As we review recent progress at the WWU Institute for Energy Studies, for the sake of brevity, let’s begin with some numbers:

- Six permanent IES faculty members, the first time we have had all of these positions in place, with the addition of Prof. Imran Sheikh (see below).
- 29 ENRG courses are listed in the current WWU catalogue.
- 457 students logged 688 registrations in energy courses in the 2016-17 academic year.
- About 90 students enrolled altogether in the Energy Policy and Management BA, energy concentrations in the Electrical Engineering BS and Business & Sustainability BA (see below), energy science self-designed majors, and two energy minors.
- Our first majors graduated in 2017: Two with the Energy Policy and Management BA, six with the energy concentration in Electrical Engineering BS, one self-designed Energy Science BS degree in Huxley College, and one energy-focused MA in Huxley College.
- Two scholarships for student in energy programs.

This fall, as noted above, we welcome Prof. Imran Sheikh as a new IES permanent faculty member who will also join the faculty in Environmental Sciences. Imran completed a BS in biomedical engineering from the University of Wisconsin, and an MS and PhD from the Energy and Resources Group at University of California, Berkeley. He worked at Rocky Mountain Institute (RMI), as well as Johnson Controls, Lawrence Berkeley National Laboratory and the Natural Resources Defense Council. His research currently focuses on how to optimally decarbonize building energy systems. He will teach energy science, technology and policy.

As we build new collaborations across the WWU campus and beyond, we also welcomed the appointment of a new affiliated faculty member: Tammi Laninga, Assistant Professor of Environmental Studies. Tammi teaches Huxley courses in environmental policy, planning, and sustainability.

Together with the College of Business and Economics, we are introducing a new energy concentration in the Business and Sustainability major, which is now open for students to declare, with academic advising from Prof. Craig Dunn and myself. Our collaboration with the Entrepreneurship and Innovation program in the IDEA Institute is getting stronger, as we share majors and minors in our respective programs.

Also, the IDEA Institute designated its first Energy Entrepreneurship Fellow, with support from IES, and will work with Bellingham firms and non-profit organizations on energy efficiency initiatives in rental housing and other hard-to-reach sectors. Another IES-sponsored internship supports the City of Bellingham’s energy efficiency outreach and development of new energy efficiency financing tools. We also have students working on internships with the Chelan County PUD and supporting an NSF grant with Bellingham Technical College.

Our strategy of “campus and community as a laboratory” is also being realized. We’ve had students working with the WWU Facilities Management team on a computerized dashboard to monitor campus building energy uses and provide a road map for their on-going efforts to upgrade energy efficiency in campus buildings.

The Facilities team also collaborated with the IES and the Office of Sustainability to arrange for the procurement of 100% of the WWU electricity load from a new wind farm development in Washington.
Solving environmental challenges will require new business models, policies, and technologies. But the most crucial ingredient to create lasting solutions may be leadership that can synthesize ideas across disciplines. The Institute for Energy Studies is well positioned to train these future leaders.

Imran Sheikh

MEET OUR NEW FACULTY:

Imran Sheikh

Imran Sheikh will be joining the Institute for Energy Studies in Fall 2017 as a faculty member in the Department of Environmental Sciences. His research currently focuses on how to optimally decarbonize residential space and water heating systems to meet long-term emissions targets. He is broadly interested in harnessing the flexibility and energy storage potential of existing electricity loads. Prior to graduate school Imran worked at Rocky Mountain Institute (RMI) where he used whole-systems design to make large industrial plants radically more efficient. He also led RMI’s effort to teach whole-systems design to engineering students. While in graduate school he worked at Johnson Controls to develop the next generation of smarter building control systems. He also held various research appointments at Lawrence Berkeley National Laboratory and was a Sustainable Energy Fellow at the Natural Resources Defense Council. He holds a B.S. in biomedical engineering from the University of Wisconsin, Madison and an M.S. from the Energy and Resources Group at the University of California, Berkeley, where he recently completed his Ph.D.

LETTER FROM THE DIRECTOR, CONTINUED:

State, with first delivery expected in 2019. WWU is the first university to buy renewable power directly in a regulated power market, via a new tariff arrangement with Puget Sound Energy called Green Direct, the terms of which were reviewed and approved by WWU Facilities, the administration and students. This novel approach was the result of collaborations in which WWU participated with energy brokers, major utilities, large buyers such as Google and Microsoft, and a convening team of nonprofits led by my former colleagues at Rocky Mountain Institute.

We held our second WWU Energy Symposium on April 18th, Repowering Mobility: Envisioning a New Future for Transportation Energy, with an attendance of ~180, a student poster session and outstanding speakers from across the region, including Governor Jay Inslee and David Roberts, an environmental journalist with vox.com. Student participants had the option of registering for one unit of academic credit as ENRG 397D in spring quarter.

Last spring quarter, we offered our ENRG 490 capstone course for the first time. In this course, seniors performed initial development work on a community solar project that potentially could be sited on or near the WWU campus.

The participating students studied technology options, business models, siting and solar resource issues, and the rules and regulations specific to community solar projects with a public university as host. A few of these students, some of whom are now graduate students, are now continuing to work on the project independently.

We continue to have new courses added nearly every quarter. In winter quarter, we plan to offer a laboratory class on the chemistry of biofuels, and a course on energy in sustainable rural development. In spring quarter, Dr. Sheikh plans a new course on renewable electricity systems (open to non-engineers), and we’re considering a course in greenhouse gas mitigation. Also, our ENRG 270 and 370 courses have been renumbered as ENRG 320 and 420.

These courses move us closer to being able to offer a dedicated BS degree in energy science and technology, and our faculty and advisors continue to work on the program design, new course offerings and collegial communications that will enable such a degree in the future.

Joel Swisher
Institute for Energy Studies
STUDENT SPOTLIGHT:

Energy Student Preparing for Fall Graduation

The Energy Policy and Management interdisciplinary curriculum has provided me with an expansive understanding of energy and its deep-rooted connection to all aspects of life. I have developed a comprehensive view of energy as it relates to economics, policy, technology, and society. The faculty and students in the program are truly passionate about learning, and creating an environment filled with innovative ideas and opportunities. Through the Institute for Energy Studies, I have had the opportunity to attend numerous conferences which continually broaden my knowledge base and develop my network of connections. On campus, I facilitate a mentoring network called Women in Energy Mentoring Network. Our objective is to connect female students interested in energy studies with professional women in the energy field to provide students with the tools they need to successfully enter the energy industry. In addition to the connections made through the network and IES, I recently spent the summer studying abroad in Iceland. The rigorous coursework explored topics covering resource economics, renewable energy technology, and sustainability. Coupled with field-based research experience, the curriculum expanded my global perspective of energy. Upon graduating in December, I plan to continue my education at the graduate level to build on the foundation provided by the Institute for Energy Studies.

Stella Tsitsiragos
Energy Student

Energy Student: Stella Tsitsiragos

BA in Energy Policy and Management with minors in Geology and Economics

“The faculty & students in the program are truly passionate about learning, and creating an environment filled with innovative ideas and opportunities.”

Stella Tsitsiragos

PUD PROFESSORSHIP UPDATE:
2017 Professorship Awarded to Professor Tim Kowalczyk

Since 2015, the Snohomish Public Utilities Department has generously sponsored a named professorship in Energy Studies at Western Washington University. For the 2017-18 year, the Institute named Professor Tim Kowalczyk as the third Snohomish PUD Professor of Energy Studies. Through the programmatic support provided by this gift, Professor Kowalczyk is establishing the IES Energy Ambassadors initiative, a combined research and educational outreach program. A small cohort of Energy Studies students, representing the disciplinary breadth of the program, are engaged in energy-focused research projects mentored by IES faculty this summer. Alongside these projects, the Ambassadors convene regularly with Professor Kowalczyk to develop outreach materials aimed at communicating central energy concepts behind their research to a wide audience. The initiative will culminate with Ambassadors’ visits to area high schools to share their experience and insights, educating the next generation about our energy system and fostering their curiosity about energy.

Professor Kowalczyk joined the Institute in 2014 and holds appointments in the WWU Department of Chemistry and Advanced Materials Science and Engineering Center (AMSEC). His research involves computational modeling of energy conversion and storage mechanisms in next-generation energy materials such as organic photovoltaics, photosensitizers, and solar thermal fuels. Professor Kowalczyk was recently awarded a $300K grant from the National Science Foundation to develop improved computational models of light absorption and energy transfer processes in these materials.

Through the Energy Ambassadors initiative, Institute for Energy Studies students will engage directly in research efforts like this from across this Institute and create essential bridges for communicating the broader implications of the research to the public.

Stella Tsitsiragos
Energy Student
Walking on glaciers is cool and all, but it’s who you do it with that makes it special. I am now connected into a global alumni network and I have made lifelong friends.

Madison MacKenzie

STUDENT SPOTLIGHT:
Energy Student Studies Abroad in Iceland

The GREEN Program is a short term study abroad option for all undergraduate and graduate students interested in renewability and sustainability. Studying abroad had always been something that I’d wanted to do while completing my undergraduate here at WWU, but I could never find a program during a quarter that would work for me. The GREEN Program is fantastic for anyone who wants to travel and learn but doesn’t want to take an entire quarter away from school. The program that I completed during winter break was to Iceland. I was there for 8 days. It doesn’t seem like much, but the amount I accomplished and saw in those 8 days are almost indescribable and I am still in disbelief at what we did. During my travels with 44 other students from all over the world and the country I completed a capstone project where my group and I designed an educational playground, sat in lectures at the University of Reykjavik, toured the 3rd largest geothermal power plant in the country, as well as two hydroelectric power plants. We super jeeped through the Icelandic highlands, walked on glaciers, all while learning about the local culture and people. I cannot begin to stress the breathtaking views and experiences that I have been given the opportunity to see and do. The most amazing thing about the GREEN Program, however, is not the adventures per se, but the people you are doing them with. Being with 44 other like-minded people who all have similar goals, and want to work to a common goal, and all have the same energy is incredible. Walking on glaciers is cool and all, but it’s who you do it with that makes it special. I am now connected into a global alumni network and I have made lifelong friends. I know that sounds cheesy but I really have found friends who I don’t plan on just being Facebook friends with. Unfortunately, this article cannot begin to do justice to my experiences or the program, but I urge absolutely anyone and everyone to look into and consider a program that sounds interesting. This program has given me new direction, new ideas, and new connections that I can carry with me through my life.

Madison MacKenzie
Energy Student

Next WIEMN Meeting - November 6, 2017

For more information:
https://www.facebook.com/energyWWU/
NEW ENERGY DEGREE PROGRAM:
Business & Sustainability with an Energy Concentration

The B.A. in Business and Sustainability with an energy concentration is a new combined major offered by the Department of Management and the Institute for Energy Studies. The program gives students:

- A fundamental knowledge of economics, giving them the skills to apply economic analysis to problems in sustainable business faced by modern organizations
- Familiarity with energy systems science and policy, giving them an understanding of the business and political climate, as well as scientific and technological issues involved in sustainable energy development
- An extensive knowledge of business and management in the context of business sustainability, giving them the basic skills needed to succeed in organizations

The transition to a more sustainable energy system is a key to reconciling our economic and environmental aspirations. WWU graduates are finding growing opportunities in the emerging energy economy in Washington and beyond. Today’s diverse energy business demands knowledge of core business skills, understanding of energy policy and management, and broad exposure to the science, environmental, business and policy aspects of the energy system that drive energy-related businesses and their governing policies. The energy concentration in the Business and Sustainability major gives graduates a strong blend of analytic and communication skills, along with energy-related expertise that industry and government experts have identified as essential to workforce needs in the emerging energy economy.

Contact Professor Craig Dunn or IES for more information: Craig.Dunn@wwu.edu or Energy.Institute@wwu.edu

Professor: Craig Dunn

Institute for Energy Studies Affiliated Faculty Member & Wilder Distinguished Professor of Business and Sustainability

“While economists despair of differentiating between needs and wants, choosing instead to focus on the more generic category of preferences…it could rather easily be argued that energy is essential to the very existence of all species, including ours.”

Craig Dunn
WWU RESEARCHERS AWARDED $309,304 GRANT FROM THE ALFRED P. SLOAN FOUNDATION

Grant to Study the Impact of Energy Efficiency on Housing Prices

Western Washington University faculty members Sharon Shewmake, Reid Dorsey-Palmateer and Phil Thompson have secured a two-year, $309,304 grant from the Alfred P. Sloan Foundation to study the impact of energy efficiency on housing prices.

The researchers are partnering with the Building Performance Center and local real estate agents to enter homes on the market, calculate a home’s expected annual energy usage, and test whether more efficient homes sell for a premium. Previous work has focused on only the most efficient homes, but this new data will add perspective on how upgrading the energy efficiency of a less efficient home affects its market price.

The researchers believe their work will provide useful information to buyers and sellers of homes as well as their real estate agents, in addition to better informing individuals considering the value of energy efficiency investments for their homes.

The project is evaluating the energy efficiency of homes in Whatcom and Skagit counties. The researchers have been reaching out to sellers of homes in Whatcom and Skagit Counties, mainly by working with local real estate agents. Involvement with real estate agents in these counties is thus a crucial component.

Dr. Shewmake noted, “We’re really excited about collecting this information. This new source of data will provide cutting-edge evidence of the impact of energy efficiency on housing prices.”

All three researchers are faculty members in Western Washington University’s Department of Economics. Shewmake and Dorsey-Palmateer are also permanent faculty members in Western’s Institute for Energy Studies (IES), while Thompson is also an affiliated faculty member of both IES and Western’s Huxley College of the Environment. This research is being funded through the Alfred P. Sloan Foundation’s Energy and Environment program, which makes grants to advance our understanding of the economic, environmental, security and policy trade-offs of low- and no-carbon resources and technologies.

Are you selling a home in Whatcom or Skagit Counties?

We’d would like to help you market the energy features of your home with a free Energy Performance Score and pay you $120 for participating in our project.

Our goal is to gather data on 600 homes for sale and calculate how much energy efficiency impacts the selling price of a home. This is important information for homeowners, real estate professionals, energy efficiency experts, academics and policy makers.

- If you are interested in evaluating your home, you can sign up a home at: www.energyefficiencywa.com
- If you’d like to be a Realtor partner and help sign up other homes, you can email: energyefficiency@wwu.edu
- More information on our project is available at: cbe.wwu.edu/energy efficiency
ENERGY INSTITUTE
NEW AFFILIATE
FACULTY MEMBER:
TAMMI LANINGA

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2017 COLLEGE QUEST STUDENTS LEARN ABOUT INTERNATIONAL ENERGY:

Fourteen high school students from Washington, Nevada and California came to Western this August to study International Energy and Environmental Policy. The students learned about the units energy is measured in, how energy is used in the U.S. and beyond, how electricity is generated and used in the U.S. and the world, transportation fuels, and the climate change and environmental impacts of these technologies and our modern society. While learning about energy, students also learned to use excel to explore a subject analytically, learned presentation and research skills, and received a better understanding of European, African, Asian, North and South American governance and geography. The packed week included field trips to the Baker Hydro Facility in Concrete, WA, a dairy digester in Lynden, WA, the solar panels at Depot Market Square in downtown Bellingham and a movie night at the Viking Union!
The Institute for Energy Studies at Western Washington University is a multi-college collaboration that offers interdisciplinary undergraduate degrees to address the science, technology, policy, business and economic aspects of energy systems.

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