LIVING CULLY COMMUNITY ENERGY PLAN

PRESENTED BY LIVING CULLY
March 2018

LIVING CULLY

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Living Cully and Verde Staff

Leah Altman, Verde Development Director
Jess Faunt, Living Cully Communications Specialist
Cameron Herrington, Living Cully Anti-Displacement Coordinator
Alan Hipólito, Verde Executive Director
Carolina Iraheta Gonzalez, Living Cully Community Energy Advocate

Living Cully Community Energy Plan Project Advisory Committee

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Kelly Haines, Senior Project Manager, Worksystems, Inc.
Cameron Herrington, Living Cully
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Jaimes Valdez, Policy Manager, Spark NW
Desirée Williams-Rajee, Board Member, Verde
Maiyee Yuan, Jade District Coordinator, Asian Pacific American Network of Oregon

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Funders

Bullitt Foundation
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Schmidt Family Foundation's 11th Hour Project
U.S. Department of Energy's SunShot Initiative

LETTER FROM LIVING CULLY LEADERSHIP

Why a neighborhood-scale energy plan?

Living Cully is a collaborative among Habitat for Humanity Portland/Metro East (hereafter referred to as simply "Habitat"), Hacienda Community Development Corporation (CDC), the Native American Youth & Family Center (NAYA) and Verde. Our organizations serve regional communities facing great disparities: families at risk of homelessness, cultural communities and low-income workers.

Throughout the Portland region, our communities confront the same unstable situation—they live in places that lack economic opportunity, suffer poor environmental conditions and lack consistent resources for meaningful community engagement. At the same time, our communities have a tremendous drive to build a better future for their children, families and neighborhoods. We decided to engage this drive in one neighborhood in order to create a new, replicable model for neighborhood stability.

In 2010, we formed a new collective effort, called "Living Cully," focused on Portland's Cully neighborhood, home to concentrated poverty, racial segregation and environmental burdens. In Living Cully, we reinterpret sustainability as an anti-poverty strategy. Living Cully addresses the Cully neighborhood's multiple disparities—in education, income, housing and health—by concentrating environmental investments at the neighborhood scale and braiding those investments with traditional community development resources.

Since then, Living Cully has taken sustainability and turned it into a powerful tool to address the needs of low-income people. Our theory of change resonated, attracting new environmental funding and expertise that had not previously been invested in low-income neighborhoods. The Living Cully Partners have used these resources to engage community in the design and implementation of our Cully-based programs and signature projects. We have had real success, driving new investments into Oregon's most diverse neighborhood.

As we have long anticipated, the question now rapidly transitions from "will Cully's environment improve?" to "will current residents be able to stay in the neighborhood as it improves?" While many sustainability advocates ignore gentrification and displacement or treat it as unsolvable, Living Cully directly addresses this issue as a core aspect of our work, advancing a model of environmental wealth alongside racial and economic diversity.

We also know that displacement and climate change are deeply connected. We know that our communities are being squeezed out as mainstream climate policymaking prioritizes and invests in dense urban environments. We know that this instability has its own climate impacts because gentrification is pushing our communities away from walkable, energy-efficient neighborhoods with accessible transit and employment opportunities and out to disinvested, peripheral and auto-dependent areas with poor transit infrastructure. And we know that displacement makes our communities less resilient, less able to survive and rebuild after a climate event.

In response, Living Cully has increased its focus on activities that combine climate, energy and anti-displacement goals, including the NAYA-led Cully Weatherization 2.0 (weatherization that conserves energy, supports target businesses, improves health and reduces utility expenses), the Hacienda CDC-led Climate Action Plan Social Equity Guidance & Metrics (an implementation plan for achieving equity and carbon outcomes with the redevelopment of Hacienda CDC's Villa de Clara Vista affordable housing) and the Habitat-led Neighborhood Revitalization Initiative (critical home repairs for low-income homeowners). Through their leadership, we began adapting our anti-poverty model of environmental investment to the energy sector.

Today, we are excited to present our latest climate, energy and anti-displacement effort: a neighborhood-scale energy plan for Cully. The Living Cully Community Energy Plan creates a blueprint for how we can prevent displacement through increased investment in energy conservation and renewable energy. By investing in public education, resilient institutions, affordable housing and community services, we can lift up a community-led, anti-displacement-focused vision of climate action.

Please join us in thanking the partners and funders who helped develop the Energy Plan. Your support is invaluable to getting us to where we are now and where we can go.

We offer our deepest appreciation for the dedication and leadership of our Community Energy Advocate, Carolina Iraheta Gonzales. She is responsible for the vision we share with you today and for managing this challenging and complex effort.

Ernesto Fonseca, CEO
Hacienda CDC

Alan Hipólito, Executive Director
Verde

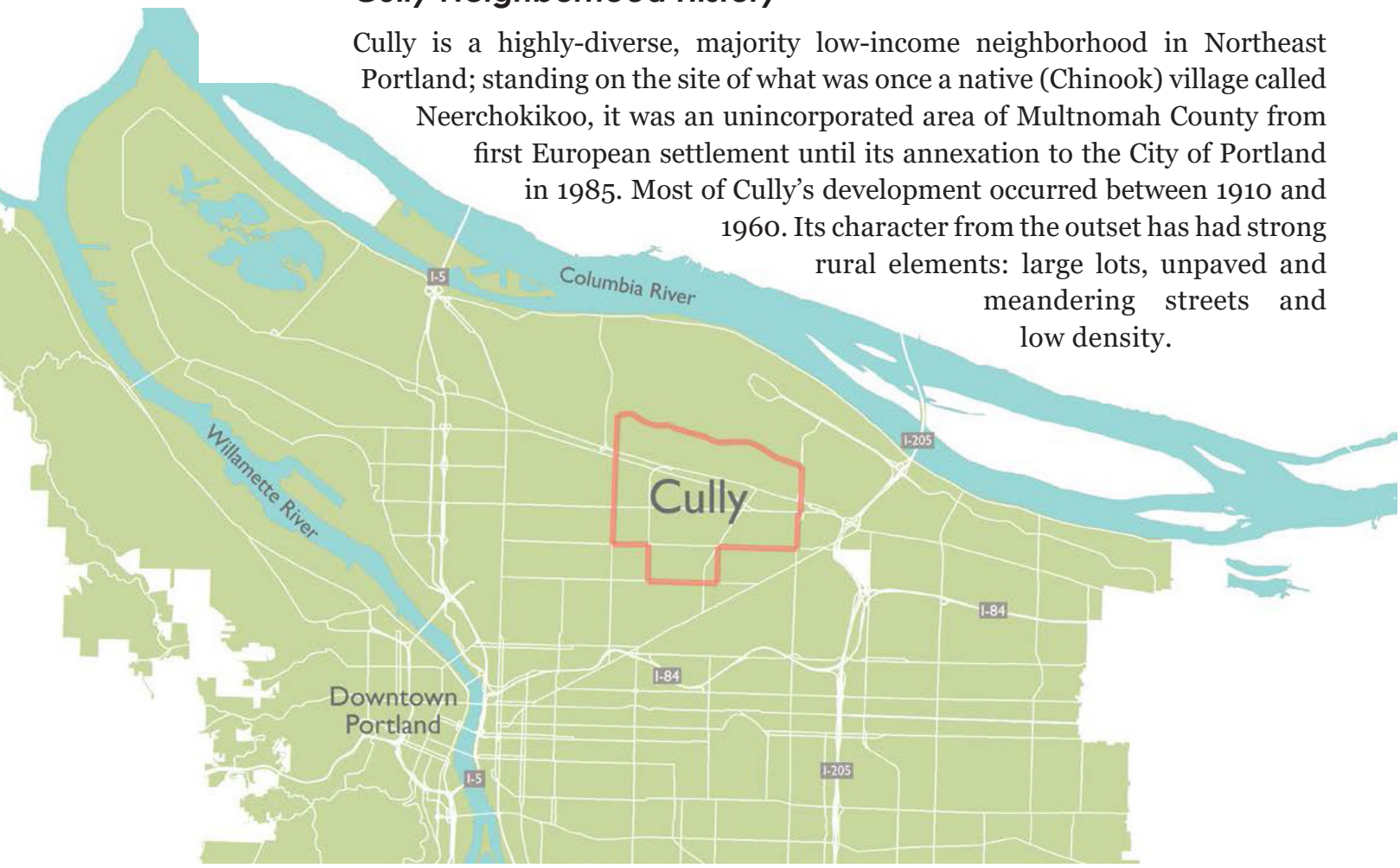
Paul Lumley, Executive Director
Native American Youth & Family Center

Steve Messinetti, President & CEO
Habitat for Humanity Portland/Metro East

CULLY: A Neighborhood Profile

Cully Neighborhood History

Cully is a highly-diverse, majority low-income neighborhood in Northeast Portland; standing on the site of what was once a native (Chinook) village called Neerchokikoo, it was an unincorporated area of Multnomah County from first European settlement until its annexation to the City of Portland in 1985. Most of Cully's development occurred between 1910 and 1960. Its character from the outset has had strong rural elements: large lots, unpaved and meandering streets and low density.



About the Cully Neighborhood

Cully is Northeast Portland's largest neighborhood by land area and population; it is over three square miles, and its population as of the 2010 US Census is 13,322. Cully includes the most racially/ethnically diverse Census tract in Oregon by some measures. The majority of the neighborhood is zoned for single-family dwellings; only two areas, along the western boundary at N.E. 42nd Ave. and the central artery, Cully Blvd., are zoned for commercial activity. The northern edge of the neighborhood, between N.E. Portland Highway and Columbia Blvd., is an industrial area. Cully's unique combination of rural features, sparse commercial development and relatively low household incomes have made it relatively deficient in the commercial and recreation opportunities that characterize the rapidly developing inner neighborhoods of Portland. Portland's inner neighborhoods are, in general, highly rich in amenities such as parkland, open space, bike lanes and neighborhood services. Cully, by contrast, suffers from poor walkability, scarce access to transit, relative lack of open space, and an abundance of brownfields—contaminated, post-industrial land.[1]

1 Adapted from "Future Economy Initiative of the E3 Network: Living Cully," by Noah Enelow and Taylor Hesselgrave, http://www.livingcully.org/incoming/2015/10/NE_Final_PDF_new-Ecotrust-final.pdf.

NE Killingsworth
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Cully Blvd
ALIANZA DE
CULLY BLVD

INTRODUCTION

In 2010, Habitat for Humanity Portland/Metro East (hereafter referred to as simply "Habitat"), Hacienda Community Development Corporation (CDC), Native American Youth & Family Center (NAYA) and Verde established Living Cully, a long-term, community-based strategy to address multiple disparities in the Cully neighborhood by concentrating environmental investments at the neighborhood scale and braiding those investments with traditional community development resources.

These "Living Cully Partners" are strong, Cully-focused organizations with common values, a history of working together and complementary programmatic strengths and activities. Through Living Cully, the Partners have institutionalized our organizational relationships and leveraged our resources to increase the impact of our work. We have had real success, driving new investments into Oregon's most diverse neighborhood through collaborative, programmatic and signature project activities:

- Collaborative.
  Through collaborative activities, the Partners develop communication practices and long-term resources to sustain and replicate Living Cully.

- Programmatic.
  Through programmatic activities, Cully residents gain economic security and build capacity to design, build and access new sustainable assets in the Cully neighborhood. Complementary policy work drives anti-poverty investments into the neighborhood, mitigates gentrification impacts through a cohesive anti-displacement agenda and reforms public agency practices toward explicit equity outcomes and partnerships.

- Signature Projects.
  A growing series of capital improvements in Cully that combine economic, social and environmental justice goals, including new parkland, green affordable housing, culturally based habitat restoration, alternative energy facilities and critical home repairs. Through signature projects, Living Cully demonstrates that nearly every investment in a neighborhood can improve incomes, enhance the environment and support cultural expression and social equity.

In 2017, Living Cully initiated a new programmatic activity—the development of The Living Cully Community Energy Plan. The Energy Plan creates a blueprint for how we can prevent displacement through increased investment in energy conservation and renewable energy in Cully. Through the Energy Plan, we adapt our anti-poverty model of environmental investment to the energy sector and highlight the connection between climate action and community stability. Importantly, the Energy Plan is also a tool for the Cully community to use to advocate for neighborhood energy investments and influence climate and anti-poverty policies and strategies at the local and statewide levels.

Purpose of the Living Cully Community Energy Plan

Living Cully's Community Energy Plan adapts Living Cully's anti-poverty model of environmental investment to the energy sector by:

1. Identifying pilot energy investments that support Living Cully's anti-displacement strategies

2. Advocating for community control of energy investments in Cully

3. Providing an energy investment/anti-displacement model for other groups that advocate and organize with low-income people and people of color.

The intended audience includes the Living Cully Partners, Cully residents, peer organizations (groups that advocate and organize with low-income people and people of color), frontline community members, energy/climate-focused nonprofits, government agencies, policymakers and philanthropic institutions.

Habitat for Humanity Portland/Metro East revitalizes neighborhoods, builds aordable and sustainable homes and empowers families through successful homeownership.

Hacienda CDC is a Latino community development corporation that strengthens families by providing aordable housing, home-ownership support, and educational opportunities.

The Native American Youth and Family Center mission's is "to enhance the diverse strengths of our youth and families in partnership with the community through cultural identity and education."

Verde serves communities by building environmental wealth through Social Enterprise, Outreach and Advocacy.

OUR VISION OF SUCCESS

Over the next 10 years, energy investments in Cully will have helped low-income residents stay in the neighborhood. Community members are knowledgeable about renewable energy and equity, and youth have access to energy-related STEM education. The community is empowered around and actively leads renewable energy and anti-displacement efforts. Local businesses and social enterprises install the neighborhood's growing energy infrastructure. Living Cully is equipped to access present and new opportunities in energy conservation and energy generation in the residential, commercial and industrial sector. Cully is an energy-resilient neighborhood, and our work informs other Community Based Organizations and policymaking at multiple levels.

DEVELOPING THE LIVING CULLY COMMUNITY ENERGY PLAN

In 2016, Verde began seeking resources for the Living Cully Community Energy Plan. Successful funding proposals were submitted to the Bullitt Foundation, Funders' Network for Smart Growth and Livable Communities, Meyer Memorial Trust, Schmidt Family Foundation's 11th Hour Project and U.S. Department of Energy's SunShot Initiative. These grants supported a new position—the Living Cully Community Energy Advocate—to develop the Energy Plan.

Recruiting the Project Advisory Committee

In January 2017, the Community Energy Advocate recruited community partners, clean energy professionals and utility experts to serve on the Energy Plan's Project Advisory Committee (PAC). The PAC provided guidance, met consistently throughout the project[2] and balanced the Plan's technical side with community needs through the diverse of knowledge and experience of its members.

PAC Members

Taren Evans, *Neighborhood Revitalization Manager, Habitat for Humanity Portland/ Metro East*
Kelly Haines, *Senior Project Manager, Worksystems, Inc.*
Cameron Herrington, *Anti-Displacement Coordinator, Living Cully*
Alan Hipólito, *Executive Director, Verde*
Andria Jacob, *Senior Program Manager–Energy Programs and Policy, City of Portland Bureau of Planning and Sustainability*
Oriana Magnera, *Outreach and Policy Advocate, Northwest Energy Coalition*
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Jaimes Valdez, *Policy Manager, Spark NW*
Desirée Williams-Rajee, *Board Member, Verde*
Maiyee Yuan, *Jade District Coordinator, Asian Pacific American Network of Oregon*

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2 PAC meeting agenda and notes can be found here: http://www.livingcully.org/living-cully-community-energy-plan/.

Engaging Community

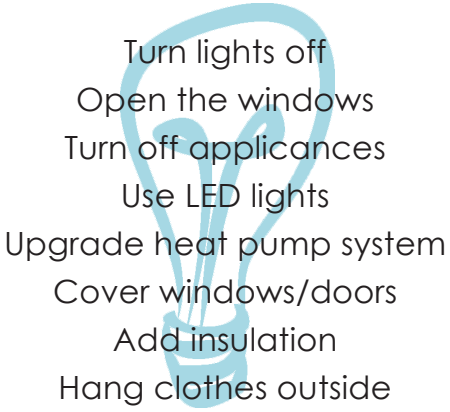
Cully residents played an integral role in creating the Energy Plan. Starting in the summer of 2017, Living Cully engaged community members through presentations and surveys that sought to understand their perception about energy conservation and renewable energy. In addition, Spanish and English focus groups were held in the fall, in which focus group participants elaborated on housing energy needs during summer and winter months and helped create the Energy Plan's community energy education campaign. (See "Pilot Energy Investments," pg. 26.) A final focus group was held in November to review the draft Energy Plan pilots. We took care to use the participants' feedback in this document.

ENERGY SURVEY RESULTS

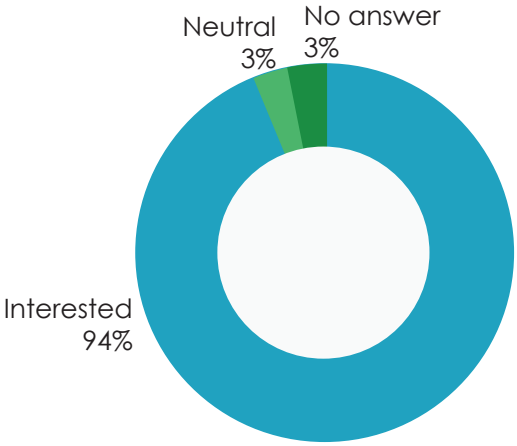
Cully Neighborhood, Portland, Oregon

Total survey participants: 54

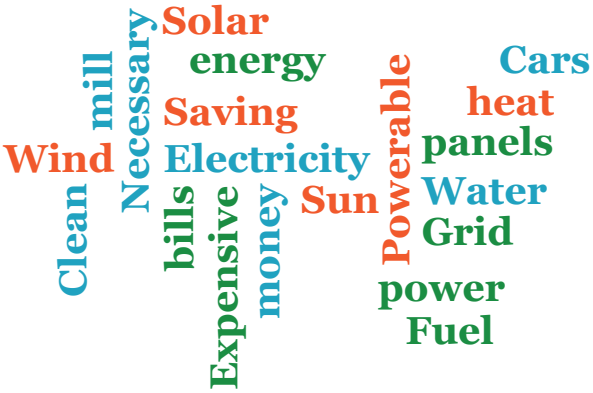
How do you save energy in your home?



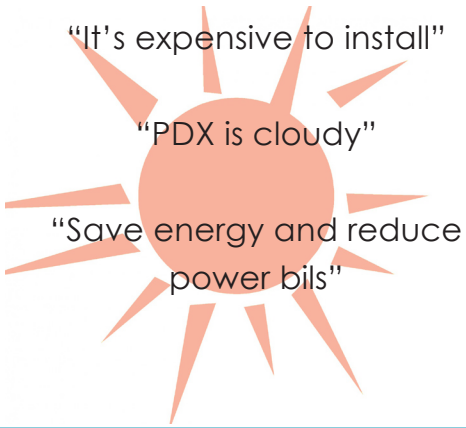
How interested would you be in getting energy from solar?



What comes to mind when you hear the word energy?



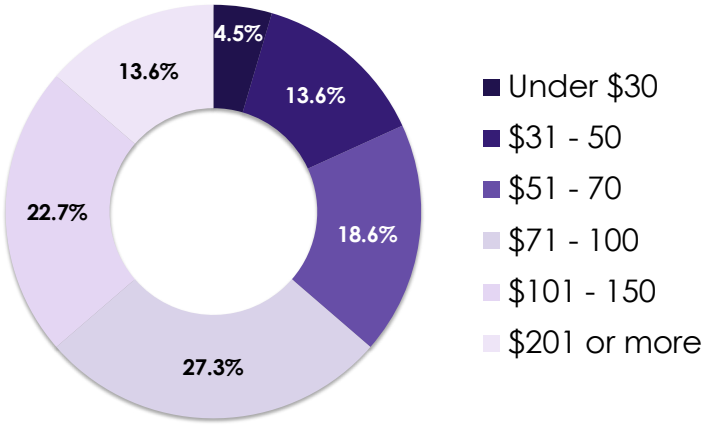
What do you think about solar energy?



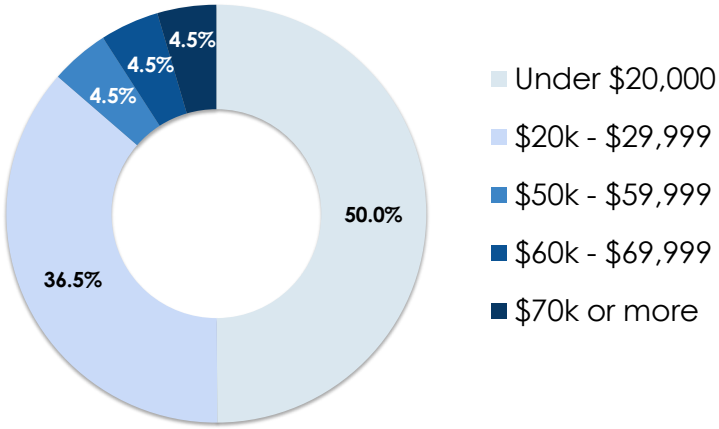
CULLY ENERGY FOCUS GROUPS

Total focus group participants: 20

Average Monthly Electric Bill



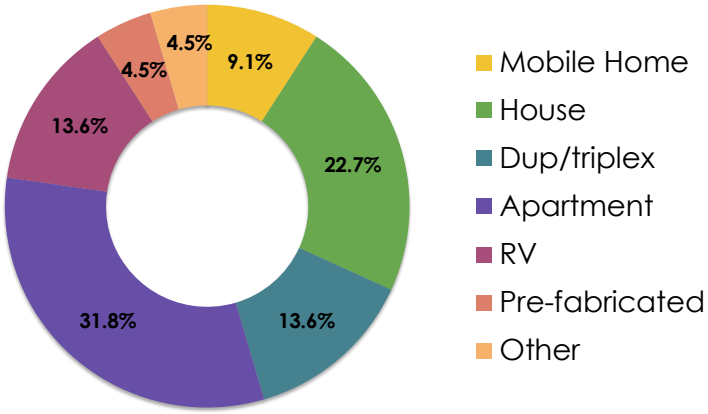
Annual Income



Key Takeaways

1. Both Spanish speakers and English speakers requested weatherization workshops in the Cully neighborhood.
2. Participants expressed strong interest in Energy Education, Ductless Heat Pump Coop and Community Solar.
3. Overall, focus group participants were happy that youth engagement is a component of the energy plan.

Housing Type



Race: 46% Latino, 17% African American, 37% Caucasian **Gender:** 50% Female, 50% male

Community members gather at the November 2017 Focus Group to share their input on the Energy Plan.

Developing and Analyzing Neighborhood-Scale Energy Data

Cully-specific energy data is critical to understanding the neighborhood's energy needs and setting measurable goals. In response, the Energy Plan presents an actionable neighborhood energy snapshot. We have set an initial energy baseline for energy consumption per resident at 2016 levels and established energy conservation targets for 2020 and for 2030. This Energy Plan includes our initial attempt to describe electricity burden and greater neighborhood energy consumption trends.

Developing this data, however, was very difficult. Strong confidentiality laws concerning energy consumption and a slow data release process posed challenges during the Energy Plan's development. Fortunately, we overcame these challenges with our community partners, who helped us obtain and analyze energy data for Cully and the City of Portland: Energy Trust of Oregon provided us with energy consumption and renewable energy data for 2013–2016, and the City of Portland's Bureau of Planning and Sustainability provided us with neighborhood-scale housing data. Moreover, a summer intern from Portland State University's Institute for Sustainable Solutions analyzed most of the initial data.

Moving forward, Living Cully will require additional resources to complete a more comprehensive analysis, and stronger partnerships between Living Cully and institutions holding energy data (e.g., Energy Trust of Oregon, City of Portland, Multnomah County and utilities institutions) will be needed so that future analysis can better support community energy projects and goals. Lastly, additional resources will allow us to add data considerations into the PAC-approved pilot selection criteria.

Selecting the Pilots

Living Cully chose the final six energy pilots based on criteria developed and revised through PAC meetings, community engagement, peer organization interviews and research. Pilot selection criteria include:

1. Sited within the Cully neighborhood
2. Need to support Living Cully's anti-displacement strategies
3. Viability of implementation within a two-year period (2018–2019)
4. Current project opportunities available for development

The Cully Housing Action Team! (CHAT!) gathers monthly to organize around affordable housing in Cully.

ANTI-DISPLACEMENT
AND THE ENERGY PLAN

Photo by Clay Showater

Climate change is driving major policy change in the west. Unfortunately, many climate policymakers and mainstream environmental groups do not prioritize participation by or benefit for frontline communities, resulting in poorly designed climate solutions that increase negative disparities suffered by these already-burdened communities.

Increasingly, these burdens include instability and displacement. As mainstream climate policymaking prioritizes dense urban environments, frontline communities are being squeezed out by rising rents, new commercial and residential developments and the sudden loss of community. Neighborhood instability itself has climate impacts—our gentrifying cities are pushing low-income people out to divested, peripheral and auto-dependent areas and away from walkable, energy-efficient neighborhoods with accessible transit and employment opportunities. Lastly, displacement makes frontline communities less resilient, less able to rebuild after a climate event. If we want low-income Cully residents to benefit from the neighborhood's new energy investments, then we must also tackle the problem of displacement. Living Cully directly addresses this issue as a core aspect of our work, advancing a model of environmental wealth alongside racial and economic diversity.

Preventing displacement is a challenging goal. Many policymakers and mainstream environmental groups choose to ignore the issue or treat it as unsolvable, but evidence suggests that strong partnerships between community organizations and an articulated strategy for addressing neighborhood change significantly increase chances for success. In response, Living Cully has consistently invested resources in order to better understand the Cully neighborhood's

displacement risks, develop policy and on-the-ground solutions and connect our Cully-focused activities to a broader anti-displacement agenda. This includes 2013's "Not In Cully: Anti-Displacement Strategies for the Cully Neighborhood," a comprehensive report produced in partnership with Portland State University.

The Energy Plan is, therefore, rooted in the "Not In Cully" report (NIC)[3], which identifies a "set of strategies for preventing the displacement of low-income Cully residents as new investments come into the neighborhood (NIC, 1)." It is our goal to prove that neighborhood-level energy investments can provide anti-displacement benefits. Hence, the Energy Plan's pilot projects must support at least one of the following anti-displacement strategies[4]:

- Aquire and set aside land for market-shielded housing development
- Preserve existing housing for protected affordability
- Provide direct assistance and information to lower the home utility costs of low-income residents
- Provide assistance to priority population small business owners and other institutions serving low-income communities

Photo by Clay Showater

3 "Not in Cully: Anti-Displacement Strategies for the Cully Neighborhood." Living Cully and Portland State University. Portland, Oregon. June 2013. Accessed January 2018. http://www.livingcully.org/incoming/2015/10/Not-in-Cully-Full-Report.pdf

4 Anti-displacement strategies found in the "Not in Cully" report were updated during the summer of 2017.

RELATIONSHIP TO CITY AND COUNTY PLANS

Portland was the first U.S. city to create a local action plan for cutting carbon, and Portland and Multnomah County are seeing encouraging results from two decades of carbon-reduction efforts. In 2014, per-person carbon emissions were more than 40 percent below 1990 levels, and total emissions had declined 21 percent. But frontline communities, like Cully residents, have been underserved by climate programs and investments, and they are underrepresented in climate policymaking. Increasingly, city and county climate policymakers understand that a climate-positive future cannot be achieved without engaging frontline communities, advancing equitable outcomes and addressing existing disparities.

The Living Cully Community Energy Plan is strongly aligned with local climate policymaking and seeks to underscore a policy focus that supports frontline communities as they imagine their own climate and clean energy futures:

Portland's Climate Action Plan

In 1993, Portland was the first U.S. city to create a local action plan for cutting carbon. Portland's Climate Action Plan is a strategy to put Portland and Multnomah County on a path to achieve a 40 percent reduction in carbon emissions by 2030 and an 80 percent reduction by 2050 (compared to 1990 levels). The CAP has been updated twice—including a 2015 update which explicitly prioritizes advancing equity as an essential component of successful low-carbon development—and is set to be updated again in 2020.

The Living Cully Community Energy Plan identifies energy conservation targets for the neighborhood which align with the CAP 2030 40% reduction of carbon emission goal. (See Cully neighborhood energy snapshot for more details, pg 21.)

Photo by Eric Baetscher

Alan Hipólito, Executive Director, speaks at the Multnomah County Pathways to 100% Forum.

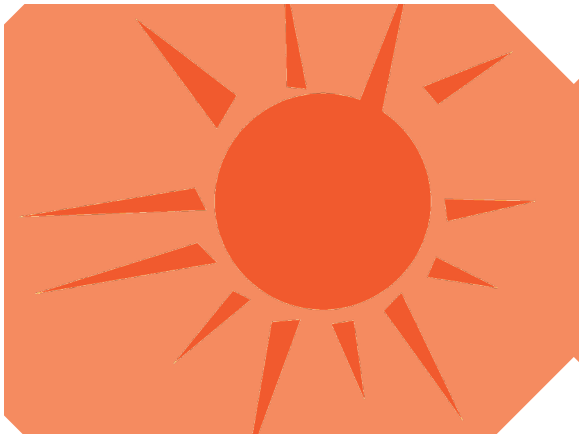
City of Portland and Multnomah County's 100% Renewable Resolution

In 2017, the City of Portland and Multnomah County adopted 100% renewables resolutions, establishing a goal to meet 100% of community-wide energy needs with renewable energy by 2050. Both resolutions commit to prioritizing "community-based development of renewable energy infrastructure" and meeting "2% of community-wide energy needs via such infrastructure by 2035."[5] Furthermore, the City writes that "it will make investments in community-facing organizations to build capacity to lead such development."

The Living Cully Community Energy Plan identifies four renewable energy pilots led by community-based organizations to meet community energy demand. We define community-based development of renewable energy as "renewable energy that is owned and controlled by the community and sited with the community." Community ownership derives from self-financing and taking leadership in the projects, and community control allows for decision making on "who is developing the energy, on whose behalf, for what purpose and to whose benefit."[6]

5 https://multco.us/file/100-renewable-resolution-finaldoc & https://www.portlandoregon.gov/auditor/article/642811.

6 "Toward a Climate Justice Energy Platform: Democratizing Our Energy Future," page 8. Local Clean Energy Alliance and Center for Social Inclusion. December 2015. Accessed January 2018. http://www.localcleanenergy.org/files/Climate%20Justice%20Energy%20Platform.pdf.



Longterm, we believe that the Energy Plan can serve as a catalyst for further aligning city and county climate and energy objectives towards anti-displacement, affordable housing and other co-benefits (e.g., education, health and employment). By completing the Plan pilots in a timely manner, we can use our work to inform the 2020 Climate Action Plan update and the initial implementation of the 100% renewables resolutions.

ENERGY SNAPSHOT
CULLY NEIGHBORHOOD

Living Cully used monthly aggregate energy data (2013–2016) and neighborhood housing stock data to develop a Cully-specific energy snapshot. We have organized the snapshot into three sections:

1. Energy consumption trends for Cully residential and non-residential (i.e., commercial and industrial) customers
2. Energy baseline and energy reduction goals for 2022 and 2030
3. Electricity burden for Cully residents

For a detailed review of data analysis methodology, please see Appendix A.

Energy consumption trends for Cully residential and non-residential customers

The Columbia Corridor contains the majority of Portland's manufacturing and industrial sector and is the northern boundary of the Cully neighborhood, occupying about 37%[7] of the neighborhood's land. Although the Living Cully Community Energy Plan focuses on energy interventions in the residential sector, we identified energy consumption trends for the whole neighborhood, including industrial and commercial customers (non-residential customers). We recognize that for long-term and more significant energy reduction in the neighborhood, we will need to build stronger collaborations with our partners in the Columbia Corridor.

7 http://www.cullyneighbors.org/cully-neighborhood-fact-sheet/.

Overall Energy Consumption

Energy consumption in the Cully neighborhood was relatively stable for both electricity and natural gas from 2013–2016. Residential electricity consumption decreased slightly, while the non-residential sector remained relatively static. Natural gas consumption saw an on-average decrease in both residential and non-residential buildings. The unusually warm winter in 2015 is reflected in the sudden decrease in energy consumption for that year, when the average temperature was 49.2 degrees.[8]

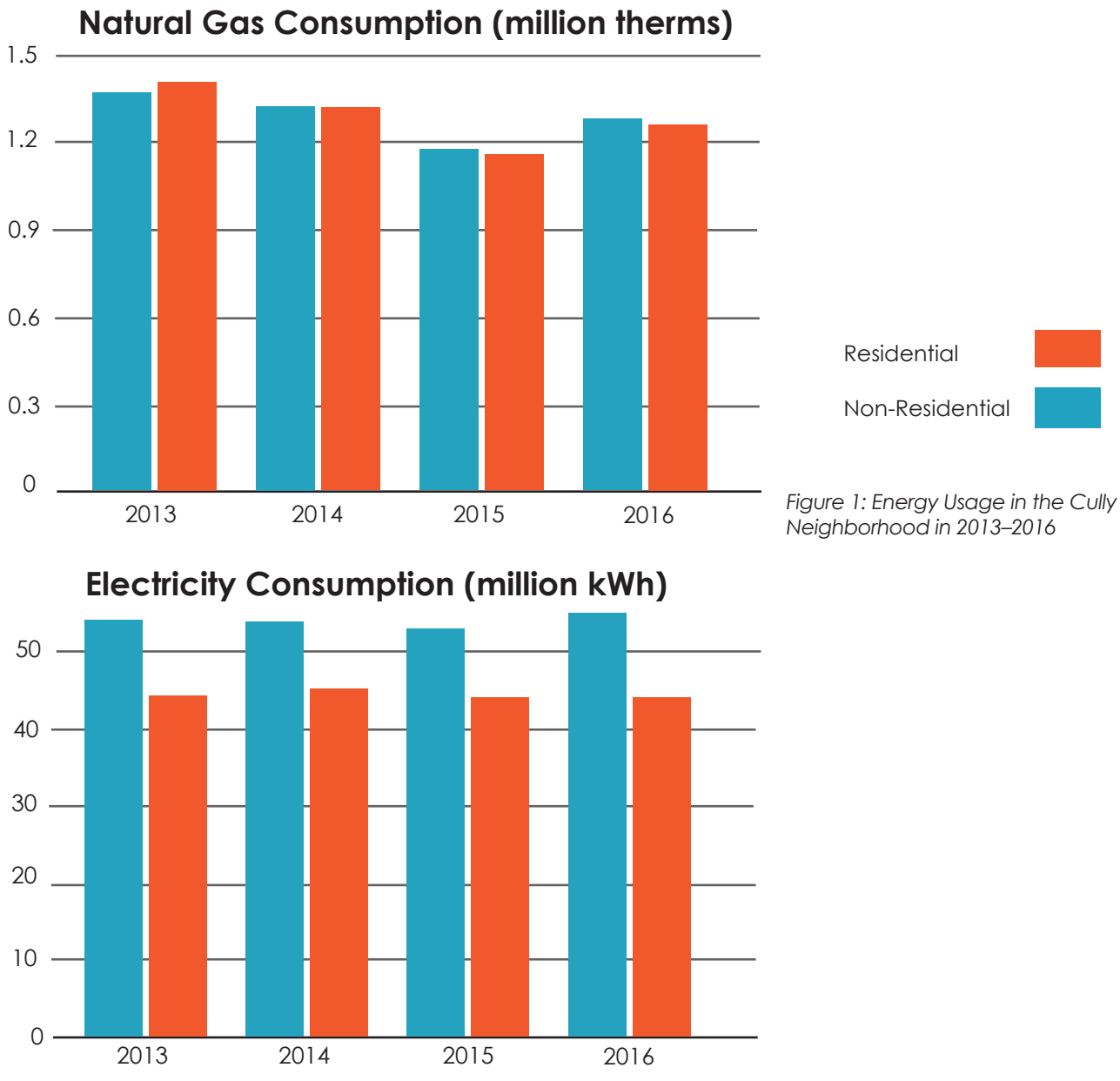


Figure 1: Energy Usage in the Cully Neighborhood in 2013–2016

8 "Winter Set to be Warmest on Record in Portland." *The Oregonian*, OregonLive. February 28th, 2015. Accessed January 2018. http://www.oregonlive.com/weather/index.ssf/2015/02/winter_set_to_be_warmest_on_re.html.

Consumption by Sector

In 2016, the Cully neighborhood had 5,956 energy customers: 5,271 residential and 685 non-residential (commercial/industrial). Although residential and non-residential energy consumption remained relatively stable from 2013–2016, there was a significant difference between the share of energy each sector consumed. Despite comprising only 12% of the energy users, 53% of the total energy in the neighborhood was used by non-residential buildings. The residential and non-residential groups each shared half of the total usage of natural gas, respectively, but the non-residential sector consumes 27% more electricity than the residential sector.

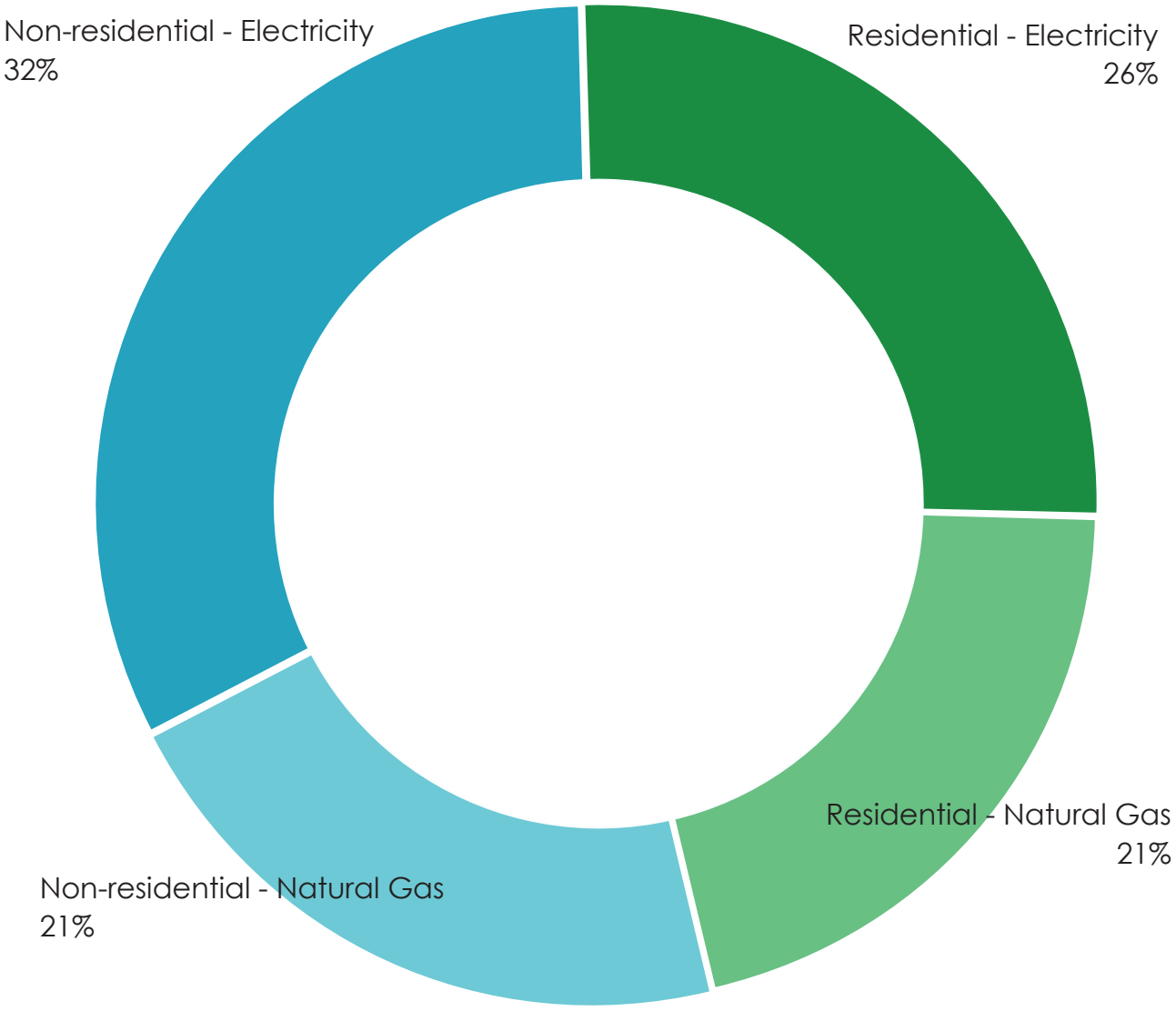


Figure 2: Energy Consumption by Sector and Source in 2016 in MMBtu

CO2 Emmisions

CO2 emissions slightly dropped in the residential sector, while emissions from the non-residential sector are largely unchanged.

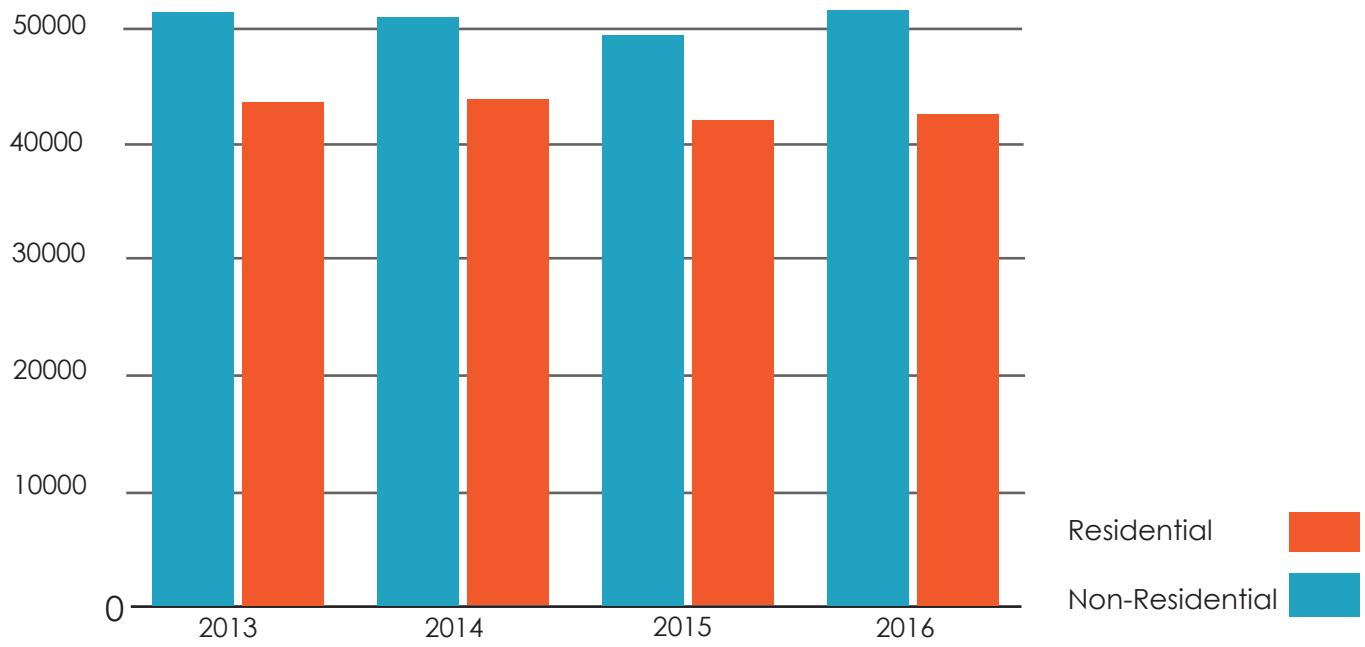


Figure 3: CO2 Emission in the Cully Neighborhood by Type of Producer

Energy Baseline and Energy Conservation Targets

The Living Cully Community Energy Plan has adopted a 40% reduction of carbon emissions by 2030 goal, per Portland's Climate Action Plan. Table 1 presents a 2016 baseline of electricity consumption per person, natural gas consumption per person, carbon emissions per person and reduction targets for 2022 and 2030. The calculations in Table 1 are based on the residential energy consumption. A detailed methodology can be found in appendix A.

	2016	2022	Percent change from 2016	2030	Percent change from 2016
Electricity (kWh per person)	3,411	3,210	-6.3%	2,881	-15.3%
Natural Gas (therm per person)	96.8	92.8	-4.1%	86.5	-10.7%
Carbon Emissions (metric tons per person)	3.25	2.85	-12.4%	2.21	-32.1%

Table 1: Per-person consumption of electricity, natural gas and carbon emissions in Cully neighborhood in 2016 and targets for 2022 and 2030

Electricity Burden

Electricity burden is the percentage of annual household income that is spent on annual electricity bills. A high electricity burden has negative long-term impacts on health and living conditions as families pay a larger share of their overall income on electricity and have less income to spend on other household needs, such as food or medical care.

Though the median monthly utility spending is lower for low-income Portland households when compared to all Portland households, low-income households spend a higher percentage of their overall incomes on electricity. The data shows that the median electricity burden for low-income Portland households is twice as high (3.57%) when compared to all Portland households (1.67%). It is also worth noting that the median electricity burden for all Cully households is higher (2.25%) when compared to all Portland households (1.67%). Furthermore, low-income Portland households incur disproportionally higher electricity costs per square foot compared to all Portland households, indicating that they reside in less efficient housing.

	Houeshold Type	Median Monthly Income	Median Monthly Electricty Spending	Median Monthly Electricty cost per square foot	Median Energy Burden[9]
City of Portland[10]	Low-Income[11]	$2,248	$80	$0.82	3.57%
	All Households	$5,417	$90	$0.62	1.67%
Cully Neighborhood[12]	All Households	$3,695	$83	$0.73	2.25%

Table 1: Median income, Monthly electricity spending, electricity cost per square foot and electricity burden in the Portland metro area and Cully neighborhood[13]

9 Electricity burden is the percentage of household income that is spent on electricity bills. These numbers were calculated using median monthly electricity spending and income.

10 Data source: American Housing Survey (Census Bureau, 2015).

11 Low-income households are those who made less than 80% of Portland's Median Income (as defined by the U.S. Department of Housing and Urban Development).

12 Data source: American Community Survey for median income (Census Bureau, 2015) and Energy Trust of Oregon (electricity consumption).

13 A detailed methodology can be found in appendix A.

PILOT ENERGY INVESTMENTS

A Portland neighborhood is defined by its environmental assets: environmental education, transportation options, parks and habitat, green jobs and businesses, climate resilience. Portland's renowned sustainability movement makes purposeful investments in certain places and people, in certain businesses and institutions, creating vibrant and environmentally beneficial communities. Importantly, this movement is a model for other cities—what happens in Portland affects what happens in other cities and to the people who live there.

Unfortunately, this movement has not invested in low-income people and people of color or built environmental wealth in low-income communities. Marginalized, Portland's low-income people and people of color live in environmentally deficient places like Cully. Living Cully is an organizing framework through which low-income people and people of color move beyond Portland's traditional green divide by adapting environmental resources—including energy investments—to redress disparities in health, education, housing and income.

Investment Categories

This Plan presents six pilot energy investments, organized into four categories: public education, resilient institutions, affordable housing and community services.

- Public Education
  Public education efforts provide accessible, culturally appropriate energy information and community engagement opportunities to Cully children and families. Historically, Cully's diverse communities lack access to environmental information. It was rarely delivered in their language or by people from their community, limiting their ability to participate in environmental issues and pursue green careers.

- Resilient Institutions
  Resilient institutions provide community members with trusted, accessible locations to gather and work together in the aftermath of a natural disaster/extreme climate event. Examples include schools, churches and community centers.

- Affordable Housing
  Affordable housing units are formally shielded from market pressures through nonprofit ownership, affordability covenants and other mechanisms. Living Cully prioritizes maintaining and increasing Cully's supply of market-shielded housing.

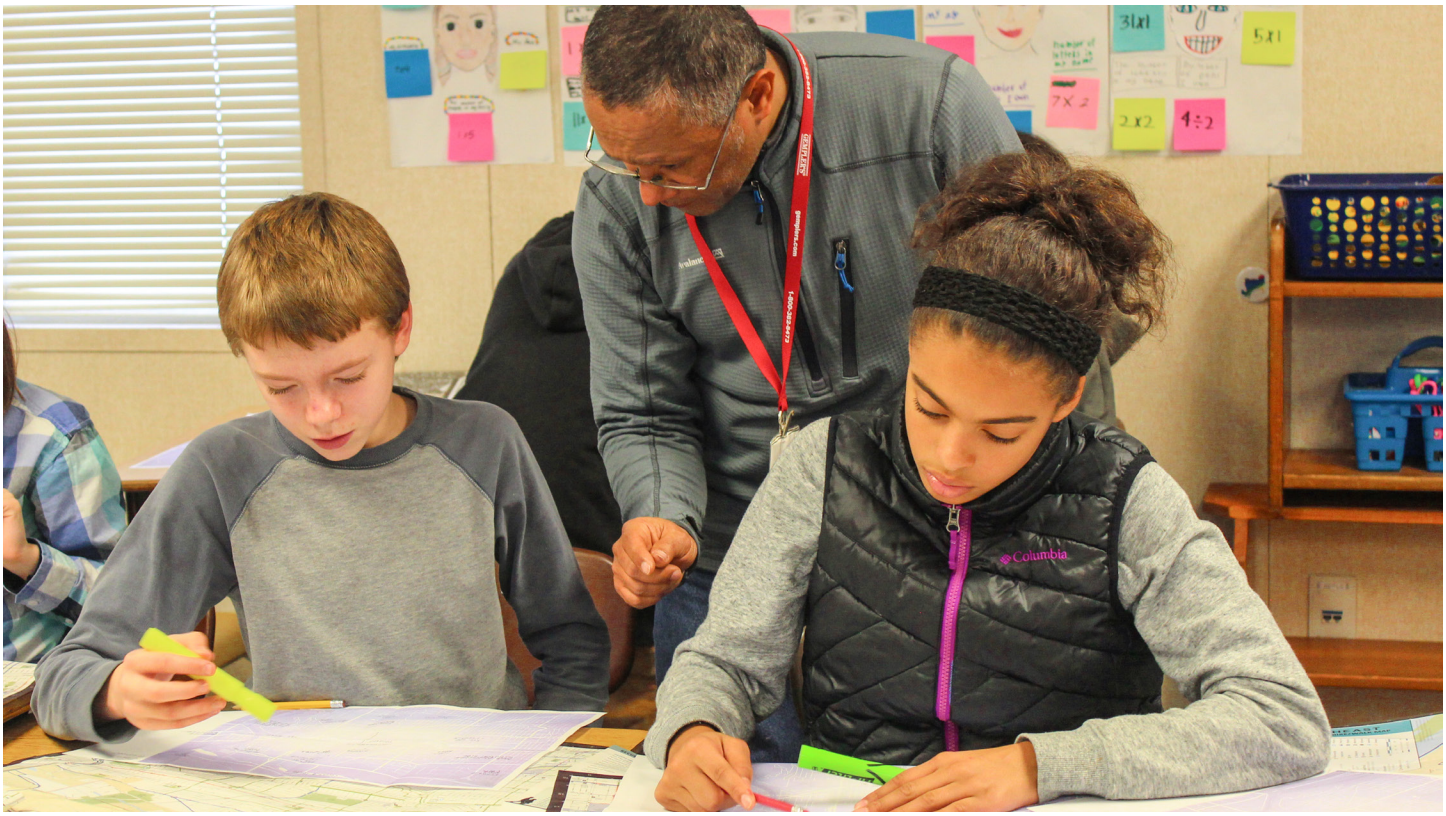
- Community Service
  Community services provide energy efficiency and/or renewable energy investments directly to a low-income homeowner or renter. These interventions can reduce utility expenses, support healthy homes and build connections with community members.

The Role of Social Enterprise

Verde establishes social enterprises to employ and train low-income adults, create contracting opportunities for target businesses (minority-owned, woman-owned, social enterprise) and bring environmental investments to low-income neighborhoods. Structured as program areas, these enterprises sell environmental services in support of Verde's tax-exempt mission. Examples include Verde Builds, a licensed general contractor that develops environmental infrastructure.

Verde Builds is the key mechanism through which the Energy Plan's pilot energy investments put dollars in the pockets of low-income people and the businesses they work for or own, creating broad and neighborhood-based economic opportunities. Through the Energy Plan's pilot energy investments, Verde Builds also expands its energy project capacity and creates a practice energy project development and management. Long-term, this allows Verde Builds to bring more energy projects to Cully and other low-income neighborhoods in the Portland metro area.

PILOT I.
Public Education: Community Energy Education Campaign



Verde Education Coordinator Nestor Campos teaches students at Scott School.

A Cully-wide education campaign that engages community members about renewable energy, energy efficiency, climate resilience and the Plan's goal of linking energy investments with housing stability.

Background

Spanish and English focus groups helped determine the design of an energy education campaign, and the majority of participants requested workshops on weatherization skills, energy bill saving strategies and energy efficiency resources. Moreover, they asked that the workshops and resources be made available to all Cully residents, regardless of their housing situation. Spanish-speaking participants also recommended leadership opportunities for the residents during the educational campaign and advocated for teaching each other about energy resources. The Energy Plan adopts the focus group recommendations and envisions an energy education campaign that serves Cully residents of all ages (in addition to site-specific engagement for the Plan's other pilot energy investments). Through existing Living Cully outreach and leadership programs, the education campaign engages community members about renewable energy, energy efficiency, climate resilience and the Plan's goal of linking energy investments with housing stability.

Pilot Specifics

Activity: 6th–12th-Grade Solar Education Curriculum (2018)

Living Cully develops a youth-focused solar energy curriculum organized around the Plan's pilot energy investments at St. Charles Church and the Oak Leaf Mobile Home Park, two great opportunities to educate youth about solar energy. Building off a 2014 youth solar curriculum created by Verde and Hacienda CDC, the updated curriculum will be presented at Hacienda's Expresiones program and other neighborhood educational programs.

Activity: Community Energy Project's Volunteer Workshop Leaders (2018–2019)

Living Cully works with the Community Energy Project to support Cully residents who would like to participate in the Community Energy Project's Volunteer Workshop Leaders (VWL) program. The VWL program builds leadership capacity, raises awareness about energy conservation measures and offers stipends for the coordination of energy workshops. VWL graduates lead workshops on how to install energy-saving materials and teach participants behavioral changes that save energy and money. Cully residents who graduate from the VWL program will hold a series of workshops in late 2018 and early 2019 for the greater Cully community.

Portland State University's Institute for Sustainable Solutions Internship (2018–2019)

PSU's Institute for Sustainable Solutions' (ISS) internship program supports the Energy Plan's development and implementation. Two ISS graduate interns have provided 756 hours of work on Energy Plan development during the 2017–18 school year. In the fall of 2018, three ISS graduate interns will help with plan implementation, policy research and community support. Living Cully prioritizes a racially and ethnically diverse cohort of students and will develop the students' capacity to work at the intersections of sustainability, climate change and equity.

Anti-Displacement Strategies

The Community Energy Education Campaign will "(p)rovide direct assistance and information to lower home utility costs and maintenance costs of low-income households in Cully."

Future Opportunities

Through the Community Energy Education Campaign, community members gain a greater understanding of the effects of renewables and energy conservation on their utility and maintenance costs, as well as how they can bring more resources to Cully by leading energy initiatives. This sets a foundation for community members to lead future energy discussions in Cully and for Living Cully to share pilot information with other groups that advocate and organize with low-income people and people of color.

Status Spring 2018: Seeking funding for 6th–12th-grade education and developing formal partnerships with the Community Energy Project and Portland State University's Institute for Sustainable Solutions.

PILOT II.

Resilient Institutions/Affordable Housing: Living Cully Plaza

Living Cully Plaza design as of October 2017. Image courtesy of Salazar Architechs.

Living Cully Plaza is a flagship environmental development opportunity for Cully and the City of Portland, with Hacienda CDC and Verde working together to develop approximately 150 units of housing, retail spaces, a childcare center and other community-serving uses while delivering innovative environmental features rarely invested in low-income and people-of-color communities.

Background

For many years, the block-sized Sugar Shack Strip Club operated on the corner of NE Cully and Killingsworth, across the street from community centers, a pediatric health clinic and hundreds of units of Hacienda CDC affordable housing. Neighbors long hoped that this block-sized complex could be replaced by something that serves local families. In 2014, a "For Sale" sign appeared on the building. Living Cully Partners Habitat, Hacienda CDC and Verde quickly made a successful offer and formed Living Cully Plaza LLC to acquire and hold the property. In 2015, Living Cully Plaza LLC took possession of the property, closed the existing uses and began planning the blighted property's redevelopment as a Living Cully Signature Project.

In 2017, Hacienda CDC purchased the property from Living Cully Plaza LLC and began the development process for Living Cully Plaza: approximately 150 units of housing, retail spaces, a childcare center and other community-serving uses.

Pilot Specifics

The Plaza will be a flagship environmental development opportunity for Cully and the City of Portland, with Hacienda CDC and Verde working together to deliver innovative environmental features rarely invested in low-income and people-of-color communities, including clean mobility options and renewable energy. Hacienda CDC leads overall project's design and construction, while Verde Builds will be responsible for installing the project's environmental features.

Anti-Displacement Strategies

Living Cully Plaza will "(a)cquire and set aside land for market-shielded housing development," and "(p)rovide assistance to priority populations, small business owners and other institutions serving low-income communities."

Future Opportunities

Living Cully Plaza is an example of a community-driven campaign to secure neighborhood land for affordable housing. The project will also provide a model for developing features at the forefront of the movement in sustainability, which are rarely invested in low-income and people-of-color communities. Lastly, Verde Builds emerges from the Living Cully Plaza project with increased capacity to develop and manage community-based energy projects and will work with other groups to bring responsive energy investments to low-income and people-of-color communities.

Status	Living Cully Plaza is in schematic design.	***Technical Assistance Needed***	Technical assistance is requested to develop clean mobility options and solar options (including potential community solar options).

Community members share their feedback on the Living Cully Plaza design.

PILOT III.

Resilient Institutions:
St. Charles Church Solar PV Installation (2018)

Mayra, St. Charles staff, and Father Elwin Schwab, St. Charles Parish Priest, outside the church.

St. Charles Church and Living Cully develop a minimum 78kW solar PV energy installation with storage. The project will supply a high percentage of the building's electricity needs, engages community and supports local economic opportunity and resilience.

Background

St. Charles Borromeo Parish is a Catholic parish located in the Cully neighborhood. It is home to a diverse congregation of 350 families, and many programs use St Charles' facilities (the church, 17 classrooms, a kitchen, administrative offices) on an annual basis to serve hundreds of people. The church is home to four nonprofits and at the forefront of organizing services for mobile home park residents in Cully. St. Charles is very interested in combating climate change and has worked since 2016 to identify and design a rooftop solar installation suitable for the site and the church's electricity needs.

Pilot Specifics

St. Charles Church proposes to build a minimum 78kW solar PV installation, supplying a high percentage of the building's electricity needs. This will decrease the organization's total operating costs; those savings will be reinvested into programming activities and supporting services. The project also includes invertors and solar storage connected to key outlets, the wireless Internet connection and refrigerators. The church is a recognized community institution that can serve as a gathering place and resource for families in the area in the aftermath of an extreme climate or weather event. Community members will be able to charge their phones and computers; communicate with friends, loved ones and first responders via the wireless Internet connection; and store food and medicine in the church's refrigerators.

Verde Builds serves as owner's representative/project manager for St. Charles and works together with Neil Kelly Solar to permit and construct the project. Moreover, Verde Builds and Neil Kelly identify job and job training opportunities for target workers (local residents, people of color and women) and contracting opportunities for target businesses. Living Cully and St. Charles work together to develop the project's community engagement activities and incorporate project information into the Energy Plan's broader public education activities (see "Pilot I. Public Education: Community Energy Education Campaign" for more details).

Anti-Displacement Strategies

St. Charles Church Solar PV Installation will "(p)rovide assistance to priority populations, small business owners and other institutions serving low-income communities."

Future Opportunities

Cully is home to many community institutions that could benefit from reduced energy costs and serve as gathering places in the aftermath of a natural disaster/extreme climate event. Verde Builds will work to identify and partner with Cully neighborhood churches, schools and community centers in order to develop additional renewable energy projects and bring down operating costs, thus increasing the stability of such organizations and the neighborhood.

Status Verde and St. Charles successfully partnered on a funding application to Pacific Power's Blue Sky Renewable Energy program and are seeking additional funding for the project.

Future location of rooftop solar.

PILOT IV.

Affordable Housing:
The Oak Leaf Mobile Home Park Solar PV Installation and Mobile Home Replacement

Miera, resident at the Oak Leaf, stands in front of the new "Welcome" sign.

St. Vincent De Paul Society of Lane County and Living Cully provide new energy-efficient units, weatherization services and solar energy opportunities at Oak Leaf Mobile Home Park.

Background

The Oak Leaf Mobile Home Park (Oak Leaf) is located on NE Killingsworth and has 22 units, including five owner-occupied units. All residents earn less than 60% of Portland's MFI. In 2017, St. Vincent De Paul Society of Lane County purchased the Oak Leaf to preserve it as affordable housing, following a long campaign by Oak Leaf residents, Living Cully and St. Charles Church to stop the sale of the property to a for-profit developer. St. Vincent De Paul plans to redevelop the Oak Leaf during the summer of 2018 and reopen it in winter 2018. Redevelopment includes interior and infrastructure upgrades, as well as a community center with laundry facilities and office space.

Pilot Specifics

Seventeen St. Vincent De Paul-owned mobile homes will be replaced with new two-bedroom, one-bath Northwest Energy Efficient Manufactured Homes-certified units (via resources provided by Multnomah County and the Energy Trust of Oregon), and owner-occupied units will be weatherized. Verde Builds and Neil Kelly Solar will design and construct a 10kW solar installation on the new community center and also conduct a solar storage feasibility study for the full site. Living Cully, St. Charles and St. Vincent De Paul will work together to develop the project's community engagement activities and incorporate project information into the Energy Plan's broader public education activities.

Anti-Displacement Strategies

Oak Leaf Mobile Home Park solar PV installation and mobile home replacement will "(p)rovide assistance to priority populations, small business owners and other organizations serving low-income communities" and "(p)reserve existing housing for protected affordability."

Future Opportunities

Over 300 households (almost 10% of Cully residents) live in the neighborhood's six mobile home parks, but the Oak Leaf is the only park that is formally shielded from market pressures. The rest are investor-owned, which makes funding mobile home improvements challenging because of the risk that the park will be sold to a new owner or a developer. In addition to serving as model project for mobile home park energy investments, Living Cully believes that the relationships strengthened by the project—among affordable housing providers, community members, governments and utilities—will lead to new, energy-related tools for acquiring and redeveloping mobile home parks in Cully and elsewhere.

Status	Winter 2018: Fund-raising for 10kW solar installation on the new community center and Living Cully, Energy Trust of Oregon and Neil Kelly have initiated solar + storage feasibility study for the fully site.
Technical Assistance Needed	Technical assistance is requested to identify solar PV systems and storage for individual mobile homes that are accessible for low-income households.

The Oak Leaf Mobile Home Park.

PILOT V.

Community Services: A Ductless Heat Pump Cooperative (2018)

Juana, resident of the Arbor Mobile Home Park, qualified for a Ductless Heat Pump through the county weatherization program.

Living Cully works with 20–25 Cully residents to organize a Ductless Heat Pump Buyers' Cooperative, through which they can buy DHPs in bulk.

Background

Ductless Heat Pumps (DHPs) are inverter-driven, variable-speed systems that can ramp up or down to meet the heating or cooling needs of a home. DHPs are energy efficient and can reduce energy use by 25–50%, compared to electric resistance heating. Public enthusiasm around DHPs is rising because of their energy-efficiency benefits and low cost when compared to other alternatives. A ductless heat pump is a good option for Cully residents looking to replace or supplement baseboard, wall or ceiling heat, wood stoves, electric furnaces or plug-in space heaters.

Pilot Specifics

Living Cully works with Cully residents to organize a DHP Buyers' Cooperative, through which they can buy DHPs in bulk. Our target population is residents who earn less than 100% MFI but are still above the income requirement for Multnomah County's weatherization program; however, the pilot is open to all Cully residents. At least 20–25 households would need to participate for the cooperative to be cost effective. Moreover, by organizing a co-op, residents can negotiate a better price with a DHP installer, though they may also choose to do the installations themselves. Living Cully assists with co-op formation with home assessments to determine DHP viability and installations (as needed).

Living Cully tracks project outcomes through pre- and post-installation surveys of pilot participants. Through a partnership with Portland State University, pilot participants also receive The Energy Detective (TED), a home electricity monitoring system which allows a user to view real-time electricity usage on a computer, locally or remotely. All coop members will receive a TED and will be able to perform their own household energy evaluations and reduce and manage electricity usage. The TEDs will also support Living Cully's ability to track energy use before and after the program. The pre- and post-installation surveys and TED devices allow Living Cully to set a qualitative and quantitative baseline for measuring impact of the DHP coop.

Anti-Displacement Strategies

A Ductless Heat Pump Cooperative will "(p)rovide direct assistance and information to lower home utility and maintenance costs of low-income residents."

Future Opportunities

Providing access to energy-efficiency technology is an important tool for reducing household energy consumption and decreasing greenhouse gas emissions. Yet, many low-income residents do not know which technologies to trust or what mechanisms are available to pay for them. By coordinating with residents to purchase DHPs collectively, we create a model that builds community purchasing power to access energy efficiency technology. This model can be used for future community energy investments in solar, electric vehicles and other sustainable technologies.

Status Winter 2018: A PSU Institute for Sustainable Solutions intern develops pilot budget and proposal to Energy Trust of Oregon for project funding.

The exterior element of a ductless heat pump.

PILOT VI. Community Services: Cully-Based Community Solar (2019)

Solar panels on top of Hacienda CDC. Photo courtesy of Sunbridge Solar.

Living Cully creates a Cully-based community solar pilot project focused on low-income household participation.

Background

Community solar is an off-site solar photovoltaic (PV) system (a solar farm) that has multiple users who either own a portion of the PV system or subscribe to the system's production of solar energy. In community solar, the PV system is usually located independently from the buildings benefiting from energy production, thus owners/subscribers can be homeowners, renters or commercial and industrial building owners. By participating in community solar, participants are eligible to receive electric bill credits for their share of energy produced by the solar installation.

The Oregon Public Utility Commission (PUC) adopted community solar rules in 2017, requiring that at least 10% of the state's total community solar program's energy generation be allocated to low-income participants. For the past two years, Living Cully and Verde staff have advocated to the PUC for firm commitments to low-income participation and benefits. As of spring 2018, an administrative structure for project application, selection and certification processes is still pending.

Pilot Specifics

Community solar has the potential to relieve low-income households' electricity burden by reducing their monthly electric bills. Living Cully seeks to create a community solar pilot located in the Cully neighborhood, focused primarily on low-income household participation. The Living Cully community solar project engages Cully households and provides aid in their electric bills. Living Cully will build off the energy education campaign and other energy pilots to organize residents in leading the design of the community solar program in Cully.

Living Cully partners work with Verde Builds to source project funds, and Verde Builds serves as project manager.

Anti-Displacement Strategies

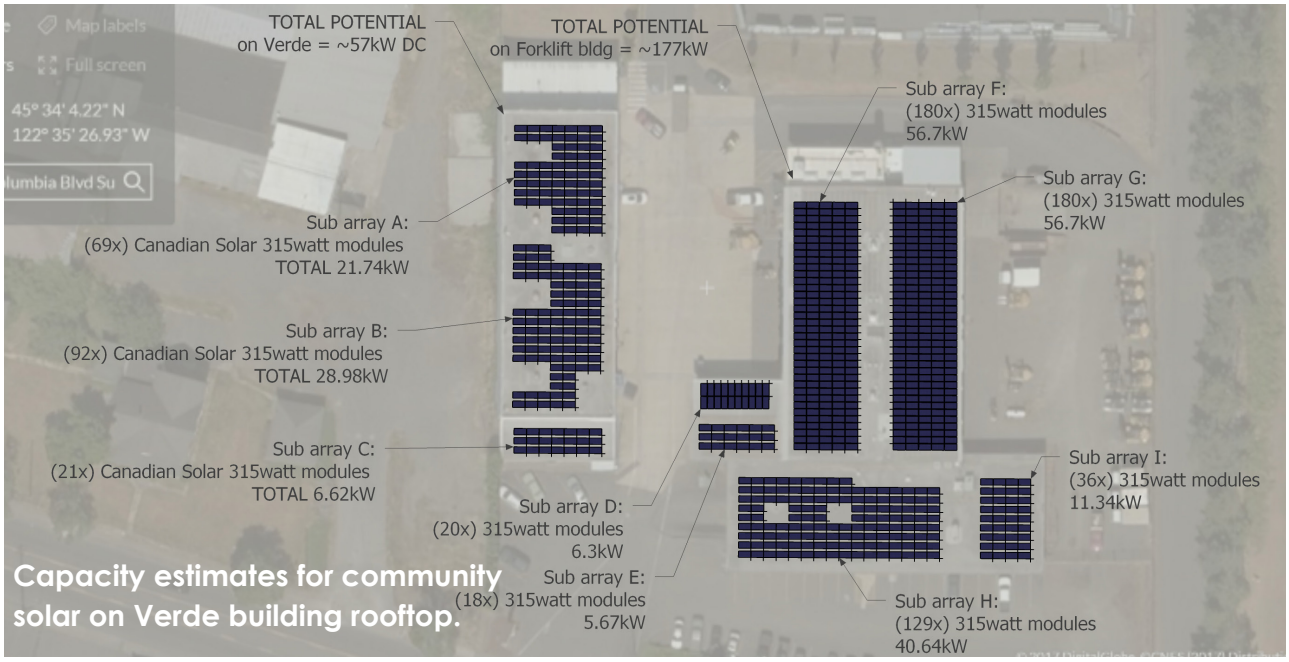
Cully-Based Community Solar will: "(p)rovide direct assistance and information to lower home utility costs and maintenance costs of low-income residents," and "(p)rovide assistance to priority populations, small business owners and other organizations serving low-income communities."

Future Opportunities

The project serves as a replicable model for how community solar projects can serve low-income communities.

Status 2018: Administrative structure for project application, selection and certification processes is being finalized.

Technical Assistance Needed Living Cully seeks assistance to identify potential sites for a large-scale community solar project in the neighborhood and bill credit forecasting for various program designs. Living Cully will release a request for proposal (RFP) in 2018 for analysis in the various scenarios that exist in developing a community solar project in the Cully neighborhood.



Capacity estimates for community solar on Verde building rooftop.

CONCLUSION

Nationally, many low-income people and people of color live in places like Cully, and we believe our work can have positive impact on their lives. We have a story to share about low-income people, immigrants and people of color creating their own energy future, in which renewable energy and energy-efficiency investments build resilience and wealth. The Living Cully Community Energy Plan is our first step in developing energy projects in the Cully neighborhood that address climate change and the community's needs in education, housing, income and health. Energy conservation and renewable energy policies and actions must center the experiences and needs of frontline communities, so we may build an energy resilient future that is equitable and accessible to everyone.

Frontline communities, such as Cully, have a voice on the process and outcomes required for meaningful impact as we invest in renewable energy and energy conservation. The Energy Plan highlights the community's priorities when developing energy projects in the neighborhood. Cully residents voiced their concerns on energy and housing and stressed that Cully energy investments needed to be ingrained with anti-displacement strategies. Affordable housing and energy cannot be treated as separate interventions for building a more sustainable community, but must be inherently linked in future developments.

Living Cully will continue to develop energy investments in Resilient Institutions, Mobile Home Parks, Community Services and other projects that help low-income residents stay in the neighborhood. We recently

received our first big award to move forward one of the energy pilots and will continue to apply for funding and build partnerships to execute the five remaining energy projects. Beginning in the summer of 2018, we will initiate our energy education campaign. Community members expressed their interest in participating and leading developments in the emerging energy sector. We are excited to partner with community residents as they build their energy, climate and resiliency skills.

Long term, we envision expanding from residential projects and initiating work with the neighborhood's industrial and commercial partners. Energy investments at the residential sector only address a portion of the energy demand in Cully. The non-residential sector represents about 12% of all energy customers in Cully, occupies 37% of neighborhood land and consumes slightly over 50% of all energy in Cully. A significant impact and opportunity lies in collaborating with the industrial and commercial sector on community-based energy.

The Energy Plan is meant to serve as a replicable model. We envision and have initiated partnerships with peer organizations, energy/climate-focused nonprofits and government agencies to move forward energy policies that address disparities facing low-income communities and communities of color throughout the state. We recognize that a strong network of partners working on energy solutions is needed for a just energy transition. Other communities may choose different energy investments, but the overall goal is the same—to transition to community-developed and -owned energy.

APPENDIX A: ENERGY SNAPSHOT METHODOLOGY

Dataset:

Living Cully and Verde do not own the original datasets used in this study. To procure the data on energy consumption for the Cully neighborhood and the City of Portland, Living Cully partnered with the Energy Trust of Oregon (ETO) and the City of Portland. Due to privacy concerns around the release of energy data, ETO provided aggregate energy consumption data by block group level (the U.S. Census FIPS code) to protect individual user information. ETO provided energy data for the Cully neighborhood and total aggregate data for the City of Portland between 2013 and 2017. Both datasets showed the monthly aggregate electricity consumption (kWh) and natural gas consumption (therm). The Portland Bureau of Planning and Sustainability gave housing information, which included square footage, number of houses, year built and demographic information with population count, number of households and median income levels for the Cully neighborhood.

Data Limitations:

- Customers can request utility companies to not share their usage information. Hence, some information on site geography is either not available or incomplete. The data consists of consumption reports from Portland General Electric, Pacific Power Corporation, Northwest Natural Gas and Cascade Natural Gas. The number of users that opted out from sharing their usage information is unknown.
- The total number of residential sites is less than the actual because data from some multi-family sites have been combined with the administrative commercial buildings. This may be due to the billing structure of the owner/manager of each multi-family site. Some let utilities bill directly to each unit, while others prefer to have an aggregate monthly bill for the whole site and then send the bills to each housing unit.

Methodology on Electricity Burden:

Energy burden is the percentage of monthly household income that is spent on monthly electricity bills. It is calculated using the median electricity spending and median income:

Electricity burden = Monthly electricity bill ÷ Monthly income * 100%

Monthly electricity cost per sq. ft. = Monthly electricity spending ($) ÷ Size of unit (sq. ft.)

The data for electricity consumption for City of Portland households came from the U.S. Census Bureau American Housing Survey (2015).

	Type of Household	Number of Households
City of Portland[14]	Low-Income	853
	All Households	2,417

Methodology on Calculating Energy Usage Per Household and Per Person:

The data for electricity consumption for the Cully neighborhood came from the Energy Trust of Oregon (2016). The ETO data is reported as premise counts which is equal to the estimated number of households in Cully.[15] To calculate for usage per household and per person, we used the following information:

	Average Household Size	Number of Households	Population
Cully Neighborhood[15]	2.679	4,674	12,928 (+/- 930)
City of Portland[16]	2.4	263,774	639,625

Here are formulas used to calculate energy usage per household:

Electricity usage per household = Total electricity ÷ Total number of household

Electricity usage per person = Total electricity ÷ Total population

14 U.S. Bureau of Census American Housing Survey (2015).

15 Bureau of Planning and Sustainability Housing Stock Data (2015).

16 Data Source: U.S. Census Bureau (2015).

Methodology on Finding the Targets:

The Living Cully Community Energy Plan provides guidelines and goals from the City of Portland's 2015 Climate Action Plan (CAP). By 2030, compared to the baseline (2013), the City of Portland will:

- Reduce electricity usage (kWh per person) by 20%
- Reduce natural gas usage (therm per person) by 14%
- Reduce carbon emission (metric tons per person) by 42%

To make the goals for the Cully Neighborhood Community Energy Plan, we make assumptions based on the CAP that, from 2013 to 2030:

- Reduction in electricity usage (kWh per person) is 1.18% per year
- Reduction in natural gas usage (therm per person) is 0.82% per year
- Reduction in carbon emission (metric tons per person) is 2.47% per year

We are using the year of 2016 and 2022 as our baseline and target, respectively. The Living Cully Community Energy Plan is set for five years, starting from 2017. We calculate that with the CAP guidelines, by 2022, the Living Cully Community Energy Plan aims to:

- Reduce electricity consumption per person by 6%
- Reduce natural gas consumption per person by 4%
- Reduce CO2 emissions per person by 12%
- Generate 1% of our electricity from local, renewable sources

The City of Portland's 2015 Climate Action Plan calculated their 2030 per-person goals by combining all sectors, including residential and non-residential usage, transportation, wastewater treatment and waste disposal. In contrast, because of our data limitations, the Living Cully Community Energy Plan takes into account only the residential electricity and natural gas usage. Therefore, our goals are focused on residential energy consumption and residential/community renewable energy projects. As a result, per-person carbon emission (metric tons), electric use (kWh) and natural gas (therms) goals in 2030 for the City of Portland and the Cully neighborhood are not comparable. For more accurate comparisons, it is advisable to use reduction percentage.

APPENDIX B: LIVING CULLY COMMUNITY ENERGY PLAN CAPITAL PROJECT BUDGET

1. St. Charles Church Solar PV Installation

Item	Cost
Design & Permitting	$9,181
Construction	$488,542
Project-Specific Outreach	$2500
TOTAL	**$500,223**

2. Oak Leaf Mobile Home Park Solar PV Installation and Mobile Home Replacement

Item	Cost
Design & Permitting	$4,500
Construction	$32,500
Mobile Home Replacement	$450,000
Project-Specific Outreach	$2,500
TOTAL	**$489,500**

3. Ductless Heat Pump Coop

Item	Cost
Design & Permitting	$18,000
Construction	$198,000
Project-Specific Outreach	$15,000
TOTAL	**$231,000**

4. Living Cully Plaza

*Pending completion of clean mobility assessment and design.

5. Community Solar

*Pending finalization of state process and results of Living CUlly issued Request for Proposals

APPENDIX C:

LIVING CULLY COMMUNITY ENERGY PLAN EVALUATION

Each Partner came to Living Cully with its own data practices. By joining this initiative, we understood that our work would become purposely linked and our outcomes interconnected. In response, we developed a system to quantify our collective impact.

In 2015, Living Cully established Goals and Outcomes in four areas: income, engagement, housing and environment and health. Following, Partner staff developed indicators to monitor our collective progress:

- Income—Output: # of jobs created by Living Cully projects. Outcome: Increase income.
- Engagement—Output: # of people engaged in Living Cully activities. Outcome: Increase participation in community events.
- Engagement—Output: $s spent on non-housing community benefitting projects. Outcome: Increase community benefits.
- Housing—Output: $s spent on affordable housing development and preservation. Outcome: Expand safe, high-quality affordable housing.
- Environment & Health—Output: kW of energy saved or created. Outcome: Increase natural and built investments.

The Living Cully Coordinator implements the indicators through a project team. Each partner assigns a staff person to the team, which meets quarterly and produces quarterly indicator reports. Energy Plan project data incorporates into the income indicator and the environment & health indicator.

Energy Plan Projects

Verde monitors progress on project goals through the Verde Builds Social Equity Program. Contractors and vendors understand project commitment to exceptional utilization of MWBE and social enterprise firms and personnel. Contractors and vendors agree to full and creative support of optimizing opportunities for these firms and personnel and to providing data and reporting.

LIVING CULLY