Sustainability, Equity and Justice Fund Grant Program

LARGE GRANT APPLICATION
2018-19

This application is for requests over $35,000. For detailed application instructions and further information about the program, please refer the *Large Grant Application Toolkit* located on our website at wwu.edu/sustain/programs/SEJF/apply/.

The large grant application completes the large grant funding request process. The large grant application approval process is competitive; all application will be reviewed concurrently by the committee after presentations by teams, and the committee will fund those that most closely align with the SEJF mission and offer the most value to the Western community. A large grant abstract must be submitted before completing a large grant application. All SEJF large grant project abstracts for the 2018-19 Academic year will be due on Friday, November 21, 2018. All abstract project teams will be informed of the committee's determination by December 15, 2018.

Submit completed application by delivering a hard copy and emailing a scanned version (including signatures) to the SEJF Grant Program Manager Johnathan Riopelle at Viking Commons Room 24. Applications must be provided in both forms in order to be reviewed. Email: johnathan.riopelle@wwu.edu.

SECTION 1: Project Concept.

a. **Project Title: *Smart Water***

b. **Describe your proposed project:**

This project implements cutting edge water management technologies into 4 new meter locations on Western's campus. These locations; Fairhaven Commons, Fairhaven Stacks (3 and 4), and Biology; were chosen to represent student living and academic facilities. Real time water data collects and organizes useful information to all risk management and conservation decisions. These wireless water meters bring both faster responses for costly leaks and refined conservation data. This pilot is a case study to warrant further adoption across Western's campus as well as other Universities or similar institutions. Following the installation, the students in Stacks 3 and 4 will be shown their collective water consumption data as well as a usage breakdown. This will coincide with a behavioral campaign called the "Shower Challenge". The primary purpose of the challenge is to reduce domestic hot water consumption both on our campus and for other institutions. Success at Western would be proof of concept for others to follow. Advanced software will demonstrate how different activities affect water usage, challenging students to exercise smart water conservation. Better metering technology also provides measurement and verification tools to quantify the effects of the "Shower Challenge."

c. Who is the intended audience?

There are three main audiences for the ***Smart Water***. First, findings from this pilot program will be presented to WWU Facilities Management. Success in the pilot warrants further deployment of water management technology across Western's campus, especially in locations which the pilot program predicts having the greatest impact. Further expansion is the responsibility of Facilities Management. Tailoring these technologies to U.S. Universities is critical for future uses on campus. Similar technologies bring real time water use information to assist all risk management and conservation decisions. Real time water data benefits campus via rapid response to leak incidents and enhanced conservation tools.

Second, companies like APANA (a local leader in real time water management technologies and services), as well as other U.S. Universities, gain valuable insight from the pilot program. Success in this pilot warrants further uses for vertically integrated water management solutions beyond just Western's campus. Through Facilities Management's involvement with collective organizations like APPA (Association of Physical Plant Administrators), Western has shared previous successes conserving other resources like electricity and steam (natural gas).

Third, Western students receive both direct and indirect experiences provided by this technology. APANA, in particular, has repeatedly expresses their interests in working with Western students to help create the University application of their technology. While this technology is promising, there have been no recorded examples of a U.S. Universities using this technology. There would be a refining process of existing solutions systems to support the needs of Western. This would provide students with interest in conservation data a data driven experience for conservation in the business environment. Coordination with APANA exposes students to economic, social, and technical workings of modern conservation. Indirect experiences include those brought to students through programs like the "Shower Challenge" campaign. Those experiences are created by the data which this technology collects. Lastly, students around campus can observe how water management plays a role for the greater campus sustainability mission through integration with the Campus Energy Dashboard program.

d. How many students will be affected?

The students most immediately affected by ***Smart Water*** are the students living in stacks 3 and 4 during the 2019-2020 school year, since they'll take part in the shower challenges that take place during that year. Since there are usually around 50 students per stack, this is about 100 students total. However, awareness around water conservation stemming from both the speaker series and the shower challenge will likely impact many more students. A reasonable expectation for the number of students attending the speaker series is 100 based on the attendance for similar events. There are around 500 other students living in the other fairhaven stacks, many of whom will likely hear about or attend events for the shower challenge. As described above, ***Smart Water*** will impact a decent number of students in the short term, but the arguably more exciting part is the long-term impact. This project aims to set up a framework and a set of data around water usage that can be utilized by any student on campus. Currently, if somebody wants to do a project about water usage they only have access to monthly totals for entire buildings or even groups of buildings. ***Smart Water*** gives a dynamic, real-time updated data set to be used in these sorts of projects. If a student wants to study the relationship between the season and water usage in residence halls, they can do that. If a student wants to study whether changing signage in science buildings impacts water use, they can do that. In addition, there's a shower challenge planned for late 2019, but that doesn't have to be the only behavioral campaign. With water use data from stacks 3 and 4 being available to students, anybody can set up future water challenges.

e. **How long will the project last?**

The planned out parts of this go until the end of the 2019-2020 academic year, but the benefits have no end date. A lot of the purpose of ***Smart Water*** is to be a resource, and the water use information offered by it can be used by lots of students and future students for years to come. The operations savings from Smart Water will begin immediately upon installation. These upgrades can detect current and future waste water "leakage" (both visible and hidden). Water waste prevention savings can be estimated on a per case basis.

The two speaker events will last about an hour to and hour and a half. These events will both take place on the same day.

The kick off event for Fairhaven college will be a full day event. There will be a launch party lasting for about an hour. This will include pizza and opportunity for participants to ask questions to the Smart Water team.

Finally the first round of "Shower Challenge" will run for one month.

The results from the Shower Challenge will help determine future challenges and comparison timelines. The data collected by Smart Water is available to all students and faculty.

SECTION 2: Project Goals.

a. What are the goals and desired outcomes of your project?

Improve Campus Water Management:

Using monthly billing information makes it difficult, near impossible, to detect water waste in a timely manner. This is especially true for locations that are not visible or unoccupied. Even an anomaly shows in the bill, it comes a month late and does not give any information as to where the culprit is.

Key Issues:

-Water faucets left on in unoccupied areas
-"Hidden" equipment leaks
-Timeframe and scale of waste before detection*

See incident descriptions in section 2b.* ***Economic*

Provide Access to Valuable Data to Students:

The current data on water use on campus is also not adequate to quantify water conservation strategies. Due to a high volume of variables, the current measurements cannot isolate and track certain activities or functions (like showers or leaking pipes). For the first time, Western would have data that provides measurement and verification for any project aiming to conserve water. This data would be available to both students and faculty.

Inspire Others to Pursue Sustainable Water Management Solutions:

This technology makes Western **the first U.S. University** to have a vertically integrated solution to water management and conservation. Putting industry leading technology on our campus, provides opportunities for students and faculty to work with APANA on better project design. Insight gained from this project would be shared with other institutions per our involvement with organizations like APPA (Association of Physical Plant Administrators). Many institutions require tangible examples of new technology serving a University before they are able pursue solutions. Normal budgeting procedures make pilot programs a rarity. For institutions in regions faced with sustained drought, this is particularly important. Western's drive to create and improve sustainable practices provides social good. Success on Western's campus will provide other institutions with a University specific case study in real time water management solutions. Such case studies enable others to pursue tested solutions when faced with inevitable water constraints.

Western's appreciation for piloting sustainability programs has been well received in the past. Many important sustainability initiatives resulting from SEJF support such as: over $300,000 in LED lights upgrades (2012 & 2014), Sustainable Energy Efficient Dorms pilot (2013), and Solar Driven Sustainable Waste Management (2018) provide examples of Western's ambitious nature. Leaders like Western play an important role taking strong ideas to tangible action, ultimately setting a precedence for other institutions to proceed more comfortably. A university, like Western, is an excellent early adopter of sustainable technologies. Smart Water can use Western's community ties (like APPA and others) to spread our sustainability success stories. Successful sustainability projects also register with students; who bring these ideas with them to their future careers and communities.

b. **How will your project positively impact sustainability at Western?**

Smart Water represents modern stay technological solutions for sustainable resource management. The scope of this project draws together the economic motivation to reduce waste water consumption with environmental consequences of water treatment; both for freshwater ecosystems and the embodied energy to produce clean water.

Environment: Water conservation limits the impact water collection and treatment has on our local environment. Reductions in water consumption mean reductions in energy usage both on Campus (hot water) and through City Water treatment processes. It also reduces the amount of collected from Lake Whatcom which reduces the amount of water experiencing pretreatment; a process where plants, algae, other living things must be removed to prevent filter clogging. Filtering processes are both costly and disruptive as they must dispose of large biomass quantities before delivering water to customers.

Social: The "Shower Challenge" will be the first behavioral initiative possible with this project. Behavioral campaigns are an integral part of sustainability. Unfortunately, they are often very difficult to quantify without better technology. This project creates tools which will both explain and quantify water conservation on campus. The technical designs of water systems on a university campus (residential and academic) create barriers for effective conservation. These tools ought to be considered critical for building a bridge between conservation behavior and operational success.

Economic:

Saving Water

On average APANA technology saves its customers 20% of their water consumption. Biology and Fairhaven consumed 9,566 cubic feet of water last year (7/2017-6/2018). 20% savings for these two building totals $13,400 per year. In addition, the price of water continues to rise, so this could result in even more savings over time. This is just the tip of the iceberg for leakage incidents. Water leakage left undetected can cause severe damage to buildings. Advanced water conservation technology not only saves water, it protects the buildings through which the water flows.

***Responding to Incidents**

Leaks and machine failure present problems that go unresolved for long periods of time. Currently, these issues are only found by coincidence or by alerts from the city's water system. Unfortunately, those alerts come weeks later than when a leak forms, and provide no information on the location of the leak. A leak or running faucet can go for days before it is discovered.

WWU Leak Example:

- Edens Hall leak costing **$6,000** in August 2017
- Leak Ran for 11 Days
- About 6,500 cubic ft per day (Size of Fischer Fountain)
- Discovered when someone heard running water and choose to go take a look.
    - The City of Bellingham Alert that detected this came a month later on Sep. 29th
- Culprit was a Flushometer (running toilet)

Biology Flood Example:

- December 31st – February 12th 2018
- Total Cost: **$58,000**
- Mechanical Failure (Reverse Osmosis Gasket)
- Most damages caused before current alarm system was triggered (overnight)

Water waste is a very important target. It is important to note that substantial incidents of water leakage are frequent and hard to detect. APANA's technology drives conservation and enables facilities to resolve existing/future water leaks which otherwise remain hidden. Many institutions are unaware of how to catch these issues in advance which means that the costs of leaks are just assumed as part of normal operations. That also means that preventable water waste will remain "business as usual" until more people are aware of better management systems. Western's influence (both directly and through graduates) can bring ideas like the Smart Water program into more institutions and communities.

c. **How does your project tie into broader campus sustainability goals or initiatives, including Western's Sustainable Action Plan?**

Sustainability Action Plan:

Smart Water is a student led initiative that ties into several of the Sustainability Action Plan's sections. First, it provides academic resources for water conservation that would not otherwise be available. Detailed study of water consumption and conservation requires sufficient baselines and detailed usage data. The reports obtainable through *Smart Water* ought to be considered a tool for academics to study conservation. Second, the speaker events provide opportunities for students to engage with a local business and the local

government on the subject of water resource. Third, the technology details that water consumption of dining services. Currently, the water used by dining services is hidden within building totals. *Smart Water* allows sustainability advocates to analyze dining service's role in water waste.

Sustainability Tracking, Assessment & Rating System (STARS):

The STARS scoring values water conservation. This score uses baselines, consumption to square footage ratios, and conservation percentages. STARS has become a well recognized standard for measuring sustainability. It is important that Western's future pursuit for improvement includes water conservation.

Sustainable Development GOALS (United Nations):

Clean water is the 6th item on the U.N.'s Sustainable Development GOALS 17 item list. Their targets and indicators for clean water sustainability include:

Target 6.4: By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

=> Indicator 6.4.1: Change in water-use efficiency over time

=> Indicator 6.4.2: Level of water stress: freshwater withdrawal as a proportion of available freshwater resources

Campus Emissions:

Western has opted to participate in direct renewable energy purchasing. This means that our electricity consumption is becoming cleaner. The state of Washington also continues to have lower carbon emissions per unit of electricity used. This is important for climate and pollution advocates because it shifts the target to other modes of energy production that still rely entirely on fossil fuels. On Western's campus, our natural gas powered steam plant produces all of our heat; including hot water. Smart Water's emphasis on domestic hot water targets our emissions footprint aggressively. The results of this project will have their own emissions savings. More importantly the project's success opens a pathway for Western to make significant emissions reductions. With clean electricity, steam heating becomes the lion's share of WWU emissions.

SECTION 3: Project Participants.

a. **Team Information: A team should consist of two to five individuals, including the advisor.**

   <u>Team Advisor Information (Faculty or Staff)</u> Student proposals must include a staff or faculty advisor. The role of the advisor is to provide assistance and guidance to the team during the development, implementation, and post-implementation stages of the proposal process.

<u>Team Lead</u>: There must be at least one team lead designated for the project. This individual is expected to serve as the communication liaison for the project.

Name	Department/School Students provide major/minor	Position: Faculty/staff/student Students provide expected graduation quarter/year	Western email address
Team Advisor: ***Scott Dorough***	Facilities Management	Campus Energy Manager	scott.dorough@wwu.edu
Team Lead: ***Wyatt Catron***	Energy Management and Policy BA	Graduate Spring 2019	catronw@wwu.edu
Team Member: ***Sarah Harris***	Environmental Science BS	Graduate Spring 2021	harri222@wwu.edu
Team Member: ***Alex Hutchinson***	Statistics BS	Graduate Spring 2022	hutchia7@wwu.edu

b. Project Stakeholders

Does your project involve labor, include involvement, or require permission from organizations, departments, or individuals on campus or in the community? These project partners are your stakeholders; list them below. Each stakeholder must provide a signature of approval for this project. Insert additional rows as necessary. For more information, please refer to the Medium Grant Toolkit.

Name	University Department and Position	Involvement in Project	Stakeholder signature of approval
Greg Hough	**WWU Facilities Management** *Assistant Director of Asset Management*	Director for FM staff whose time and labor is relevant to project.	
Matt Maher	**APANA** *Chief Technology Officer*	Team lead for APANA's role in project. Point of contact with Western from APANA.	

Terence Symonds	**WWU Residence** *Associate Director of University Residence Facilities*	Grants permission to FM and project to perform work in resident spaces.	

If your project team is proposing a temporary or permanent facility or property modification, then a Project Owner Form must be submitted with the application. Form can be found on SEJF website: wwu.edu/sustain/programs/SEJF/apply

c. Will any Associated Students clubs be involved?

Club	Involvement in Project	Club representative signature
Energy Union	Members encouraged to attend both City of Bellingham conservation lunch event as well as Speaker Series event with APANA Chief Technology Officer. The Energy Union will set up a club booth at the lunch event. The Energy Union is most interested in the potential hot water use reductions. As Western continues to pursue clean electricity, our carbon footprint becomes more and more dominated by our use of natural gas for heat.	
Students for the Salish Sea	Members will be encouraged to attend both the lunch and the Speaker Series, SfSS will set up a booth at the lunch event as well. The Salish Sea is an important watershed to protect, and reducing water consumption	
Students for Renewable Energy	SRE will be encouraged to attend both the lunch and th Speaker Series and will set up a booth at the lunch event.	
Sustainability Representatives	Reps will be encouraged to attend both the lunch and speaker series, and a booth will be set up at the lunch. In addition, south campus sustainability representatives will be provided with resources if they want to put on an event in coordination with the shower challenge.	

d. **Each SEJF Project team is required to meet with their project coordinator on a regular basis. This individual will provide support and advisement on your project. Communication with your project advisor is necessary for your project to proceed. Initial below to acknowledge this agreement.**

SEJF Project Coordinator	Initials	Date
Team Lead	**Initials**	**Date**

SECTION 4: Project Timeline.

a. **Describe your project's progress and promotional activity. Outline all tasks that are required to complete the projects, and all means in which you will promote the project to the campus, in the table below. Insert additional rows as necessary.**

Action	Purpose	Initiation	Completion
Installation	Install Hardware	?	?
Shower Challenge Baseline	Create profile for each stack that can be used to determine water savings in Shower Challenge.	9/25/2019	10/25/2019
Speaker Series	Campus Water Conservation Awareness and Student Engagement *Matt Maher (Western Alumn)* *APANA CTO 4pm* *IES Speaker Series*	10/23/2019	10/23/2019

Campus Wide Water Sustainability Event	Campus clubs that are stakeholders in water sustainability will be able to set up booths and we have speaker Riley Grant, from City of Bellingham joining us at 12pm to speak on water waste in the city.	10/23/2019	10/23/2019
Shower Challenge Kick Off	Get students excited for shower challenge so the effectiveness of behavioral campaigns can be adequately tested.	10/28/2019	10/28/2019
Shower Challenge	Behavioral campaign using the newly installed technology.	11/1/2019	12/1/2019

There will be two events planned; one will be a smaller event with the fairhaven stacks that will be primarily focused on getting the stacks excited about participating in the shower challenge. There will be food at this event, and games. Once we find out who the RAs are going to be for the next year, we will reach out to them to start getting them involved in the execution of the event.

The other event will be a larger campus-wide event open to anyone who would like to come. This event will consist of a lunch that will ideally be located in the Miller Hall Collaborative Space. This event will provide a space where sustainable clubs can set up booths with activities on water conservation in order to promote their clubs and learn from each other. At this lunch event, speakers including Riley Grant, who works for the city of Bellingham will be brought in to discuss sustainability and water use. In order to publicize this event, we will continue to reach out to sustainable clubs, put up posters, and talk to professors and department heads to get the word out. Professors will be encouraged to provide incentives for students to come. There will be refreshments at this event with vegan and gluten free options. ~~We are looking into catering possibilities.~~

b. Where will the project be located?

This project will be at several locations around campus.

First, there will be hardware installed into the Biology building. This includes both metering equipment and a digital gateway for transmitting the data.

Second, there will be several meters and gateways installed in Fairhaven. Fairhaven Commons and Academic will have a meter along with a gateway. Stacks 3 and 4 will each get their own meter. These meters can use the same gateway from Commons/Academic.

Third, there will be a speaker lunch event in the Miller Hall Collaborative Space, and a kickoff event in Fairhaven commons.

c. **Planned project completion date:**

The project installation is planned to be finished before fall quarter begins. Since there is an involved vender, exact timeline for installation cannot be created until funding is secure. The installation is designed to be executed quickly.

The results from the Shower Challenge will be collected and analyzed over Fall 2019 and Winter 2020 Quarters. The final summary document will be made available before the end of Winter quarter.

d. **All large grant applications must be presented before the SEJF Committee.**

Project presentation date: Project coordinator initials:

SECTION 5: Project Budget.

a. Provide an itemized list of the budget items required for this project. Include equipment, construction costs, publicity, labor, and any other costs. Include funding amounts from other sources that will impact project cost (see 5b.). Insert additional rows as necessary.

***Itemized Work Order prepared by Jason Sprinkle, Construction Project Coordinator @ Facilities Management.**

***Original Documents Attached.**

Item	Cost per Item	Quantity	Cost
*Labor	-	-	$4,867
*Materials	-	-	$81,847
*Purchasing Overhead and Sales Tax	-	-	$17,416
TIMERS	$23.99	24	$575.76
Food Catering for speaker event (Pizza'zza for both events)	$15.00	110	$1650.00

Prizes for Shower Challenge			$500.00
Vegan food and snacks for events (India Grill, Co-op)			$300.00
Trophy			$20.00
		Total project budget	**$107,156**
		Total requested funds from SEJF	***$107,156***

a.

b. If the project is implemented, will there be any ongoing replacement, operational, maintenance or renewal costs? If yes, has a source of funds been identified to cover those costs? This must be communicated to the appropriate stakeholder.

Ongoing cost	**Amount**	**Responsible Stakeholder**	**Signature**
Services from APANA	$6,712/year	Facilities Management *Greg Hough*	
Maintenance and Operation	-	Facilities Management *Greg Hough*	

c. How will the success of the project be measured? Describe the quantitative and/or qualitative sustainability metrics you will use to measure the success of your project. A data collection plan is required for all projects.

Operational Success:

Facilities management will record the total cubic feet of water that is saved by faster incident response. Any other change made resulting from new data will also be added to operational successes. Data collected by this new metering system assists Facilities Management create policies to conserve water. For example, it is known the creating RI/DO water for lab uses is energy intensive. However, due to the current metering equipment the amount of RI/DO that is created and consumed is not quantified. Wasted RI/DO could likely be a conservation target that would result in both water and energy savings. Taking action on qualifying information provided through better metering is well within the scope of Facilities Management.

Incident response is another important focus item for measuring this projects success. The use of a real time water management software expects to speed incident responses substantially. For example, Facilities Management estimates that an 11 day leak (like the Edens Hall example) would be resolved in 0-5 hours. That

time range would include the alert from the water management software and Facilities corresponding action. Large incidents (like the Biology flood example) would trigger an alarm almost immediately.

Both types of operational successes will be tracked by normal measurement and verification protocols. These protocols benchmark trend data against an initially created baseline.

Behavioral Success:

Post installation Wyatt Catron, Alex Hutchinson, and Sarah Harris will create a per student baseline in Stacks 3 and 4. Alex and Sarah will lead the "Shower Challenge" campaign and corresponding events. Water usage trends will be analyzed throughout the "Shower Challenge" campaign. Differences between new trends and baseline are counted as estimated successes from the "Shower Challenge." Using water consumption from showers, steam production (and its value in natural gas) is included in the total conservation effect. There are both energy and water impacts for domestic hot water. Smart Water enables activity based analyses that would otherwise be absent from other behavioral campaigns. The scale of Western's water consumption, as well as the lack of specific metering as is, makes it nearly impossible to quantify the success of a behavioral campaign. For example, all of Fairhaven feeds to the same water meter. This means that all the water used in both Fairhaven Academic, Commons, and Residences is measured combined; creating aminiminity for the share different actions (showering, dishes, laundry, plumbing, leaks) contribute to the total. Smart Water can measure these hidden "slices of the pie". Understanding how these activities affect water consumption enables quantitative methods for verifying and influencing behavior.

Metric *(qualitative or quantitative)*	**Description**	**Impact**
Avoided Leaks *All Locations*	Prevented cost in dollars and quantity of water from new incident alarms.	These incidents cost Western time and money. They are also inherently wasteful. Both hidden and visible leaks mean clean treated water flowing into the sewer.
Shower Challenge *Stacks 3 & 4*	Water conserved through competition compared to each stack's baseline. Hot water information will be treated to reflect the thermal energy savings and direct reductions in natural gas consumption.	The water conserved through the shower challenge conserves clean water and reduces carbon and methane emissions. These challenge also build behaviors and draw connections to the upstream consequences of our resource consumption.

d. Is there any additional information about the project that you would like to share?

A few facts from the front lines:

APANA PROVIDES
22%
average water and sewer reduction

APANA PROVIDES
18
months average return on investment

APANA HAS OVER
500
installations wordwide

APANA HAS OVER
2.3
billion gallons of water under management

Common water events like the ones shown below, left undetected, can have huge impacts on the environment and your bottom line.[1]

Leaking toilet	0.5 gpm	21,600 gal/month	$2,100 per year
Drip irrigation malfunction	1.0 gpm	43,200 gal/month	$4,300 per year
Unattended water hose at night	10.0 gpm	5,400 gal/day	$16,000 per year
Stuck float valve in a cooling tower	5.0 gpm	216,000 gal/month	$21,000 per year
Broken distribution line	15.0 gpm	648,000 gal/month	$64,000 per year

1 U.S. Environmental Protection Agency; https://www.epa.gov/watersense/getting-started

We scale to your needs:

Apana ENTERPRISE™
for commercial and industrial applications

Apana ONE™
for small, single site operations

Apana CT™
for cooling towers

Customers include:

Multi-store retail chains

Hotels

Supermarkets

Food & beverage processors

Commercial buildings

Car washes

"With Apana, we expect to reduce our annual water footprint by at least 15%, and meet our 2020 efficiency goal early in 2018."

- Fetzer Winery

FETZER

All buildings use water.

But they don't have to *waste* it.

It's estimated that 20-25% of water use is avoidable. Combined with the indirect costs of water use – like electricity for heating and pumping and chemicals for treatment – the true cost of water can be many times the water and sewer bill alone.

25% It is estimated that 20-25% of water waste is avoidable. That could come in the form of mechanical failures or operational misuse.[1]

5.5% Over the past decade, water bill increases have averaged 5.5% a year, more than three times the rate of inflation, according to the Labor Department.[2]

13% Roughly 13% of energy used in the U.S. is consumed in the heating, treatment, distribution, and usage of water.[3]

You can't manage what you don't measure.

To solve a problem, you must first understand it. And water is no exception. The first step toward eliminating water waste is measuring when, where and how much you use.

That's where we come in. Our proprietary system scans, pinpoints, and guides resolution when waste events occur – saving water, money, and your reputation.

Doing nothing costs more than you think.

Mechanical Failures
Malfunctions occur routinely. Cooling towers, purification and filtration systems, and sanitization processes are common sources of water waste.

Operational Waste
Avoidable water use practices exist in all operations. Sinks and hoses get left running. Work shifts use water differently, even when tasks are the same.

Compliance Risks
Water waste can escalate into environmental violations, property damage and loss of inventory. Seldom is there any warning.

1 Longitudinal Survey of Water Reduction Initiative at Multi-Site Retailer in Southern California, 16 June, 2016
2 Harrison, David. "Why Your Water Bill Is Rising Much Faster Than Inflation." *The Wall Street Journal*, 15 March, 2018
3 Lee, Adrienne. "The Energy Cost of Water." Cockrell School of Engineering, University of Texas at Austin, 16 July, 2013

Sustainable Action Fund Grant Program

LARGE GRANT - APPLICATION

PROPOSAL REVIEW

Once your project proposal is complete, you must print and receive hand-written signatures from the individuals listed below. After signatures are received, applications can be delivered as a hard copy to the SEJF Grant Program Manager, Johnathan Riopelle at Viking Commons Room 24 or by scanning the application and emailing it to johnathan.riopelle@wwu.edu.

Please set an appointment with the Sustainable Action Fund Grant Program Manager to review your draft proposal before submitting your application.

Sustainable Action Fund Grant Program Manager, Johnathan Riopelle
Viking Commons, Room 24
Available by appointment
Email: johnathan.riopelle@wwu.edu
Phone: (360) 650-4501

Signature: _____ **Date:** _____

This signature confirms that the application has been accepted for SEJF committee review; it does not indicate funding approval.

Comments:

Seth Vidaña, Director of Sustainability, Western Washington University
Viking Commons, Room 25
Phone: (360) 650-2491

Signature: _____ **Date:** _____

This signature confirms that the application has been accepted for SEJF committee review; it does not indicate funding approval.

Comments: