

Building-by-Building Billing



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What is Decentralized Billing?



- Internalized billing?
 - Currently One Energy Bill for Entire Campus
- Decentralized Billing?
 - Building/Billing/Energy
 - Incentives/Energy Reduction
 - Utility Monitoring
 - Departmental Interaction
 - Incentives



Purpose Behind Our Project



- Energy/Water Usage and Waste Reduction
- Environmental Awareness
- Campuses Economic Performance
- Energy Awareness on Campus
- Energy Management
- Benefits



Significance to WWU

“The universities standards and position on sustainability would be reflected through the active progress toward energy conservation practices, which would also potentiality generate cost saving that could be used for future projects concerning energy improvements on campus.”



Case Studies

Iowa State University employed a “Live Green Revolving Loan Fund” in 2008.

Their first step was the decentralization of their campus billing structure.

- Transformed Accounting System
- Received Backing
- Volunteer Based / Non Competitive



Decentralized-Billing was one three initial plans for campus wide Climate Action.

- Similar data base program to Western's FAMIS.
- Their success
- Their failure
- Future?



Interviews

Tim Wynn the Director of Facilities Management

- Challenge of Multiple Departmental Sharing
- Three Year Time Line and Average
- Cost Savings and Energy Reduction



Interviews

Greg Hough the Quality Assurance Coordinator for Facilities

- Utilize Western's *Facilities and Management (FAMIS) Data Base*
 - Which Departments and Where
 - Calculate Square Footage
- Tracking Usage Difficulties
- Possible Technology Needed



Interviews

Kellen Rosburg the Resource Conservation Specialist at WWU


Carol Berry a Sustainable Program Manager at WWU

- Behavioral Practices Instead of Infrastructural
- Faculty and Office Staff Support
- The Word “Decentralize” Needs Interpretation

WWU OFFICE **OF** **SUSTAINABILITY**

Research & Analysis

10x12 is a WWU utility conservation program, supporting the President's Climate Commitment and the WWU Climate Action Plan, designed to coordinate campus utility reduction awareness and action.



10x12 Buildings

Baseline Annual Utilities Comparison

Electricity		baseline (3-year avg)	Jan-Dec 2010	10x12 Goal
Arntzen	KW Hrs/year	802,785	689,916 *	722,506
Parks	KW Hrs	533,235	565,150	479,912
Biology	KW Hrs	2,293,726	2,023,383 *	2,064,354
Chemistry	KW Hrs	3,629,746	3,278,449	3,266,771

Water		baseline (3-year avg)	Jan-Dec 2010	10x12 Goal
Arntzen	gallons/year	2,009,490	1,735,196 *	1,808,541
Parks	gallons/year	1,173,180	990,068 *	1,055,862
Biology	gallons/year	666,468	574,090 *	599,821
Chemistry	gallons/year	933,130	551,650 *	839,817

Condensate/Steam heat		baseline (3-year avg)	Jan-Dec 2010	10x12 Goal
Arntzen	Lbs Steam/year	3,333,873	3,281,341	3,000,485
Parks	Lbs Steam/year	1,334,501	945,751 *	1,201,051
Biology	Lbs Steam/year	13,030,996	10,791,019 *	11,727,896
Chemistry	Lbs Steam/year	9,942,996	13,400,189	8,948,697



Conclusion

- Foundation
- 5-7 Year Timeline
- Further Research
- Billing Transition
- Funding Availability
- On-Site Inventory
- Departmental Cooperation
- Non-Competitive



Future Works

For Students and Staff:

- Finish Researching Project Details
- Departmental Usage and Budget
- How to Divide Billing
- Western's *FAMIS Data Base*
- Utilize Campus Assets
- Pilot Project
- Work Study/Educational Credit
- Start On-Site Inventory



Thank You!

