



**The Resource
Innovation
Group**

**Willamette Valley Food Systems:
Opportunities for Increasing Climate Change Mitigation and
Preparedness, Food Security, and Economic Development**

**The Resource Innovation Group
Liz Veazey, Sarah Mazze, and Bob Doppelt**

**P.O. Box 51182
Eugene, Oregon, 97405
Website: www.theresourceinnovationgroup.org**

Introduction and Summary

Food systems are a major contributor of the greenhouse gasses that are destabilizing the earth's climate. They also must play a crucial role in helping society prepare for and build resilience to the impacts of climate disruption. This report provides information to support efforts to increased climate preparedness and emission reductions within food systems within the Willamette Valley. In specific, we examine local food initiatives and policies in ten Willamette Valley counties and identify major gaps and opportunities for increased collaboration between counties to better achieve the goals stated above.

This report was developed as part of the Willamette Valley Resilience Compact (WVRC), a project to increase resiliency and prosperity in the Willamette Valley through collaborations between local governments, civil institutions, and regional entities. The Resource Innovation Group (TRIG) is facilitating the WVRC.

Within the report, we define leverage points as areas where at least three county governments and nonprofits in the Valley are involved in similar work, yet are not necessarily working in conjunction with one another. Efforts in these areas might be carried out with greater efficiency and effectiveness through cross-county collaboration. Gaps are areas where there appears to be little to no action by county government and there are few other groups addressing this issue. The report contains a survey of local food initiatives in the Valley with examples of model initiatives and discussion of potential barriers and resources, including supporting organizations and funders. The report also identifies gaps as described above. Half of the leverage points and gaps overlap with recommended actions from the Oregon Global Warming Commission (GWC).ⁱ

Our research shows significant interest in food from a variety of perspectives around the Valley. The ten counties that are included in the research are: Benton, Clackamas, Lane, Lincoln, Linn, Marion, Multnomah, Polk, Washington, and Yamhill. Some food initiatives are focused on improving food security (reliability of supply, safe storage, and transport), some on local economic development, and others on improving access to local food. There is substantial potential to connect and leverage many of these food initiatives under the umbrella of increasing resiliency and prosperity in the Valley and beyond.

Primary recommendations include integrating the reduction of greenhouse gas emissions and building of resilience to direct and indirect climate impacts into all food system work, including farming. We also recommend holding a meeting to see if and how projects within the Valley can be tied together and in doing so increase climate change mitigation and preparedness. The meeting could cover setting goals, sharing best practices, identifying funding for collaboration, establishing communication channels and planning for next steps.

Major Leverage Points

- Support for farmers preparing for climate impacts
- Processing
- Marketing/branding
- Food waste to energy
- Everyday food access
- Land use laws and zoning

Major Gaps

- Reducing food system emissions
- Food storage
- Emergency planning that incorporates food

Major Leverage Points

The leverage points described below are confined to expansion of efforts already underway. These are areas where jurisdictions could potentially have a great impact and/or find efficiencies by working together on projects that are currently taking place in one or more counties.

The majority of food system work we identified in the Valley falls under the umbrella of strengthening local food systems: supporting farmers in preparing for climate impacts, local food processing, local marketing/branding, land use laws and zoning to increase local food production and processing. The remaining two leverage points stray only slightly from the theme of local food: converting food waste to energy and everyday food access. This is in keeping with the Oregon GWC recommendation to invest, “in local food and regional food production, processing, and distribution capacity and infrastructure for a more resilient food system.”ⁱⁱ The motivation for increasing local food production and access varies.

Many counties and local groups are working on local food production through a lens of economic development while others are focusing on local food for increased food security and/or improved nutrition and healthy lifestyles. Strong sales of local food can increase resiliency by fostering economic diversity thereby strengthening local economies, and, if done well, can lead to a more sustainable food system that provides for improved community food security.ⁱⁱⁱ Community food security can be defined as, “a condition in which all community residents obtain a safe, culturally acceptable, nutritionally adequate diet through a sustainable food system that maximizes community self-reliance and social justice,”^{iv} Such security depends on the conditions of reliable supply, storage and transport. In a community food assessment of Benton County from 2006, the authors lay out the importance of supporting a local food system: “As a small community situated in the heart of the Willamette Valley, it is vital that we ... encourage the trend toward locally produced, processed and consumed food. This trend is essential to rebuilding local food economies, assuring reliable food access, guarding against a potential peak-oil crisis and preparing for unstable geopolitical and climatic conditions.”^v

The efforts underway in the Willamette Valley are described in further detail below, along with the opportunities for leveraging these efforts across the Valley.

Support for farmers in preparing for climate change

Preparation for current and future impacts of climate change is crucial, with such impacts already present. Overall, summer water availability will be the climate impact that most affects agriculture in Oregon. Additional likely major impacts are intensified invasive species and a temperature range that makes it more challenging to grow some orchard-based crops.^{vi} Oregon is already experiencing reduced snowpack, impacting water availability and quality with projections of a loss of half of the snowpack from 2000 to 2050.^{vii}

Adequate adaptation for Willamette Valley farmers includes continuing to support reductions in agricultural water usage, creating ecologically sensitive storage for irrigation water, determining and managing invasive species threats, and developing resilient crop

varieties.^{viii} Collaboration between national, regional, and local research, extension, governments, and farmer organizations will be crucial to addressing projected climate changes in the Valley.

In terms of water resources, the Oregon Adaptation Framework (2010) recommends increasing natural water storage through support to landowners, improving forecasting of water availability, and providing technical assistance for reduced water usage. Resources for accomplishing the actions include tax credits for water use reduction and funding a small grant program. The state currently has a grant program for communities to conduct feasibility studies for water conservation projects and an allocation of conserved water program.^{ix}

Water conservation is the focus of local and regional support for farm adaptation including work by Soil and Water Conservation Districts, Cascade Pacific Resource Conservation and Development, and county governments. Cascade Pacific RC&D has a program to decrease flood damage to farms and protect water quality as well as an energy efficiency improvement (EEL) program that support irrigation system improvements, which can reduce energy and water consumption providing mitigation and adaptation benefits.^x A comprehensive water system strategy and rainwater harvesting are part of the Clackamas agriculture plan (2012).^{xi}

Tools and models for adaptation support could come from initiatives outside the Willamette Valley. The National Climate Assessment is researching how to better provide climate information and initiatives to meet the needs of rural Arizonans.^{xii} As mentioned above, the REACCH initiative is providing mitigation and adaptation support for farmers in the inner mountain west.

Processing

There is more interest in and work to support local food processing taking place throughout the Valley than for any other topic researched for this report. Food processing is mentioned as a priority in county government food or agriculture plans in Clackamas, Multnomah and Yamhill counties.^{xiii} A joint initiative between Benton and Linn Counties called the Willamette Food Processing Consortium is implementing a plan to incubate food processing small businesses.^{xiv} Lane County has identified processing as important for future growth in the local food economy and has granted money to Camas Country Mill, a local food processing company.^{xv,xvi} Local food processing has also been identified as an important step in increasing local food security in community food assessments in rural Lane, Lincoln, and Linn Counties.^{xvii,xviii} While there is also significant interest in meat processing, it should be noted that meat production often leads to increased emissions relative to non-meat protein sources.^{xix} However, in terms of increasing resiliency, having diverse sources of local protein could provide increased local resiliency.

By collaborating across the valley there are opportunities to coordinate strategies, support shared processing facilities across counties (as Linn and Benton Counties are already doing), and to leverage increased funding opportunities from entities such as the United States Department of Agriculture (USDA), Oregon Department of Agriculture (ODA), and foundation funders. Local governments and other entities could also collectively advocate

for state-level incentives such as tax breaks for small-scale regional processing to promote regional processing across the state.^{xx}

Marketing/Branding

There are regional food branding initiatives underway in Clackamas, Lane, and Multnomah Counties. Clackamas County is partnering with Multnomah County, OSU Extension, Oregon Department of Agriculture, and Oregon Association of Nurseries to develop a regional brand and explore the benefits to existing brands within the next 1-2 years.^{xxi} Lane County's Community & Economic Development Division is just beginning work on regional branding at the county or Willamette Valley level with two NGOs: Willamette Food and Farms Coalition and Willamette Sustainable Foods Alliance.^{xxii} Some producer associations like the Oregon Wine Board are also interested in building or strengthening a regional brand (similar to that of Napa Valley, California) and may provide effective partnerships for work on this topic.^{xxiii} Creation of a strong regional brand could help reinforce and expand current agri-tourism initiatives in Yamhill and Clackamas Counties that are intended to strengthen local economies.

Capacity could be increased with a Willamette Valley-wide marketing and branding strategy as opposed to a one to two county strategy, as the development costs could be significantly less and the branding could more easily be communicated inside and outside of the Willamette Valley. However, further exploration is needed to assess whether such a grouping would increase resiliency and whether the will exists for a shared campaign.

Examples of successful regional brands in Oregon and Washington:

- **Lady Bug Brand**, which was created through the Organically Grown Company, has successfully provided low-cost packaging and marketing support to mid-sized or smaller family-owned organic farms in the Pacific Northwest.^{xxiv}
- **Buy Fresh: Buy Local** in Central Oregon (Crook, Deschutes, & Jefferson counties) is a project of the Central Oregon Food Policy Council, a local chapter of the national organization FoodRoutes, and the Central Oregon Intergovernmental Council. FoodRoutes has provided marketing resources and support to the local branding campaign. The goals of the project include development of local food system, strengthened food security, and greater economic opportunities in the region.^{xxv}
- **Puget Sound Fresh** provides a regional brand for products grown, raised or harvested in the twelve counties surrounding the Puget Sound in Washington State. The non-profit Cascade Harvest Coalition, the King County Conservation District, and the King County Department of Parks and Natural Resources provide support for the program. For products, like wine, that are not considered fresh, there is another label "Puget Sound Grown." Ninety farmers are participating in the program, which is self-described as "the region's premier consumer education and product identification program." The program produces a printed farm guide and online directory.^{xxvi}

Food waste to energy

Although not addressed directly in many food reports, separate efforts are underway in multiple counties to establish facilities to convert food waste and agricultural residues into energy through anaerobic digestion. In addition to decreasing emissions of greenhouse gases, this would increase distributed renewable energy production. Reducing emissions through capturing gaseous emissions from agriculture wastes and generating renewable energy from agricultural lands are listed as strategies in The Oregon Global Warming Commission's (2010) "Agriculture Roadmap to 2020."^{xxvii}

This work is going on at some level in Lane and Multnomah Counties. Clackamas County is investigating both combustion and anaerobic digestion of agricultural residues (such as poultry litter) and wood waste. State-wide groups like the Energy Trust of Oregon (Energy Trust) are supporting these initiatives.^{xxviii} Clackamas County has completed a feasibility study (2010), a biomass resource study (2011), and two assessment reports (2011) on biomass energy production. Wood wastes and poultry litter are the two main sources for biogas production in Clackamas County.^{xxix} Lane County completed a feasibility study (2009) on adding an anaerobic food waste digester to the county landfill and is considering this option. "Create resources out of food waste" is a sub-goal of the Multnomah Food Action Plan (2010).^{xxx} Additionally in Multnomah County, there is a planned 3 megawatt (MW) (ramping up to 5 MW) Columbia Biogas facility, which will convert commercial and industrial food waste to energy through anaerobic digestion with by-products of heat, fertilizer, and water that will also be captured and used.^{xxxi}

There are opportunities to share biogas related experience and resources and to collaborate on larger biogas research, demonstration projects, and implementation of projects to increase adoption of this technology throughout the valley and beyond. County governments could also work together to request increased support from Oregon governmental agencies and the Oregon Legislature for this work.

Examples of farms in the Willamette Valley with Biogas Energy Production:

- **Stahlbush Farms** in Linn County installed a 1.6 MW combined heat and power generator to run off of the biogas produced from digested fruit and vegetable waste. The project was completed with support from the Energy Trust and the Oregon Department of Energy Business Energy Tax Credit (which has been replaced by the Energy Incentive Program).^{xxxii}
- **Lochmead Farms** in Lane County also has an anaerobic digester energy production system that is owned by Revolution Energy Solutions and funded partially through carbon offsets paid for by Northwest Natural customers.^{xxxiii}

Everyday food access

Oregon has high levels of hunger and food insecurity with 13.6% of Oregon households experiencing food insecurity, or insufficient access to adequate amounts of nutritious food, during 2009-2011.^{xxxiv} However, all county governments and many NGOs throughout the Valley and the state are working to end hunger and food insecurity, from county health departments to the Sustainability Office of Multnomah County. The statewide plan, "Ending Hunger Before It Begins: Oregon's Call to Action: 2010-2015," includes three goals related to this research: "increase economic stability for people, communities and the state," "cultivate

a strong regional food system,” and “improve the food assistance safety net.”^{xxxv} Oregon Food Bank (OFB) is one of the main state-wide NGOs working on eliminating food insecurity and works on community food assessments, networking, and other programs to strengthen local food systems. Reducing and eliminating food insecurity, especially with a focus on improving household economic stability and strengthening local food systems, will create stronger communities that are more resilient to climate change impacts and emergencies. There is potential to share strategies and best practices and to collaborate on valley-wide initiatives to strengthen and reinforce ongoing work. To avoid siloing work on food access from other work on food, we recommend integrating everyday food access into work on the other leverage points and major gaps described in this report.

Land Use Laws and Zoning

A number of planning reports on food systems throughout the Valley identify land use laws and zoning as barriers for food processing or other local food related businesses from the city to county to regional levels. In the 2011 Lincoln County community food assessment, “regulations for processing facilities, tight food safety laws and expensive licensing” are identified as barriers to reaching the local market for farmers and fisherpeople, and the report recommends promoting, “better understanding of what regulations and permitting can be modified within the county to encourage positive change.”^{xxxvi} Multnomah County has identified appropriate zoning and land-use laws as key to attaining the following sub-goals of their food action plan: ^{xxxvii}

- “Minimize expansion of the Urban Growth Boundary” (1.1),
- “Increase acreage of urban food producing land” (1.2),
- “Make healthy food more affordable and accessible than unhealthy food” (5.1),
- “Ensure regulatory support for food production...including farms, distribution and processors, farm stands, farmers’ markets, community-supported agriculture (CSA) drop-off sites, and parking strips (14.3).”

Some studies found that while zoning is a barrier, it is a relatively small hurdle in some cases. The Willamette Food Processing Consortium surveyed food entrepreneurs in Linn and Benton Counties, and out of ten barriers to starting a business, “regulatory issues (zoning, food safety)” received the lowest response at 20%.^{xxxviii} Yamhill County determined that services (e.g. sewer, water) are more of a problem than zoning in terms of agri-tourism development. However, they found that it can be challenging to find appropriate vacant space for development and that there are potential conflicts with state agricultural zoning laws.^{xxxix}

In a 2008 action plan, Corvallis community members identified a goal of having half of Corvallis sustained by diverse local products by 2040 with an action item to: “Modify local land use codes, including zoning, to support local businesses and organizations in developing ways local products can be produced and marketed locally more effectively. Advocate for state land use regulations to support this goal.”^{xl}

Washington and Clackamas Counties and the City of Eugene are in the process of reviewing parts of their code and recommending updates. In Washington County, an Energy Efficiency Community Block Grant from the US Department of Energy is funding a “Greening the Code”

initiative that is identifying barriers in building and development codes to sustainable development and coming up with strategies to overcome these barriers including regulations affecting agricultural processing.^{xli} Clackamas County is examining and recommending changes to their “land use, zoning and development codes to allow more farm-focused economic development in rural zones.”^{xlii} In Eugene, a Planning Commission hearing was held in December 2012, which recommended code changes related to livestock within the city limits; the recommendation goes to a City Council meeting in January.^{xliii}

There appears to be substantial interest and momentum in updating land use codes to promote sustainable food systems, but few codes have actually been updated. Counties could share strategies to encourage sustainable development related to the food system such as fast-tracking permits for certain types of development, offering discounts, or updating codes to make it easier to start certain types of businesses. Counties could also collaborate on recommending changes to state codes. A report on the Oregon-Washington regional food system recommends, “Devoting planner time to food system issues and creating food system planning positions at the city and county levels would ensure that daily planning activities include food as a priority. Funds for this staff time could come from a combined effort from other existing government partnering programs: County Health, Land Use Planning, Transportation, Community and Economic Development, and Offices of Sustainability, for example.”^{xliv}

Major Gaps

In contrast to many of the leverage points being directly connected to strengthening local food systems, many of the major gaps are connected to bigger picture goals such as mitigating global warming through reduction of greenhouse gas emissions in the food system and preparing for food accessibility in long-term disasters. Such efforts, along with increasing food storage will significantly increase the strength and resiliency of the local food system.

Food storage

Food storage is an important part of food processing facilities, which is one of the points of leverage identified above and has been identified by farmers and other interested parties as a need.^{xlv} Increased storage could provide increased access to food in emergencies and is needed by farmers, particularly for storage crops and for those shifting from non-food crops like grass seed to food crops, as there are more stringent requirements for food crop storage facilities.^{xlvi,xlvii} There may now be opportunities to foster farmer cooperatives or shared storage spaces to keep costs low and reduce the energy used by the storage facilities through targeted tax incentives and other means.^{xlviii}

An example of a project in the Valley addressing food storage problems is below:

- **Southern Willamette Valley Bean and Grain Project Fill-Your-Pantry events**—The project has a focus of rebuilding the local food system in Benton, Lane, Lincoln, and Linn Counties especially through production of beans and grains. The “Fill-Your-Pantry” events started with one event in the fall of 2010, three events in 2011, and four events in

the fall of 2012. The events offer a one-day market with pre-order capabilities for farmers to sell their squash, beans, grains and other storage crops and vegetables, which shifts some of the winter storage from the farmer to the consumer. The Fill Your Pantry events in 2011 led to sales of about 5,000 pounds of food per event.^{xlix}

Emergency planning that incorporates food

In general, emergency planning concentrates on life and safety elements such as fixing utilities and emergency medical response. Most emergency food planning is focused on prevention, which includes encouraging people to have their own 3-day food supply and coordination with local food banks and other support organizations. There are only two locations in the valley that were found to be working on emergency mitigation planning around food: the City of Eugene and Multnomah County. Both areas have identified the importance of long-term food supply and distribution for prolonged disasters and are in the process of assessing and developing plans, respectively. The Eugene Food Security and Scoping Plan (2010) identifies the need to “create a needs assessment for food access and distribution during a prolonged disaster.”^l Eugene is now partnering with the Oregon Partnership for Disaster Resilience (OPDR) on a “Eugene Springfield Climate, Energy, and Natural Hazards Vulnerability Assessment” to be completed in the spring of 2013.^{li} Multnomah County is developing a food distribution contingency plan that includes goals for both food transportation/distribution and increasing urban agriculture.^{lii}

There are opportunities to integrate community food security goals into required comprehensive plans and county hazard mitigation and recovery plans to increase the food system resiliency to climate change and other potential prolonged disasters. The American Planning Association (2012) has completed a useful resource: “Planning for food access and community-based food systems: A national scan and evaluation of local comprehensive and sustainability plans;” the extensive report includes examples, lessons learned, and recommendations for planners.^{liii} Additionally, there may be opportunities for funding from the hazard mitigation or the emergency management performance grant programs.^{liiv} Out of the box thinking may be especially helpful for mitigation planning, like planning for local bicycle delivery of food if other forms of transportation are unavailable or limited. After Hurricane Sandy, bicycles proved to be effective means of transportation with long lines at gas stations, gridlock, and obstacles in the road.

Reducing emissions from food system

In 2008, agricultural emissions were 8.2% of the greenhouse gas emissions in the state, with reductions necessary in all sectors in order to reach stated reduction goals.^{liv} Major emissions sources from farming are from nitrogen fertilizers and other sources of nitrous oxide, fossil fuel usage, fertilizer production, and methane from cow manure on dairy farms. The main strategies for reducing emissions identified by The Washington Climate Friendly Farmers™ (CFF) Project, a Washington State University research program focused on the task, are anaerobic digestion of wastes, precision application of fertilizer, reduced tillage, and better cropping systems through usage of perennial crops and rotations.^{lvi} As noted in the previous section, there is already work supporting anaerobic digestion of food and

agricultural wastes; however, there is little work on other key strategies for carbon emissions reductions from the regional food system or from farming. In terms of the whole food system, it is important to understand, as noted earlier, that most of the emissions from the food system come from food production and processing as opposed to distribution or consumer waste disposal (see endnote ii).

Efforts around the Valley may exist, but our research uncovered few county or larger initiatives that are actively working with farmers, processors, or distributors on strategies for greenhouse gas emission reductions beyond the work on anaerobic digestion and reduced tillage farming, which is often promoted by Soil and Water Conservation Districts (SWCD).

Support exists for such an initiative. For example, the 2010 Oregon GWC's "Agriculture Roadmap to 2020" prioritizes similar actions to the Washington CFF program including: "increase nutrient use efficiency, increase carbon sequestration in crop management, develop manure to energy methods, and proactively prepare for and adapt to climate change impacts on water supply."^{lvii} Oregon Climate Change Research Institute (OCCRI), a network of more than 100 researchers around the state that serves as a clearinghouse for information on climate change, is charged with providing easily accessible resources on climate change to the public and can offer localized research on climate impacts. Although not covering the Willamette Valley, another relatively new resource and model for future initiatives is the Regional Approaches to Climate Change—Pacific Northwest Agriculture (REACCH)—made up of 20 researchers at Washington State University, Oregon State University, and the University of Idaho to support cereal grain production sustainability in the inner Pacific Northwest through mitigation of emissions and adapting to climate change. REACCH is funded by the USDA National Institute for Food and Agriculture, and offers resources such as mini-grants for Extension services.^{lviii}

Some barriers to current implementation of climate emissions reductions programs include a focus on forests and rangelands versus farming, and a potential lack of farmer interest in these initiatives. OSU extension and research centers could be a resource in setting up appropriate support and goals for reductions in emissions from farming in the Valley and engaging farmers in educational and planning activities to increase interest in climate impacts and mitigation. Moreover, climate emissions reductions strategies often have multiple benefits. For example, no till cropping reduces carbon emissions from the soil, dust picked up by the wind, and usage of fossil fuel. Additionally, there is potential for carbon credit payments to farmers who significantly reduce their emissions.^{lix}

Examples of programs and a business in the Northwest working to reduce emissions from the food system:

- **Washington Climate Friendly Farmers™ Project**—an extensive cross-disciplinary project that was created by Washington State University to provide information on agricultural mitigation of climate change in Washington State. The Paul G. Allen Family Foundation funds the program with additional support from government and industry sources including three USDA programs, WSU Agriculture Research Center, Washington Technology Center, and Whatcom County.^{lx}

- **Northwest Food Processors Association Energy Roadmap**—This initiative began with the completion of a baseline of energy usage in the processing industry in the Northwest in 2009. Since then, they have updated a roadmap for members that outlines the process for determining their baseline, setting energy reduction goals, and monitoring progress. NWFPA’s goal is to reduce industry-wide energy intensity by 25% in 10 years and 50% in 20 years. The program has received support from the Bonneville Power Administration, Northwest Energy Efficiency Alliance, the US Department of Energy, Pacific Northwest National Laboratory (PNNL), and Idaho National Laboratory (INL).^{lxi}
- **Hummingbird Wholesale**—This Eugene-based organic wholesale distributor, received a grant from the Lane County Department of Community and Economic Development to expand. Hummingbird invested in an efficient building with solar power, community meeting space, and a commercial kitchen that can be rented to support local food processing businesses. They are committed to reducing their ecological impact, including through providing local deliveries by bicycle, to being powered by 100% green power, to investing in local farmers.^{lxii}

Recommendations

Economic development is an important driver for a number of initiatives in this report, but promoting economic development in a way that could put local resilience to climate impacts or further destabilize the climate would be counterproductive. Therefore, we recommend integration of climate change preparedness and mitigation into all food system activities. It is also important to think holistically about the topics listed in this paper as part of a sustainable food system.

As previously mentioned, there are opportunities to network and share experiences, best practices, and successful programs. This networking could take place within the structure of the Willamette Compact or apart from the Compact. The upcoming Organicology (Portland, OR), Local Food Connection (Eugene, OR), and Northwest Food Processors Expo (Portland, OR) conferences are potential venues for networking and collaboration.

Beyond these scheduled events, the Valley’s two food policy councils (Portland Multnomah and Lane), in collaboration with local non-profit organizations could host a regional food summit. There is also potential for establishing a region-wide Willamette Valley Food Policy Council to coordinate this work moving forward. Beyond networking, coming together to create an inclusive regional vision statement for food systems could help attract new sources of funding and other resources for this work, provide a platform for ongoing regional collaboration, and catalyze new ideas and opportunities for local action. Another major opportunity exists in collaborating to support state and federal policies that will help fund, reinforce, and expand current sustainable food system initiatives.

A meeting could kick start a regional collaboration. Potential goals and next steps for this meeting are:

- Set overarching goals for a collaboration (based on language from TRIG's [Willamette Valley Resilience Compact](#)) such as:
 - Creating a more resilient and less emissions intensive regional food system in the Willamette Valley through coordination, collaboration, and sharing of best practices and other resources.
 - Set up and maintain a clearinghouse to share best practices, research and other resources.
 - Work together to identify commonalities that could translate into cooperation to meet shared priorities for example in the legislature.
- Begin to share best practices
- Discuss potential for potential valley-wide projects such as:
 - Support for farmers in preparing for climate impacts and reducing greenhouse gas emissions
 - Creation of a regional food processing and storage collaboration
 - Marketing and branding initiative
 - Regional Food Policy Council
 - Support a shared legislative agenda
- Discuss funding sources to support the collaboration.
- Set up communication channels for continued dialogue.
- Set up a date for a next meeting.

Potential next steps for collaboration coming out of the meeting:

- Setting up a workshop on anaerobic digestion with researchers from the Washington Climate Friendly Farmers program, Oregon Department of Energy and others.
- A feasibility study of the pros and cons of Willamette Valley food branding for individual counties, valley-wide, or a combination.
- Best-practices guide or notes on topics discussed in this report.

Conclusion

While government agencies, universities, non-profit organizations, business alliances, and consortia with members from a variety of sectors have taken significant strides to improve our food systems, there still remain significant gaps and opportunities for emissions reduction as well as climate change preparedness and resilience building. Existing efforts set the stage for additional opportunities for more comprehensive and effective regional partnerships. Seizing these opportunities will contribute to a more food secure, climate resilient, and prosperous Willamette Valley for many years to come.

Appendix A: Working List of Relevant Reports by Geographic Scope

Clackamas County

Clackamas County Agriculture and Foodshed Strategic Plan (2012)
Clackamas County Assessment Report for Four Renewable Energy Projects (2010)
Clackamas County Agriculture Plan Flow Chart (2012)
Clackamas County Agriculture Investment Plan (2010)
Clackamas County Agriculture and Foodshed Strategic Plan Implementation Matrix (2012)
Clackamas County Biomass Assessment (2010)
Clackamas County Biomass Resource Study (2011)

Lane County

CPW/WFFC Local Food Measurement Memo (2012)
City of Eugene Food Security Scoping and Resource Plan (2010)
Growing the Natural Foods Industry in Lane County (2003)
Local Agricultural Capacity and Opportunity in the Food System: A Case Study of Lane County Oregon (2006)
A Comprehensive Analysis of Food Security Assessments of Lane County (2010)
Lane County Food/Beverage Cluster Survey Results (2011/2012)
Lane County Local Food Market Analysis (2010)
Rural Lane County Community Food Assessment (2012)

Lincoln County

Lincoln County Community Food Assessment (2011)
Listening to the Lincoln County Food System: A Summary Report (2008)

Linn & Benton Counties

Linn County Community Food Assessment (2011)
Incubator Implementation Plan: For Food Processing Small Businesses in Linn and Benton Counties, Oregon (2012)
Report on the Activities and Finding of the Willamette Food Processing Consortium (2012)
Envisioning a Robust and Equitable Food System: The Ten Rivers Foodshed (2011)
From Our Own Soil: A Community Food Assessment: Benton County and Its Foodshed (2006)
Corvallis Sustainability Coalition: Community Sustainability Final Action Plan (2008)

Multnomah County

Multnomah Food Report: Multnomah Food Initiative Background Report (2010)
Multnomah Food Action Plan (2010)

Yamhill County

Yamhill County Agri-Business Economic and Community Development Plan: Summary Report (2009)

Oregon

Community Food Systems in Oregon: Opportunities to Build Capacity for Food Security, Health and Economic Vitality (2010)

Oregon Climate Assessment Report: Chapter 4: Climate Change and Agriculture in Oregon (2010)

Oregon Climate Change Adaptation Framework (2010)

Oregon Global Warming Commission: Report to the Legislature 2011

Agriculture Roadmap to 2020: Report to the Oregon Global Warming Commission (2010)

Planting Prosperity and Harvesting Health: Trade-offs and Sustainability in the Oregon-Washington Regional Food System (2008)

Washington

Climate Friendly Farming™ Project Summary (2010)

Climate Friendly Farming™ Project Overview and Context (2010)

National

Market Forces: Creating Jobs Through Public Investment in Local and Regional Food Systems (2011)

Planning for Food Access and Community-Based Food Systems: A National Scan and Evaluation of Local Comprehensive and Sustainability Plans (2012) by the American Planning Association

Appendix B: Citations and References

- ⁱ - Oregon Global Warming Commission. 2010. "Agriculture Roadmap to 2020: Report to the Oregon Global Warming Commission." Accessed on 11/21/12 at:
http://www.keeporegoncool.org/sites/default/files/Agriculture%20Roadmap_093010.pdf
- Coakley, et al. 2010. Chapter 4: Climate Change and Agriculture in Oregon. Dello, et al. (eds). Available at <http://occri.net/OCAR>
- ⁱⁱ See page 6 of: Oregon Global Warming Commission. 2010. "Agriculture Roadmap to 2020: Report to the Oregon Global Warming Commission." Accessed on 11/21/12 at:
http://www.keeporegoncool.org/sites/default/files/Agriculture%20Roadmap_093010.pdf
- ⁱⁱⁱ It is imperative to reduce climate impacts from production—see the section on "Reducing Emissions from Food Production" in the major gaps section. Often local food is touted as reducing carbon emissions because of a decreased transportation footprint. Across the national food system, the carbon emissions of food production and processing are much higher than those of food distribution. In some cases, local food can have higher embodied emissions than food produced elsewhere and transported in to the region. See the following study for one source of information: "Food-Miles and the Relative Climate Impacts of Food Choices in the United States", Christopher L. Weber and H. Scott Matthews. *Environmental Science & Technology*. 2008. 42 (10), 3508-3513. <http://pubs.acs.org/doi/abs/10.1021/es702969f>
- ^{iv} Hamm, Mike, and Anne Bellows. "What is Community Food Security?" Community Food Security Coalition. Webpage. Accessed 11/17/12 at: http://www.foodsecurity.org/views_cfs_faq.html
- ^v Ecumenical Ministries of Oregon. 2006. "From Our Own Soil: A community Food Assessment Benton County, Oregon, and Its Foodshed." (Page 2). Accessed on 11/13/12 at:
<http://www.emoregon.org/pdfs/IFFP/CorvallisFoodAssessmentReport-logo.pdf>
- ^{vi} Coakley, et al. 2010. Chapter 4: Climate Change and Agriculture in Oregon. Dello, et al. (eds). Available at <http://occri.net/OCAR>
- ^{vii} - Oregon Global Warming Commission. "Oregon's Climate is Changing." Website. Accessed on 12/19/12 at:
<http://www.keeporegoncool.org/content/oregons-climate>
- State of Oregon. 2010. "The Oregon Climate Change Adaptation Framework." Available at:
http://www.lcd.state.or.us/LCD/docs/ClimateChange/Framework_Final.pdf
- ^{viii} Page, Stephanie and Kathie Dello. 2011. "Building Resiliency from Climate Change into Oregon Agricultural Systems: Strategies and Challenges." *Rural Connections*, 5(2): 57-60.
- ^{ix} Information about these programs can be found on the Integrated Water Supply Strategy (2012) website:
http://www.oregon.gov/OWRD/pages/law/integrated_water_supply_strategy.aspx#Resources_Related_to_Recommended_Actions
- ^x Cascade Pacific Resource Conservation and Development webpages: <http://www.cascadepacific.org/eap.htm> & <http://www.cascadepacific.org/wfrp.htm>
- ^{xi} See L goals on pages 4-5 from: Clackamas County. 2012. "Clackamas County Agriculture and Foodshed Strategic Plan Implementation Matrix." Accessed on 11/21/12 at:
http://www.clackamas.us/business/documents/Implementation_Worksheet_Aug2012.pdf
- ^{xii} Brugger, Julie, Michael A. Crimmins, and Gigi Owens. 2011. "Finding a Place for Climate Science in the Rural West." *Rural Connections*, 5(2): 5-10.
- ^{xiii} -Cogen Owens Cogen et al. 2012. "Clackamas County Agriculture and Foodshed Strategic Plan." Accessed on 11/20/12 at: http://www.clackamas.us/business/documents/CC_Foodshed_Strategy_FINAL.pdf
- Multnomah County Office of Sustainability. 2010. "Multnomah Food Action Plan: Grow and Thrive 2025 Community Action Plan." Pp: 17. Accessed on 11/20/12 at:
http://multnomahfood.org/Action_Plan_and_Reports/Multnomah_Food_Action_Plan
- Barney & Worth, Inc. et al. 2009. "Yamhill County Agri-Business Economic and Community Development Plan: Summary Report." Accessed on 11/20/12 at:
http://www.co.yamhill.or.us/commissioners/documents/Summary_Report_-_Yamhill_County_Agri-Business.pdf

-
- xiv - Oregon Cascades West Council of Governments et al. 2012. "Report on Activities and Findings of the Willamette Food Processing Consortium." Accessed on 11/20/12 at:
<http://www.ocwcog.org/Files/Final%20Report%20-%20Wil%20Food%20Proc%20Consortium%20RBEG.pdf>
- Willamette Food Processing Consortium. 2012. "Incubator Implementation Plan: For Food Processing Small Businesses in Linn and Benton Counties, Oregon." Accessed on 11/20/12 at:
<http://www.ocwcog.org/Files/Incubator%20Implementatin%20Plan%20Final.pdf>
- xv Community Planning Workshop, Community Service Center, University of Oregon. 2010. "Lane County Local Food Market Analysis." Accessed on 11/20/12 at:
<http://www.lanecounty.org/Departments/CAO/EconomicDevelopment/Pages/LocalFood.aspx>
- xvi Lane County Community and Economic Development. Nd. "Success Stories: Camas Country Mill Grain and Bean Stone Milling Facility Supports Local Food Security." Accessed on 11/20/12 at:
<http://www.lanecounty.org/Departments/CAO/EconomicDevelopment/Documents/SuccessStoriesCCM.pdf>
- xvii - Hummel, Danielle et al. 2012. "Rural Lane County Community Food Assessment: Featuring Florence, Oakridge, and the McKenzie River Valley." Accessed on 11/20/12 at:
<http://mudcitypress.com/PDF/rurallanecounty>
- Rico, Chloe et al. 2011. "Community Food Assessment: Lincoln County." Accessed on 11/20/12 at:
<http://www.oregonfoodbank.org/Our-Work/Building-Food-Security/Community-Programs/~media/Files/Community-Food-Systems/Lincoln%20County%20CFA1pdf.pdf>
- Masteron, Spencer et al. 2011. "Community Food Assessment: Linn County." Accessed on 11/20/12 at:
<http://www.oregonfoodbank.org/Our-Work/Building-Food-Security/Community-Programs/~media/Files/Community-Food-Systems/Linn%20County%20CFApdf.pdf>
- xviii - Ecumenical Ministries of Oregon. 2006. "From Our Own Soil: A community Food Assessment Benton County, Oregon, and Its Foodshed." Accessed on 11/13/12 at:
<http://www.emoregon.org/pdfs/IFFP/CorvallisFoodAssessmentReport-logo.pdf>
- Hanson, Kim. 2010. "Community Food Systems in Oregon: Opportunities to Build Capacity for Food Security, Health, and Economic Vitality." Meyer Memorial Trust. Accessed on 11/20/12 at:
<http://www.mmt.org/sites/default/files/CFSfinalreport.pdf>
- xix Schwarer, Stefan et al. 2012. "Growing greenhouse gas emissions due to meat production." UNEP Global Environment Alert Service. Accessed on 11/20/12 at: http://www.unep.org/pdf/UNEP-GEAS_OCT_2012.pdf
- xx Recommendation from page 45 of: Institute of Portland Metropolitan Studies. 2008. "Planting Prosperity and Harvesting Health: Trade-offs and Sustainability in the Oregon-Washington Regional Food System." Accessed on 11/21/12 at:
http://www.pdx.edu/sites/www.pdx.edu.ims/files/media_assets/ims_foodsystemsfinalreport.pdf
- xxi See goal A-1 on page 1 from: Clackamas County. 2012. "Clackamas County Agriculture and Foodshed Strategic Plan Implementation Matrix." Accessed on 11/21/12 at:
http://www.clackamas.us/business/documents/Implementation_Worksheet_Aug2012.pdf
- xxii From a conversation on 10/29/12 with Sarah Mizejewski, Economic Development Supervisor, Lane County Community and Economic Development.
- xxiii Tom Danowski, the new Executive Director of the Oregon Wine Board says: "Developing and promoting a brand that truly captures the essences of Oregon wine in all of its many nuances is critical to the industry moving to the next level. I relish the opportunity to help take it there." From: Oregon Wine Center. 2011. "Oregon Wine Board Name Tom Danowski Executive Director." Press Release. Accessed on 11/20/12 from:
http://oregonwine.org/Resources/Category/0001/0002/59/OWB_names_new_executive_director.pdf
- xxiv - Thistlethwaite, Rebecca and Martha Brown. 2010. "Innovative Business Models: Case Study Series no. 4: Organically Grown Company." The Center for Agroecology and Sustainable Food Systems at UC Santa Cruz. Accessed on 12/14/12 at: http://63.249.122.224/wp-content/uploads/2010/05/CaseStudy_no41.pdf
- Organically Grown Company. Nd. "Look for the LADYBUG." Webpage. Accessed on 12/4/12 at:
<http://www.organicgrown.com/index.cfm?fuseaction=ladybug>
- xxv Central Oregon Food Policy Council. Nd. "Buy Fresh. Buy Local." Webpage. Accessed on 12/4/12 at:
<http://centraloregonfoodpolicy.org/fpc-projects-and-committees/about-bfbl/>
- xxvi Cascade Harvest Coalition. Nd. "Programs: Puget Sound Fresh." Webpage. Accessed on 12/4/12 at:
<http://www.cascadeharvest.org/programs/puget-sound-fresh>

-
- xxvii Oregon Global Warming Commission. 2010. "Agriculture Roadmap to 2020: Report to the Oregon Global Warming Commission." Accessed on 11/21/12 at:
http://www.keeporegoncool.org/sites/default/files/Agriculture%20Roadmap_093010.pdf
- xxviii Energy Trust of Oregon. Nd. "Biopower." Webpage. Accessed on 11/21/12 at:
<http://energytrust.org/industrial-and-ag/incentives/agriculture/biopower/Biopower/>
- xxix All mentioned reports can be found under "Renewable Energy" on the Clackamas County Agriculture and Foodshed Strategic Plan webpage (last accessed on 11/21/12):
http://www.clackamas.us/business/agriculture_plan.html
- xxx Goals 4.1, 13.4, and 16.3 address food waste. Multnomah County Office of Sustainability. 2010. "Multnomah Food Action Plan: Grow and Thrive 2025 Community Action Plan." Pp: 17. Accessed on 11/20/12 at:
http://multnomahfood.org/Action_Plan_and_Reports/Multnomah_Food_Action_Plan
- xxxi Columbia Biogas. 2012. "New food waste-to-renewable energy facility will turn leftovers into electrons: Columbia Biogas signs power purchase agreement with PacifiCorp." Press Release. Accessed on 11/21/12 at:
http://www.columbiabiogas.com/PDFs/ColumbiaBiogas_PPA_with_PacifiCor.pdf
- xxxii ECOregon. Nd. "Stahlbush Factsheet." Accessed on 11/18/12 at:
<http://www.ecoregon.com/documents/Stahlbush%20Factsheet.pdf>
- xxxiii Mortenson, Eric. 2011. "Biogas digester at Oregon's Lochmead Farms turns manure and methane into power." OregonLive.com Accessed on 11/20/12 at:
http://www.oregonlive.com/environment/index.ssf/2011/05/lochmead_farms_on_the_cutting.html
- xxxiv Oregon Food Bank. 2012. "USDA releases latest hunger report." News Releases. Accessed on 11/24/12 at:
<http://www.oregonfoodbank.org/News/News-Releases/Articles/USDA-releases-latest-hunger-report?source=%2FNews%2FNews-Releases>
- xxxv Partners for a Hunger-Free Oregon. 2012. "Ending Hunger is Possible—Oregon Has a Plan." Accessed on 11/24/12 at: <http://www.oregonhunger.org/oregon-hunger-plan>
- xxxvi See page 20: Rico, Chloe et al. 2011. "Community Food Assessment: Lincoln County." Accessed on 11/20/12 at: <http://www.oregonfoodbank.org/Our-Work/Building-Food-Security/Community-Programs/~media/Files/Community-Food-Systems/Lincoln%20County%20CFA1.pdf.pdf>
- xxxvii See pages 18, 22, & 30 of: "Multnomah Food Action Plan: Grow and Thrive 2025 Community Action Plan." Pp: 17. Accessed on 11/20/12 at:
http://multnomahfood.org/Action_Plan_and_Reports/Multnomah_Food_Action_Plan
- xxxviii See page 10 of: Willamette Food Processing Consortium. 2012. "Incubator Implementation Plan: For Food Processing Small Businesses in Linn and Benton Counties, Oregon." Accessed on 11/20/12 at:
<http://www.ocwcog.org/Files/Incubator%20Implementatin%20Plan%20Final.pdf>
- xxxix Barney & Worth, Inc. et al. 2009. "Yamhill County Agri-Business Economic and Community Development Plan: Summary Report." Accessed on 11/20/12 at:
http://www.co.yamhill.or.us/commissioners/documents/Summary_Report_-_Yamhill_County_Agri-Business.pdf
- xl See goal 3 on page 29 of: Corvallis Sustainability Coalition. 2008. "Community Sustainability Final Action Plan." Accessed on 11/25/12 at: <http://sustainablecorvallis.org/action-plan/download-the-action-plan/>
- xli Washington County. Nd. "Greening the Code." Accessed on 11/25/12 at:
<http://www.co.washington.or.us/LUT/Divisions/CurrentPlanning/GreeningCode/index.cfm>
- xlii See goal K-1 on page 4 of: Clackamas County. 2012. "Clackamas County Agriculture and Foodshed Strategic Plan Implementation Matrix." Accessed on 11/21/12 at:
http://www.clackamas.us/business/documents/Implementation_Worksheet_Aug2012.pdf
- xliii The Planning Commission recommendation and more information can be found here on the City of Eugene website: <http://www.eugene-or.gov/index.aspx?NID=2144>
- xliv See page 54: Institute of Portland Metropolitan Studies. 2008. "Planting Prosperity and Harvesting Health: Trade-offs and Sustainability in the Oregon-Washington Regional Food System." Accessed on 11/21/12 at:
http://www.pdx.edu/sites/www.pdx.edu.ims/files/media_assets/ims_foodsystemsfinalreport.pdf
- xlvi See page 16 of: Hanson, Kim. 2010. "Community Food Systems in Oregon: Opportunities to Build Capacity for Food Security, Health, and Economic Vitality." Meyer Memorial Trust. Accessed on 11/20/12 at:
<http://www.mmt.org/sites/default/files/CFSfinalreport.pdf>

-
- ^{xlvi} Masteron, Spencer et al. 2011. "Community Food Assessment: Linn County." Accessed on 11/20/12 at: <http://www.oregonfoodbank.org/Our-Work/Building-Food-Security/Community-Programs/~media/Files/Community-Food-Systems/Linn%20County%20CFApdf.pdf>
- ^{xlvii} See page 26 of: Hummel, Danielle et al. 2012. "Rural Lane County Community Food Assessment: Featuring Florence, Oakridge, and the McKenzie River Valley." Accessed on 11/20/12 at: <http://mudcitypress.com/PDF/rurallanecounty>
- ^{xlviii} See page 27 of: Planning and Development Department. 2010. "Eugene Food Security Scoping and Resource Plan." City of Eugene.
- ^{xliv} Armstrong, Dan. 2011. "Project Report Fourteen: Two Fill-Your-Pantry Markets, November, 2011." Southern Willamette Valley Bean and Grain Project. Webpage. Accessed on 12/11/12 at: <http://www.mudcitypress.com/beanandgrain14.html>
- ^l See page 8 of: Planning and Development Department. 2010. "Eugene Food Security Scoping and Resource Plan." City of Eugene.
- ^{li} From a conversation with Michael Howard, OPDR Program Specialist, Community Service Center, University of Oregon on 12/11/12. More on OPDR can be found on their website here: <http://csc.uoregon.edu/opdr/>
- ^{lii} Multnomah County. Nd. "Develop a food distribution contingency plan." State of Oregon Natural Hazard Mitigation Action Items Database. Accessed on 12/18/12 at: <http://csc.uoregon.edu/opdr/actionitems/popout.cfm?pdf=true&action=425>
- ^{liii} Hodgson, Kimberley. 2012. "Planning for food access and community-based food systems: A national scan and evaluation of local comprehensive and sustainability plans." American Planning Association. Available at: <http://www.planning.org/research/foodaccess/>
- ^{liv} More information about both grant programs: http://www.oregon.gov/OMD/OEM/pages/all_grants.aspx
- ^{lv} Oregon Global Warming Commission. 2011. "Report to the Legislature." Available at: <http://www.keeporegoncool.org/sites/default/files/ogwc-standard-documents/2011Report.pdf>
- ^{lvi} Kruger, C., G. Yorgey, S. Chen, H. Collins, C. Feise, C. Frear, D. Granatstein, S. Higgins, D. Huggins, C. MacConnell, K. Painter, C. Stöckle. 2010. "Chapter 1: Project Overview and Context." From: Climate Friendly Farming: Improving the Carbon Footprint of Agriculture in the Pacific Northwest. CSANR Research Report 2010-001. Washington State University: http://csanr.wsu.edu/pages/Climate_Friendly_Farming_Final_Report/
- ^{lvii} See page 1 of: Oregon Global Warming Commission. 2010. "Agriculture Roadmap to 2020: Report to the Oregon Global Warming Commission." Accessed on 11/21/12 at: http://www.keeporegoncool.org/sites/default/files/Agriculture%20Roadmap_093010.pdf
- ^{lviii} - Regional Approaches to Climate Change. Nd. "Welcome to REACCH." Webpage. Accessed on 12/10/12 at: <http://www.reacchpna.org/>
- Regional Approaches to Climate Change. Nd. "About REACCH." Webpage. Accessed on 12/10/12 at: <http://www.reacchpna.org/about-reacch/>
- ^{lix} - For estimates of carbon emissions reductions from different techniques see chapter 23-27 from the Climate Friendly Farming™ report accessible here: http://csanr.wsu.edu/pages/Climate_Friendly_Farming_Final_Report/
- There is a recommended action of improving market and financing for GHG investments on page 4 of: Oregon Global Warming Commission. 2010. "Agriculture Roadmap to 2020: Report to the Oregon Global Warming Commission." Accessed on 11/21/12 at: http://www.keeporegoncool.org/sites/default/files/Agriculture%20Roadmap_093010.pdf
- ^{lx} Access the home page of the Climate Friendly Farming™ program here: <http://csanr.wsu.edu/pages/CFF> and learn more about the funders here: http://csanr.wsu.edu/pages/CFF_Funders
- ^{lxi} Northwest Food Processors Association. 2011. "Energy Roadmap Home." Webpage. Accessed on 12/10/12 at: <http://www.nwfpa.org/advocacy/energy/energy-roadmap>
- ^{lxii} Hummingbird Wholesale. Nd. "Our Environmental and Social Practices." Webpage. Accessed on 12/10/12 at: http://www.hummingbirdwholesale.com/content/ecological_practices