to meet future energy needs of the community by integrating representatives from both the community and surrounding colleges and universities. Training that provides accreditation from the nationally recognized Interstate Renewable Energy Council (IREC) and results in marketable skills would encourage graduates to remain in the area and continue to contribute to establishing energy infrastructure as a tool for economic and sustainable development.<sup>5</sup>

### **Key Facts:**

- Offshore wind energy alone is projected to supply 40%, (2,700 5-MW turbines) of New York State's electrical, transportation, heating/cooling, and industry energy needs<sup>4</sup>
- Wind energy is currently the least expensive of all the renewable sources especially at latitudes found in NYS.
- Wind is the second largest source of electricity from renewable energy

Because the existing On-Site Wind Turbine program requires wind energy system installers to demonstrate that they have adequate training and experience installing wind energy systems, combining these programs would provide important new safeguards for energy consumers, students, and other stakeholders including local government staff and installation technicians.

### **Talking Points:**

- Converting New York state's energy infrastructure to renewable energy will reduce NYS end-use demand by ~37%
- Revising the NYSERDA On-Site Wind Turbine Incentive Program supports economic development and training of highly qualified installers and technicians

### **Next Steps:**

NYSERDA should change its policy requirements to allow applicants to be eligible for incentives, even if they are not customers of the above investor-owned electric utilities, and to combine incentive programs. NYSERDA should also pool funding resources for both programs, establish set-asides for wind systems that partner anchor institutions and surrounding communities, and provide training and accreditation partnerships between anchor institutions and their surrounding communities.

### **End Notes:**

- <sup>1</sup> NYSERDA PON 2439 On-site Wind Turbine Incentive Program. <http://www.nyserra.ny.gov/Funding-Opportunities/Current-Funding-Opportunities/PON-2439-On-Site-Wind-Turbine-Incentive-Program.aspx> (accessed November 1, 2013)
- <sup>2</sup> PON 2397 Clean Energy Certifications and Accreditation incentives. <http://www.nyserra.ny.gov/Funding-Opportunities/Current-Funding-Opportunities/PON-2397-Clean-Energy-Certifications-and-Accreditation-Incentives.aspx> (accessed November 10, 2013)
- <sup>3</sup> <http://www.syracusecoe.org/coe/images/allmedia/pdfs/coe%20progress%20report%202006%20final.pdf>
- <sup>4</sup> Mark Jacobsen, "Examining the feasibility of converting New York State's all-purpose energy infrastructure to one using wind, water, and sunlight," *Energy Policy*, 57 (2013): 585-601, <http://www.stanford.edu/group/efmh/jacobson/Articles/I/NewYorkWWSEnPolicy.pdf> (accessed November 13, 2013).
- <sup>5</sup> Department of Environmental Conservation <http://www.dec.ny.gov/energy/66494.html>
- <sup>6</sup> <http://www.irecusa.org/credentialing/> (accessed November 12, 2013)
- <sup>7</sup> Mission and Vision Statement <http://www.nyserra.ny.gov/About/Mission-and-Vision.aspx> (accessed November 13, 2013)
- <sup>8</sup> National Renewable Energy Laboratory [http://www.nrel.gov/tech\\_deployment/state\\_local\\_activities/basics\\_portfolio\\_standards.html](http://www.nrel.gov/tech_deployment/state_local_activities/basics_portfolio_standards.html)
- <sup>9</sup> U.S. Energy Information Administration [http://www.eia.gov/energyexplained/index.cfm?page=renewable\\_home#tab3](http://www.eia.gov/energyexplained/index.cfm?page=renewable_home#tab3)
- <sup>10</sup> U.S. Federal Energy Regulatory Commission [http://www.tcirenewables.com/downloads/crown\\_city\\_july\\_2012\\_update.pdf](http://www.tcirenewables.com/downloads/crown_city_july_2012_update.pdf)
- <sup>11</sup> Database of state incentives for renewables and efficiency. US department of energy <http://www.dsireusa.org/>

# Why Banning Hydraulic Fracturing in New York Makes Sense

By Adam Shelepak, Major: Biological Sciences (A&S '17) Email: aws223@cornell.edu

*New York State should continue the moratorium on hydraulic fracturing as research into the environmental effects is assessed, then ultimately act to ban the practice to protect New York's environment. Despite the possible economic benefits, the threat to the environment of the state is too great a risk to expand gas drilling.*

## History:

Hydraulic fracturing or “fracking” has been a divisive issue pitting economic profit against environmental concerns across the country, including the state of New York. Hydraulic fracturing is a process where a well is drilled vertically into the ground, usually with other horizontal sections. Then, a fluid of water and chemical additives are pumped into the well at high pressures and this pressure forces the fluid and natural gas to flow back up the well. The fluid is captured and stored as it returns to the surface.

Proponents of fracking have been encouraging the state to capitalize on the economic benefit available in the situation. Job creation and spending in regions of drilling would, in theory, benefit communities that open up to fracking. Others point out the dangers of the chemicals used in the fracking process, which include many known carcinogens, and the stress placed on local infra-

structures by heavy drilling related machinery. Also, critics highlight the issue of waste and storage of chemically-tainted water after the completion of the drilling process.

### Key Facts:

- According to the EIA, the Marcellus Shale formation has 90,216 potential wells and 140,565 billion cubic feet of technically recoverable gas. The Utica Shale formation houses 13,936 potential wells and 15,712 billion cubic feet of technically recoverable gas.<sup>2</sup> Both formations are widespread in New York State.
- 250 million gallons have been used in gas extraction since 2005.<sup>4</sup>
- Over 150,000 abandoned wells are scattered about Pennsylvania from previous gas and oil drilling.<sup>5</sup>
- Up to 600 chemicals are found in the fracturing fluid, many of which are known carcinogens.<sup>6</sup>

The EPA has attempted extensive studies on the environmental threats posed by this process. However, through this point in time, the results have been inconclusive and more studies are pending. Still, many other institutions have published work on the environmental concerns and possible negative effects related to the expansion of the fracking industry. Subsequently, New York has recently issued a moratorium banning the issuance of permits for high volume hydraulic fracturing until May 15, 2015.<sup>1</sup>

## Analysis:

The negative impacts of hydraulic fracturing are prominent and supported by evidence, even if the EPA is hesitant to substantiate these claims. A Duke University study analyzed water sources in Northeastern Pennsylvania located near fracking wells. The study found that, “Methane was detected in 82% of drinking water samples, with average concentrations six times higher for homes less than 1 km from natural gas wells.”<sup>3</sup> Hydraulic fracturing will negatively impact the drinking water in regions near drilling sites by tainting local drinking water with chemicals. Another major impact involving fracking and water is the use of water in the process of releasing the gas from the shale. According to the Environmental America Research and Policy Center, about 250 billion gallons of water have been used in the extraction of natural gas from shale<sup>4</sup>. Much of this water will be put into tankers, shipped to wells, and pumped deep below the ground. The contaminated water will be stored in these deep underground wells. This provides many possibilities for dangerous chemical spills. If hydraulic fracturing were to expand in Upstate New York these problems and more are likely to be faced.

## **Next Steps:**

The EPA has not released definitive findings on the environmental impacts of hydraulic fracturing. However, the research of other institutions is clear. So, New York State should act proactively to ban hydraulic fracturing before any of these potential disasters can occur. As more and more data on fracking is released, New York State officials must sit down with the EPA, DEC, and economic and private sector businesses and place a ban on high volume hydraulic fracturing in New York State shale deposits.

Although some may point out the economic opportunities missed without the establishment of this large scale fracking, the economic benefits are rendered irrelevant by the environmental costs that would be incurred by the drilling. Thus, New York should act to ban hydraulic fracturing in the immediate future.

### **Talking Points:**

- The EPA has not released definitive reports on the environmental impacts of fracking and has not reopened the studies they have completed. More data is expected to be released soon.
- Many institutions have performed studies that indicated that fracking will lead to environmental problems, including gas leaks, tainting of drinking water, and the risks associated with chemicals and waste water storage.
- Economic benefits and added energy independence may be reaped from fracking, but with the moratorium, the pros and cons will be given more time to be weighed as more data is released allowing New York State to make a more informed decision.

## **End Notes:**

<sup>1</sup> Energy Solutions Forum, “NY Assembly Votes to Extend Fracking Moratorium Until 2015,” Breaking Energy, <http://breakingenergy.com/2013/03/14/ny-assembly-extends-fracking-moratorium-until-2015/>

<sup>2</sup> U.S. Energy Information Administration, “Annual Energy Outlook 2012 with Projections for 2035,” U.S. Department of Energy, [http://www.eia.gov/forecasts/aeo/pdf/0383\(2012\).pdf](http://www.eia.gov/forecasts/aeo/pdf/0383(2012).pdf)

<sup>3</sup> Jackson, R.B., Vengosh, A., Darrah, T.H., Warner, N.R., Down, A., Poreda, R.J., Osborn, S.G., Zhao, K., and Karr, J.D. (2013) Increased stray gas abundance in a subset of drinking water wells near Marcellus shale gas extraction. Proceedings of the National Academy of Sciences of United States of America (June, 2013).

<sup>4</sup> Elizabeth Ridlington and John Rumpler, “Fracking by the Numbers: Key Impacts of Dirty Drilling at the State and National Level,” Environment America, [http://www.environmentamerica.org/sites/environment/files/reports/EA\\_FrackingNumbers\\_scrn.pdf](http://www.environmentamerica.org/sites/environment/files/reports/EA_FrackingNumbers_scrn.pdf)

<sup>5</sup> Mark Schrope, “Fracking Outweighs Science on its Impact,” Environment Yale, Yale School of Forestry and Environmental Studies, <http://environment.yale.edu/envy/stories/fracking-outpaces-science-on-its-impact>

<sup>6</sup> Sierra Crane-Murdoch, “Unpacking Health Hazards in Fracking’s Chemical Cocktail,” High Country News, <http://www.hcn.org/issues/43.3/unpacking-health-hazards-in-frackings-chemical-cocktail>

# Solving Food Deserts: One CSA at a Time

By Lucy Stockton, Major: International Agriculture (CALs '17) Email: lds99@cornell.edu

*Food Deserts - areas where healthful food is scarce because of physical or economic barriers - drain on our national healthcare system and harm our communities. By integrating CSA's into our Food Stamp program, we can provide healthful food to communities in need while simultaneously fostering growth of local agriculture.*

## History:

Food Deserts are defined as areas where there is lack of access to fresh, healthful food. This inaccessibility can be caused by physical barriers or economic barriers, and is not necessarily rural, urban, gender or age-based.

<sup>1</sup> Instead, Food Deserts arise from situations of poverty in which people physically cannot obtain nutritious food or cannot pay for it. Food Deserts are a complex problem rooted in systemic poverty, food injustice and transportation inefficiencies. <sup>2</sup>

Food Deserts are often associated with poor diets, which in turn, are closely linked to 'lifestyle diseases' such as obesity, diabetes, heart disease, and cancer. <sup>3</sup> These lifestyle diseases are the largest drain on our healthcare system today, as they take up a huge amount of time and resources and ironically are some of the most preventable conditions. <sup>4</sup> These come with a huge cost as the CDC projects that the USA will be spending 818 billion dollars on treatment of heart disease by 2030. <sup>5</sup>

Food Deserts can also be characterized as areas where food must be imported into a community. This implies that there are no local producers, and often there aren't even grocery stores, so people must buy from corner stores and gas stations. Some of the most striking food deserts are in the American South (notably the most unhealthy region of our country) or inside cities where there may not be any grocery store in an accessible area.

## Analysis:

The government could purchase CSA's and offer them at reduced prices for those receiving public assistance in the form of food stamps or living in food deserts. This would support both small, local farms while also promoting healthy lifestyles and therefore reducing healthcare costs. <sup>6</sup>

The policy suggested here has the potential to resolve food deserts while also offering an opportunity to support local agriculture. The concept of government-subsidized CSA's (Community Supported Agriculture - defined as a seasonal provision of the harvests from a local farm, usually given in weekly shares) given to food deserts is founded on many of these ideas.

Subsidizing CSA's would make it possible for people in food deserts to get improved access to quality, fresh whole foods and thus improve their health. The investment would also provide economic support for local agriculture by providing a steady market. The existence of small farms brings a host of other potential benefits, including less transportation, more sustainable, small-scale agriculture and a greater investment in local communities. <sup>7</sup> Working with small farms has the potential to benefit many and even has the potential to be cost-effective as CSA's can be affordable when bought up front before the season as opposed to going to farmers' markets.

Buying CSA's at the beginning of the season provides the dual economic benefit of cost-savings to the government and greater capital for small farms struggling to make ends meet, but it is important to acknowledge that they are not the most inexpensive option. The cost does not make the project unviable, it only furthers the need for a more detailed Cost-Benefit Analysis that would include the state of the local economy, the long-term reduction in health care costs and the benefits to community. All things considered, this program's benefits would far outweigh the initial payments.

### Key Facts:

- 7 out of 10 deaths among Americans each year are from chronic diseases. Heart disease, cancer and stroke account for more than 50% of all deaths each year. (CDC - Kung)<sup>14</sup>
- As a nation, more than 75% of our healthcare dollars go towards treating chronic diseases (CDC)<sup>15</sup>
- 23.5 million people live in low-income areas more than one mile from a supermarket (USDA ERS)<sup>16</sup>

## Next Steps:

Because each farm provides a unique CSA, it would be best to try this on a local scale first - preferably in an area where there are already small local farms that co-exist with food deserts. A perfect place to begin is in Groton, NY which is surrounded by many farms but has few places to buy fresh food.

There have been many initiatives taken to address Food Deserts. The USDA has already defined a Food Desert and created a technology that maps where Food Deserts can be found in the USA.<sup>8</sup> The Kellogg Foundation has funded multiple projects towards resolving Food Deserts, one of which is a research project

into Foodsheds led by Cornell University's Gary Fick, which maps the area needed to provide a community with food.<sup>9,10</sup> Other non-profits like Local Harvest and the Intervale Center work to improve food sovereignty and strengthen communities by linking buyers with their food producers.<sup>11,12</sup> Clearly, this topic is not silent, but it also is not receiving the extensive government attention that it deserves.

The time to act is now. Even as the government is cutting spending on the Food Stamp program and overall public assistance, there has never been a more urgent time to invest in the future health of our nation by promoting equality.<sup>13</sup> We can no longer afford to ignore these issues - whether we are paying in money or time. This program could improve our collective national health, our environment and contribute to our economic viability and food sovereignty.

## End Notes:

<sup>1</sup> Breneman, Vince, and David Nulph. "Food Access Research Atlas." 2013. <<http://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx#.Uo5BwmQ5w0M>>.

<sup>2</sup> "Access to Healthy Food." Food Empowerment Project. 2013. <<http://www.foodispower.org/access-to-healthy-food/>>.

<sup>3</sup> Ford, Earl S. "Co-Occurrence of Leading Lifestyle-Related Chronic Conditions among Adults in the United States, 2002-2009." Preventing Chronic Disease: Public Health, Research and Policy 10 (2013)Print.

<sup>4</sup> Fries, James J. "Reducing Health-Care Costs by Reducing the Need and Demand for Medical Services." The New England Journal of Medicine 329.5 (1993): 321. Print.

<sup>5</sup> Trogdon, Justin G. Cost to Treat Heart Disease in United States Will Triple by 2030. Ed. Javed Butler. Dallas, TX: American Heart Association, 2011. Print.

<sup>6</sup> Bertucci, Maggie, and et. al. "Cutting the Fat on Healthcare: an Investigation of Preventive Healthcare and the Fight on Obesity." Undergraduate Research Center 9 (2010).

<sup>7</sup> South Carolina Food Policy Council. "Growing Food and Opportunities in South Carolina: Economic and Community Development through Healthy Food Access." Workshop. West Columbia, SC. 2013. 1-37. Print.

<sup>8</sup> Breneman, Vince, and David Nulph. "Food Access Research Atlas." 2013. <<http://www.ers.usda.gov/data-products/food-access-research-atlas/go-to-the-atlas.aspx#.Uo5BwmQ5w0M>>.

<sup>9</sup> Peters, Christian, and Jennifer Wilkins. "Foodprints & Foodsheds." 2013. <<http://foodprintsandfoodsheds.org/foodprints/>>.

<sup>10</sup> Peters, Christian J., et al. "Mapping Potential Foodsheds in New York State by Food Group: An Approach for Prioritizing which Foods to Grow Locally." Renewable Agriculture and Food Systems 27.02 (2012): 125-137. Print.

<sup>11</sup> LocalHarvest. "Local Harvest: Real Food, Real Farms, Real Community." LocalHarvest, Inc. 11/14 2013. <<http://www.localharvest.org/>>.

<sup>12</sup> The Intervale Center. "Our Mission and Vision." 2013. <<http://www.intervale.org/what-we-do/mission-vision/>>.

<sup>13</sup> National Center for Health Statistics. Health, United States, 2011: With Special Features on Socioeconomic Status and Health. Hyattsville, MD; U.S. Department of Health and Human Services; 2012.

<sup>14</sup> Kung HC, Hoyert DL, Xu JQ, Murphy SL. Deaths: final data for 2005. National Vital Statistics Reports 2008;56(10). Available from: [http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56\\_10.pdf](http://www.cdc.gov/nchs/data/nvsr/nvsr56/nvsr56_10.pdf)

<sup>15</sup> National Center for Chronic Disease Control and Prevention. "Chronic Diseases: The Power to Prevent, the Call to Control." Centers for Disease Control and Prevention. December 17 2009. <<http://www.cdc.gov/chronicdisease/resources/publications/aag/chronic.htm>>.

<sup>16</sup> Ver Ploeg, Michelle, and Vince Breneman. Access to Affordable and Nutritious Food—Measuring and Understanding Food Deserts and their Consequences: Report to Congress. AP-036 Vol. USDA Economic Research Service, 2009. Print.

<sup>17</sup> USDA ERS. September 2000. ERS Farm Typology for a Diverse Agricultural Sector. Agriculture Information Bulletin Number 759.

## Talkings Points:

- People who live in Food Deserts are both nutritionally and financially disadvantaged and thus suffer from another host of lifestyle and chronic diseases associated with poor diets. As a result, they are a crutch on our healthcare system and require a tremendous amount of spending in reactionary care costs.
- CSAs support local agriculture by providing small farms with the capital investment that they need at the beginning of a growing season to be economically viable. Small farms can strengthen our community, increase food sovereignty for our nation and contribute to healthier ecosystems
- Investing in preventative health care measures now may cost more initially but many studies show that it would save a tremendous amount from being spent on reactionary health care measures later. The question is not what we want to spend, but when.

# Meet Our Energy and Environmental Policy Center



**Kelsey Clough**

Kelsey Clough is a member of the College of Arts and Sciences Class of 2015, majoring in the College Scholars Program. Since her start with the Roosevelt Institute in January of 2013, Kelsey has enjoyed researching and analyzing unique and unorthodox solutions to environmental predicaments. She hopes to continue her work as a policy analyst by proposing simple modifications and regulations to practices and products that will influence larger scale changes.



**Chris Harvey**

Chris Harvey is a Junior Economics major in the College of Arts and Sciences. He is interested in shaping public policy that encourages people to adopt more efficient and sustainable behaviors. This is his second semester as a policy analyst for the Roosevelt Institute.



**Alex Fields-Lefkovic**

Alex Fields-Lefkovic is a sophomore majoring in Government and minoring in International Relations, History, and Law and Society in the College of Arts and Sciences. He is interested in examining the domestic legal mechanisms and geopolitical consequences of energy policy. Alex has been a member of the Roosevelt Institute since Fall 2012.



**Angelica Cullo**

Angelica Cullo is a junior in the college of Agricultural and Life Sciences studying Biological sciences, with a concentration in Nutrition and a minor in global health. This is Angelica's first semester with Roosevelt, and she is interested in environmental sustainability and its connection to human health. She has always been interested in environmental, activism, sustainability, and science and feels that effective public policy should be guided by research and data.



**Liam Berigan**

Liam Berigan is a freshman studying Environmental Science and Sustainability in the College of Agriculture and Life Sciences. He is interested in the role of scientists and stakeholders in establishing new environmental policy, especially as it pertains to natural resource management. This is Liam's first semester of involvement with the Cornell Roosevelt Institute.



**Adam Shelepak**

Adam Shelepak is a freshmen in the College of Arts and Sciences pursuing major in Biological Sciences. He is particularly interested in environmental sustainability and how this issue is so polarizing in the realm of politics and public opinion. He is also interested in the popularization and public education of science. This is his first semester in the Roosevelt Institute.



**Lucy Stockton**

Lucy Stockton is a first-year undergraduate student in Cornell University's College of Agriculture and Life Sciences, majoring in 'International Agriculture and Rural Development.' She has worked on farms for the past 5 years and in her free time, loves to hike, rock climb, run, draw, cook and go camping with friends and family. She is particularly interested in environmental policy, healthcare policy, international development sociology and remains hopeful that the Farm Bill may be passed in her lifetime.



**Janisa Mahaparn, Director**

Janisa Mahaparn is a junior studying Psychology and Cognitive Science in the College of Arts and Sciences. She is interested in studying the impact of environmental chemicals on developing children and promotes bridging the gap between scientific research and public policy. Janisa has been a member of the Roosevelt Institute since Fall 2011.



“A nation that destroys its soils destroys itself. Forests are the lungs of our land, purifying the air and giving fresh strength to our people.”

- Franklin D. Roosevelt