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### JMU's Future is Green

HARRISONBURG, Va. – Over on the east side of James Madison University (JMU), an industrial building mars the lush landscape of campus. It's an unattractive building, an eyesore even. But it also houses one of JMU's most ambitious, innovative programs aimed at making the University green. The building is the Resource Recovery Facility, which burns trash from campus and the surrounding community into harmless carbon-neutral steam.

Earlier in the year, a trash sort was organized by the Institute of Stewardship of the Natural World (ISNW), a new department at JMU, as part of a waste reduction effort. Many students from different environmental classes and clubs participated. After garbage from three buildings was sorted, students discovered that 50% were recyclable, but had been placed in the trash.

"Everyone involved in the University, I think, really needs to change their behavior and embrace their roles as stewards," said Dr. Christie-Joy Brodrick Hartman, executive director of the ISNW.

"One of the things we need to recognize as a community is that environmental issues don't exist in isolation."

ISNW is a major part of JMU's effort to reduce its ecological footprint. The new department arose from a campus environmental-sustainability working group that was elevated to the Commission on Environmental Stewardship and Sustainability by President Linwood H. Rose. Rose signed the American College and University Presidents Climate Commitment in the summer of 2007 and was pivotal in moving JMU towards

environmental responsibility. JMU is a part of the growing number of colleges and universities creating green campuses by making buildings both environmentally friendly and energy-efficient.

JMU's Institute is guided by five committees responsible for education, research, and application. The committees are working to develop specific goals and objectives. At the end of the year, a report will be published assessing the University status and presenting a six year plan of action.

The department is still establishing itself as part of the JMU community, but the ISNW is only one of many efforts by students and faculty focused on environmental change.

Mary Shindler, a JMU student, got involved with ISNW through the Clean Energy Coalition, also known as the JMU Green Team.

"We're working to coordinate efforts between students and faculty to develop sustainable and clean energy initiatives for JMU," Shindler said.

"I've just begun taking part in the conversations with the ISNW, but we're considering, among other ideas, a campus bike-share program, a student center for sustainability, and purchasing clean energy."

Also a member of EARTH club, Shindler was part of a drive that collected 3,000 signatures from JMU students on a petition to demand support for clean energy legislation.

"JMU students have spearheaded many initiatives to fight against global warming including No Drive Days, bike maintenance and awareness events, and community rallies demanding climate action," Shindler said.

The university has developed many "majors and minors in courses that deal with the environment and sustainability, so it's not surprising that out of the curricular and some of the co-curricular interests like the EARTH Club you would have this committee form," Hartman said.

Under the American College and University Presidents Climate Commitment document, all of JMU's new buildings will have to be LEED, Leadership in Energy and Environmental Design, certified, which means the building process along with the final design integrates energy-efficient, resource-efficient, and energy and water efficiency.

JMU is on track to reduce by 15% usage and costs through more efficient buildings and conservation techniques.

JMU purchases most of the campus steam from the Resource Recovery Facility, a waste to energy plant, on the east side of campus owned by the city of Harrisonburg.

"Trash from the JMU campus and city of Harrisonburg goes to that plant and gets burned and it generates steam that then comes back to our campus as carbon neutral steam," said ISAT professor Dr. Maria Papadakis.

"One of the biggest energy demands on campus that we have for heating and cooling is steam production and most of what we get is carbon neutral from that incinerator."

Emily Thomas, JMU student involved with the ISNW, Clean Energy Coalition, EARTH club and President for the Society of Automotive Engineers, has been involved with the green movement on campus for as long as she has been at JMU. Recently, she has begun work in the alternative fuels lab on campus.

"The alternative fuels lab is an academic group that works with facilities

management combining practical operations with learning in a classroom setting," Hartman said.

"Currently they are looking at other kinds of alternative fuel, obviously by their name, such as ethanol and they are also participating in certain research projects like high mileage vehicle development and electric bicycle development."

The alternative fuels lab was the group responsible for the university's switch to 20% ethanol vehicles and biodiesel busses.

"We are acknowledging climate change, basically the contribution of carbon to greenhouse gasses which is contributing to climate change which is setting forth long term change in the geophysical dynamics of the planet," Papadakis said.

"It will affect rainfall, it's going to affect temperature, and it's going to affect pests, disease and potential for agriculture, so it's quite significant."

Papadakis explained that the consequences of climate change cannot be pinpointed, but slight increases in temperature and sea level over the next century will have significant consequences for human activity.

Hartman said the effect to counter climate change has to be "holistic."

"What sustainability is, is an interaction between environmental, social and economic systems and they're inextricably linked. You know you can't just take one in isolation."