



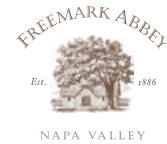
CULTIVATING THE FUTURE

Triple Bottom Line Responsibility
at Jackson Family Wines

RESPONSIBILITY REPORT 2016

PREPARED FOR THE JACKSON FAMILY
BY ANTHESIS CONSULTING GROUP





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CULTIVATING THE FUTURE

Since our founding in 1982, the Jackson family's wineries and vineyards have been family-owned and family-run. Our commitment to making the highest-quality wines goes beyond the care we take in managing our vineyards and wineries, extending to the relationships we establish with our customers, grower partners and employees. We believe that the care that goes into making our wines is as important as the wine itself. Our multi-generational approach to winegrowing allows us to craft wines according to our values, and to make responsible decisions for the health of our lands and communities.



The Jackson family believes that our mission—to make the world's best wines, from the best vineyards, crafted by hand with integrity—is strengthened by our sustainability goals. We understand that achieving excellence in how we manage our social and environmental impacts is in part dependent on our ability to evaluate and report on ourselves. As a family company it is vital to demonstrate accountability and authenticity behind our claims that we are not only a responsible business, but a leader in sustainable winemaking. We have seen a growing demand for information about sustainable winemaking and for wineries leading in this space to provide clarity. With our inaugural Jackson Family Responsibility Report, we hope to be an integral part of clarifying the conversation around winery sustainability.

Sustainability is not a new concept for the Jackson family. We have farmed and made wine with this goal in mind since the beginning. With each year, our awareness has evolved, and with it our methodologies. We are proud of the significant progress we have made over the last eight years towards specific goals in the areas of environmental stewardship, employee engagement, and community involvement.

This report details the progress we have made, as well as presenting publicly the goals we intend to achieve by 2021. We have organized this report around our four sustainability pillars: Sustaining Our Lands, Crafting Our Wines, Advancing the Field, and Innovation.

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OUR SUSTAINABILITY PILLARS



The Jackson family's approach to sustainability is driven by four core values, our four sustainability pillars, which underscore everything we do. These values are key to our ability to sustain our long-term success and achieve our goals by focusing on quality, attending to healthy vineyards, innovating at every step of the process, and using our experience and resources to help advance the field. The integration of responsibility as a goal for all employees helps embed bottom-up and top-down approaches to sustainability, which has increased the adoption of responsible business practices and efficiency gains across the organization.

We invite you to read the full report to learn more about our company, our decades-long sustainability journey, and where we believe the Jackson family's commitment to responsibility will lead us next.



1 SUSTAINING OUR LANDS

The Jackson family recognized long ago that responsible farming is essential to the health of any ecosystem. As a result, developing the best possible growing conditions for our vineyards has been one of our primary goals for more than thirty years. We carefully manage our vineyards using responsible practices including wildlife-friendly vineyard design, natural soil enhancements and pest management, erosion control, with an eye on preserving the biodiversity and resilient ecosystems that already exist on our lands.

 LAND STEWARDSHIP	 RESILIENT ECOSYSTEMS
 HEALTHY GRAPES & SOIL	 RENEWABLE ENERGY DEVELOPMENT

OUR 2021 GOALS:

- 1 Commit to at least one land conservation/restoration project per year
- 2 Source 85% of all grower fruit from certified sustainable vineyards
- 3 Power 50% of winemaking operations from onsite renewable energy generation

2 CRAFTING OUR WINES

We take enormous pride in making exceptional wines that speak to the character and quality of our vineyards and the care we take in managing our land. The farming and winemaking practices we employ to craft high-quality wines are tied to the responsible management of our resources and a deep sense of appreciation for our workplace family. As a result, we have worked to redefine winemaking by leading the field with innovative approaches to managing our operations and promoting the interests of our employees and the communities in which we live and work.

 ENERGY EFFICIENCY	 WATER REUSE & CONSERVATION
 INNOVATIVE REPURPOSING OF MATERIALS	 THRIVING EMPLOYEES

OUR 2021 GOALS:

- 4 Reduce market-based scope 1-3 greenhouse gas emissions 25% per gallon produced from 2015 baseline
- 5 Further reduce water intensity per gallon of wine by 33% over 2015 baseline
- 6 Increase water security
- 7 Zero-waste tasting rooms
- 8 Double facility solid waste diversion

4 INNOVATION

Innovation suffuses all our other initiatives. Throughout our operations, we are experimenting with pioneering growing methods, energy generation and storage technologies, and new ways of approaching historic winemaking problems. Through partnerships with organizations like Tesla Energy, California Sustainable Winegrowing Alliance, and the Tom Beard Company—as well as the creativity and imagination of our own employees—we remain at the leading edge of modern winemaking.

3 ADVANCING THE FIELD

As a family-owned, multi-generational wine business, we recognize the importance of contributing to the advancement of winemaking: exploring new technologies, inspiring the next generation of vintners, and contributing to a thriving wine community.

From our financial support of the Jess S. Jackson Sustainable Winery building at the University of California at Davis to our conservation work with federal, state, and local resource agencies, the Jackson family is involved in a wide array of leadership initiatives within our industry.

 PILOTING NEW TECHNOLOGIES	 INSPIRING THE NEXT GENERATION
 FOSTERING A SUSTAINABLE WINE COMMUNITY	 SUPPORTING OUR PEOPLE & INDUSTRY

OUR 2021 GOALS:

- 9 Establish a volunteer program that supports a 75% employee volunteer participation rate annually
- 10 Establish a domestic paid internship program that creates a pathway to full-time employee positions
- 11 Pilot an innovative trial or continue an ongoing experimental pilot project each year

 INDUSTRY-LEADING INITIATIVES	 RESEARCH & TECHNOLOGY	 INNOVATION EMPLOYEE ENGAGEMENT PROGRAM
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*A letter from the
Banke-Jackson Family*

REDEFINING BUSINESS AS USUAL

Our family began farming and making world-class wines from extraordinary vineyards more than thirty years ago. What started as our first vintage of Kendall-Jackson Chardonnay has grown into a premium collection of wineries sourced largely from estate vineyards across California, Oregon, Italy, France, Australia, Chile, and South Africa. Our family wineries have prospered through hard work, innovation, and a willingness to take risks in pursuit of higher quality. Wine is our passion, our life's work, and from this passion comes our vision to be a multi-generational, family-owned company.

Although wine enthusiasts have enjoyed our wines for decades, perhaps what is lesser known is how sustainability is embedded into our values and winemaking practices. Responsibility and environmental stewardship have always been the cornerstone of our family business, a business rooted in our exceptional portfolio of estate vineyards. Our beloved husband and father, Jess Jackson, was a wine industry pioneer and an early adopter of healthy land management. He taught us that a handful of dirt means something and that good land stewardship is essential to making great wines. His legacy of proactive land and conservation practices and entrepreneurial drive to innovate inspires our commitment to

lead the way with responsible business practices.

The Jackson family is committed to redefining business as usual. The scope of this mission, combined with our guiding principles—quality, integrity, land stewardship, and innovation—has led us to exciting places. We are working to lead the field with our commitments to renewable energy generation and onsite energy storage, as well as innovative approaches to water conservation and waste management. As a family business, we also know that our sustained success relies on a thriving community and a vibrant employee base. We believe that we have a responsibility to our employees and the communities where we do business, and we show this by giving our time and financial support to create positive social change.

It is in this spirit that we share our first Jackson Family Responsibility Report. Our formal sustainability strategy began with a comprehensive assessment of the company's environmental impacts in 2008. Over the past eight years, Jackson Family Wines has made important progress towards our responsibility goals. We are delighted to share our sustainability efforts with a broader audience, with the aim of sparking meaningful conversations about how we can improve the way we all do business.

Since beginning this journey, some of our proudest achievements in responsible business practices include:

- Establishing the Jess S. Jackson Sustainable Winery Building at UC Davis to be the first net-zero winery in the country and to educate the next generation of winemakers about how to make quality wines while reducing their environmental footprint.
- Acquiring third-party sustainability certifications through the Certified California Sustainable Winegrowing (CCSW), Sustainability in Practice (SIP), and Low Input Viticulture and Enology (LIVE) programs for all of our California and Oregon vineyards and wineries, and paying a price premium to our grower partners for certified sustainable fruit.
- Ensuring that most of our land is left wild to support biodiversity and natural habitats.
- Becoming the leading generator of solar energy in the U.S. wine industry in 2016.
- Creating an agreement with the North Coast Regional Water Quality Control Board and the California Department of Fish and Wildlife to release captured rainwater from one of our vineyard reservoirs into the Green Valley Creek to increase stream

flows and allow the endangered Coho salmon population a chance for survival.

- Reducing our water intensity by 41% since 2008 and integrating water conservation into our winemaking practices through reduced vineyard irrigation, irrigation using recycled water, rainwater capture, barrel wash water recycling, and waterless tank sanitation.

Through this report, we are outlining our future goals and demonstrating how we engage stakeholders to establish the accountability and authenticity of our sustainability achievements. We are committed to being leaders in responsible winemaking, and are sharing the story of our journey with others to inspire and inform. As we move towards attaining each goal, we will continue making wines with the character and unparalleled quality that our customers have come to expect.



THE JACKSON FAMILY

Standing, (left to right): Jennifer Jackson Hartford, Don Hartford, Laura Jackson Giron, Rick Giron, Barbara Banke, Christopher Jackson, MacLean Jackson Hartford. Seated, (left to right): Katie Jackson, Julia Jackson, Hailey Jackson Hartford



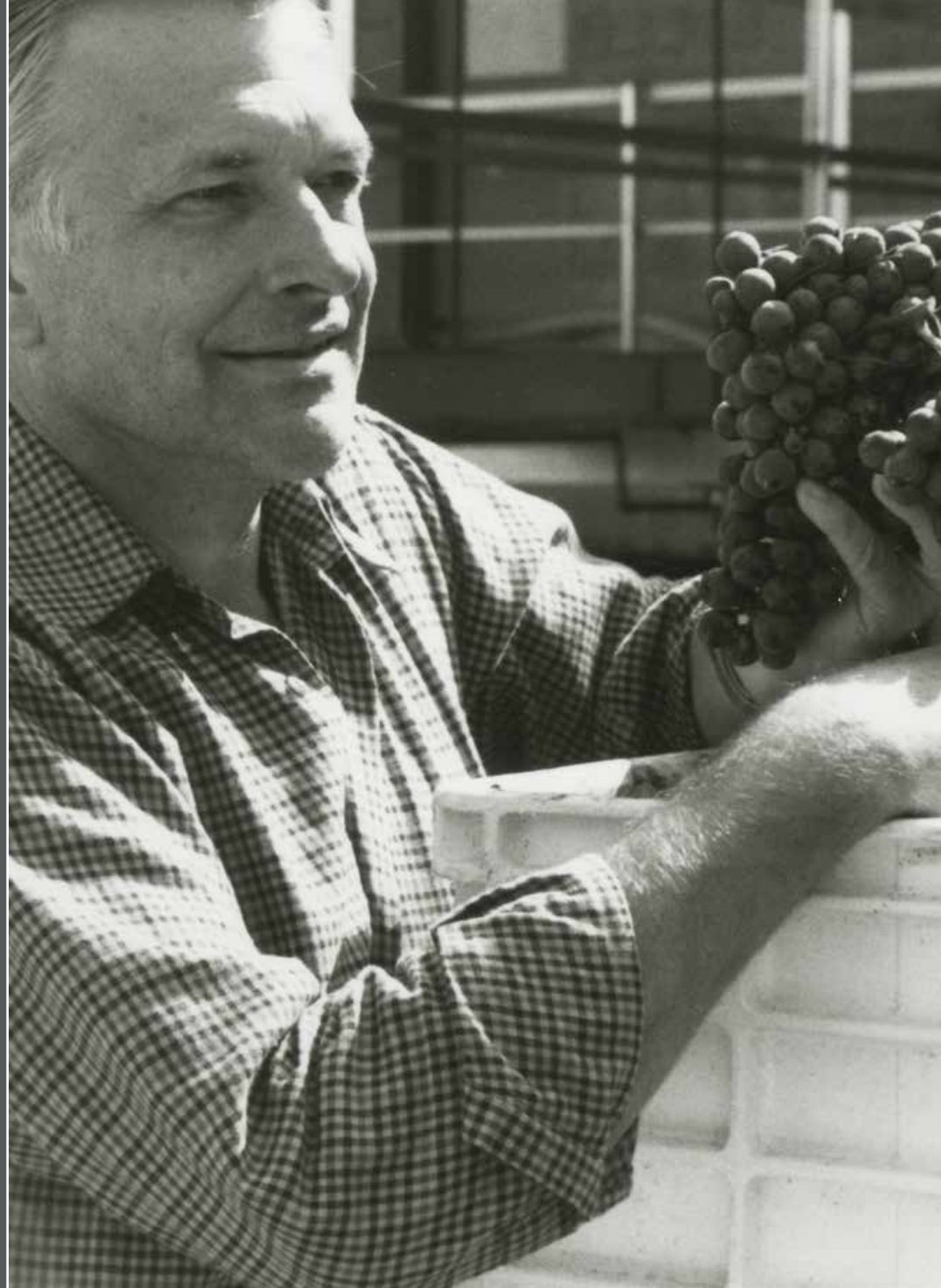
KATIE JACKSON
VP OF SUSTAINABILITY AND
EXTERNAL AFFAIRS



BARBARA BANKE
PROPRIETOR AND CHAIRMAN

THE JACKSON FAMILY'S VISION & VALUES

One of Jess Jackson's enduring contributions is the involvement of his family, and extended family, in our multi-generational businesses. Part of our long-term vision as a company, and the driving force behind our commitment to sustainability, is the preservation of this heritage for generations to come. We feel it is therefore incumbent upon us to be as transparent as possible about our operations while still maintaining our organizational integrity. This report provides us with the opportunity to detail many of the initiatives, operational structures, and sustainable practices that allow us to live our values and achieve our vision.



THE LEGACY OF JESS STONESTREET JACKSON

Our story begins with the pioneering vision and passion of our founder, Jess Stonestreet Jackson. From the start, Jackson envisioned a family-owned, multi-generational business that would stand among the world's most renowned family wine dynasties. Recognizing the importance of healthy lands to grow the most flavorful and healthiest grapes, Jackson was an early adopter

of sustainable land management practices, reducing the use of pesticides and implementing water-conserving drip irrigation earlier than many of his competitors. Jackson often said "take care of the land and it will take care of you." We are inspired each day to build on his legacy of stewardship and his quest to make world-class wines.

JACKSON FAMILY WINES

We are first and foremost a family company. In 1982, our founder Jess S. Jackson, first bottled Kendall-Jackson Vintner's Reserve Chardonnay in a modest barn on our Lakeport Ranch in northern California. This wine has grown to become America's most beloved Chardonnay, creating the foundation for our family company and the exceptional wines we produce. Today, our family continues our mission to make world-class wines sustained by hard work and respect for the land and the future generations who will inherit it. Our generational approach to winegrowing has never been stronger, anchored in principled farming methods that encourage judicious use of natural resources and preserving open space.

GET TO KNOW JACKSON FAMILY WINES

- Founded in 1982 by Jess Jackson
- In California, the Jackson family grows fruit in Santa Barbara, Monterey, Sonoma, Napa, Lake and Mendocino Counties.
- 1,500 employees
- 2016 California Green Medal Leader Award recipient for excelling in the "3E's" of sustainability
- 2015 & 2016 Top Project of the Year honors from *Environmental Leader* for innovative water reuse and energy management
- 2015 North Bay Business Journal "Best Places to Work"
- 2013 Green Company of the Year from The Drinks Business (UK)
- 2011 EPA Green Power Leadership Award recipient for excellence in energy management and renewable energy procurement
- Certified California Sustainable Winegrowing (CCSW) Certified
- Sustainability in Practice (SIP) Certified
- Low Input Viticulture and Enology (LIVE) Certified in all Oregon vineyards
- LEED Gold-certified Distribution Center



Renewable energy comes in many forms at Stonestreet Mountain Vineyards in Sonoma County's Alexander Valley AVA.

Take care of the land and it will take care of you.

JESS JACKSON
FOUNDER

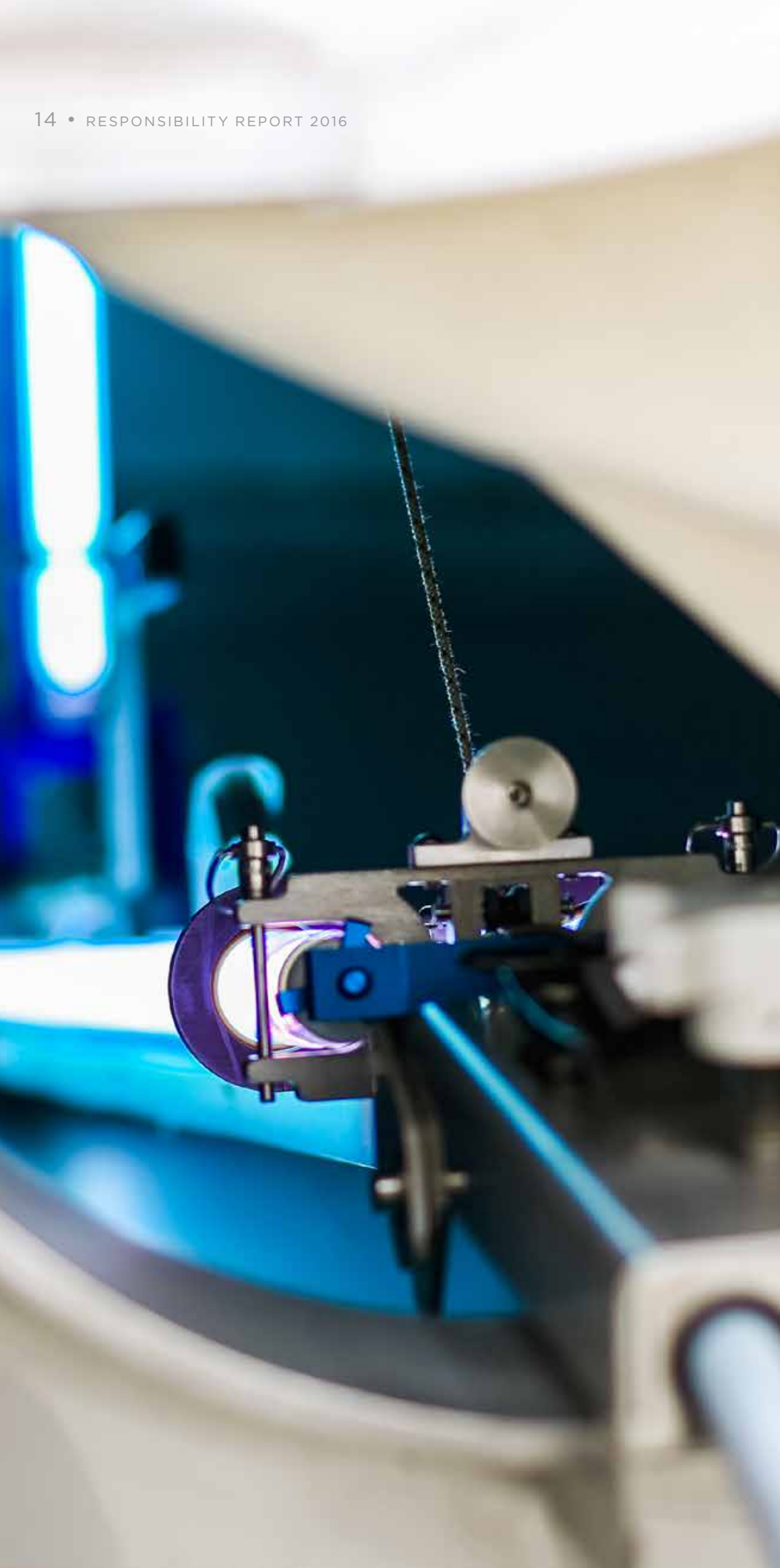
Jackson Family Wines is a global collection of historic vineyards and more than forty premium brands throughout California, Oregon, Italy, France, Chile, Australia, and South Africa. Inspired by the long-held tenet that great wines can only come from great vineyards, the Jackson family searched the cool, coastal ridges of California and Oregon and renowned regions across the globe to acquire some of the best vineyard land in the world. Today, our vineyard sites are located on hillsides and mountains where well-draining soils tempered by cooling breezes result in grapes with more complex, intense flavors.

Each of our family's wineries operates independently and is characterized by a singular winegrowing philosophy rooted in our land and estate vineyards. Our commitment to sourcing high-quality fruit primarily from family-owned vineyards affords greater control over each stage of winegrowing. This commitment ensures the distinguished quality of our wines, and is integral to the future health and well-being of our land, today and for future generations.

Since the beginning, members of the Jackson family have held key positions throughout the company. Today, Jackson Family Wines is led by Chairman

and Proprietor Barbara Banke, Jess's wife of twenty-five years. Family members involved in the business include Jess and Barbara's three children, Katie, Julia, and Christopher Jackson; Jess's two daughters, Jennifer Jackson Hartford and Laura Jackson Giron; Laura's husband Rick Giron; Jennifer's husband Don Hartford (our Vice Chairman of the Board); Jennifer and Don's children, Hailey and MacLean Hartford; as well as other family members who work in other roles. Katie Jackson, Jess and Barbara's oldest daughter, serves as Vice President of External Affairs and Sustainability. Additionally, the majority of our Executive Team have spent twenty years or more working with the Jackson family. This continuity at the highest levels of the company is another important driver behind the long-term success of our family business.





BlueMorph UV Waterless Tank Sanitation.

OUR INNOVATION

Innovation is a cornerstone of our winemaking at Jackson Family Wines. We invest in advances in viticulture and technology because they enable us to continue to craft the highest-quality wines while simultaneously reducing our environmental and operational impacts.

Here are the highlights of the Jackson family's current sustainability innovation projects:

ONSITE ENERGY STORAGE

The Jackson family is collaborating with Tesla Energy to install twenty-one stationary energy storage systems, for a total of 4.2 MW of storage capacity, which will provide a stable source of electricity across multiple wineries, making Jackson Family Wines one of the early adopters of energy storage in the wine industry and, currently, one of Tesla's largest installations.



Fruition Sciences sap flow monitoring system at Stonestreet Estate Vineyards.

Tesla's system is one of the most advanced energy storage products on the market. The Tesla solution provides a viable option for companies seeking to reduce peak energy consumption, resulting in cost savings and more efficient energy use. Our wineries' systems will be used to mitigate peak power consumption, and when integrated with our 6.5MW of onsite solar arrays, will result in approximately \$2 million in savings annually.

BARREL WASH WATER RECYCLING

We worked in tandem with the Tom Beard Company to develop integrated wash water recycling units for our automated barrel lines to reuse water up to three times before sending it to the drain, saving approximately 700,000 gallons per year. The automated barrel washing lines in our Monterey winery are fitted with water recycling units that recapture barrel wash water (and embodied energy used to heat it) for reuse three times. This project received *Environmental Leader's* Top Project of 2015 honor.

Tesla Energy Storage batteries at La Crema Winery.

IRRIGATION INNOVATION

The Jackson family has partnered with Fruition Sciences to explore optimal vineyard water use technologies, including a plant sensor irrigation system implemented in 2012 that improves grape composition while reducing water use. The technology monitors the level of the grapevine's sap flow activity as a determinant of when to irrigate, essentially allowing the plant to communicate when it is thirsty. The technology has dual benefits: the reduction of water consumption and the improvement of grape flavor by avoidance of overwatering.

We have continued the use of the Fruition Sciences system beyond the initial research trial with positive results: the grapes grown using these water sensors have improved in quality while substantial water savings—upwards of 25%—have been realized.

Jackson Family Wines' water management research program is beneficial to the organization for its own water savings and wine quality improvements. On a larger scale, their research benefits the whole industry because it provides additional and scientifically proven data to incentivize the adoption of a water savings technology that can be applied anywhere. Jackson Family Wines' involvement with Fruition Sciences, technology ultimately supports innovation and scientific research to improve resource use in agriculture operations, and resource conservation through use of technology.

THIBAUT SCHOLASCH
CO-FOUNDER,
FRUITION SCIENCES



A raptor box provides a perch for beneficial predators in our Sonoma County vineyards.

OUR SUSTAINABILITY JOURNEY

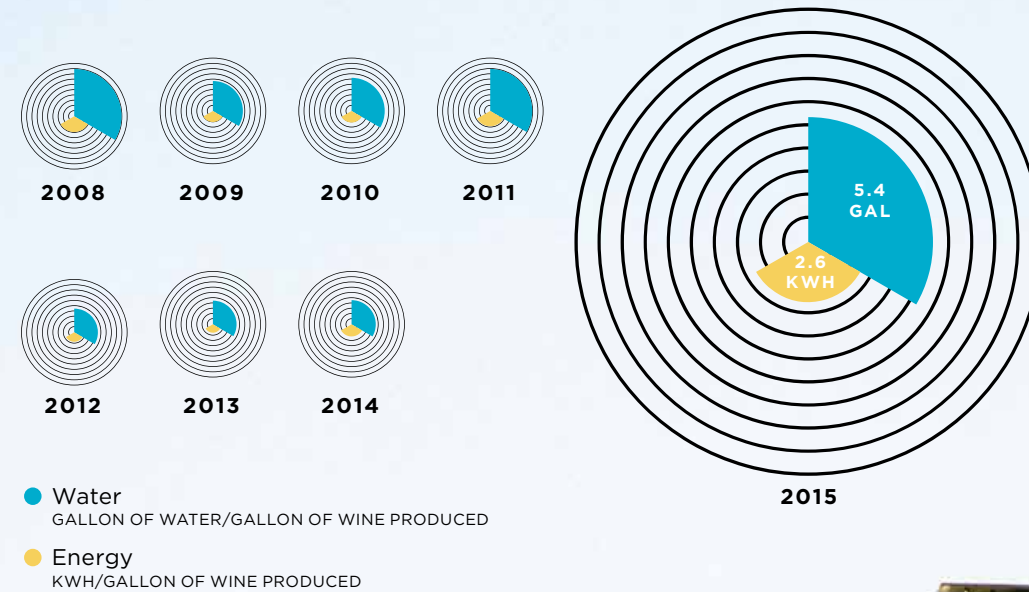
Our values are rooted in a healthy respect for the land and the people with whom we do business. This respect inspires how we approach each decision and remains an essential part of who we are as winegrowers.

BARBARA BANKE
PROPRIETOR & CHAIRMAN

The Jackson family's sustainability journey began in the 1980s when Jess Jackson began exploring drip irrigation as a water-saving technology, along with preservation of riparian areas as a means to support wildlife on our ranches and naturally control pests. Over time, we developed partnerships with sustainability advocates including the University of California at Davis, which, with support from the Jackson family, constructed the first LEED® Platinum certified winery in the world. We've also supported our local communities, providing annual financial and in-kind contributions to more than fifty community-based organizations in California and Oregon.

WINERY WATER & ELECTRICITY INTENSITY

2008 BASELINE COMPARED TO 2015 METRICS



THE JACKSON FAMILY'S SUSTAINABILITY PARTNERSHIPS



AN OVERVIEW OF WINEGROWING SYSTEMS IN THE UNITED STATES

	OVERVIEW	WHAT DOES THAT MEAN?	CERTIFYING ORGANIZATIONS
CONVENTIONAL	Conventional vineyard farming allows the use of agricultural chemicals such as herbicides, pesticides, and fungicides, while conventional winemaking may use a broad variety of inputs, from cleaning agents to wastewater processing adjuncts.	Unlike European governing organizations such as the AOC system in France, American AVA laws only establish regional boundaries and varietal percentages and do not govern vineyard and winemaking practices.	There are a variety of regional, state, and national regulations, but no unifying regulator. For example, the DPR (Department of Pesticide Regulation) oversees the use of pesticide applications, but the EPA regulates vineyard practices relating to environmental concerns such as endangered species and erosion.
SUSTAINABLE	Sustainability employs the triple bottom line approach of environmentally sound farming as well as responsible economic and social practices—a whole system that considers a company’s impacts on ecological and human resources.	Sustainability programs encourage landowners to measure and reduce their footprint beyond the farm. They enhance transparency in accounting for impacts like water and energy use, integrated pest management, and worker health, and require continuous improvement year over year. Third-party auditors independently verify conformance.	Each certifying organization has its own set of guidelines that enhance transparency and require continuous improvement year over year. Common certifying bodies include CCSW (Certified California Sustainable Winegrowing), SIP (Sustainability in Practice) and LIVE (Low Input Viticulture & Enology).
ORGANIC	In the US there are two types of organic labeling that are used for wine: “Certified organically grown grapes” (which may use sulfites in the winemaking process) and “Organic” (which may not use any sulfites in the vineyards or winery).	No addition of <i>synthetic</i> compounds in the vineyard, such as herbicides, pesticides, fungicides, or fertilizers. Organic wines must be made with organic grapes and vinted without any added sulfites. No synthetic clarification agents may be used in fining.	The USDA (US Department of Agriculture) oversees organic certifying bodies for wine in the US. The most common are CCOF (California Certified Organic Farmers) and Oregon Tilth. In many states, however, there is no organic certifying body, so producers seeking Organic labeling are certified by the USDA.
BIODYNAMIC	Wines are farmed according to Biodynamic principles (a spiritual-ethical-ecological approach that accounts for tangible and intangible forces) and vinted without the addition of any adjuncts in the cellar.	Biodynamic agriculture views the farm as a holistic living organism, an ecosystem complete with animals and composting. Practices follow lunar cycles and employ nine naturally-derived “preparations.” Biodynamic certification does not allow the addition of yeast, acid, or sugar in the cellar, but sulfites may be used.	In the United States, Demeter (Demeter Association Inc.) is the certifying body for all Biodynamic wineries. The primary international certifying body is also known as DI (Demeter International).

Cover crops naturally fix nitrogen deficiencies in the soil, as well as controlling erosion and providing habitat for predatory insects.



The family and its employees are specifically interested in community-based organizations that improve children’s lives and provide access to education, enhance agriculture, conserve natural resources, and provide health and human services to families.

Our sustainability program is based on the Jackson family’s continued belief in the importance of resource conservation. The current iteration of our sustainability strategy began in 2008 when we performed a comprehensive, company-wide assessment of our environmental impacts. Since that time, we’ve actively engaged in a process of reducing our impacts and measuring progress toward our goals year over year, while simultaneously increasing transparency with our stakeholders via conscious communications.

Over the past eight years, we have achieved certification for all of our California and Oregon estate vineyards and wineries from several best-in-class sustainability programs, including:

- Certified California Sustainable Winegrowing (CCSW)
- Sustainability in Practice (SIP)
- Low Input Viticulture and Enology (LIVE)

Each of these programs establishes clear guidelines for superior practices in viticulture and enology sustainability, including water and energy use, pest management, and employee safety. Jackson Family Wines’ involvement in these programs affirms our commitment to these practices as well as continuous improvement, measurement, and innovation.

While we have made significant progress since 2008, we acknowledge that our sustainability journey is ongoing, and we always strive to do more. The remainder of this report will share progress in each of our sustainability pillars, and detail our goals in these areas for the next five years. Readers who wish to learn more about our sustainability journey to date can access a thorough account at <http://jacksonfamilywines.com/en/sustainability>.



THE VALUE OF SUSTAINABILITY CERTIFICATIONS

Increasingly, organizations are turning to third-party certifications to validate and verify their sustainability claims. Consumers can be assured that certified companies are following best practices in sustainability and creating products and services that meet rigorous expectations.

The Jackson family chose to certify with the CCSW, SIP, and LIVE programs because all three focus on enhancing wine quality in concert with sustainable practices in the winery and the vineyards. We also chose the CCSW, SIP, and LIVE programs over other certifications—such as organic or biodynamic—because of their demonstrated commitment to a triple-bottom line approach to sustainability, which aligns with our values.

SUSTAINING OUR LAND

Our vineyards are tended by vineyard managers who know and care for the land as if it were their own.

TONY VIRAMONTES
VP VINEYARD OPERATIONS
AND 20-YEAR EMPLOYEE OF
JACKSON FAMILY WINES



LAND STEWARDSHIP



RESILIENT ECOSYSTEMS



HEALTHY GRAPES & SOIL



RENEWABLE ENERGY DEVELOPMENT

From the beginning, Jess Jackson and his family recognized that our wines are only as good as our grapes, and that the quality of our grapes is dependent upon the quality of our land. It follows that *Sustaining Our Land* is our primary sustainability pillar at Jackson Family Wines. By carefully managing our vineyards to be resilient and healthy ecosystems, we reduce impacts on natural resources while ensuring the longevity of our family business.

THE JACKSON FAMILY'S LAND DEVELOPMENT

As winegrowers it is important to achieve a balance between land preservation and vineyard development. Responsible stewardship is integral to minimizing impact and preserving the surrounding biodiversity. With a focus on leaving much of our land wild, Jackson Family Wines is protecting thousands of acres to preserve wildlife diversity and create a lasting agricultural heritage. Our understanding of best sustainable practices has evolved with the growth of our vineyards. When we develop new vineyard plantings we hold ourselves to the highest standards of land management to limit our environmental footprint. To maintain healthy soils and protect the natural ecosystem, our vineyard teams work closely with field experts such as soil engineers, hydrologists, biologists, and environmental regulators.



1.1 LAND STEWARDSHIP

The Jackson family is a prominent landholder of premium vineyard properties across the world's most renowned winegrowing regions. As a family-owned wine company, we are deeply committed to responsible land management that will ensure productive vineyards for generations to come. Our ability to source the majority of our grapes from our own lands gives us greater control over not only the quality of our wines, but also the way in which we utilize our natural resources.

We consciously design our vineyards to have minimal impact on the surrounding environment and utilize sophisticated, industry-leading farming practices to reduce the volume of water and pesticides required to manage vines, while also encouraging soil enhancement, erosion control, and biodiversity that leverages native crops and natural predators. The average tenure among our vineyard managers is more than fifteen years with Jackson Family Wines. Each knows the importance of maintaining the health of our lands through restoration and biodiversity.

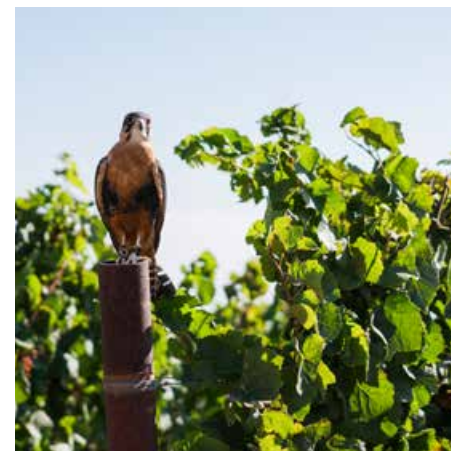
We leave most of our land in its native state to support biodiversity and natural systems.



1.2 RESILIENT ECOSYSTEMS

A foundational component of managing our lands responsibly is ensuring the continuity of natural resources through sustained ecosystems and biodiversity. Each vineyard is surrounded by native trees and riparian corridors that encourage the growth of native plants and create habitats for animals, including wild predators that naturally control pests. Cover crops such as clover, peas, and grasses are used to fix nitrogen deficiencies in the soil, control soil erosion, and enhance soil quality while providing habitats for predatory insects.

We also actively engage in stream restoration, endangered species protection, and forestry practices to keep our lands as healthy and vibrant as possible. Responsible stewardship is integral to minimizing impact and preserving the surrounding biodiversity. With a focus on leaving much of our land wild, Jackson Family Wines is protecting thousands of acres to preserve wildlife diversity and create a lasting agricultural heritage.



VOLUNTARY DROUGHT INITIATIVE GREEN VALLEY CREEK, RUSSIAN RIVER VALLEY

During the summer and fall of 2015, the Jackson family collaborated with the California Department of Fish & Wildlife (CDFW), local landowners, and other volunteers to release water from one of our vineyard reservoirs into Green Valley Creek, a key tributary for endangered Coho salmon in the Russian River watershed. This release of 7.2 acre-feet over the course of two months increased water flows, offering a chance for survival to the over-summering juvenile Coho. In conjunction with the water release, we also donated \$40,000 to Trout Unlimited for the purchase of residential tanks, which helped minimize the need for people living near the stream to draw upon it for water.

In January 2016, in recognition of our voluntary resource conservation efforts, Jackson Family Wines and our collaborative partners received the Executive Officer's Water Quality Stewardship Award from the North Coast Regional Water Quality Board.

"When responsible members of the community come together to develop solutions, the result is remarkable," said Charlton H. Bonham, CDFW Director. "The voluntary drought initiatives by organizations like Jackson Family Wines will have an extraordinary effect on helping to save the lives of the Green Valley Creek Coho population."



PILAR 1

Salmon habitat restoration project on Sausal Creek in the Alexander Valley.



1.3 HEALTHY GRAPES & SOIL

Our wine quality is dependent upon a holistic understanding of our vineyards and principled farming methods that maintain vine and soil health. We evaluate the complex soil types on our lands to help implement sustainable soil management practices. We also utilize drainage systems that prevent soil erosion and conduct plant tissue analyses to determine the minimum fertilizer requirements for each vineyard. We never use materials that are groundwater contaminants or air toxins.

We primarily rely on Integrated Pest Management practices to protect our vineyards. This includes ensuring the health of our vines to discourage disease and pest habitats, reducing dust from roads to reduce mite populations, and relying on natural predators such as insects and birds to help keep pests in check. To that end, we provide habitats for insects and perform insect and species counts. We also install owl, bat, and raptor boxes on our lands to provide safe nesting areas for these predators. In the rare instances where pesticides are used, we use them only as approved by our certification programs and employ them via a pinpoint system, to monitor and treat only the areas of our crops where pests are present. We are committed to continued exploration of alternative methods that will allow us to reduce our use of pesticides.

While the Jackson family grows most of our own fruit, it is necessary for us to augment our supply with grapes cultivated by our preferred grower partners. We hold these local farmers to the same standard as our own vineyards, and are working together to improve the sustainability of all grapes, wherever they are farmed.



GOAL 1

Commit to at least one land conservation/restoration project per year

The Jackson family believes that collaboration with resource agencies on habitat conservation is incredibly important. We continue to look for opportunities to work with agencies such as the California Department of Fish and Wildlife (CDFW), the US Fish and Wildlife Service, the North Coast Regional Water Quality Board, the California Air Quality Control Board, and NGOs, among others, to find ways that our practices on our lands can help enhance and restore habitat for endangered species, and promote healthy ecosystems and natural biodiversity on our vineyard properties.

“Our family operates with a 100 to 200-year threshold to do all we can to help enhance and restore habitat for endangered species,” says Katie Jackson, Vice President of External

Affairs and Sustainability and daughter of company founder Jess Jackson. “We believe that collaboration with resource agencies and conservation organizations, as well as other wine-growers and landowners, is incredibly important for habitat conservation.”

Past Jackson family habitat restoration projects have included:

- Planting more than 5,500 trees, mostly oak, across our vineyards in Santa Barbara and Sonoma Counties.
- Working with the U.S. Fish and Wildlife Service to protect vernal pools and upland habitat for the endangered California Tiger Salamander in Santa Barbara County.

- Restoring the eroding Sausal Creek bed in Sonoma County and reestablishing native plants to protect Coho salmon habitat—as part of the project, we also mentored students in the local Watershed Science and Leadership Programs.

- Installing hundreds of nesting boxes in the vineyards to provide shelter for the reemerging raptor population, which in turn help control damage by rodents.
- Supporting the non-profit Hungry Owl Project by providing 100 new homes for barn owls on our Stonestreet Estate Vineyards in Alexander Valley—the owl boxes were built by local school children from recycled materials and then made available for “adoption” by consumers to help support the cause.



Source 85% of grower fruit from certified sustainable vineyards

GOAL 2

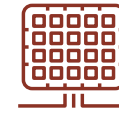
For the 2015 harvest, approximately 65% of our total harvest tonnage was sourced from family-owned or leased vineyards, all of which were certified sustainable through the CCSW, SIP, and LIVE programs. The remaining 35% was sourced from the approximately 225 grower partners we do business with on a regular basis, the vast majority of whom are small-scale, independent family farmers. Thus it is critical that we engage our grower partners in this

initiative to enable us to meet our goal. In 2014, we were the first winery in Sonoma County to announce an initiative to pay our growers a price premium to cover the cost of their certification process until no longer needed. In concert with this price premium, we also committed significant resources to working with organizations like the Sonoma County Winegrowers to host self-assessment workshops. As a result, our total grower partner certification

percentage shot up from 14% in 2014 to 48% in 2015. We will continue working with our grower partners to provide resources for certification, but also recognize the challenge that a time-consuming certification program creates for many of our smaller growers, many of whom have been living and working their family farms for multiple generations and have been practicing de facto sustainable agriculture.

	2014	2015	2016	2017	2018	2019	2020
Grower Partner % of Total JFW Crush	43%	35%	34%	33%	33%	36%	39%
JFW % of Total JFW Crush (All Certified Sustainable)	57%	65%	66%	67%	67%	64%	61%
Grower Partner % Certified Sustainable (Forecast)	14%	48%	60%	70%	75%	80%	85%
Total % Certified Sustainable	63%	82%	86%	90%	92%	93%	94%

The Jackson Family Wines Grower Relations team (left to right): Sally Percich, Adrienne Uboldi, Katie Ryan, John Azevedo, and Skip Lovin.



1.4 RENEWABLE ENERGY DEVELOPMENT



One of the primary goals since our 2008 baseline has been to reduce our environmental impact by shrinking our carbon footprint. Our energy consumption and the residual emissions produced contribute to an increasing catalogue of planetary concerns, including climate change, ocean acidification, and human diseases such as asthma. The extraction of fossil fuels requires valuable water and results in toxic byproducts that have the potential to poison the soil. At the same time, energy costs continue to rise and grid-sourced electricity is unstable in cost and unreliable in generation. We believe, therefore, that it is in our long-term interest to invest in the development of clean, renewable energy.

We began our commitment to clean power in 2010 when we first purchased renewable energy credits (RECs) to offset our energy use. We were recognized for our efforts by the U.S. Environmental Protection Agency in 2011 when we were given a Green Power Leadership Award. Each year, we have continued to increase our purchase of U.S.-generated renewable energy to offset emissions from our annual electricity consumption. In 2015, we offset 130% of our annual usage - 100% for our operations, and another 30% on behalf of our employees' home usage. We are one of the only companies in the U.S. to have made this commitment.



GOAL 3



Power 50% of winemaking operations from onsite renewable energy generation

The addition of onsite solar generation capacity will allow us to generate as much as 35% of the electricity our winemaking operations need by the end of 2016. We will continue evaluating onsite renewables, as well as investing in energy efficiency technologies to become more streamlined in our electricity use, in order to achieve our goal of offsetting 50% of winemaking operations by 2021.



Tucker Taylor, our Director of Culinary Gardens, plying his trade.

THE JACKSON FAMILY'S PARTNERSHIP WITH SHONE FARM

Located on the Santa Rosa Junior College campus, Shone Farm is a 365-acre outdoor educational laboratory that gives students in sustainable agriculture, wine studies, viticulture, and environmental conservation hands-on experience in their discipline. Since 1991, Shone Farm has been one of the Jackson family's grower partners, providing a small portion of Chardonnay and Pinot Noir grapes for the La Crema wine program.

The vineyard at Shone Farm is managed by winegrowing professionals; students are exposed to farm operations via their viticulture classes. The students are also introduced to the principles of sustainable wine-growing—program coordinator Dr. Merilark Padgett was one of the initial authors of California's SIP guidelines and has been a



champion of sustainable agriculture practices throughout her career.

"It's been wonderful to see sustainability practices be embraced by a wider audience and for wineries to emulate what we're doing here," said Dr. Padgett. "We appreciate the leadership role the Jackson family has taken on sustainability, which took courage and boldness, and honors our longstanding partnership."

Shone Farm is unique among the Jackson family's grower partners, not only because of its educational purpose, but because of its emphasis on walking the talk of sustainability. The farm received its CCSW certification in 2010 and sells all of its grapes to certified wineries. Revenues support the Junior College's educational programs alongside opportunities for continuing education for other growers and the community.



THE JACKSON FAMILY'S INNOVATIVE ENERGY GENERATION

At Jackson Family Wines, we have a vision that we will someday be able to take a winery entirely off-grid. It's what drives our commitment to clean energy, and what fuels our creative and innovative approaches to energy management.

We've reinvested the more than \$8 million we've saved so far as a result of our energy efficiency efforts in our onsite renewable energy projects. In 2012, we built what was then the nation's largest rooftop solar and hot water cogeneration facility, saving \$30,000 and 700,000 kilowatt-hours of electricity annually. In 2013, we built a 280 KW solar system at our Carneros Hills Winery. Taking things a step further, we are currently installing an additional 6.5MW of solar PV generation capacity across eight wineries in California. All systems were energized in early 2016, making JFW the wine industry's largest solar generator.

In total, that's the equivalent of offsetting more than 1,300 Californian homes' annual energy use, and puts us well on the way to achieving our goal of powering 50% of winemaking operations with onsite renewables by 2021. Furthermore, our recently announced collaboration with Tesla Energy gets us a step further by allowing us to reduce our peak electricity consumption and our reliance on an already overburdened grid.

CRAFTING OUR WINES



ENERGY EFFICIENCY



WATER REUSE & CONSERVATION



INNOVATIVE REPURPOSING OF MATERIALS



THRIVING EMPLOYEES

We believe that our ability to manage our natural resources enhances the quality of our winegrowing, while our employees, and our commitment to them as part of the extended Jackson family, provide the essential framework for making exceptional wines.

In this vein, we have tasked ourselves with redefining business as usual when it comes to winemaking and sustainability, and we lead the field with our commitments to renewable energy generation, onsite energy storage, and procurement; innovative approaches to water conservation; and waste management practices.

ACKNOWLEDGING AND ADDRESSING CLIMATE CHANGE

No thorough review of responsibility would be complete without the inclusion of the risks to our business associated with climate change. We feel these risks keenly in light of California's current drought and the impact it is having on our business and employees.

Our future success depends on the ability to consistently grow superior grapes and make great wines. Both our winegrowing and vinification practices rely heavily on the ready availability of water and power. We recognize our dependence on these two natural resources, both of which are vulnerable to the impacts of climate change.

The Jackson family's commitment to sustainability is based on our values as well as a belief that business has the power to shape practice. Through the innovative initiatives and partnerships we've developed—and continue to develop—we are helping raise the bar for our industry. We know from our experience that it is possible to make great wine while taking care of the land, and that by reducing our own footprint, we can help plan for, and ideally reduce, climate change risks, allowing us to remain the sustainable choice for wine lovers.

OUR SUSTAINABILITY IMPACTS AT A GLANCE

PILLAR 2

\$8 MILLION SINCE 2008
in electricity cost savings through energy efficiency initiatives

17% reduction in scope 1-3 market-based intensity

Goal by 2021, reduce our scope 1-3 market-based GHG intensity by **25%**

GHG REDUCTION

4.2 MEGAWATTS of Tesla stationary battery storage systems installed onsite

6.5 MEGAWATTS of onsite solar PV systems deployed, offsetting 1,300 homes' annual usage

RENEWABLE ENERGY

41% water intensity reduction per gallon of wine produced

28 MILLION GALLONS of water saved per year as a result of water reuse and conservation initiatives

WATER REUSE & CONSERVATION

98% of bottling line materials recycled annually, including glass, labels, corrugate, & plastic sheeting

INNOVATIVE REPURPOSING OF MATERIALS



2.1 ENERGY EFFICIENCY

We recognize that reducing our energy use is fundamental to reducing our greenhouse gas emissions, saving money on energy costs, and decreasing our dependence on the grid. As a result, we've undertaken a number of initiatives to reduce our overall energy consumption, while simultaneously implementing renewable generation sources and stationary energy storage systems to create an integrated solution. The impact of our efforts has been an overall energy intensity reduction of 13% since 2008.

Working with partners including our local electric utility, we have conducted a number of projects to improve the efficiency of our pumps, lighting, compressors, and boilers. These have included lighting retrofits, re-commissioning HVAC systems, and

pump upgrades at our largest wineries.

We began piloting the use of Tesla "Powerpack" stationary storage systems at six of our wineries in 2014. These revolutionary systems allow us to draw power from the grid at night when demand is at its lowest, shifting our electric load away from daytime peaks when energy is most expensive. We've reduced our energy costs as a result and are helping to stabilize the local grid by reducing peak load.

Tesla's stationary storage energy offering is a fundamentally disruptive technology, and we are excited to be at the forefront of demonstrating its commercial viability. We are seeing a shift towards more distributed electricity generation in the form of onsite renewable energy systems, which increases the overall efficiency of electricity generation while reducing emissions. Tesla's battery storage technology will enable us to explore the development of self-sustaining micro-grids that would allow us to use our onsite solar systems to generate electricity during the day and use any excess electricity generation to charge the Tesla batteries and run our wineries at night with this stored energy. These batteries reduce our dependence on grid-sourced electricity.



RETROFIT PROJECT DETAILS



Lighting: We replaced lamps and ballasts across twelve winery buildings with super-efficient alternatives. In total, we exchanged 4,000 existing 400-watt metal halide fixtures with high efficiency lamps, resulting in a savings of more than 1.6 million kilowatt-hours per year.



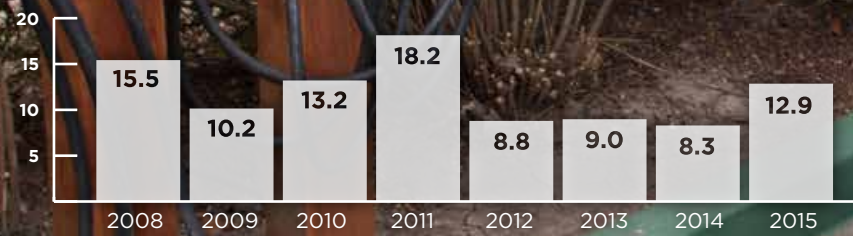
HVAC: We replaced 104 air handling unit motors with variable speed motors to reduce energy use.



Other: We upgraded the refrigeration and water pumps, cooling towers, condensers, and compressors at six of our largest wineries.

SCOPE 1-3 MARKET-BASED EMISSIONS INTENSITY

(kg CO₂e/gal of wine produced)



GOAL 4



Reduce greenhouse gas emissions 25% per gallon produced from 2015 baseline

Much progress has been made to reduce our emissions profile since 2008, which has resulted in a 17% scope 1-3 market-based GHG intensity reduction.* This has been a result of many energy efficiency initiatives, as well as a concerted effort among all of our employees to identify areas where we can streamline operations in alignment with GHG emissions reduction opportunities.

We have elected to measure our goal for all Scopes 1, 2, and 3 of our emissions profile—direct and indirect—because we believe that we have a responsibility to work with our supply chain to positively impact our collective carbon footprint.

In 2015, our total scope 1-3 market-based GHG intensity was 12.9 kg CO₂e/gal of wine produced. The largest components of our 2015 emissions profile are as follows:

1. Packaging—particularly glass bottles – 60%
2. Product Transport – 13%
3. Mobile Emissions – 7%
4. Off-Site Waste Disposal – 6%
5. Electricity Consumption – 6%
6. Employee Commute – 4%

Initiatives we are considering implementing over the next five years in support of this goal include:

- Using lighter-weight glass bottles and working with our glass suppliers to increase recycled cullet content in our glass mix
- Working with our distributor partners to become rail-served for our case goods deliveries
- Converting our on-farm tractor fleet to Tier 4 clean diesel and continuing to evaluate new battery technology for electric tractor conversions

- Converting our fleet of company-owned delivery trucks to use more efficient fuels
- Developing a purchasing policy to prioritize fuel-efficient models when replacing older vehicles
- Upgrading traditional aeration-based process water pond treatment systems with package treatment systems that reduce energy intensity, recover methane, and enable water reuse/recapture
- Continuing to invest in energy efficiency such as lighting retrofits, recommissioning HVAC systems, and pump upgrades, to become more streamlined in electricity use
- Continue to evaluate our wineries and vineyards for onsite renewable energy deployment opportunities

**We have chosen to report on market-based, rather than location-based, emissions because it is a more precise way of accounting for third-party purchases such as Renewable Energy Certificates (RECs).*



2.2 WATER REUSE & CONSERVATION

Water is a fundamental ingredient in the winemaking process. Not only do wine grapes depend on water for successful growth, but winemaking uses water in the vinification process, primarily for cleaning and sanitation purposes. We recognize that water is one of our most precious resources, and have committed to conserving and recycling water whenever possible as a means to reduce our overall water footprint. Through a combination of retrofits, investments in water conservation and reuse technologies, and behavior changes in our employees, we have reduced our winery water intensity per gallon of wine produced by 41%—critical in a water-constrained environment like California.

Our proactive water management begins in our vineyards. We employ practices and technologies that allow us to substantially reduce the amount of water our grapes need to produce the best flavors. These include:

- **DRIP IRRIGATION** Systems in place on Jackson family-owned vineyards since the late 1980s (when most of the rest of the industry was still irrigating via overhead sprinklers) that allow us to deliver a precise amount of water to our vines so water is not wasted.

- **MOISTURE MONITORING AND VINE STRESS** We use technology like soil probes, leaf porometers, sap flow monitoring, and weather satellites to accurately measure the specific water needs of our plants, avoiding over-watering and improving wine quality. We also subject our vines to specific stress conditions to spur them to produce grapes with improved flavor while allowing us to conserve water.
- **WIND MACHINES** A technology that allows us to use wind rather than water to protect our vines from frost damage by siphoning cold air out of our vineyards.

The automated barrel line at the Kendall-Jackson winery in Monterey County has been fitted with a custom barrel wash water recycling system that recaptures, filters, and reintegrates heated wash and rinse water, recycling the water three times before it is eventually drained to our treatment ponds to be reused for vineyard irrigation. This innovative technique requires only six or seven gallons of water per barrel to wash, and through its reuse design, saves 700,000 gallons of water each year. Overall, the process uses 45% less hot water and 40% less water overall. The system received a 2015 Top Project of the Year award from *Environmental Leader*.

REDUCING SCOPE 3 EMISSIONS

Transportation is a large source of Scope 3 emissions. We use third-party freight to ship our case goods around the world. In total, product transport accounts for 13% of our total scope 1-3 emissions. These emissions present a challenge for us because our distributors manage our freight, limiting our ability to impact it.

Our shipping footprint is further complicated by the weight of the glass bottles used to package our wines. We rely on glass as the industry standard and use it because it is infinitely recyclable, is made from natural and widely available materials, and is safe for packaging while retaining the flavor and shelf-life of our wines over time. However, we acknowledge that the weight of our bottles does result in increased emissions, and so we are engaging in a lightweight bottle working group in conjunction with the Beverage Industry Environmental Roundtable (BIER).

We are also working with our distributor partners to become rail-served while we support them to implement energy efficiency initiatives at their warehouses.





HANDCRAFTING OUR OAK BARRELS

Highlights of the Jackson family's pioneering efforts in controlling our own oak supply chain and the impacts that has on quality and consistency.

Our commitment to quality starts at the very beginning, at Merrain International, a stave mill co-owned by the Jackson and Boswell families. Here in the town of Monthureux-sur-Saône, in the famed Vosges region near the German border, a community of artisans continues a centuries-old tradition of selecting the finest French oak to become the staves for our wine barrels. As the only American wine company with an ownership stake in a French stave mill, we have first pick of the oak trees, which guarantees us access to the highest-quality, sustainably sourced oak for our barrels.

All of the oak grown in this forest is Programme for the Endorsement of Forest Certification (PEFC) certified for long-term sustainable management. Merrain International also manages the stave mill according to these standards. PEFC requires that each participant develop a Forest Management document, a road map, renewed every twenty years, that commits to an action plan for preserving the forest, enhancing air and water quality, and protecting native flora and fauna.

“For generations, my family has worked at this mill,” says Jean-Marc Pernigotto, VP & General Manager of Merrain International. “We create staves, the pieces of wood that make up oak barrels for wine storage. These pieces of wood may look simplistic, but every stave is the result of years of alchemy and mystery. Every tree we mill tells a story—and we pick the best oaks for the Jackson family.”

We believe in sustaining old-world traditions focused on quality and craftsmanship and responsibility for the long-term—all the way down to the oak we select to age our wines.

French oak is hand selected for our wine barrels at our stave mill in Vosges, France.

Our award winning barrel wash water recycling unit in action at our Monterey winery.



Additional improvements have allowed us to further reduce our water consumption, resulting in 2015 being our lowest water-usage year on record. For instance, we have retrofitted our winery systems to utilize glycol in place of water to bring wine tanks up to temperature after the cold stabilization process. This has resulted in a water reduction of up to 15% in many of our wineries. We've also installed controllers on our cooling towers to reuse water up to six times, with an anticipated savings of five million gallons per year.

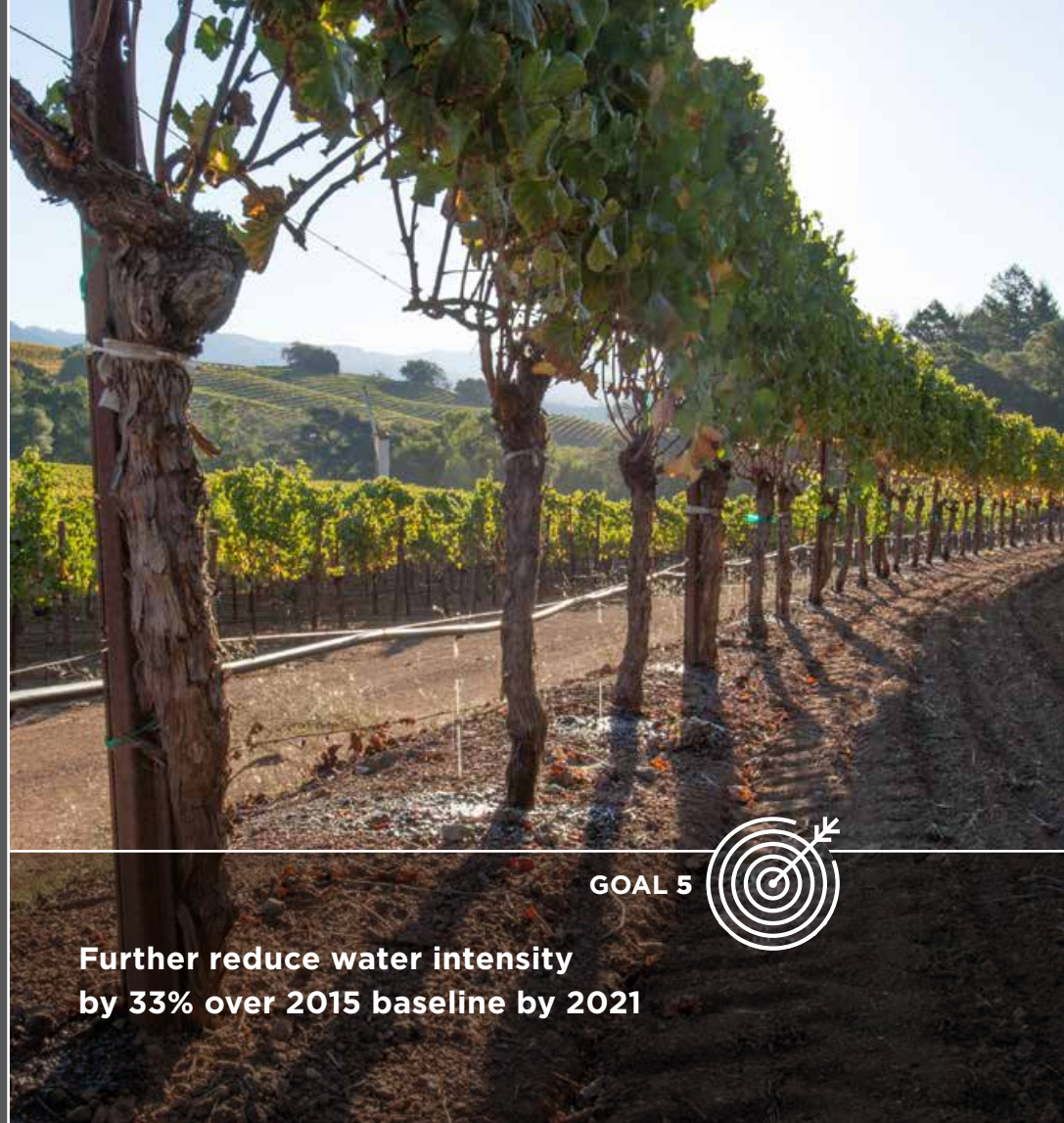
We recognize that how we manage our water use can have an impact on other resources. By developing a water recycling system in our wineries, we're able to reuse cleaning solution during our wine fermentation tank cleaning processes, which minimizes the use of cleaning materials and recycling treatment solution before the water is drained. To close our water loop, this process water is treated onsite and reused as vineyard irrigation.

A wind machine provides waterless frost protection for our vineyards.



WATER CONSERVATION PRACTICES AT A GLANCE

- 41% reduction in water use per gallon of wine produced since 2008
- 33% reduction goal established for 2021 from 2015 baseline (aiming for 3.6 gallons per gallon)
- Innovative barrel wash water recycling technology that saves 700,000 gallons annually
- Tank wash water is recycled and reused for irrigation
- Retrofit project to use glycol for wine heating in place of water, saving 15% annually
- Increased cycles of concentration on cooling towers, saving five million gallons annually
- Waterless tank sanitation via two industry-leading technologies that utilize UV light and micro fog
- Vineyard drip irrigation systems and weather-driven irrigation practices
- Innovative sap flow monitoring technology to pinpoint plants' water needs
- Wind machines for frost protection
- Rainwater harvesting
- Continuous improvement & testing of new technologies
- Employee engagement and leadership via Winery Water Conservation Teams



GOAL 5



Further reduce water intensity by 33% over 2015 baseline by 2021

We are already well on our way to having among the lowest water intensity ratios per gallon of wine produced in the wine industry, but we believe we can do better, and achieve a target ratio of 3.6 gallons of water per gallon produced—33% less than our 5.4 baseline.

In 2014, we partnered with the Environmental Defense Fund to host a Climate Corps Fellow at our bottling winery in Santa Rosa, CA. With a background in sustainable management and operational efficiencies, his charge was to conduct a water audit with the intention of identifying opportunities for reduction and reuse. His research was the basis for our goal.

We will achieve this goal by engaging our employees through dedicated Water Conservation Teams at all of our wineries. These teams are comprised of employees focused on identifying additional reduction or conservation opportunities throughout winemaking, who will also collaborate to share best practices across wineries.

Water Conservation Teams are empowered to integrate water conservation practices into our daily work, decision-making and training. They are also responsible for ensuring that all wineries are properly equipped with the most up-to-date conservation technologies and methodologies. Finally, these dedicated team members will serve as leaders to others by demonstrating and sharing best practices.

We pioneered drip irrigation in the late 1980s to provide pinpoint accuracy in delivering water resources to our vines.



We've also built off-stream reservoirs to collect vineyard runoff water during rain events for use at a later time in the growing season, helping to protect fisheries and other aquatic life from our impacts and controlling erosion. Our partnership with California agriculture groups aims to modernize water storage regulations in order to develop innovative approaches to managing water during times of water stress and to create greater water resiliency in the region.

In keeping with our commitment to Innovation, we are continuously considering and piloting emerging technologies to assist us in our reuse and water conservation efforts. We are currently trialing:

- Waterless tank sanitation via UV light and micro fog applications; these technologies have the potential to save 1.5 million gallons of water annually in our bottling winery alone
- Forward osmosis treatment for process water for reuse in cooling towers

The initiatives we've developed have allowed us to reduce our overall water intensity 41% since our 2008 baseline and achieve our initial water reduction goal four years earlier than planned. We are building on this success by developing an even more aggressive reduction goal for 2021.

Our wineries use only 5.4 gallons of water for each gallon of wine we produce, which is approximately 30% less than the industry average.



GOAL 6



Increase water security

The current drought in California, and shifting global weather patterns as a result of climate change, have led us to consider the value of improving our water security and reducing water-related risks to our business.

Some of the initiatives we are undertaking to improve our water security include:

- Increasing water storage capacity for use during times of high flow
- Use of reclaimed water from wineries and municipal sources
- Investment in additional vineyard conservation technologies
- Local leadership to develop sustainable water management plans to help California agriculture build a resilient water future



GOAL 7



Zero Waste Tasting Rooms

Each year, our winery tasting rooms and consumer destinations host over 135,000 guests who enjoy wine tastings and interactive experiences where our sustainability story is told. While the impact of our tasting rooms is relatively modest compared to our wineries, they present an enormous opportunity to educate, inform, and inspire our consumers. By using our tasting rooms to highlight our broader sustainability practices, we create another opportunity to lead by example.

Working in conjunction with our Tasting Room Managers across the different wineries and local waste haulers, we will develop recycling and composting system templates for each tasting room to reduce the impact of these visitors. Using these templates, we will expand our existing recycling and composting infrastructure to reuse or return 100% of the solid waste generated by our tasting rooms.

WholeVine reuses grape skins and seeds to create healthy culinary products.



2.3 INNOVATIVE REPURPOSING OF MATERIALS

Solid waste, including packaging refuse, accounts for less than 6% of our total emissions annually, but we nevertheless consider it an opportunity to demonstrate our sustainability leadership. As a result, we have implemented innovative means for managing production detritus and repurposing or diverting waste where we can.

One of our key bottling initiatives involved partnering with a local recycling center to develop a comprehensive waste diversion program in order to reduce the solid waste generated by our operations. This effort resulted in processes that divert 98% of the materials used on the bottling line, including recycling of glass bottles, plastic wrap, baling straps, cardboard, and tin capsules, and reuse of boxes, pallets, and poly capsules.

In addition to the waste from our bottling processes, we're sensitive to the waste generated by other parts of our operation and work to reduce office waste through e-waste recycling and donating, and tasting room waste at our wineries through recycling.

WholeVine

Co-founded by our proprietor, Barbara Banke, WholeVine is an innovative program committed to helping the wine-growing community reduce its environmental footprint by generating new uses for vineyard byproducts including pomace, the discarded skins and seeds left over after wine is made. The WholeVine Company utilizes harvest byproducts to make healthy culinary products, including gluten-free flours, grapeseed oils, and nutraceutical ingredients. The WholeVine product line was reported to the U.S. Congress as some of the most significant research in the Western Region of the USDA's Agricultural Research Service.





2.4 THRIVING EMPLOYEES

Employees take part in a wine appreciation class through our “Cultivation” training program.



As a family business, we consider our 1,500 employees to be members of our own extended family. Our people contribute a greater sense of purpose and passion to our long-term vision, and we continue to build shared connections around the values that drive us as a company. We strengthen our company culture by providing opportunities for professional development, advancement, and health longevity. In 2015, the *North Bay Business Journal* recognized Jackson Family Wines as one of 2015’s “Best Places to Work!”

Although our overall company gender profile skews over two-thirds male, nearly 40% of our management positions are held by women. This demonstrates that we place a high value on gender equality, as well as on recognizing the most competent person for the management position. Additionally, we employ a higher percentage of Latinos than the Sonoma County average (38% at JFW vs. 26%).¹ The average Jackson Family Wines employee tenure is 6.7 years.

Living Wage

The Jackson family recently made the decision to increase the minimum hourly base pay for all of our full-time, non-commissioned employees to a \$15.00/hour living wage. That decision positively impacted approximately 20% of our employees throughout California and Oregon.

The average hourly wage for all of our vineyard and production employees today is \$19.15/hour. We’re also proud of our record of paying competitive wages in our agricultural and production sector. Our health benefits and time-off plans are substantial, in many cases exceeding federal and state law requirements.

Developing People

Our Talent Development department consists of a three-person team that designs, develops, and delivers outstanding training experiences for our employees. In 2014 and 2015, we offered more than 11,000 hours of employee training through 147 unique learning opportunities; an average of nearly ten hours of non-job-specific professional development training per employee.

We’ve created a rich professional development program called Pathways to Success that provides opportunities for learning, engagement, and career development. The program is divided

into three curricula that address our employees’ needs at different stages of their career growth.

We have developed three professional competency programs to build business acumen among our staff: New Employee Orientation, Cultivation, and High Impact Leadership. New Employee Orientation provides new employees with a comprehensive introduction to all divisions of Jackson Family Wines and exposes them to all opportunities available to employees. The Cultivation Program builds business and financial understanding from the land to the glass. A year-long program, High Impact Leadership was created to increase leadership competency in high-potential leaders across the company. Most recently, we have added a Mentorship program to Pathways for Success to engage senior employees who are ready to share what they know with others.



1,550 TONS DIVERTED



Double facility solid waste diversion

Solid waste reduction is an often-overlooked area because it is generally not measured well. Contracted waste haulers pick up solid waste and recycling on a regular basis but in many cases don’t actually measure the actual weight of each pickup. Monthly invoices are based on the size of a winery’s solid waste container and frequency of pickup, not the actual contents or weight, and single-stream recycling diversion rates are nearly impossible to track because most haulers don’t charge for that service, so they don’t measure it. All this means we oftentimes are paying for excess waste generation capacity, and are left to make educated guesses about our overall solid waste footprint.

The other side of solid waste diversion efforts for wineries is the pomace (discarded grape skins, seeds, and

stems) generated during harvest, which generally represents about 20% of the overall harvested weight of our grapes. Pomace has a number of second-life reuse options, including as compost, in animal feedstock, and even back into food products like flours and oils, as is the case with our sister company WholeVine.

When looked at in sum total, including solid waste, single-stream recycling, and pomace and green waste, wineries usually divert well over 90% of their total aggregated tons each year. When pomace is removed from this equation, the diversion rate falls dramatically. Our current baseline for winery solid waste diversion is 96%, including pomace, but 72% without it. In 2015, not including pomace, we generated 652 tons of solid waste, and diverted 1,550 tons of recyclable material and green

waste. Extrapolated across our 1,500 employees, that’s 869 pounds of solid waste generated each year per employee. Most of this waste was diverted via our bottling line diversion initiative, so it is important for us to expand this program to other wineries in order to achieve our reduction goal. Additional efforts will include:

- Working with our Procurement department on developing an Environmentally Preferred Purchasing standard, reducing waste before it even enters our wineries
- Hosting trainings and educational sessions on the appropriate place for refuse
- Increasing our onsite compost collection to divert food waste generated from culinary operations and special events from landfill

¹ <http://edb.sonoma-county.org/pdf/2015/Economic-Demographic-Profile-2014-15.pdf>



2016 SUSTAINABILITY CHAMPIONS

The people of Jackson Family Wines play a critical role in initiating and advancing creative ideas, and employees help the company continue to evolve in the areas of innovation and sustainability. Many of our best ideas have come from within, including recycling and volunteer initiatives, community gardens, and many of our energy and water conservation projects.

This year, we've launched a new initiative to recognize employees who have demonstrated exceptional creativity or innovation in improving job processes with an eye toward integrating sustainability principles. Fifteen sustainability leaders were nominated for this award and two were selected as Sustainability Co-Champions.

Gary Leggett is a Senior Maintenance Manager, overseeing the family's North Coast wineries, where he led an innovative water savings initiative that

reduced water usage by 15%. Gary's project retrofitted a tube-in-shell heat exchanger to use glycol instead of water for warming tanks after cold stabilization. During harvest, Gary posts weekly water usage charts in common areas and leads team meetings about more efficient ways to use water for winemaking processes. "Gary has been an exemplary sustainability champion," says VP of North Coast Production Bob Carroll, who nominated Gary. "In addition to his innovative water savings solutions, Gary has worked on data collection and analysis that have led us to more informed decisions about potential changes in both equipment and protocols."

Nate Lester is a Construction Supervisor. "Nate embodies sustainability," says nominating Director of Operations Toni McWilliams. "He is the driving force in our every attempt to embody the

family's sustainability program." Nate's innovative approach to his work has led him to creative resourcefulness such as building with recycled and reclaimed lumber, minimizing waste, and ensuring that purchased supplies meet rigorous sustainability standards. In addition to his forward-thinking work practices, Nate's peers also credit him as a sustainability leader. "Nate personifies responsibility and care when it comes to the use of our natural and manmade resources—not only on the job, but in his personal life as well," says carpenter Sasha Garthwaite. "For him, sustainability is a way of life. He is a true leader in this effort and coaches our entire team to always think first about how much we need, where we can reuse resources, repurpose materials, and recycle. His methods and conscientiousness have spread to the entire crew, and now are the underlying foundations and principles on which we approach every job."

Environmental cleanup through our "Rooted for Good" volunteer program.

In 2015, we implemented a new Live Well program for employees that targets health and educational initiatives with a simple purpose: to help our team be happier and healthier every day. From nutrition education to exercise challenges, smarter decision making and healthier practices at home contribute to a healthier and happier employee population.

We also routinely communicate with our employees to increase their engagement, providing regular updates on company initiatives and responding to the opinions our staff provide. We conduct employee surveys annually and focus interviews to allow employees to provide anonymous feedback on how we are doing as a company.

JFW Cares Foundation

Established in 2015, the JFW Cares Foundation is based on the core belief that no member of our work family should be without a financial safety net. The JFW Cares Foundation provides financial assistance to full-time employees and dependent family members who are facing unexpected emergencies or significant hardships. The foundation also provides educational scholarships to dependents of Jackson Family Wines' employees. The JFW Cares Foundation was seeded with generous financial commitments from members of the Jackson family and the company's Executive Team.



Establish and build a volunteer program that supports a 90% employee volunteer participation rate annually

Each year, hundreds of our employees give of their time to support local community groups. We are building on this momentum with the creation of Rooted for Good. This formal Employee Volunteer program was born from a 2015 High Impact Leadership employee project aimed at engaging our employees to improve local communities.



Rooted for Good is all about taking initiative, inspiring change, and strengthening communities. The program is comprised of two components. First, a company-wide month of volunteering where all employees will be compensated for

up to eight hours of time in their local communities.

Second, every department within the company will be encouraged to find team-based volunteer opportunities. Participating employees will receive up to an additional eight hours of paid compensation for their volunteer service.

In our inaugural year of Rooted for Good, our cumulative impact included over 800 Jackson Family Wines employees participating in twenty-six volunteer events in the communities in which we do business. We prepared 26,000 meals for needy families and picked up over 4,000 pounds of trash along the tributaries that feed the Russian River.

ADVANCING THE FIELD



PILOTING NEW TECHNOLOGIES



INSPIRING THE NEXT GENERATION



FOSTERING A SUSTAINABLE WINE COMMUNITY



SUPPORTING OUR PEOPLE & INDUSTRY

As a multi-generational, family-owned business, we recognize the value in planning for the long-term success of our company and its employees. To that end, we are focused on helping advance sustainable winemaking practices, and have undertaken many initiatives that support technological advancement, our community, and the education of a new generation of vintners and winegrowers.

The Jess S. Jackson Sustainable Winery Building at UC Davis aims to be the world's first Net Zero winemaking facility.

GOALS FOR THE COMPLETED JESS S. JACKSON SUSTAINABLE WINERY BUILDING

- Self-sustaining: will exclusively use energy and water produced by onsite technologies
- Generate zero carbon energy and emissions due to innovative greenhouse gas capture and sequestration methods and the exclusive use of clean power
- Operate off stored energy capacity, rather than on-demand
- Reuse water ten times before disposal
- Use potassium-based, green cleaning chemistry and one-fifth of the usual water and chemistry of standard wineries
- Provide real-time footprints for water, energy, carbon, and chemistry
- Enable students to learn the concepts of energy-positive, water-positive, and zero-carbon as they relate to both the building itself and the winemaking process



The BlueMorph system uses UV light instead of water to sanitize tanks.



3.1 PILOTING NEW TECHNOLOGIES

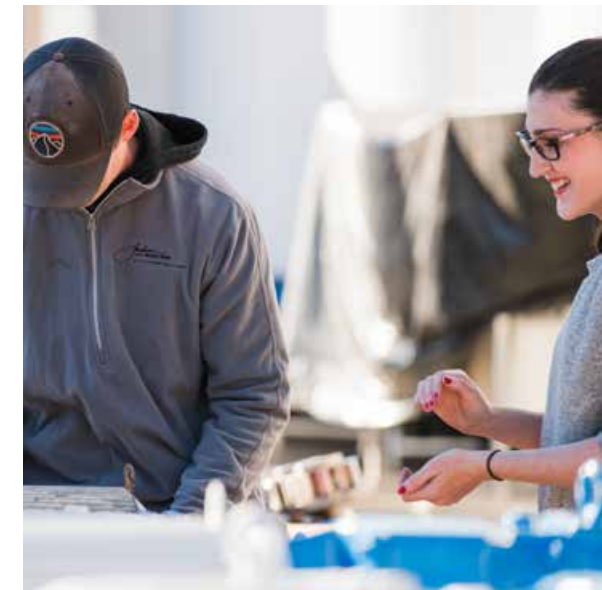
Our commitments to innovation and sustainability are nowhere more evident than in our dedication to exploring the bounds of technology in our industry. Our intention to be a sustainability leader in the wine industry means that we continuously look for new opportunities to improve the efficiency and effectiveness of how we make world-class wine, and develop strategies that will sustain our success in spite of the risks our industry faces from drought and other impacts.



3.2 INSPIRING THE NEXT GENERATION

Educating and mentoring the next generation of vintners is another of the Jackson family's passions. In addition to our many in-house training and development programs, we take an active role in sponsoring educational opportunities in our communities.

Our largest commitment to date has been through our partnership with the University of California at Davis. The Jackson family donated nearly \$4 million to the university to build the Jess S. Jackson Sustainable Winery building. This LEED® Platinum certified winery is designed to be a net-zero facility, the first of its kind to produce an annual surplus of energy and water thanks to its onsite solar system and 160,000 gallons of onsite rainwater storage. The building will also be the world's first self-sustaining winery, is the highest



scoring Platinum building at any university, and is the most visited building on campus. Most importantly, this building will serve as a training facility for the next generation of winemakers, allowing them to gain exposure to the latest advances in sustainable winemaking technology.

Internships and fellowships are another way that we actively connect with the next generation of vintners. In 2014, we recruited an Environmental Defense Fund (EDF) Climate Corps Fellow to further our sustainability initiatives in energy efficiency and water conservation, and are hosting another in 2016.





Tanks on rural properties adjacent to critical fish habitats capture rainwater for use during the summer months.

PHOTO CREDIT
Brock Dolman, OAEC



3.3 FOSTERING A SUSTAINABLE WINE COMMUNITY

We recognize that our reach extends beyond the boundaries of our wineries. The way we conduct our business impacts both the local communities in which we work and the wine industry at large. Our industry relies on the goodwill of the communities in which we have license to operate, including the local municipal and state legislative bodies. Through our leadership, we believe we can help foster a sustainable community of winegrowers, business partners, and other stakeholders.

We work with our local communities to explore ways to limit our impact. For example, we are currently working with the Water Quality Control Boards in Napa and Sonoma Counties to integrate vineyard sustainability certifications into water quality compliance standards, encouraging the regional industry to adopt responsible water use as a customary practice. In 2014, we partnered with the Bay Area Air Quality Management District to replace nineteen outdated tractors in our fleet with cleaner engines that comply with the most up-to-date air quality standards. In 2015, we expanded this program to include eight additional tractors. These initiatives have eliminated 1.7 tons of NOx emissions annually.



We are also active in winegrowing associations such as Sonoma County Winegrowers and support sustainability goals these organizations have initiated. To that end, we are committed to working with our own grower partners to support them in implementing and tracking sustainability measures in their own organizations. In fact, we were among the first wineries in California to offer growers a price premium for certified sustainable fruit.

SUPPORTING TROUT UNLIMITED'S FLOW-FOR-FISH PROGRAM

In 2015, in response to the fourth consecutive year of record-breaking drought conditions in the western United States, the State Water Resources Control Board adopted an Enhanced Conservation Regulation requiring all users in critical stretches of four key tributaries which flow to the Russian River to reduce water use wherever possible. The requirement also prohibited certain discretionary uses of potable and non-potable water in commercial agriculture. Following that mandate, a group of grape



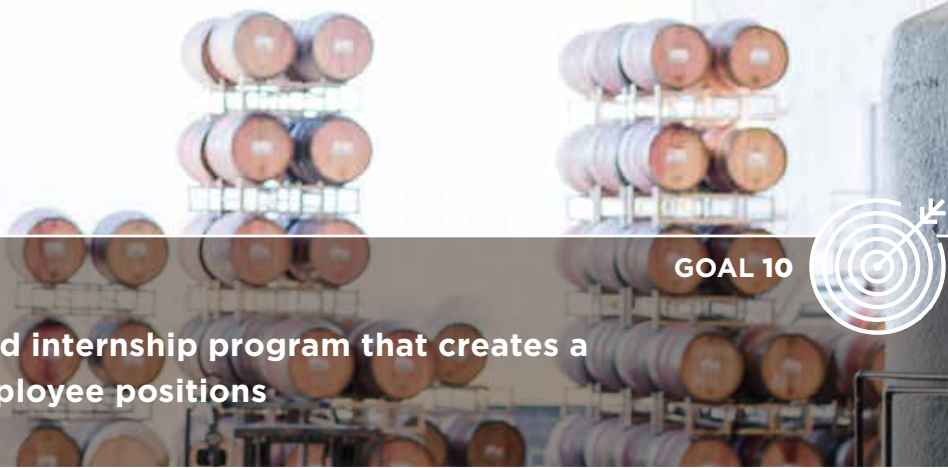
growers, led by Jackson Family Wines, worked with the California Department of Fish & Wildlife (CDFW) to develop an additional Voluntary Drought Initiative that, in partnership with other farmers in the critical stretches of the four creeks, aims to reduce water use by 25%. In conjunction with these voluntary water-use reductions, we also partnered with Trout Unlimited to take steps to reduce residential and agricultural impacts on endangered Coho in the Russian River watershed. As part of this initiative, we donated \$40,000 to the Flow-for-Fish rebate

program, which provides small amounts of funding to residential water users who take action during the drought to benefit water flows in four key tributaries that support the over-summering of juvenile Coho. The bulk of the funding we provided was to install water storage tanks for rural residents, which allow the domestic users to get off the creek and use rainwater collected on their roofs during the winter to replace summer/fall water diversions from the stream. "A little bit of money goes a long, long way," said Mary Ann King, Stewardship Manager for Trout Unlimited. "It's been critical to getting projects in place and enabling water users to protect these important species."



REDUCING WASTE AT WINERY EVENTS

Since 1996, we have hosted the Kendall-Jackson Heirloom Tomato Festival, our largest Sonoma County event, which attracts more than 2,000 attendees each year. In 2015, we set a goal to have a zero-waste event and got close, with a 96.10% diversion rate. Our success was due to a number of small changes that together made a significant collective impact, as well as a great collaboration with Green Mary Zero Waste Events. We purchased compostable plates and cutlery; provided waste stations throughout the event where waste streams could be separated into landfill-bound, recyclable, and compostable; and increased the number of volunteers for the event and provided training to patrons on how to separate their waste.



GOAL 10



Establish a domestic paid internship program that creates a pathway to full-time employee positions

We are launching a new domestic collegiate and post-graduate internship program this year. The program will help us build a pipeline of candidates that can become the next generation of JFW leaders, adding diversity to our team in the areas of idea generation, new perspectives, education, and technology. In the first year, our goal is to have six to ten interns from Sonoma State University and/or UC Davis.

CAEP Intern Program:

Our domestic internship program is based on another partnership with a

nonprofit organization called CAEP (Communicating for Agriculture Education Programs), which brings international students to California for harvest. All of our interns are either enrolled in or recent graduates from their home countries' universities with Bachelor's or Master's Degrees in Enology or Winemaking. The interns bring new techniques to the table and expose us to ideas from all around the world. For the interns, the experience of coming to California and working for a prestigious company like ours enriches their existing knowledge and skills, while at the same time giving them a chance to experience life in the US.

We assist the interns with getting accustomed to life in the U.S., including finding housing accommodations close to the winery where they will be working. Over the years, we have hosted interns from South Africa, Australia, Argentina, France, Italy, Uruguay, Chile, and Spain. Interns work in the cellar or the lab (depending on their degree and experience), learning and assisting on either stage of the winemaking process.

Vintage 2015
International
Harvest Interns.



3.4 SUPPORTING OUR PEOPLE & INDUSTRY

One of our fundamental values as a company—and within the Jackson family itself—is philanthropy; no conversation about social responsibility would be complete without it. Each year, the Jackson family and our employees contribute hundreds of hours of volunteer time, financial support, and in-kind donations to more than fifty nonprofit organizations throughout the communities in which we live and do business. Together, we have helped education, literacy, food banks, and shelter programs across Sonoma, Santa Barbara, and Mendocino counties in California and the Willamette Valley in Oregon.



GOAL 11



Pilot an innovative trial or continue ongoing experimental pilot project each year

Innovation is a core pillar for the Jackson family, and is integrated into all of our other initiatives. We have selected to hold ourselves to the high standard of continuing to reimagine how business can be done in a more responsible manner, and sharing these results with the industry at large. It is with this in mind that we have established an ongoing goal to pilot a project each year that has the potential to help transform the wine industry, and keep it a viable agricultural business for generations to come.

We hope you enjoyed reading our inaugural sustainability report. This report represents a comprehensive account of the great strides we have made as a company since our founding in 1982. We will aim to publish reports every two years that track our progress against our five year sustainability goals.

We invite you to send suggestions or comments to sustainability@jfwmail.com or call 707.535.8516



*The Jackson Family Wines
Sustainability Team (left to
right): Sabrina Sihakom, Julien
Gervreau, Katie Jackson, and
Galen McCorkle.*



Jackson
▲▲▲ FAMILY WINES™