
Connecting Pittsburgh to Renewable Energy

A Case for Solar Power

PIA 2096 CAPSTONE PRESENTATION
GRADUATE SCHOOL OF PUBLIC AND INTERNATIONAL AFFAIRS
UNIVERSITY OF PITTSBURGH
DECEMBER 11, 2015

Framing the Project

Explored using online platforms for connecting Pittsburgh residents to solar power resources for the City of Pittsburgh Department of Innovation & Performance

Used a holistic research approach combining both quantitative and qualitative data

Developed a report with key research findings and best practice recommendations

Research Conducted

1. Assessed technological, financial, and organizational infrastructure and governmental policies toward solar power.
2. Benchmarked previous efforts.
3. Researched the use of light detection radar (LiDAR) for use with the online platform.
4. Interviewed local housing officials.
5. Explored the potential for regionalization of the platform.

Findings

Finding 1: Large market for solar potential: 74,000 homes in Pittsburgh and 120,000 homes in the other CONNECT communities and few of these utilize solar power.

- With 60,000 homes participating, carbon emissions could be reduced by 360,000 to 645,668 metric tons annually.

Finding 2: The financial climate for solar power is improving and additional interest on the part of homeowners is expected to grow in the next few years.

Finding 3: Our region (City and CONNECT) has a sophisticated network of intergovernmental and intersectoral partners that could manage a conversion of homes to solar.

Finding 4: Arguments that our region's climate is not conducive to solar power are both overstated and inaccurate. Pittsburgh's climate is supportive of solar power utilization.

Finding 5: State policies regarding residential solar power are generally supportive.

Findings

Finding 6: Solar power implementation is best aided when government(s) act as a means to connect homeowners with resources and information.

Finding 7: Through the federal SunShot initiative, major US cities are learning from each other on how best to facilitate conversion away from fossil fuels in their respective cities and regions.

Finding 8: Boston, New York, San Francisco, and Washington, DC all employ the use of GIS mapping software utilizing Light Detection Radar (LiDAR) that allows a homeowner to interactively assess the potential of solar power for their property.

Finding 9: Websites from other cities vary considerably on user-friendliness and quality of information such that they represent first generation efforts that an initiative here could build upon by learning from their mistakes.

Finding 10: These first generation efforts are generally weak in serving lower income populations and in reaching beyond the city's borders.

Recommendations

Recommendation 1: The City of Pittsburgh/CONNECT should create a central website connecting homeowners to resources.

Recommendation 2: Consider utilizing software that incorporates user-friendly features. A current vendor of such software is MAPDWELL and is worthy of consideration.

Recommendation 3: The website launch should be accompanied by an active campaign to engage the community in the process of converting homes to solar power. This campaign should include:

- Community partnerships
- City/CONNECT collaboration
- Engage both developers and homeowners
- Create a Solar Energy Fund
- Perform ongoing community engagement, including outreach that is specific to low-income residents

Recommendations

Recommendation 4: City and CONNECT can collaborate with private- and nonprofit-sector organizations for creative financing solutions and community outreach.

Recommendation 5: The City of Pittsburgh, as a member of CONNECT, should present this report to CONNECT with the recommendation that CONNECT seek private funding and support to administer and implement our recommendations.

Conclusions

The Pittsburgh urban market has much more potential for solar power than commonly believed.

- Economic benefit for residents and business owners
- Environmental preservation benefits

To achieve these goals, we need to ensure comprehensive involvement of the Pittsburgh region.

- Promoting social equity in regional policy
- Engagement of stakeholders across all sectors

Adopting solar initiatives enhances Pittsburgh's identity as an innovative, global leader in sustainable technology.