Oregon University System
2012 Greenhouse Gas Inventory: Results and A View to the Future

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overview

• Good Company
• project context and overarching findings
  – your vantage point
  – your commitments
  – essential results
• project background
• detailed results, *in six summary points*

For the full story, please refer to the complete report document, the *Oregon University System FY2012 Greenhouse Gas Inventory of Operations Results and Benchmarking.*
Good Company

• sustainability research and consulting firm
• mission-driven, for-profit
• clients: government, higher education, private sector

Climate Services
• completed 70+ GHG Inventories
  – operational inventories: food, fuel, manufacturing, government
  – community inventories
  – life-cycle GHG analyses: products, fuels, technologies
• completed OUS’ first inventory back in 2006/2007
• Oregon public-sector clients include Metro, City of Portland, ODOT, ODOE, and 10+ other municipal governments
key features of the landscape

commitments

results and trends

opportunity

$,
your commitments

• all institutions that are ACUPCC signatories…
  – must take certain actions from a checklist (done)
  – must report inventory to ACUPCC site (done)
  – must plan for eventual carbon neutrality (not done)
• Oregon legislative goal – 10% below 1990 levels by 2020
  – not currently on track
  – will require a concerted effort; some cost, a lot of savings
• OUS Master Plan
  – also, 10% below 1990 levels by 2020…
  – …and carbon neutral by 2050
your opportunity

• cost savings, risk reduction
  – energy and other efficiencies
  – reduce volatility in operations budgets
• strategic advantage: reputation
  – mission-alignment for students, staff, faculty
  – several unscientific but oft-cited rankings include campus sustainability efforts
• strategic advantage: alignment with teaching, research
  – low-carbon practices foster a living laboratory
  – pedagogical and service learning opportunities
  – research and teaching alignment is already there for many particular departments (several AAA programs at UO, OIT programs for renewable energy, planning programs at UO and PSU, business schools at PSU, OSU and UO, etc.)
This insight isn’t rare – inside and outside of higher education:

- ACUPCC has 670 signatories.
- 1060 cities have signed the US Conference of Mayors Climate Protection Agreement (15 in Oregon).
- Over 65% of S&P 500 companies report *voluntarily* to the Carbon Disclosure Project.
project background

• repeat performance by Good Company
• hybrid of consultant work and OUS/campus staff
  – Big 3 did their own inventories
  – Small 4 provided data, Good Company led the process, completed the reports
  – Good Company did integration, AASHE reporting
• detailed results in a comprehensive report
Increasingly, the key context for corporate, government and higher education decision makers is *global*. From the report:

*The Intergovernmental Panel on Climate Change, the United Nations body that regularly convenes climate scientists, has identified human activity as the primary cause of the climate change that has occurred over the past few decades and quickened in recent years. Consensus statements from the IPCC suggest that human-caused greenhouse gas (GHG) emissions must be reduced significantly – perhaps more than 50% globally, and by 90% in wealthier nations that are the largest emitters – by mid-century in order to avoid the worst potential climate impacts on human economies.*
the results, in six summary points

1. Documented emissions are overwhelmingly from stationary combustion and purchased electricity.
2. System-wide *absolute* emissions have leveled off.
3. Emissions intensities – per student, and per gross square foot (GSF) of buildings – are in modest decline.
4. In many cases, lower GHG emissions – for an individual institution or for the system as a whole – relate to *circumstances*, rather than *performance*.
5. External benchmarking reveals that OUS institutions have lower-than-average emissions per student and per gross square foot (GSF) of building space.
6. Other emissions – primarily the supply chain – are large, and eventually we will be on the hook for their measurement and management.
mainly on-campus combustion, electricity
absolute emissions appear to be stable…

Figure 7: Summary of absolute OUS GHG emissions over time, by institution
...but the total is ~20% above 1990 levels
carbon intensities declining slowly

Both of the carbon intensity metrics – emissions per 1000 GSF, and emissions per FTE student – are in gradual decline. These are the best measure of “carbon efficiency” and they both improved, albeit slowly, between 2008 and 2012.
variation can be circumstances, not performance

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Examples

• OSU emissions intensities are higher (labs, agriculture, new central plant), while OIT emissions intensities are lower (geothermal plant).
• The regional electric grid is 30+% less carbon intensive than the national average, and 50-60% less carbon intensive than coal-dependent regions.
• The regional climate is fairly mild (little cooling, modest heating).
lower-than-average emissions per student

Note: This analysis includes a data set of 62 similar institutions from around the United States plus the 7 OUS institutions.
lower-than-average emissions per GSF

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Some emissions that ACUPCC doesn't include (yet) are large. We should be prepared for the tasks of documenting and managing them.

(Note the parallel with corporate sustainability efforts, which have focused in recent years on the supply chain.)
insights for future inventories

- OUS and campus capacity isn’t there
  - technical work
  - long intervals (e.g., four years) exacerbate these problems
- foundation for future self-sufficiency is there, if you want it
  - methods for complete ACUPCC boundaries
  - Audit Trail (bread crumbs) now ready for use
- three paths for future inventories
  - repeat this year’s process, i.e., hire a consultant again in 3-4 years and have OUS and campus staff provide support
  - invest in additional capacity at several or all institutions – many higher ed institutions and government agencies do this
  - have some central system-wide function for on-going carbon accounting (with OUS, or at one of the institutions)
next steps, recommendations

• For your carbon accounting:
  – **Make a plan for future inventories** – don’t wait to let this get solved by default at a later date.
  – **Decide the place for carbon accounting as a strategy issue** – it has that potential, so seize it.

• For your climate action:
  – **Follow your system-wide master plan goals** that provide a clear path toward meeting your commitments.
  – **Invest to meet your 2020 goal**, which you can do cost effectively (see McKinstry’s detailed guidance).
  – **Identify the investments that make up the long arc of change** that gets you to your 2050 goal.

• For your next meeting agenda:
  – **Revisit the good technical work you paid for**, i.e., McKinstry’s detailed building-level climate action planning from 2009. It has a shelf life, but you haven’t hit the sell-by date.
OUS Campus Master Plan Goals

- Campus that promotes quality of life for student, faculty, staff and the community.
  - Reflection of culture, values and aspirations of campus
  - Promote community and opportunities for civil discourse
- Provide thoughtful stewardship of a resource-constrained environment whose dimensions include the eco-system(s), land/real estate and financial resources.
  - All new construction shall have zero net addition of CO\textsubscript{2} to the total campus emissions. Renovations shall lower the CO\textsubscript{2} emissions of the facility by no less than 25%.
- Right-sized campus that makes the best use of existing infrastructure and facilities.
  - Reuse and repurpose before considering new construction.
- Consistent with the OUS Climate Action Plan Goals:
  - 2020: 10% reduction below 1990 baseline
  - 2050: Carbon neutrality
  - Develop a vibrant economy and strong communities
  - Ensure sustainable use of resources
  - Enhance economic self-reliance
  - Maintain and restore natural systems
  - Preserve Oregon’s economic, social and environmental assets for future generations

These high-level goals provide clear strategic guidance about how to develop with a carbon constraint in mind.

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Thank you!

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