



# Grow Community One Planet Community

Progress against targets

*One Planet Annual Verification Report – 2014/2015*



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<b>Author</b>	Greg Lotakis
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## Introduction to Grow Community

Grow Community is the first One Planet Community on the North American continent to have families living on-site. Located on Bainbridge Island in the state of Washington, Grow Community is a 35-minute ferry ride from downtown Seattle – the biggest city in the Pacific Northwest of the United States and home to Amazon, Boeing, Starbucks, and Microsoft. At Grow, 142 homes are being built in three phases, and all are in line with a sustainability action plan based on the ten One Planet Living Principles. Phase 1 includes 23 houses built using pocket neighborhood principles, has been completed and all homes have sold. It also includes 20 apartments for rent that are fully occupied. Three model homes in Phase 1 were completed late in 2012 with the remainder of the phase completed in 2014. Work is now underway on Phase 2 with many of the units already in reservation for sale.

The emphasis is on creating a compact, neighborly community with plenty of shared green space located within a short walk or cycle ride from many essential services and facilities. When fully developed, Grow Community will provide more than 50% open space that includes myriad garden options for enriched community connection. The development goal was to design for intergenerational living, appealing to people of all ages and life stages – from young adults, to families with children, and retirees. Thus, a variety of unit types and sizes can be found at Grow Community.

**About ASANI, LLC** - [Asani](#), the managing developer of Grow Community, has interests in commercial and residential real estate, a green construction company, and clean energy projects. Its goals of sustainability are focused on creating real economic and environmental benefits through each of its projects and investments. Past projects on the island include Vineyard Lane, Island Gateway, the Children's Discovery Museum, and the Bainbridge Museum of Art.

## Summary of Activity

Launched in 2010, the genesis of Grow Community Bainbridge has been, what I describe as, a perfect storm that allowed for this remarkable development project.. In one location an investment group with deep ties to Bainbridge took a chance on trying something new while being patient with the process of development. An initial leader, Marja Preston, helped guide and cast a vision with the support of the design team and investors for the pursuit of a One Planet community. A City, ready to use an early pilot ordinance to allow for smart growth and urban density, provided the template for the development team to maximize opportunity around sustainability and density. The 2012 the real estate market was at the front end of recovery and remained sensitive, but open to the change a development like Grow provided. These factors, combined with an early group of residents willing to give One Planet a chance, brought Grow Community Bainbridge to life.

Grow Community Bainbridge is the culmination of the efforts of many remarkable people coming together with a commitment to pursuing something deeper than a Sustainability Action Plan. Financial investment, experience, and energy were given with the idea that sustainable development and One Planet Living could be provided so that a community could form and pursue Health and Happiness together.

As of this report approximately 80 adults and children (and loving pets) live in Grow Community's Phase 1. Within this phase all homes are highly efficient, produce their own energy, and are surrounded by a landscape that provides for both humans and wildlife alike.

Grow's governance has begun as the Homeowners' Association for Phase 1 is now one year into management of the community; Residents have self-organized into 'Integration Circles' to allow all interests (homeowners and renters) that support community to have a place and voice within the association. The residents' commitment thus far has been impressive in their support of One Planet and each other. Once Phase 2 and the Community Center have been completed, further opportunity exists for the inclusion of an eco-concierge and deeper pursuit of One Planet Living.

Grow Community has generated much attention and many awards since completing the first model homes late in 2012. While the acknowledgments are an honor, the development group and those involved in making the project come to life remain grateful to the investors and residents for supporting this opportunity.

The following report provides a summary of effort made toward the One Planet goals for Grow Community Bainbridge.

Greg Lotakis  
CEO  
PHC Asani Inc.



## Health and Happiness

*The One Planet vision is to create a future where it is easy, attractive and affordable for people to lead happy and healthy lives within a fair share of the earth's resources.*

### Progress Against Key Performance Indicators

1. <b>Improved health.</b> The Grow Community expects to see continuing improvements in health indicators such as asthma, body mass index, and mental health as compared to personal baselines on move-in and to Kitsap County or Washington as a whole (or to Bainbridge Island, if this data is available).	<i>No current measurement, but a survey of community suggested an 85% increase in walking upon living in Grow Community.</i>
2. <b>Increased Connectedness.</b> The community members will continue to experience increases in their connectedness to the community, as measured by number of neighbours known, number of good friends in the community, the degree of involvement with neighbours and the community and how much longer a resident plans to stay in the community as compared to control group neighbours.	<i>No current measurement, but community gatherings are frequent and self-organized. Many have suggested that mental health and friendships have improved.</i>
3. <b>Happy Children.</b> The children of the community will continue to have an increasing sense of well-being, increased quantity of outdoor play, and reduced medications compared to control group neighbours.	<i>Survey suggests that kids seem happy and several parents have created a kids interest group to better serve the youth within the community.</i>
4. <b>Increased fitness.</b> All Grow Community members have increased walking/biking compared to control group neighbours.	<i>Survey suggests an 85% increase in walking and 31% increase in biking since living at Grow.</i>
5. <b>Higher Happiness.</b> Using a custom survey instrument from the Sustainable Seattle Area Happiness Index survey, community members will improve their own baseline scores of community health and happiness. This will be part of a special pilot project with the Seattle Area Happiness Initiative specifically to track health and well-being indicators for the Grow Community. This KPI will serve as one of two showcase initiatives to promote health and happiness in the community.	<i>No Happiness survey has been given to the community at this time.</i>
6. <b>Grow Community Gardens.</b> The Grow Community gardens will be a collective of small garden spaces combined to create a larger integrated food network. Community members will have the option to use their garden space for their own purposes or	<i>The Community Gardens have been a great success. Five locations of gardens situated</i>

integrate it with the larger community and become a part of the collective food network. Community members who chose the latter option will have access all crops no matter where they grow and in return their green space will be put to work as an integral part of the farm. The Grow Community will explore sending excess produce to the local food bank. The eco-concierge will assist with classes, food production, and other food and diet-related educational programming. This KPI will serve as one of two showcase initiatives to promote health and happiness in the community.	<i>throughout the community allow renters, children, and homeowners to share in the abundance of the space. An annual fall harvest is organized to enjoy what is grown by the community, and excess food is shared with the Help Line House (local food bank.)</i>
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### **General Progress**

We cannot create community; we can only provide the opportunity. At Grow, the residents have taken to the sustainability efforts and supported each other behind the goal of One Planet Living. As the developers, we have created distance from the community, providing only the necessary support to continue progress without manipulating the intended outcomes. Most success toward the goals within this action plan, especially Health and Happiness, are generated from their efforts.

A survey was conducted late in 2014 with more than half of the Phase 1 residents living at Grow. The survey also includes more than half of the Cooper apartment residents who are non-owners.

From observation, the resident support of one another at Grow is tremendous. Elders watch children that are not related, single individuals have made friendships that include travel and hiking partners, biking groups have formed, and annual community harvest meals are a highlight within the community.

A recent Home Owner's meeting was represented by at least one member from nearly 80% of the households showing a strong commitment to each other and the neighborhood.

### **Implementation Progress**

The majority of initial goals have been met. A Happiness Survey will best serve only when the entire community of 142 residents have moved in and are stabilized.



## Equity and Local Economy

The One Planet vision is one where thriving, diverse and resilient local economies support fair employment, inclusive communities and international fair trade.

### Progress Against Key Performance Indicators

<p><b>Local Economy &amp; Jobs</b></p> <p>1. 70% of residents participating in local or Fair Trade programs or purchasing local or Fair Trade products to some extent</p>	<p><i>Survey suggest more than 85% support of local and fair trade products – especially the frequenting of the local farmer’s market, which is just 3 blocks from Grow</i></p>
<p><b>Affordability</b></p> <p>2. At least 10% of the built areas will be multi-functional and/or for community gathering (such as p-patch and community walking paths that allow the residents of Grow Community to enjoy more amenities than provided in their individual home.</p>	<p><i>Grow Phase 1 has more than 30% open space and Grow Phase 2 is designed for more than 65% open space.</i></p>
<p>3. 20% of residents are able to spend part of their time working from home or in a local office sharing facilities in Winslow.</p>	<p><i>Nearly half of those surveyed are able to work from home.</i></p>
<p>4. As a predominantly affluent community, Winslow has a dearth of affordable housing. The Grow Community will offer more affordable housing to three specific underserved populations that have significant trouble finding housing on the island: farm interns, teachers, and artists.</p>	<p><i>While we do have artists and teachers within the community those individuals self selected Grow.</i></p>
<p><b>Citizenship, Social Integration, and Civic Involvement</b></p> <p>5. All construction workers and development team consultants (legal, design, sales and property management teams) go through a One Planet Living induction session</p>	<p><i>We did have education sessions and do hope to create a consistent program for those on the construction team. Tours of the project and visitors all are given a background in One Planet.</i></p>
<p>6. At least 500 people welcomed and toured through Grow Community to learn about One Planet Living by 2016.</p>	<p><i>Unofficially, we have had several thousand visitors to Grow. From all levels of education, designers, community members, planners, and community leaders – both domestic and international.</i></p>
<p>7. Provide One Planet Living or Sustainable Design workshops during design and construction phase.</p>	<p><i>Completed.</i></p>



<b>8.</b> A diversity of age groups is represented in the residents at Grow Community.	<i>We have all generations at Grow Phase 1.</i>
<b>9.</b> 20% of the rental and for-sale units are accessibly priced to allow for occupancy by those earning only 80% of the area median income.	<i>This was not tracked. We did have accessibly priced homes and rentals that were less than \$1000 per month.</i>
<b>10.</b> 10% of the housing is universally designed to allow for aging in place or occupancy by a wheelchair bound person. (Universal design is a higher level of accessibility design than simply meeting ADA code.)	<i>One home design allowed for aging in place and 8 out of 20 rental units are one level living in Grow Phase 1. More than 65% of units in Grow Phase 2 will be one level living – many with elevator access.</i>
<b>11.</b> Within 18 months of occupancy residents will know more than 50% of their neighbours in each micro-neighborhood.	<i>This has not been tracked, but observation suggests that just about everyone in Grow Phase 1 knows each of his or her neighbours.</i>
<b>12.</b> At least 70% of residents take part in shared resources annually (car-share, tools-share, p-patch etc.)	<i>Car Share has not been implemented due to liability concerns, but ideas on how this can work have been shared. One vehicle has been provided as a car share vehicle by one of residents. Community Gardens have been extremely active with more than 78% involved.</i>
<b>13.</b> At least 80% of the residents will report that they have sufficient access to nature and exercise opportunities near or within the Grow community.	<i>No data at this time.</i>
<b><i>Crime and Safety</i></b> <b>14.</b> 80% of residents will rank “fear of crime” toward the bottom of their list of concerns.	<i>Residents have put this low on a list of concerns although the random incident on Bainbridge occurs and does create a concern over what security measures exist. With the development design many residents inherently look after each other, thus creating a safer place for person and property.</i>

## **General Progress**

### **Design & Equity**

Extensive work was done to create units that are accessible for our aging community members, create units that are accessibly priced for those unable to purchase, and create products that allow for a mixed socioeconomic community. In Grow Phase 2 (new neighborhoods the Grove and the Park), sixty percent of the homes offer single-level living with elevator access to front entries, while the community spaces invite interaction and sharing between generations year-round.

### **Local Business & Sustainability**

Initial efforts by the development were extremely focused on connection to local economy and sustainability education. Some of the initial efforts include:



- Hosted showing of “The Lorax”, raised money for reforestation programs in Africa
- Use of local co-working for community meetings and design sessions
- ‘Welcome Gift Bags’ for new residents that feature all local and sustainable products

### **The Solar Story**

All homes in Grow Phase 1 have chosen locally manufactured solar products, by local installers, using local financing from a credit union that provides secondary solar loans. This is truly a triple bottom line story with deep local business impact. Solar system payoff with incentives is extremely short for the industry and Grow has become the standard for how solar can work for residences in State of Washington. So much so that the local manufacturer create a ‘Simple Solar’ program based on the model created for Grow.

### **Implementation Progress**

Currently much of the initial effort has allowed Grow to meet many of the initial goals set within the Sustainability Action Plan. Many of the residents are extremely focused on local and fair trade purchasing (feedback through survey) and have a deep understanding of the important impact this has.

Equity in creating a community where one can live comfortably at different times in their lives has also been an important goal – which we feel has been achieved through design.

Much of the work that remains for this goal exists as an on-going effort that can be supported if the community hires an eco-concierge.



## Culture and Community

*The One Planet vision is one where a culture of sustainability, community and a sense of place have been nurtured. Endorsed communities build on local cultural heritage to foster social capital and connectedness.*

### Progress Against Key Performance Indicators

<b>1. A Vibrant Community Center</b> Establishment of community space during the first stages of construction, as early as possible.	<i>The Community Center will be completed as part of Phase 2. A Welcome Center and Community Gardens were completed in Phase 1 to serve this purpose</i>
Establishment of a One Planet Center, integrated into the Community Center, to act as the nucleus of the emergence of an eco-culture at the Grow Community.	<i>No current work has been completed on this item.</i>
The vibrant community center to act as one of two “showcase” projects to meet the requirements of the One Planet Common International Targets.	<i>Will be built in Phase 2.</i>
<b>2. Active Community Life</b> Survey Grow residents for an annual improvement for the first 5 years in: Satisfaction with community life	<i>Survey suggests residents are very satisfied</i>
Measures of participation in community programs and events	<i>There is a high level of participation</i>
Levels of volunteerism, with at least <b>50% of residents</b> volunteering at least once a year	<i>This was not asked within the survey</i>
Number of Grow and Bainbridge residents counted amongst friends	<i>This was not asked, but believe this number to be very high at Grow</i>
Participation in governance	<i>There is a high level of participation to include the self-creation of ‘Integration Circles’ to further promote the involvement, participation, and health communication within the community.</i>
<b>3. Wellbeing</b> Survey for an annual increase in scores amongst Grow residents on a happiness index (overlaps with Health and Happiness principle).	<i>This was not done.</i>
<b>4. Education</b> The Daycare, interwoven into the cultural life of the community, to act as one of two	<i>Due to financial and program constraints a daycare will not be integrated at Grow. There remains a daycare 1 block from Grow</i>

<p>“showcase” projects to meet the requirements of the One Planet Common International Targets.</p>	<p><i>Community. Once the project is complete there may be an opportunity for a partnership between the existing daycare and Grow. This will be left to the residents to determine what this partnership may look like.</i></p>
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### **General Progress**

Effort is made to create continued connection between the current residents, future residents, and the development team. While there is not always time for as much dialogue and interaction as we would like some of the fruitful and enjoyable examples include:

- Grow Drinks – a chance to connect and chat about the project over drinks and snacks
- Fall Cider Press Parties – coming together in the fall to make cider and share in a potluck. This is particularly beneficial to connect renters with home owners as the event is hosted in the open space just in front of the apartments
- Integration Circles – completely organized by Grow Phase 1 residents to ensure everyone (including) renters have a voice and can form interest circles with the support of the Home Owner’s Association board
- Creative Design Sessions:
  - Grow Play Space designed for Kids by Kids – a workshop at the local Kids Discovery Museum to allow kids to directly influence the site design
  - Community Center features and programs to allow home owners to co-create a space that meets the needs of residents
- Honoring Ceremonies
  - A military decommissioning ceremony was performed for the military housing that was removed in preparation for development of Phase 2
  - An honoring ceremony was incorporated to the military ceremony for those generations and peoples that came before us on this land
  - A tree honoring ceremony was performed by residents of Grow Phase 1 to honor and thank those trees that must be removed for Phase 2 development

### **Implementation Progress**

#### **Grow Foundation**

There remains a vision for a community foundation as an opportunity for the Grow residents to create and invest in sustainable business opportunities, such as renewable energy and to generate revenue from the shared amenities. Phase 1 residents benefit from the Welcome Center with solar PV as a means for guest housing, revenue generation from rental, and productive incentive generation through solar. While this is informal, it represents the opportunity for such a foundation.

#### **School and Church Facilities**

Plans for a school, daycare, and church facility all have changed due to program changes for each of the entities that were in initial discussions. No current effort is being made to implement these programs.

#### **History & Sustainability**

Plans remain to integrate history of place and sustainability within the Community Center. Construction of the center will begin in 2016.

## **Recognition**

Grow is having a regional impact through media coverage (to share a few):

- Cited by Urban Land as a [neighborhood incorporating healthy practices here](#) and [also here](#).
- **Seattle Magazine touts Grow for affordable green living:** In a helpful write-up called “[How To Buy Your Dream House In a Competitive Market](#),” the magazine touts Grow as a premier choice for today’s eco-conscious buyers.
- **Seattle Magazine** previously [featured Grow in the magazine’s Real Estate Essentials column](#) for “Best Laid Plans,” celebrating the cream of local planned communities. “From revitalizing urban neighborhoods to fighting climate change to rekindling a lost spirit of small-town connection, these are precincts with a purpose,” the magazine writes.
- **Conscious Company Magazine**, a new journal focusing on innovation and sustainability, recently paid a call on Grow Community to get the scoop on the One Planet Community. “It’s an inspiring model of community development and one that we hope will begin to scale throughout the rest of the country,” writes Maren Keeley, whose magazine bills itself as “The Future of Business as Usual”. [Read the article here](#).



## Land Use and Wildlife

*The One Planet vision is of communities that contribute to an overall increase in biodiversity and biological productivity, as well as supporting beautiful landscapes.*

### **Progress Against Key Performance Indicators**

<b>1. Create natural habitat and boost wildlife onsite</b> Provide 35% tree canopy, averaged over the project site, by 2020.	<i>This will be completed by 2016 and we are currently well on our way with this KPI.</i>
Preserve and augment the forested area of the site (NW corner) noting increase and maturation in native plant and animal diversity, especially indicator species (2020).	<i>Completed</i>
Create new habitat types - rain gardens, perched wetlands, and micro bogs (2015).	<i>Completed</i>
Certify at least 10% of total site as Wildlife Backyard Habitat with West Sound Wildlife Shelter by providing diverse water, food, nesting and cover on site (2015).	<i>Completed</i>
Use no domestic water for site irrigation, excepting food producing gardens (2020)	<i>This will be dependent upon each season and the community. Extensive effort was made to incorporate native and adaptive planting that requires watering for the first several seasons. Edible planting throughout the community will require watering. Site irrigation was completed using drip irrigation to reduce water use as much as possible.</i>
<b>2. Make efficient use of land in harmony with the character of Winslow</b> Design project with urban densities consistent with City of Bainbridge Island Zoning Code and Comprehensive Plan.	<i>Project used the City of Bainbridge Islands HDDP Ordinance to create density while pursuing high levels of green building. All aspects of the ordinance meet the City's smart growth plan.</i>

### **General Progress**

Land and Wildlife are a draw to Grow and continued effort to create a place that creates abundance for humans and wildlife remains the goal. With current landscape effort a natural next step can include bird and bee houses.

## **PiP**

Asani and Grow Community have partnered to create a Pollinator Improvement Project (PiP) with a retired middle school teacher and the City of Bainbridge Island. Goals of the project include:

- Passing an ordinance to no longer allow the use of neonicotinoid pesticides on Public Property
- Creating pollinator pathways with Grow as an example of a pollinator friendly landscape
- Educating younger generations on the importance of pollinators for the sustainability of our food and plant ecosystem
- Creating a program (PiP) that can be replicable for other communities and schools

## **Phase 2**

Phase 2 buildings will all be named after local trees, shrubs, and fruits. For example, one of the multi-family buildings draws its name from a giant of the Northwest forest - the Tsuga. The Tsuga is named for the western hemlock, or *Tsuga heterophylla* (Washington state tree).

Phase 2 will create more than 3 acres of open space and habitat on roughly 5 acres of developed site with 99 homes (including single, townhome, and multi-family). Below grade parking has allowed for this opportunity and greatly reduced automobile traffic.

## **Implementation Progress**

Many of the goals for the project have been met. Once the entire community is complete a variety of landscape areas will provide for additional habitat from the previously developed site that existed.

## **Lessons Learned**

- *Some of the larger trees removed will be repurposed for stream bank restoration and protection projects, allowing for additional use of trees that must be taken*
- *Smaller trees and shrubs that were taken were ground into reused mulch and erosion protection so as not to haul usable construction waste from the site*
- *No matter how sincere and significant the effort, tree removal for development remains a controversial topic (especially on Bainbridge Island). Grow will plant more trees than required by permitting*



*The One Planet vision is that we use water much more efficiently in buildings and in the products we buy; and manage water in such a way as to support healthy land-use, avoid local flooding and avoid pollution to watercourses.*

### **Progress Against Key Performance Indicators**

**1. Reduce total water consumption by 47% by 2020** on the following schedule, relative to the average per capita base line for Kitsap County (81gpcdd).

	Percentage Less Than Baseline Average (Savings)	Consumption of Municipally Supplied Drinking Water in Gal/Capita-Day
Baseline	0%	81
2012	15%	69
2014	25%	61
2016	35%	53
2018	45%	45
2020	47%	43

#### **Status**

Current water use in Gal/Capita-Day is approximately **52.4** – on target for 2016 goals. Resultant data was collected from homeowners' water/sewer bills. We anticipate one or two more reviews in subsequent years to assure this data is accurate and remains below 2020 goals.

### **2. Improve quality of runoff**

95% of the total runoff from pollution generating impervious surfaces will be treated to meet Washington State Department of Ecology standards.

#### **Status**

Both the engineering design and construction efforts impact water quality. The engineering design for both Phase 1 and 2 was done to treat more than 95% of the development to ensure clean storm water runoff finds its way to Eagle Harbor.

Construction activity is constantly monitored and is constantly changing. Multiple visits from the US Department of Ecology ensure oversight and corrective action to meet or exceed State of Washington water quality standards.

### **General Progress**

Some of the efforts made during construction include:



- With Eagle Harbor less than a mile downstream from the several-acre worksite, commissioned “Rain for Rent,” an innovative, portable filtration system that captures and treats runoff before it leaves the work site. The process looks like this: First, water is channelled across the entire site and into a large sediment pond at the south end of the grounds. After heavy rains and once the water level reaches a certain point, the “pond” is pumped into the treatment system. Then the blue “Rain for Rent” tanks run the site water through sand filters that remove sediment and pollutants, and balance pH levels to assure the water finally discharged is cleaner than what landed on the site to begin with.
- Onsite trees and brush that require removal per design have been ground into ‘hog fuel’ [A term for large size chunks of organic debris that are used to reduce erosion and sediment runoff]. This is a great technique for using what vegetation must be removed while lowering carbon impact due to construction activity.

### **Implementation Progress**

Standard homes at Grow feature all low flow fixtures. Additional efforts for water recirculation are underway in Grow Phase 2 to reduce water use and increase hot water to tap so as to save energy.

Water harvesting and grey water reuse remain goals, but cost prohibitive at this time. Residents can add water capture systems for rooftops, but have opted not to at this time.

Irrigation systems used are slow drip systems to greatly reduce site water usage and plant selections should allow for plant ‘hardening’ within 2 to 3 years, which should significantly diminish on site usage.

### **Lessons Learned**

- *Low flow fixtures may have varied results with customers based on pressure and/or flushing ability*
- *Grey water reuse remains an issue both in permitting and education. Future integration is still a goal of the development team, however, this is an area that requires time and financial investment not currently available*



## Local and Sustainable Food

*The One Planet vision is one where people are able to eat diets high in local, seasonal and organic produce, as well as healthy diets high in vegetable protein and lower in animal protein than is the norm in many countries with a high ecological footprint.*

### Progress Against Key Performance Indicators

Goal	Status
<b>1. Healthier, fresher, lower-carbon diets.</b> Organic food consumed as part of diet: 2016: 50% 2020: 75%	This is not currently tracked.
Seasonal, local food consumed as part of diet: 2016: 50% 2020: 70%	This is not currently tracked, but there is a strong seasonal use of the gardens and edible landscaping by many residents to include donation to the local food bank.
Reduction in intake of high-carbon foods (e.g. cheese, red meat, and butter) to 1/3 of US Average* 2012: 80% of US Average 2016: 50% of US Average 2020: 30% of US Average	This is not currently tracked.
<b>2. Increase gardening.</b> Provide every household with access to a dedicated garden space. Demonstrate participation in on-site food production, gardening and farm partnerships on the following schedule: 2016: 40% 2020: 65%	Completed. More than 65% of those surveyed participate in gardening. The Garden Committee and group is the most active within Phase 1.  Additional orchards, garden spaces, and effort toward the installation of a greenhouse will follow in Phase 2.

### **General Progress**

Some of the accomplishments since initial development include:

- Phase 1, the Village, includes extensive mix of raised beds and plantings throughout the community grounds, tended by residents
- Phase 2, the Grove and the Park, now under construction, will be arranged around an orchard and more garden spaces to include “edible landscaping.”
- Urban agriculture strategy profiled by ULI magazine
- Bainbridge farmer’s market on Saturdays is less than 3 blocks from community
- Each fall community organizes a harvest potluck to celebrate the bounty, with food all based on fruits and vegetables from the gardens
- Excess vegetables taken up the street to Helpline House, the local food bank
- Residents all take part in the harvest, even if they spend their spare time working on other projects instead of gardening
- The Garden Committee continues to do a great job of education and planning as there are several ‘Master Gardeners’ at Grow

- Contractors in the Grow Community PHC Construction team periodically get a locally grown and organic luncheon on the job site. All the food is grown on Bainbridge or North Kitsap farms and One Planet Living is presented

### **Study - University of Washington**

A social engagement study was done to better understand the impact of happiness and social connection through the community gardens. The study was a collaboration of the University of Washington School of Public Health, of which a Phase 1 resident is a current faculty member. A graduate student led this study and results, while not yet available, will be shared upon completion.

### **Implementation Progress**

The residents at Grow deserve tremendous credit for continuing to share, educate, and expand efforts of local and organic food growth. With proximity to town and the farmer's market many residents have access to products that help meet our goal.

Future collaboration and education will be forthcoming when the entire community is developed and the community center lends itself to a location for education and collaboration.

### **Lessons Learned**

- *There is some concern that too much garden space will be created and ultimately neglected – this will have to be monitored as the community develops*
- *Composting garden waste is tricky as it can attract pests that are unwanted within the community*
- *Planting edible landscaping (such as fruiting trees) can create a maintenance burden on a community that may not have the knowledge or resources. Phase 1 residents have relied upon a landscape maintenance team that has experience with Northwest native and edible landscaping. This adds cost to the Home Owner's Association*



## Sustainable Materials

*The One Planet vision is one where all goods and materials used – for construction or consumer goods - are made from renewable or waste resources with low embodied energy and, wherever possible, sourced locally.*

### Progress Against Key Performance Indicators

Goal	Status
<b>1. Use sustainable materials in construction.</b> Wherever possible the use of local materials, especially wood products will meet the following targets, excerpted from the appropriate sourcing requirements of the Living Building Challenge program:	
Heavy or high-density materials will be harvested or manufactured within 500km of the factory or the project site.	Heavy timber is sourced from British Columbia or closer. Concrete is sourced locally. Fly ash as a substitute within concrete was dropped as a specification when the distance to bring fly ash in from the nearest coal plant was too far and created unnecessary carbon impact.
Medium weight and density materials will be harvested or manufactured within 1000km of the factory or the project site.	This is not currently tracked.
Light or low-density materials will be harvested or manufactured within 2000km of the factory or the project site.	This is not currently tracked.
Assemblies that actively contribute to building performance and adaptable reuse once installed will be manufactured within 5,000 km of the site.	This is not currently tracked.
75% wood products by volume with FSC label or locally sourced from sustainably managed forests	All forest products are SFI (Northwest Sustainable Forest Index). Most FSC products originate from the Southeast United States and thus were not chosen due to cost and distance travelled.
50% by value of building materials with recycled content, where applicable	This is not currently tracked, however most or all interior products have high recycled content and/or FSC certified credentials

Produce an annual report for each year of construction demonstrating progress in procurement against the above targets and the Grow Community's self-defined Materials Red List.	This is not currently tracked. Specifications for Grow Phase 1 & 2 require all targets for products be heavily sustainable. No tracking against the Living Building Challenge Material Red List is performed.
<b>2. Reduce waste from materials during construction.</b> During construction, 98% of material waste volume will be diverted from the landfill, either reused or recycled.	See Zero Waste – Meeting expectation.
<b>3. Promote sustainable materials and consumption in community life.</b> 80% of sustainable cleaning products used throughout life of project	Final construction cleaning crews are expected to use non-toxic cleaning products. In home products are provided as a welcome gift for new homeowners to reinforce their use.
Through an annual qualitative survey, demonstrate for the first 5 years an annual increase of the amount of goods and products used by residents on-site that are produced on-site or nearby.	This is not currently tracked.

### **General Progress**

Finish products, in particular, were selected for their high recycled and sustainable specifications for the health and well being of residents. Homeowners and renters expect this care when purchasing or renting a home at Grow Community.

We benefit, in the Northwest, from a healthy and well-managed forest industry. FSC products, while well tracked for chain of custody, add 10 to 20% cost to the built product and much of the industry runs through the Southeast portion of the country. As this industry grows and costs are reduced this may be a more mainstream and viable option. The Sustainable Forest Index is local to the Northwest. It is similar with some variation to logging requirement and chain of custody. Where possible FSC certified was pursued.

Adhesives and caulks are difficult to track and manage on site. That said, many products have entered the market that are low VOC and allow the construction teams to provide more and more healthy building products.

No PVC. Additional efforts have been made to reduce or nearly eliminate PVC from interior finishes and heavier products (like windows). Wiring and piping remain difficult to replace PVC material. UPVC products represent future options for these material types.

### **Implementation Progress**

Efforts for Sustainable Materials have been relatively successful with tracking as being a shortcoming. All materials selected for the interior of the units are chosen to meet internal material requirements.

Specifications and finish selections exist to meet Sustainable Material goals and continued effort is made to consider better alternatives.

These specifications and expectations will continue through Phase 2.

### **Lessons Learned**

- *Specifications are generally found in more commercial style projects and were created for Phase 2*
- *Material Finish Lists were generated as a means to meet our Sustainable Materials goals – some materials did not perform as expected. Some areas of note include:*
  - *Composite plastic and bamboo decking had several defects and was heavily impacted by sun swelling*
  - *Multiple exterior envelope systems were used to determine best for application, longevity, and cost. Phase 2 will use the same material used on the Living Building Challenge Bullitt Center that meets Red List requirements*
  - *Multiple insulation techniques were used to determine best for application, longevity, and cost. While there was an initial intent to avoid spray foam insulation it was necessary to meet design expectations in some instances for air seal and thermal insulation capability*
- *Subcontracted trades require significant training around products and managing what is bro*

### **Recognition**

**"Green Home of the Year Award" in the "Best Community Project" category for 2014 by Green Builder magazine.** The magazine highlights Grow's advanced framing techniques, weather-tight building envelopes, and locally sourced solar products among other distinguishing features. [Read more here.](#)



## Sustainable Transport

*The One Planet vision is one where the need to travel has been reduced and low and zero carbon modes of transport are provided. Communities create a green transport plan that results in carbon emissions consistent with the overarching greenhouse gas emissions reduction target.*

### Progress Against Key Performance Indicators

Goal	Status
<b>Indicator 1.</b> By 2016 car ownership at Grow Community will be = .6 cars/household	All residents (single family home or apartment) have one vehicle. A few homeowners have a second vehicle, but this is very rare.
<b>Indicator 2.</b> By 2020 GHG emissions attributable to road travel will be reduced to .76 tonnes/person on site	No current tracking
<b>Indicator 3.</b> Reduce Parking Spaces Used per Resident	Through planning efforts parking has been reduced to 1.25 spots per dwelling unit. Additional parking (for rent) is being considered within the last parking garage to be constructed in Phase 2. This rentable space would allow those larger families to have access to an additional spot as needed.
<b>Indicator 4.</b> Increase Car-sharing	Car share efforts continue to move forward slowly. The development team had wanted to provide a car to the community (but a vehicle owned by the Home Owners Association creates significant liability issues). Peer to peer car sharing creates a positive solution, but this has to be taken on by homeowners. One homeowner has provided their personal (second) vehicle as a car share truck for the community at no or low cost.

### General Progress

#### **Parking**

With car parking spaces located separately from the homes and only one car parking space per property, residents are encouraged to cycle and walk instead of driving. The nearby shops, restaurants and other amenities of Winslow town center offer convenient “5-minute living.” Grow is so close to village, as such people are constantly walking or biking. For work commutes, many residents work from home, and others cycle to the ferry.

While a very high percentage of residents don't have issue with only 1 parking spot there are a couple of families that could use the extra space. Parking spaces will be assigned by end of 2015 to better identify guests and potential ‘parking squatters’ that are not visiting the community. Guest spaces are at a premium, especially during typical holiday events where each resident may have multiple visitors.



Resident feedback suggests that unassigned, uncovered, and non-EV parking stalls are undesirable. While communal parking was the initial concept, this has created unnecessary tension within the community and could have been a designed element from the outset.

Greater community feedback during planning and permitting suggested concern over impact to the greater neighborhood.

### ***Car Share***

A Car Share program was initially planned with much invested including the lease of an electric vehicle, electric vehicle charging station, and the outline to manage the program. Once cost and liability issues were determined the sustainability of the program seemed very much in jeopardy. An informal meeting was organized with some of the homeowners to determine course of action forward. At that meeting it was decided that the community would consider other options.

### ***Biking***

There was a significant underestimation at the number of bikes that would arrive and the amount of bike parking has fallen short. While the design quantity has been met homeowners have arrived with many bikes and with little outdoor storage space it has put a strain on bike parking created for apartment renters. More than 3 bikes per household on average are estimated. Current bike barns house 16 roll in and 5 hanging in shed houses. An additional bike barn for 14 hanging spaces is being considered.

A Bike committee has been formed and will work to create more opportunity for residents.

Two community bikes have been provided for free use amongst residents.

## **Implementation Progress**

Efforts will continue to be made to increase bike-parking capacity and encourage car sharing. Additional parking for rent is being planned in Phase 2 to help reduce impact to families that cannot currently meet the community goals. Other positive impacts:

- The City of Bainbridge Island was successful in receiving a transportation grant that used Grow Community development infrastructure including bike lanes and sidewalks as a public-private match. The transportation grant will allow for additional bike lane and sidewalk within the community corridor.

## **Lessons Learned**

- *Car Sharing and liabilities have extensive issues*
- *Peer to peer car sharing may create a positive solution, however this is more prevalent with a younger and more urban demographic*
- *Shedding additional vehicles remains difficult for most*
- *While residents are hard to let go of their vehicles there is a strong walking and biking percentage and a high percentage of vehicles sit day to day*
- *Additional guest space and rental space should have been planned. Limited parking represents limited access for guests and visiting family*
- *Covered and assigned parking with access to personal electric vehicle (EV) charging would have been preferred*

### **Recognition**

**City of Bainbridge Island – Transportation Improvement Fund grant.** Collaboration with Asani and Grow Community helped lead to the successful grant application for improvement funds. The City of Bainbridge will be able to add to the corridors bike lanes and sidewalks initiated by Grow Community.



*The One Planet vision is of a future where resources are used efficiently, waste levels are close to zero and ultimately zero waste is sent to landfill.*

### **Progress Against Key Performance Indicators**

#### **Indicator 1. Reduce construction waste by 98%**

<b>Goal</b>	<b>Result</b>
During construction, 98% of waste will be diverted from the landfill, either reused or recycled.	PHC Construction uses a local co-mingling construction recycling company for all its efforts. 'Benchmark' dumpsters are delivered and hauled for complete recycling. A summary with breakdown of recycled products and total percentage is provided. All waste is 99% recyclable.

#### **Indicator 2. Reduce, re-use, recycle, and compost at least 70% of waste by 2020**

- The percentage of material sent to landfill compared with total baseline generation will be reduced on the following schedule. Waste generated will be reduced by roughly 10% each year over the baseline.

	Waste Generated (reduce by 10% each year)
Baseline	32 gallons per Household per week
2016	12.8 gallons per Household per week
2020	Less than 9.6 gallons per Household per week

#### **Indicator 2 Results:**

- Based on Bainbridge Disposal pick up frequency Grow Phase 1 offsets 51% of its waste through recycling and compost

#### **General Progress**

- Grow Phase 1 is serviced by Bainbridge Disposal for Waste, Recycling, and Yard Waste/Compost
- Additionally, a Garden Compost Bin has been established so all garden waste can be composted and used as organic compost for future garden work. No household compost is used within the gardens to maintain truly organic gardens - 'Master gardeners' are very concerned about what compost goes onto the community gardens
- Specific study would need to occur to provide truly precise numbers. It is possible that through education and communication for the community to reduce waste haul with reduced waste creation – thus saving Home Owner Association money
- Currently, there is little done outside of signage and occasional communication to track/reinforce waste goals
- Discussion will continue on opportunities for onsite compost machines.

### **Implementation Progress**

Current results are promising considering this has been a self-led effort by the residents. No current resource exists for the developer to roll out a more comprehensive program. Once the entire development is completed and residents determine if they wish to employ an ecoConcierge this goal can be given more support.

### **Lessons Learned**

- *Three locations for waste/recycling/compost were planned and this was reduced to two for all 43 residents in Phase 1 – which is a positive sign over early planning*
- *Compost for organic gardening requires strong consideration prior to implementation*
- *Onsite compost machines may be affective considering the total input and size of the community. This equipment does require maintenance and administration and has to be carefully during development and is one that the developers feel should include the community prior to pursuit*
- *An ecoConcierge would be of benefit for this goal to track and educate*



*The One Planet vision is that all buildings will be energy efficient and run completely from renewable energy.*

### **Progress Against Key Performance Indicators**

#### **Indicator 1. Eliminate carbon emissions from buildings by 2020.**

- Reduce total greenhouse gas emissions from energy use for new home construction as tracked with the EPA Climate Leaders protocol based on the following schedule:

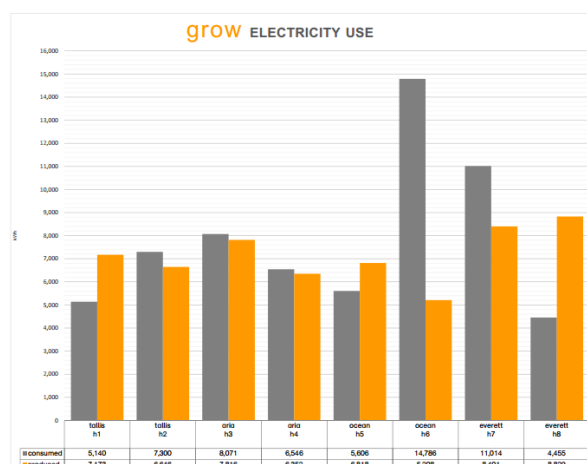
	Percentage Reduction From U.S. National Average (Savings)	Tons of CO2 Equivalent Greenhouse Gases Emitted Per Person Per Year in Buildings Over Entire Project	Non-Renewable Electricity Usage Per Household Building
Baseline	0%	4.5	19,000 kWh
2012	80%	0.9	3,800 kWh
2014	90%	0.45	1,900 kWh
2016	95%	0.225	950 kWh
2020	100%	0.0	0 kWh

Through mid 2015 eight (8) homes were tracked with the help of homeowners and Jonathan Davis (Phase 1 Architect). Based on Sustainability Action Plan goals for 2015, annual electricity usage for the average unit at Grow should be in the range of 1,425 kWh from *non-renewable* sources. A summary of usage and production (from solar photovoltaics (PV)) can be found below. Averages of the eight homes are:

Average Annual Usage: 8,215 kWh  
 Average Annual Production: 7,265 kWh  
**Average Non-Renewable Usage: 950 kWh**

No current tracking data is available for the multi-family rental buildings at this time.

		electricity			%
		produced	net +	consumed	
		kWh	kWh	kWh	
h1	h1	7,173	2,033	5,140	140%
h2	h2	6,646	-654	7,300	91%
h3	h3	7,816	-255	8,071	97%
h4	h4	6,352	-194	6,546	97%
h5	h5	6,818	1,212	5,606	122%
h6	h6	5,208	-9,578	14,786	35%
h7	h7	8,401	-2,613	11,014	76%
h8	h8	8,829	4,374	4,455	198%



## General Progress

Grow has become the largest planned solar community in Washington State. All of the single-family homeowners have opted for solar with the assistance of the development team. Current federal and state incentives along with efforts to organize the solar product manufacturer, installer, and financial lenders have allowed each home owner to purchase solar after move in of their home with very short payback (~5 to 6 years). The PV for each home is grid-tied with net metering support by the local utility provider (Puget Sound Energy – PSE).

**Phase 1 solar PV total: 148 kW**

Highly insulated, air tight, and all-electric homes have allowed for simple comparison of Net Zero Energy calculations with extremely positive results. Systems within each home include All LED light fixtures, air-to-air electric heat pumps, heat pump hot water heaters, and heat recovery ventilation for whole house air exchange. Most homes are within 10 to 15% of Net Zero allowing for ‘home owner use’ to be the driving factor to reach and achieve Net Zero. Education to support this remains important as it relates to everyday energy use and opportunities to continue to reduce impact.

On average the electric bills for homeowners can be as little as \$8 monthly for most of the year as the net metering supports the ‘sell back’ to PSE.

## Study - NEEA

A partnership with the Northwest Energy Efficiency Alliance (NEEA) for their ‘Next Step Homes’ program has allowed for the monitoring of two (2) single family homes within Phase I and additional monitoring of home in Phase 2 is planned. After the first year of monitoring, data shows the PV panels are meeting 85% of electrical demand for the first home. Data will be available in 2016 for the second monitored home.

During the course of this study it was determined that the Mitsubishi air-to-air heat pumps were cycling too often and at too high an initial energy draw when the fan would start. Engineers from Mitsubishi were notified and a firmware solution is being completed to help reduce the energy use of this system. Estimates could see a reduction for as much as 400 kWh per year – similar to a personal clothes dryer. Impact of this finding could have a

positive ripple effect across the industry as this savings could be realized for every unit to reach the market.

### **Study - *University of Washington***

A future study from a doctoral in architecture candidate at the University of Washington looks to pursue the affects of information (energy usage display within homes) on behavior change. This study is in the planning stages and is dependent upon action by the student.

### **Study - *Ecotope & Bonneville Power***

Use of the below grade parking in Phase 2 has allowed for innovation in air-to-air heat pump use to include water heating plants for each of the multi-family buildings, increasing water heating efficiency by as much as 300%. Along with water heat plant work three different water distribution applications will be studied to determine if further efficiencies can be found. This effort will be studied by Ecotope (a Mechanical Engineering consultant) with a grant-funded partnership through Bonneville Power. The study will focus on the first 3 multi-family buildings in Phase 2.

## **Implementation Progress**

### **Phase 1**

- Single family homes are tracking or ahead of schedule
- Multi-family progress for energy use is good. No current plans for solar PV on these buildings. This is an investor decision and will be reconsidered once all phases are complete.

### **Phase 2**

- **Scope**
  - Single-family homes and townhomes will be set up for solar and it will remain the decision of the homeowner to pursue solar as an additional investment with the support of the development team. Current energy use and production estimates suggest that these units should also be able to achieve Net Zero Energy through solar PV.
  - The two (2) of the initial 12-Unit Multi-family buildings will have solar PV installed at time of construction. One building will be sold as individual condominiums and the second as individual rentals. Each system is expected to offset 50% or more of the buildings energy use. Submetering will assist the building or unit owners in understanding their particular energy use.
  - Each of the two systems is 44kW for a total of 88kW on these first two buildings.
- **Timing**
  - Plans for Net Zero Carbon for Phase 2 will develop once all units are completed.
  - Phase 2 should complete by end of 2016.

## **Lessons Learned**

- *The Heat Pump Hot Water Heater manufacturer selected went out of business as problems arose with their unit. This has led to complication and additional cost to each homeowner.*
- *Solar pre-wire remains a learning hurdle within the industry and requires significant time during the planning and implementation.*
- *Geothermal remains expensive and with air-to-air technology getting more efficient and cost effective geothermal is difficult to introduce for both time and cost reasons.*
- *Air-to-air heat pumps use refrigerant with high global warming potential. New technology that looks promising is the use of CO2 within heat pumps that are more efficient and have extremely low global warming potential. We expect to use this system within the second half of Phase 2.*



## Recognition

Grow Community were runners-up at the **Solar Builder magazine's Project of the Year contest** in the roof-mount systems category. [Read the story online here.](#)

# Appendix

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## Additional Recognition

- **2015 Built Green Hammer Award (Multi-Family)**, Grow Community's construction partner [PHC Construction](#) was honored for a second year for the Cooper Apartments.
- **Platinum Award from the National Association of Home Builders (NAHB)**, in its 2014 Best of American Living contest. [Read the full news release here.](#)
- **NAHB Best In Green Award**, honoring the very finest in sustainable design and construction. [Read more here](#)
- **2014 Built Green Hammer Award (Single Family)**, Grow Community's construction partner [PHC Construction](#) was honored with this mark of excellence in Washington state - for setting a new standard in sustainable construction. The [Built Green](#) program is designed to help homebuyers find quality, affordable homes that offer opportunities to protect personal health and the regional environment.
- **2014 Green Building Slam Recipient** – Honored by the Northwest EcoBuilding Guild through its annual Green Building Slam where 10 projects are selected to present for 10 minutes on how they are helping shape and transform and industry
- **Solar Builder magazine's Project of the Year** - Runners-up in the roof-mount systems category. Grow Community is already the *largest planned solar community in Washington*. [Read the story online here](#)
- **"Green Home of the Year Award" in the "Best Community Project" category for 2014 by Green Builder magazine.** The magazine highlights Grow's advanced framing techniques, weather-tight building envelopes, and locally sourced solar products among other distinguishing features. [Read more here](#)
- **[2013 Futurewise Livable Communities Award for Overall Excellence in Residential Community Development](#)** – Won the Innovative Community Award on March 20, 2013
- **[2012 Sustainable Business of the Year Award](#)** - Grow Community/Asani were honored to receive the annual award from the Bainbridge Island Chamber of Commerce Awards

## One Planet Living

One Planet Living is an initiative of Bioregional and its partners to make truly sustainable living a reality. One Planet Living uses ecological footprinting and carbon footprinting as its headline indicators. It is based on ten guiding principles of sustainability as a framework.

The concept of One Planet Living builds on sustainability work carried out over the past few decades but specifically grew out of Bioregional's work to build the BedZED eco-village in south London. Living and working at BedZED and analysing its impacts drew us clearly to the conclusion that to achieve sustainability, we need to make it easy, attractive and affordable for people everywhere to lead whole sustainable lifestyles – not just green buildings, but wider infrastructure and products and services as well – all wrapped up in a simple and clear story which people can understand.

Since its creation in 2003, One Planet Living and its ten principles show in practice that a simple way for us to plan, deliver, communicate sustainable development and a green, circular economy is possible.

## Ten Principles of One Planet Living

									
<b>Health and happiness</b>		Encouraging active, sociable, meaningful lives to promote good health and well being							
<b>Equity and local economy</b>		Creating bioregional economies that support equity and diverse local employment and international fair trade							
<b>Culture and community</b>		Respecting and reviving local identity, wisdom and culture; encouraging the involvement of people in shaping their community and creating a new culture of sustainability							
<b>Land use and wildlife</b>		Protecting and restoring biodiversity and creating new natural habitats through good land use and integration into the built environment							
<b>Sustainable water</b>		Using water efficiently in buildings, farming and manufacturing. Designing to avoid local issues such as flooding, drought and water course pollution							
<b>Local and sustainable food</b>		Supporting sustainable and humane farming, promoting access to healthy, low impact, local, seasonal and organic diets and reducing food waste							
<b>Sustainable materials</b>		Using sustainable and healthy products, such as those with low embodied energy, sourced locally, made from renewable or waste resources							
<b>Sustainable transport</b>		Reducing the need to travel, and encouraging low and zero carbon modes of transport to reduce emissions							
<b>Zero waste</b>		Reducing waste, reusing where possible, and ultimately sending zero waste to landfill							
<b>Zero carbon</b>		Making buildings energy efficient and delivering all energy with renewable technologies							

## Contact

### **Grow Community / Asani**

710 John Nelson Lane NE  
Bainbridge Island, WA 98110  
[www.asanillc.com](http://www.asanillc.com)  
206.780.8898



### **Bioregional Development Group**

BedZED Centre  
24 Helios Rd  
Wallington, London SM6 7BZ  
[www.bioregional.com](http://www.bioregional.com)  
+44 (0)20 8404 4880

