



## 2013 U.S. Dairy Sustainability Report



U.S. DAIRY SUSTAINABILITY  
COMMITMENT



HEALTHY PEOPLE • HEALTHY PRODUCTS • HEALTHY PLANET

ABOUT THIS REPORT

The 2013 U.S. Dairy Sustainability Report is the fourth progress report published by the Innovation Center for U.S. Dairy® (Innovation Center) to update stakeholders on the progress of the U.S. Dairy Sustainability Commitment. It covers activities in the 2013 calendar year, except where clearly noted. Our previous sustainability report was published in April 2013 and covered the 2012 calendar year. We plan to publish annual updates on the U.S. Dairy Sustainability Commitment. Sustainability reports and additional publications are available for download at **USDairy.com/Sustainability/Reporting.**

The report discusses topics most relevant to the industry as identified through scientific research findings and the development of the *Stewardship and Sustainability Guide for U.S. Dairy* (the Guide) described on Page 9.

Reporting boundaries are twofold: specific performance and progress of sustainability efforts led by the Innovation Center to support the U.S. Dairy Sustainability Commitment, and broader sustainability efforts and measures of the U.S. dairy industry as a whole, including health and wellness initiatives under the dairy checkoff program. The report also includes profiles of recipients of U.S. Dairy Sustainability Awards and efforts solicited from Sustainability Council members or published in their sustainability reports.

The Innovation Center is an Organizational Stakeholder of the Global Reporting Initiative (GRI), the nonprofit, network-based organization that develops the sustainability reporting framework most widely used by organizations worldwide. We referenced GRI's G4 *Sustainability Reporting Guidelines* in the development of this report. Specific GRI indicators are not fully reported, due to the complexities of industry-level reporting and the lack of comprehensive industrywide data to meet the organization-level disclosure requirements.



Welcome	1	Our Communities	17	Our Planet	26
Committed to Action	2	Our Cows	20	Our Businesses	33
Our Consumers	12	Our Employees	24	Looking Ahead	34

# Welcome

**Welcome to the 2013 Sustainability Report for U.S. Dairy**, our fourth report on the progress of the U.S. Dairy Sustainability Commitment launched in 2007.

Through the Innovation Center for U.S. Dairy, the industry has taken a deliberate, proactive and precompetitive approach to providing consumers with the nutritious dairy products they want, in a way that makes the industry, people and planet economically, environmentally and socially better.

The steps we've taken since 2007 are adding up. We've completed a series of comprehensive life cycle assessments to understand environmental impacts across the dairy value chain. We've built a set of science-based Smart Tools to help us measure, manage and improve those impacts. We've developed the *Stewardship and Sustainability Guide for U.S. Dairy* to provide a voluntary, standard framework for communicating our continuous improvement. All this work helps build the public's trust in dairy foods and beverages and strengthens dairy's role in a sustainable food system.

Today, the dairy industry is well-prepared to take its commitment to the next level. Industrywide adoption and implementation of the tools and resources will help drive meaningful change that delivers environmental and community benefits and positive returns to dairy operations.

Together, we can meet the challenge of providing nourishing dairy foods and beverages to a growing population while facing a changing climate and limited natural resources. We are building partnerships, sharing knowledge and taking collective action to develop innovative, sustainable solutions that will help us meet this challenge efficiently and responsibly:

- Efficiency is critical for increasing the world's food production by an estimated 70 percent to feed a projected global population of 9.6 billion people by 2050.
- Responsibility is critical for assuring customers and consumers that the dairy foods and beverages they enjoy are nutritious, safe and environmentally sustainable.

Looking back on 2013, positive economic results brought welcome relief to producers and processors, while extreme weather events continued to challenge dairy farms and businesses across the country:

- Record dairy exports are already helping to feed a growing global population. Dairy exports accounted for 15.5 percent of total U.S. milk production, thanks to increasing demand in Asian countries, particularly China.
- On the domestic front, the dairy industry made inroads to help strengthen farm economics and ensure a stable workforce in 2013.
- High farm milk prices coupled with lower feed costs in the second half of 2013 helped farmers, especially those who are still recovering from the significant negative economic impacts of 2008-09.
- Based on final 2012 figures released by U.S. Department of Agriculture in the fall of 2013, milk production and dairy product manufacturing both surpassed the 200-billion-pound mark for the first time.
- Extreme weather events impacted virtually everyone. Water scarcity continued to affect many regions of the country, while water quality affected others. Farmers have always been resilient, and science-based tools and management practices can offer adaptive, location-specific solutions to ease these impacts.

Across the industry, we have taken many steps toward building trust in dairy's role in a sustainable food system. We are now ready to make significant strides in the years ahead.

We are pleased to share our progress and look forward to hearing your thoughts.



**TOM GALLAGHER**  
CEO, Innovation Center  
for U.S. Dairy and Dairy  
Management Inc.™



**LARRY JENSEN**  
Chair, Innovation Center Board  
of Directors and President,  
Leprino Foods Company



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# COMMITTED TO ACTION

**SUSTAINABILITY VISION** We commit to being leaders in sustainability, ensuring the health and well-being of our planet, communities, consumers and the industry.

**OUR DEFINITION OF SUSTAINABILITY** Providing consumers with the nutritious dairy products they want, in a way that makes the industry, people and the earth economically, environmentally and socially better – now and for future generations.

## U.S. Dairy Sustainability Commitment

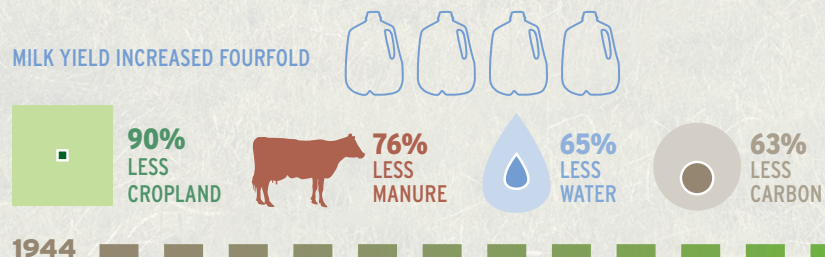
Under the leadership of dairy farmers and importers, the dairy industry is working together – from farm to table – to continuously improve its contributions to a socially responsible, economically viable and environmentally sound food system, for current and future generations.

The U.S. Dairy Sustainability Commitment builds on dairy's long history of environmental stewardship, responsible care for animals, support for rural communities and dedication to continuous improvement. It unites us as an industry so we can collectively develop solutions that contribute to a resilient and sustainable 21st century food system.

## Building on a history of innovation and stewardship

U.S. dairy farmers have a strong record of producing more with less.

From 1944 to 2007:<sup>1</sup>



### 2007

Dairy industry leaders launch the U.S. Dairy Sustainability Commitment.



### 2008

Sustainability Vision and Guiding Principles are created at the U.S. Dairy Sustainability Summit.

Industry Goal to reduce GHG Emissions by 2020 by 25%

### 2009

- Dairy industry commits to voluntary goal to reduce GHG emissions by 25% by 2020.
- LCA research and sustainability projects begin.
- Innovation Center forms partnerships with USDA and WWF.

## THE GUIDING PRINCIPLES OF THE U.S. DAIRY SUSTAINABILITY COMMITMENT

**THE U.S. DAIRY** industry supports socially responsible, economically viable and environmentally sound dairy food systems that promote the current and future health and well-being of:

**OUR CONSUMERS** through access to safe, nutritious, high-quality products. We value consumer trust and relationships, and we innovate to meet the full range of global dairy consumer needs.

**OUR COMMUNITIES** through contributing, participating and investing where we live and operate. Our businesses operate safely, maintain agricultural heritage and support community health and development through the provision of educational, social and economic opportunities.

**OUR COWS** through animal stewardship. Our animals receive the greatest respect, care, health and comfort throughout their lives. Dairy farmers understand that healthy and productive cows provide high-quality milk.

**OUR EMPLOYEES** through ensuring a safe and respectful workplace. We value the people on our team. We commit to providing safe and fair labor practices and equitable compensation and providing employees with training and development opportunities.

**OUR PLANET** through the stewardship and responsible use of natural resources. We rely on ecosystems and are committed to their health. We manage our impacts on air, biodiversity, land and water through the conservation of resources, and we strive to improve our footprint.

**OUR BUSINESSES** through a focus on long-term economic vitality. We employ leading business practices and meaningful partnerships to enhance the value chain of our products from farm to table. We manage for risk, prosperity and quality of life of our farms, families, communities and stakeholders. We strive to ensure our businesses are attractive to successive generations.

**WE APPLY LEADERSHIP,** measurement, science, education, innovation and continuous improvement to enhance our stewardship of sustainable food and agricultural systems. We commit to these principles through our shared values of honesty, integrity, inclusiveness and transparency.



### 2010

Development begins on Farm Energy Efficiency, Farm Smart™, Dairy Plant Smart™ and Dairy Fleet Smart™.



### 2011

- *Stewardship and Sustainability Guide* for U.S. Dairy development begins.
- U.S. Dairy Sustainability Awards program launches.



### 2012

- LCA results are published.
- Work on sustainability projects, tools and resources continues.



### 2013

- Version 1.3 of the Guide is released.
- Smart Tools are pilot tested.

Industrywide efforts toward meaningful change accelerate.





## Sustainable Nutrition | Dairy in the 21st Century Food System

**THE FOOD AND AGRICULTURE ORGANIZATION (FAO)** of the United Nations and Biodiversity International proposed a definition of sustainable diets as “... those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe, and healthy; while optimizing natural and human resources.”

**THE U.S. DAIRY INDUSTRY** has convened experts from public and private sectors to address how to provide nutritious, affordable, culturally appealing dairy foods while optimizing natural resource use and reducing environmental impacts. Two national events occurred in 2012 and 2013 and a third is anticipated in 2014.

**Americans have increased their expectations of what** constitutes a food that is “good.” It’s no longer enough to simply be nutritious – the baseline expectations for brands, companies and food continue to rise in areas such as environmental stewardship, innovation and responsiveness to the nutrition needs of the population. The notion of a food being “good for you” is gradually giving way to it being “good for all” – with “all” representing schools, communities, our planet and future generations.

As the global population grows, access to foods that are nutritious, affordable and respectful of biodiversity and ecosystems will be critical for the health of future generations. Nutrient-rich milk and dairy foods play a vital role in a sustainable food system, providing a distinct source of nutrients essential for good health.

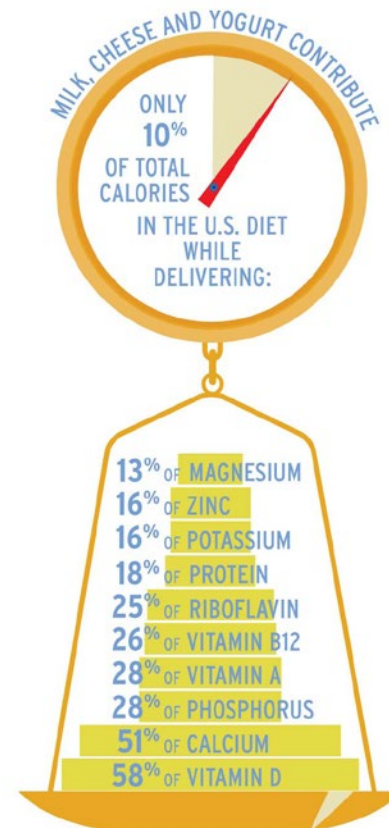
### Meeting the needs of today and tomorrow

The U.S. dairy industry is dedicated to help meet the challenges of a world where concerns of climate and economics meet ones of public health and food access. Building on a history of continuous improvement and stewardship, America’s dairy farmers, dairy companies and their industry partners strive to feed a growing population with nutritious foods while conserving natural resources and minimizing environmental impacts with innovative practices.

### Working together

It’s unlikely that one country or sector will be able to single-handedly reach the goal of providing food for more than 9 billion people by 2050. That’s why the dairy industry has forged partnerships and initiated collaborations focused on national and international sustainability efforts. Through these shared efforts, the dairy industry is working to find science-driven solutions throughout the supply chain – using innovative technologies to improve on-farm practices while initiating programs that help ensure nutrient-rich dairy foods are accessible for everyone, including the food-insecure.

### MILK AND DAIRY FOODS PLAY A VITAL ROLE IN A HEALTHY DIET



**Milk and dairy foods are affordable – for example, an 8-ounce serving of milk costs about 20 cents.**



**Dairy farmers and companies strive to conserve natural resources and minimize environmental impacts.**

List includes nutrients for which dairy contributes 10 percent or more to the U.S. diet. Source: Dairy Research Institute®, NHANES (2003-2006). Ages 2+ years.

# Stakeholder Engagement and Collaboration

## Sustainability Council

The Sustainability Council directs our efforts to meet the U.S. Dairy Sustainability Commitment. A pre-competitive stakeholder advisory group, the council provides leadership, oversight and guidance for Innovation Center-led strategies and initiatives. Council members represent more than 100 dairy organizations as well as scientists, suppliers, academics and sustainable agriculture advocates. In 2013, council members led project teams and working groups, and they contributed their collective expertise at council meetings that took place in person, online and even at the White House.

A list of Sustainability Council members is available at [USDairy.com/Sustainability/Commitment](http://USDairy.com/Sustainability/Commitment).

## Strategic partnerships

Strategic partnerships provide valuable expertise and resources that lend credibility and strength to our efforts. These partnerships have broadened and deepened over the years – a testament to the strength of relationships built on shared objectives.

**“The Innovation Center for U.S. Dairy is a great example of the innovation and progress that we would like to see more of in U.S. agriculture.”**

JASON CLAY  
Senior Vice President, Market Transformation | World Wildlife Fund



In 2013, **626 dairy industry stakeholders** contributed their expertise and an estimated **21,500 hours**, which totaled nearly **\$2.5 million** in estimated business value, to support Innovation Center-led sustainability efforts.<sup>5</sup>



Strong, industrywide collaboration builds momentum and accelerates progress. Our pre-competitive, proactive approach to engagement and collaboration has helped establish the U.S. dairy industry as a national leader in sustainable agriculture. Our work leverages the talent, experience and resources of the entire dairy value chain and stakeholders from government, academia and nongovernmental organizations (NGOs). Together, we are developing practical and effective solutions to shared challenges.

## Stakeholder Representation (626 formal stakeholders in 2013)





The report highlights some of the actions taken and commitments made by Sustainability Council member organizations to promote dairy sustainability. Each step is adding up to real progress across the industry.

## Stakeholder Engagement and Collaboration

“Through our renewed commitment, USDA and the Innovation Center for U.S. Dairy will continue to help dairy farmers improve the sustainability of their operations and reduce dairy’s greenhouse gas emissions by 25 percent by 2020.”

TOM VILSACK  
United States Secretary of Agriculture

**World Wildlife Fund (WWF):** In 2013, WWF and the Innovation Center renewed the strategic partnership they formed in 2009. The partnership focuses on advancing scientific research, enabling industrywide change and enhancing the public dialogue about dairy’s role in a sustainable food system. WWF lends its expertise to help identify and encourage sustainable business models for dairy, particularly those that reduce greenhouse gas (GHG) emissions and improve water quality and quantity. These efforts aim to double food productivity to help feed a growing population while conserving the planet’s resources and ensuring a resilient, sustainable dairy industry. Featured on Pages 18 and 26 are links to WWF videos that share dairy’s sustainability journey.

**U.S. Department of Agriculture (USDA):** In April 2013, USDA renewed its 2009 Memorandum of Understanding (MOU) with the Innovation Center. The MOU provides access to project funding, outreach and collaboration to support our joint commitment to improving dairy sustainability. In the first three years of the partnership, thousands of dairy farmers progressed toward their conservation and sustainability goals. USDA support through the Natural Resources Conservation Service (NRCS) and the Rural Energy for America Program contributed to projects to improve air quality, energy efficiency, soil quality and fertility and to implement manure management programs and conservation practices on working lands.



**Center for Advanced Energy Studies (CAES):** CAES has worked with the Innovation Center and the Dairy Research Institute since 2011, contributing its extensive research and technical and scientific capabilities to dairy sector renewable energy, environmental stewardship and life cycle assessment (LCA) initiatives. Looking forward, CAES and the Idaho National Laboratory will apply their super-computing capabilities to securely store and process extensive LCA research, dairy metrics and process models that form the underlying science for the Farm Smart™ tool, described further on Page 28.

**U.S. Environmental Protection Agency (EPA):** In addition to EPA’s Sustainability Council membership, we partner with EPA on a variety of programs to conserve energy and reduce GHG emissions, as featured on Page 31. In 2013, the Innovation Center joined and began promoting dairy industry participation in the U.S. Food Waste Challenge, a joint effort of EPA and USDA to raise awareness of the environmental, health and nutrition issues created by food waste.



### Supply chain partnerships

Sustainability impacts move from farm to table. Likewise, improvements in dairy's sustainability benefit the entire value chain. That is why we have focused on building strong dairy farmer-processor partnerships and, more recently, partnerships with retailers and brands. As retailers and brands are increasingly held accountable for responsible food production along their supply chains, these partnerships are important to the whole industry. Retailers and brands can rely on an industry-developed set of tools and indicators specific to dairy products. Dairy farms and companies can provide science-based proof points of their sustainability progress to their customers.

In 2013, several retail brands worked with their dairy suppliers to pilot test the Smart Tools and resources as part of their sustainability initiatives. Several of these efforts are highlighted in the Our Planet section.

### Industry partnerships

The dairy industry participates in many partnerships that address broad sustainability topics, such as food safety, food security, and children's health and wellness. Several of these are highlighted in the report:

- **The Future of Food partnership**, a collaboration of National Dairy Council® (NDC), Feeding America and the Academy of Nutrition and Dietetics, aims to find innovative solutions to eliminate hunger and promote healthy food choices through nutrition and raising awareness about food insecurity. Learn more about this partnership on Page 19.
- **GENYOUth Foundation**, founded through a public-private partnership with NDC and the National Football League (NFL®), is committed to child health and wellness. Its flagship program is Fuel Up to Play 60, which encourages children to exercise for at least 60 minutes a day and to eat a diet of healthy, nutrient-rich foods. GENYOUth and Fuel Up to Play 60 are discussed on Page 16.

### Organizational affiliations

We share our goals for a sustainable food system with organizations around the world. That's why we build relationships through affiliations with multistakeholder initiatives focused on sustainable agriculture, dairy production and research. Through these organizational affiliations, we can better align our efforts, provide leadership and learn from businesses, nongovernmental organizations, researchers and other stakeholders.

#### SUSTAINABLE AGRICULTURE AND DAIRY PRODUCTION

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Field to Market: the Keystone Alliance for Sustainable Agriculture

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Food and Agriculture Organization of the United Nations

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Food Waste Reduction Alliance

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International Dairy Federation

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National Initiative for Sustainable Agriculture

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Sustainable Agriculture Initiative

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Sustainable Food Laboratory

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The Sustainability Consortium

#### SUSTAINABILITY RESEARCH AND REPORTING

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Chinese Academy of Agricultural Sciences

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Global Dairy Platform

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Global Reporting Initiative Organizational Stakeholder Program

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Joint Global Change Research Institute

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National Academy of Sciences

---

USDA Agricultural Research Service

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Various leading academic institutions across the United States



“Ultimately, meaningful progress will continue to come from a true commitment to collaborate with stakeholders both inside and outside the dairy industry.”

JED DAVIS  
Director of Sustainability  
Cabot Creamery Cooperative

# Sustainability Strategy

## The Innovation Center supports the dairy industry's sustainability

commitment by following an integrated approach that begins with science and focuses on developing tools and resources to promote continuous improvement and build value across the dairy value chain.

The peer-reviewed, scientific research commissioned by the Innovation Center provides a solid foundation that informs our efforts and adds credibility to our work. Our LCAs and research projects establish a solid baseline and help the dairy industry understand its environmental impacts and identify opportunities for improvement and innovation.



Scientific research findings provide the basis for creating tools and resources that target the areas that matter most and deliver environmental and economic value. The Smart Tools, the *Stewardship and Sustainability Guide for U.S. Dairy* and other resources work together to help dairy farms and companies measure, manage, improve and communicate sustainability performance and progress across the dairy value chain.

To accelerate progress and innovation, we mobilize and engage a wide range of stakeholders. Our collaborative approach, described on Page 5, leverages the collective intelligence and enthusiasm of our stakeholders.

Together these efforts strengthen consumer trust and confidence in dairy's role and contributions to a sustainable food system.



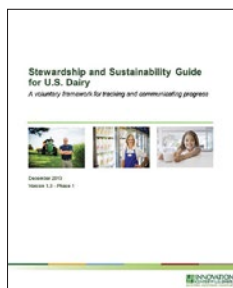


# Stewardship and Sustainability Guide for U.S. Dairy

## The value of measuring and communicating

sustainability goals, performance and practices is well-recognized. People are increasingly interested in the source of their food. Retailers are integrating sustainability considerations into their risk management strategies. They also are responding to consumer interest by sharing their sustainability efforts as well as those of their suppliers. When suppliers and retailers connect to share their stories, they give the public what they seek – a farm-to-table assessment of the practices, improvements and commitments that ensure a safe, nutritious and sustainable food supply.

The Innovation Center supports dairy's sustainability efforts by providing a range of resources to help measure, assess and communicate progress. With each communication, whether a small brochure, a sustainability report or a simple conversation during a farm tour, dairy professionals are taking steps to build credibility and trust with customers and consumers alike.

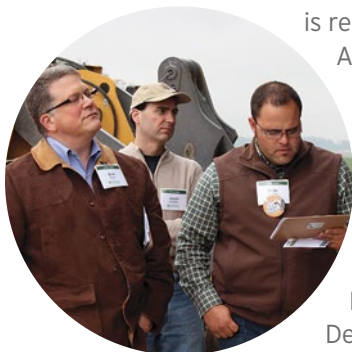


that choose to track and communicate their sustainability progress to retailers, customers and other dairy stakeholders.

Informed by research findings and diverse stakeholder input, the Guide includes one set of topics and performance indicators for producers and one for processors and manufacturers. Current topics and indicators in the Guide (see outer column) align with the Smart Tools discussed in the Our Planet section. When used together, the Guide and tools can enable dairy professionals to measure and report sustainability performance based on a shared set of the topics that matter most to the industry and its stakeholders.

## Guide development

Development of the Guide follows a robust multi-stakeholder involvement and review process. Stakeholder participation and feedback ensure that the Guide is relevant, practical and flexible.



A diverse team of industry stakeholders with knowledge of dairy production and sustainability topics has been working together on the development and refinement of the Guide since 2011.

Key efforts that led to the December 2013 release of Version 1.3 of the Guide included

a 30-day industry review and comment period and a 60-day public stakeholder consultation period along with multiple webinars, surveys and outreach efforts to solicit as many comments as possible. To date, the Guide reflects approximately 2,500 comments gathered from dairy professionals, academia, NGOs and retailers. This participatory approach provides valuable learning from the field and contributes to the ongoing development and improvement of the Guide.

In January 2014, the Innovation Center board of directors endorsed Version 1.3 of the Guide. The dairy industry will determine steps for the adoption and implementation of the Guide.

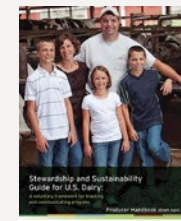


The Guide, like all Innovation Center resources, was designed to be enhanced over time. In 2014, the team will further develop the Guide by addressing additional topics, which will include water, resource recovery, soil health and other topics pertinent to the dairy industry and its stakeholders.



## IN THE GUIDE

We highlight the indicators in Version 1.3 of the Guide throughout the report for the following topics.



### Producers

- Energy
- GHG emissions
- Animal care



### Processors and Manufacturers

- Energy
- GHG emissions
- Water
- Labor management
- Community contributions

Download the Guide and useful handbooks at [USDairy.com/Sustainability/Reporting](http://USDairy.com/Sustainability/Reporting).



# Stewardship and Sustainability Guide for U.S. Dairy



Five Sustainability Council members piloted the sustainability brochure template in 2013: Kooistra Farms, Medeiros & Son Dairy, Prairieland Dairy, Saxon Homestead Farm and Triple A Farms.

## SUSTAINABILITY REPORTING LEADERS

- Bel Brands USA
- Danone (The Dannon Company in U.S.)
- Darigold, Inc.
- Dean Foods
- DeLaval
- Foremost Farms USA
- General Mills, Inc.
- Glanbia USA
- HDR Engineering Inc.
- Hilmar Cheese Company
- Kraft Foods Inc.
- The Kroger Co.
- Land O'Lakes, Inc.
- McDonald's Corporation
- Nestlé
- PepsiCo Inc.
- Publix Super Markets, Inc.
- Retail Industry Leaders Association
- Safeway
- Schreiber Foods Inc.
- Starbucks Coffee Company
- Syngenta
- Unilever
- Wal-Mart

■ Indicates GRI-based report

## Additional communication resources

The Innovation Center develops and provides resources to support sharing dairy's sustainability story with consumers, retailers and others:

- Dairy farms and businesses can supplement their existing sustainability communications with dairy fact sheets, infographics, photographs, farm tour posters and other resources available in the Communication tools section of [USDairy.com/Sustainability/Commitment](http://USDairy.com/Sustainability/Commitment).
- Dairy farmers can download a sustainability brochure template from [USDairy.com/Sustainability/Reporting](http://USDairy.com/Sustainability/Reporting) to develop their own brochure that shares their sustainability goals and continuous improvement efforts.

## Sustainability reporting leaders

Organizations across the dairy value chain recognize the importance of communicating their sustainability stories to customers, consumers, investors, NGOs and other stakeholders. A growing number of dairy businesses are joining the effort to be more transparent by sharing their sustainability goals, practices and performance through sustainability reports. To date, 24 Sustainability Council member organizations have published sustainability reports – a 50 percent increase from 2012 (see table in outer column). Of these, 18 have followed or referenced the Global Reporting Initiative's *Sustainability Reporting Guidelines*, the world's most widely used standard for best practices in sustainability reporting.





## A Focus on Food Waste



**Forty percent of all food produced** in the United States is never eaten.<sup>3</sup> Meanwhile, 49 million Americans are food-insecure.<sup>4</sup>

A 21st century sustainable food system must not only increase production with limited resources, but also address waste and inefficiencies. Putting food to good

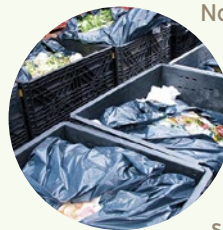
use throughout the food system maximizes its total value – its nutrients, the hard work of farmers and the precious resources used to grow, process and distribute it – and minimizes the environmental, economic and social impacts of sending food to landfills.

A focus on using food for its highest purpose involves feeding people first, then feeding animals and finally returning the nutrients to the land that grows our food. The dairy industry is partnering with others to help in all these areas:

- Programs like the Future of Food partnership discussed on Page 19 help ensure that the hungry have access to high-quality food.
- Dairy farmers work with food companies to use food by-products that people can't eat to supplement animal feed.
- The Dairy Power™ project discussed on Page 30 encourages partnerships between farms, food companies and others to get food waste to anaerobic digesters where it's combined with cow manure to produce renewable energy and nutrient-rich fertilizer.
- In 2013, USDA and EPA launched the U.S. Food Waste Challenge to help shift how we think about and manage food and food waste in this country.<sup>5</sup> As a participant, the Innovation Center is working with food retailers, the NFL (see highlight on Page 30), the University of Notre Dame, MIT Sloan School of Management and Complete Recycling to accelerate the use of anaerobic digesters.

### ZEROING IN ON FOOD WASTE

As a dairy processor and food retailer, The Kroger Co. knows it has a key role to play in minimizing food waste. In 2011, Kroger set an ambitious goal to achieve “zero waste” at its 32 plants by 2014 and a 70 percent diversion rate for its 2,500 retail locations by 2015. Managing food waste is a big part of achieving that goal. Kroger's top priority is to donate consumable foods to Feeding America to help fight hunger. (Read more about Feeding America on Page 19.)



Not every Kroger facility is ideal for on-site digesters. A promising alternative lies in repurposing food waste to digesters on local dairy farms, where food waste increases energy output while capturing nutrients to fertilize crops. This creates a more sustainable food system.

To explore food waste partnership opportunities with dairy farms, the Innovation Center sponsored an intern at Kroger headquarters. The intern worked with Kroger staff, dairy farmers, processors and experts to identify the barriers and opportunities for repurposing food waste via on-farm digesters. The results will be used by Kroger and shared with others who want to understand how factors such as the amount, location and transport of food waste and the types and sizes of digesters can maximize the potential for innovative partnerships among retailers, food processors and dairy farms.



Sustainability Council members General Mills and Unilever have signed on to the Food Waste Challenge.

Learn more and become a partner at [www.usda.gov/oce/foodwaste/index.htm](http://www.usda.gov/oce/foodwaste/index.htm).

**“We want to maximize the best use for food that is no longer considered ‘retail ready.’ Kroger is proud to partner with the Innovation Center to explore next-generation solutions to food waste.”**

SUZANNE LINDSAY-WALKER  
Director of Sustainability  
The Kroger Co.



# OUR CONSUMERS

Our commitment to helping all Americans have access to safe, nutritious and high-quality dairy foods

## STRENGTHENING CONSUMER CONFIDENCE THROUGH CONVERSATION

The Where Good Comes From initiative is reconnecting consumers with agriculture and increasing their understanding of dairy farmers and dairy foods and beverages. The [dairygood.org](http://dairygood.org) site highlights dairy farmers, dairy-rich recipes and information on dairy's role in healthy diets. While initiated by the national dairy checkoff, Where Good Comes From is a shared, dairy industry platform to engage consumers in the story of dairy, from farm to table. The conversations continue on the Facebook and Twitter pages for Dairy Good.



**People trust the dairy industry to provide safe, wholesome milk and dairy foods that are nutritious, affordable and responsibly produced.** Across the dairy value chain, dairy farmers and companies share in the responsibility to provide foods that support nutrient-rich diets and well-being. Food safety, health and wellness are priorities for individual companies and the entire industry.

## Food safety

The dairy industry is committed to maintaining confidence in the quality, safety and wholesomeness of dairy foods from farm to fridge. U.S. milk and dairy foods are among the safest, most regulated foods in the nation. Quality and safety are shared responsibilities among many stakeholders – government, dairy farmers, dairy companies, transporters, retailers and the public.

Regulatory and voluntary food safety controls help ensure milk and dairy foods meet the highest level of freshness, purity and taste. On the federal level, the U.S. Food and Drug Administration (FDA) oversees the nationally regulated Pasteurized Milk Ordinance, which safeguards the nation's milk supply. Voluntary best practice guidelines and control procedures – such as Good Manufacturing Practices, jointly developed by FDA and the dairy industry, and Hazard Analysis and Critical Control Points – ensure the quality and safety of milk and dairy foods at every step in the dairy value chain.<sup>6</sup>

Food safety workshops help dairy plants meet regulations that are part of the FDA Food Safety Modernization Act. Since 2011, more than 1,200 people have been trained to control pathogens in dairy plants, artisan/farmstead operations and their supply chains.<sup>7</sup>

**U.S. Dairy Traceability Commitment:** Traceability is the ability to track food through all stages of production, processing and distribution. In the rare event of a safety issue, it is critical to quickly isolate foods to protect public health. In September 2013, the Innovation Center released voluntary best practices for enhanced dairy traceability, which draw on a pilot study of dairy companies.

Overall adoption of the traceability program reached 25 percent of the industry at the end of 2013. Although processors have long had effective programs in place, the best practices will enhance current traceability programs and help satisfy future requirements of the Food Safety Modernization Act.



# Health and Wellness

**Healthy eating patterns and regular physical activity** are essential for optimum growth and development, maintaining healthy weight and reducing risk of chronic disease. Dairy farmers and food companies are dedicated to providing real, simple, nutrient-rich foods and beverages to meet Americans' health and wellness needs.

This section highlights the unique nutritional and health benefits of dairy foods and how the industry brings them to Americans, with a concentrated focus on the next generation – our children.

## Dairy foods offer a lifetime of goodness

Nutrient-rich dairy foods such as low-fat or fat-free milk, cheese and yogurt play an important role in health and wellness among people of all ages. Milk, cheese and yogurt are valuable sources of many essential nutrients important to health, including calcium, potassium, phosphorus, protein, vitamins A, D and B12, riboflavin and niacin.

The 2010 *Dietary Guidelines for Americans* (DGA) recommends three daily servings of low-fat or fat-free milk and milk products daily for Americans 9 years and older, 2.5 servings for children 4-8 years and 2 servings for children 2-3 years. Average dairy consumption for Americans 2 years and older is only 1.9 daily servings.<sup>8</sup> Eighty-five percent of Americans are not consuming the recommended amounts of milk and milk products, which means many fall short of nutrient requirements.<sup>9</sup> Adding one serving of milk, cheese or yogurt daily to close this nutrient gap can help Americans maintain a lifetime of health and wellness.<sup>10</sup>



Nutrients in dairy foods are difficult to replace with other foods. Milk and milk products are important sources of three of the four nutrients of public health concern (calcium, vitamin D and potassium), recommendations for which can be difficult to meet without dairy foods.

The 2010 Dietary Guidelines Advisory Committee concluded that replacing milk, cheese and yogurt with non-dairy calcium-containing foods can change the overall nutrient profile of the diet, causing decreases in other nutrients that dairy foods provide but which the replacement foods might lack.<sup>11</sup> For example, calcium-containing broccoli does not provide several of the essential nutrients in milk, such as vitamin D and protein. Replacing dairy also can be less convenient and cost more.<sup>12</sup> Dairy foods are readily available at multiple locations and they are affordable (for example, an 8-ounce serving of milk costs about 20 cents).

Dairy foods are more than nutrients: Higher dairy food consumption is associated with multiple health benefits. The DGA states that "Moderate evidence shows that intake of milk and milk products is linked to improved bone health, especially in children and adolescents. Moderate evidence also indicates that intake of milk and milk products is associated with a reduced risk of cardiovascular disease and type 2 diabetes and with lower blood pressure in adults."

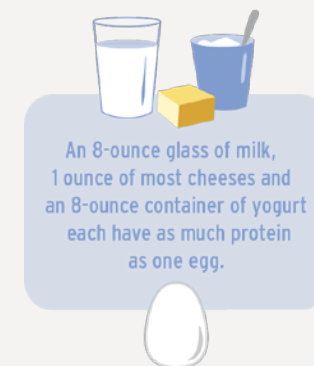
Since the 2010 Dietary Guidelines Advisory Committee review, nearly 50 studies have been published on dairy consumption and cardiovascular disease, type 2 diabetes and blood pressure.<sup>13</sup> The majority of these studies continue to support the link between higher dairy food consumption and reduced risk for certain chronic diseases. These health benefits can add up: If Americans consumed enough dairy (roughly three to four servings a day for adults), we could potentially lower healthcare costs by as much as \$200 billion over a five-year period.<sup>14</sup>



## PROTEIN AND BENEFITS

Milk and dairy foods naturally contain high-quality, complete protein. Diets higher in protein have been shown to help curb hunger, help maintain a healthy weight and help slow muscle loss that occurs with age.<sup>15</sup>

Milk, including flavored or lactose-free milk, cheese, cottage cheese, yogurt and Greek-style yogurt are good examples of high-quality, affordable and convenient sources of protein. Whey protein, a high-quality milk protein naturally found in milk, also can help people meet their protein needs.



An 8-ounce glass of milk, 1 ounce of most cheeses and an 8-ounce container of yogurt each have as much protein as one egg.

# Health and Wellness

## Delivering a range of healthy choices

Through individual and collaborative efforts with the Innovation Center, National Dairy Council and Dairy Management Inc.™ (DMI), dairy food companies, retailers and brands invest significant resources in nutrition research and product innovations that meet the needs of the public. For example, adults place increased importance on nutrition when making choices at the grocery store.<sup>16</sup> Through new product development and reformulation of existing products, dairy foods and beverages can meet a range of tastes, nutrition and health needs and other factors such as price and convenience.



**Improving health profiles:** An increasing number of milk and dairy foods are available in lower fat, sodium or sugar varieties that support peoples' health needs and taste preferences. In 2013, 7,429 new milk, cheese and yogurt dairy product claims were introduced: 14.6 percent of these were health and wellness claims.<sup>17</sup> The number of dairy-based health and wellness claims in 2013 increased 137 percent from 2011.

**Including dairy's benefits for extra value:** Food and beverage and food service companies add milk and milk products to boost the nutrition of foods. Quaker Oats Company launched its "Make It With Milk" campaign, which highlighted the taste, simplicity and nutritional benefits of making oatmeal with milk. The national campaign included programs with national retailers, such as Safeway, where it garnered a 5 percent increase in milk sales during the promotional period.

**Dairy solutions for people with lactose intolerance:** Lactose-free dairy milk and milk products are increasingly available and provide the same dairy nutrients without the lactose. Educational outreach and product innovation by HP Hood LLC (LACTAID® brand) in partnership with NDC and DMI increased consumption of dairy foods by lactose intolerant individuals. Other solutions include cheeses such as Cheddar, mozzarella and Swiss, which contain minimal amounts of lactose, because most of the lactose is removed when the curds are separated from the whey in the cheesemaking process. And yogurt's live and active cultures help digest the lactose.

**A look at cheese and sodium:** Salt, a natural preservative, plays a vital role in the safe manufacturing of cheese; it also impacts taste, texture and shelf life. Although cheese contributes only 8 percent of sodium to the U.S. diet, cheese makers are proactively addressing public health concerns while maintaining strict expectations for food safety and taste. Controlling sodium variability and introducing new products will help lower overall sodium in cheese.



STEPS  
ADDING UP

MEASURING AND COMMUNICATING  
HEALTHY PROFILES

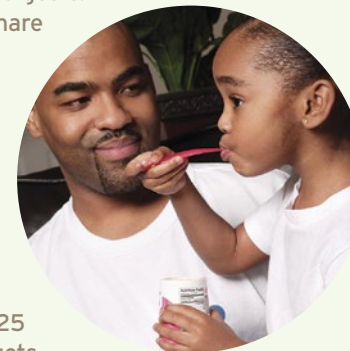
An increasing number of food and beverage and food service companies are evaluating the nutritional composition of their product lines and menu offerings to determine opportunities for improvements. Through this healthy profiling, companies can benchmark, set goals and evaluate progress.

Sustainability Council members Bel Brands USA, The Dannon Company, General Mills, Kraft Foods Inc., Land O' Lakes, Inc., McDonald's Corporation, Nestlé and Unilever have set nutrition-related goals.

Like a growing number of companies, they share their nutrition commitments and progress through sustainability and nutrition reports.

The following examples highlight public commitments and improvements related to dairy foods and beverages:

- General Mills Inc. lowered the average sugar level in Yoplait® kid yogurts and reduced the calories in Yoplait Light.<sup>18</sup>
- Land O' Lakes reduced sodium and fat by 25 percent to 50 percent in many of its products, including its line of better-for-you cheeses that provided a range of reduced-fat and reduced-sodium varieties.<sup>19</sup>
- McDonald's Commitments to Offer Improved Nutrition includes low-fat dairy. Choices like Fruit 'N Yogurt Parfait and beverage options of fat-free chocolate milk or 1 percent low-fat white milk jugs have introduced more than 220 million cups of low-fat dairy into the diets of its customers between August 1, 2012, and July 31, 2013.<sup>20</sup>
  - Unilever developed a nutrient profiling system and committed to reformulate its global product portfolio to make it healthier.<sup>21</sup> One goal is to ensure 100 percent of its children's ice creams contain 110 calories or less per portion by 2014.<sup>22</sup>



### Access to dairy

Every American deserves access to nutrient-rich milk and dairy foods because they help children and adults build nutritious diets that contribute to overall health and wellness.

However, 49 million Americans live in homes identified as food-insecure; they do not always have access to adequate amounts of food, including dairy foods, to maintain an active, healthy lifestyle. A disproportionate number of those in need are children and live in rural communities.<sup>23</sup>

Hunger is not simply about the quantity of food; it's also about the quality of food. The DGA recommends that people eat a variety of foods from all food groups – fruits, vegetables, lean protein, whole grains, and low-fat or fat-free milk and milk products. The dairy industry works in partnership with public and private stakeholders to promote access to and consumption of these nutritious foods. Read about the Future of Food partnership and other industry efforts to relieve hunger and improve health in the Our Communities section on Page 17.

### Focus on children

Through NDC, on behalf of its dairy farmer founders, the dairy industry has a century-long commitment to providing nutrient-rich milk and dairy foods to help nourish children. Milk, cheese and yogurt offer great taste for kids while contributing important nutrients to their diets that help promote growth and development. In fact, for children, milk is the leading source of nine essential nutrients (protein, calcium, phosphorus, magnesium, potassium, vitamins A, B12 and D, and riboflavin).<sup>24</sup>

The health challenges our children face are alarming. Obesity affects 17 percent of all children and adolescents in the United States – triple that from just one generation ago.<sup>25</sup> At the same time, 1 in 5 children in the U.S. face hunger. Obesity and food insecurity are difficult for any individual, but their impact on children is intensified. Poor nutrition can impact a child's academic achievement, productivity and health.



**“Food insecurity and health are interconnected. Americans, especially growing and developing children, need and deserve quality nutrition for their well-being.”**

JEAN RAGALIE-CARR, RND  
President  
National Dairy Council







## Health and Wellness

### Working together for children's health

NDC provides science-based nutrition information and collaborates with a variety of organizations to improve child health and wellness. Two examples are Fuel Up to Play 60 (FUTP 60) and the GENYOUth Foundation, which build on the belief that the solution begins in schools.

- **Fuel Up to Play 60** is the largest in-school nutrition and physical activity program, developed by NDC and the NFL in collaboration with USDA. The program helps students make healthier nutrition and physical activity choices.
- **The GENYOUth Foundation** is a nonprofit organization dedicated to combating childhood obesity. It was founded through a public-private partnership with NDC and the NFL. Through FUTP 60, its flagship program, leadership round tables, town hall meetings and AdVenture Capital grants, GENYOUth raises awareness of the impact improved nutrition and increased physical activity can have on health and academic achievement over the course of the school day. Leaders across the public-private sector, including food and beverage companies, have provided resources to support GENYOUth.



### Promoting the learning connection:

In March 2013, GENYOUth, NDC, the American College of Sports Medicine and the American School Health Association issued *The Wellness Impact: Enhancing Academic Success Through Healthy School Environments*. The report summarizes research and insights on the “learning connection” – the crucial link between quality nutrition, physical activity and academic performance.



**Focusing on breakfast:** *The Wellness Impact* report summarized research showing that “participation in school breakfast led to higher nutrient intakes compared to those who skipped breakfast – and missed nutrients were not replaced by other meals during the day.”

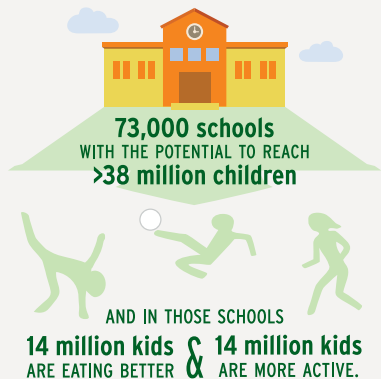
In 2013, NDC and the Innovation Center held an innovation lab to develop nutritious, kid-friendly breakfast concepts using dairy foods. Experts from a wide range of food, nutrition and culinary segments collaborated on menu concepts to be made available to schools, food companies and quick-serve restaurants.

**Supporting school meal programs:** Milk has long been an important part of school meals. The latest federal standards allow for low-fat (1 percent) or fat-free white milk and fat-free flavored milk in school meal programs. Reformulated flavored milk available to schools has at least 38 percent less added sugar and, on average, only contains about 30 calories more than white milk.<sup>26</sup>

The dairy industry also works with schools across the country to develop new menu items with nutrient-rich dairy foods that meet federal and state nutrition standards and kids’ taste preferences. For example, Domino’s Smart Slice line of school lunch pizzas provides students in more than 450 school districts across 39 states with great-tasting, nutritious and fresh delivered pizzas. Developed in partnership with NDC and DMI, Smart Slice pizzas meet USDA school lunch requirements and include 100 percent real-lite, reduced-sodium mozzarella cheese.

Through GENYOUth, almost 4,000 schools have benefited from more than \$14 million in FUTP 60 mini-grants to jump-start healthy changes.

**Fuel Up to Play 60 has been adopted by three-fourths of all the schools in the U.S.**



FUTP 60 has proven so effective that the FUTP 60 partners renewed their commitment to the program for another five years.

Learn more at [genyouthfoundation.org](http://genyouthfoundation.org) and [fueluptoplay60.com](http://fueluptoplay60.com).

# OUR COMMUNITIES

Our commitment to contributing, participating and investing where we live and operate

**Many dairy farm families live in their community for decades, transferring dairy's heritage from one generation to the next. These deep roots foster a strong commitment to thriving communities, exemplified through volunteerism, community support and educational outreach.**

## Community contributions

Dairy has a significant community impact, well beyond jobs, spending and other economic activity. Measuring and communicating the ways dairy farms and companies support and strengthen their communities provides a more complete picture of dairy's collective impact.

Through community volunteerism, donations and education, dairy families and businesses are taking important steps to connect neighbors, customers and others not only with the food they buy and enjoy but also with the people who provide it. Although information about these efforts is difficult to collect and consolidate at an industry level, the

following examples from Sustainability Council member organizations illustrate dairy's community contributions.

**Community volunteering:** Many dairy businesses and their employees are active in their local communities, volunteering time and expertise in schools, helping in food kitchens and supporting a variety of worthy causes. Some companies have developed innovative approaches to encourage volunteering and help track those efforts, as highlighted in these examples:

- The Safeway Foundation created the Safeway Volunteer Website, a volunteer "matchmaker" website that links employees with more than 93,000 nonprofit agencies, matching employee interests with a range of volunteer opportunities in communities across the country.<sup>27</sup>
- Cabot Creamery launched Reward Volunteers, a smartphone application that tracks community volunteer hours. Cabot employees and community members alike use the application to log their efforts, share their stories and qualify for cash awards and prizes.<sup>28</sup>



## IN THE GUIDE

The Guide includes indicators that help dairy processors measure and communicate their community contributions in the following areas:

- Community volunteering
- Monetary and product donations
- Educational opportunities







“When we start talking about community involvement and sustainability and an industrywide approach, we see all the things we can do to make a big difference.”

KENTON HOLLE  
Owner  
Northern Lights Dairy

## Our Communities



**Monetary and product donations:** Dairy families and businesses support a variety of initiatives such as children's causes, environmental stewardship, disaster relief and feeding the hungry. Donations of milk and dairy foods and support for the hungry are natural priorities for organizations across the dairy value chain.

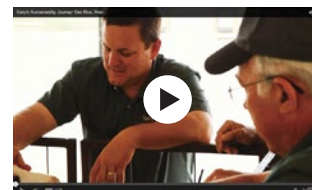
Here are a few examples of how we invest in the communities where we live and work:

- Oakhurst Dairy donates 10 percent of its pre-tax profits to organizations that promote healthy kids and a healthy environment. It also encourages its employees to give back to their communities by volunteering for nonprofit organizations and charities of their choice.<sup>29</sup>
- The Kroger Co. employees raised \$156,500 to support American Red Cross storm relief efforts after deadly tornadoes hit Indiana and Kentucky in 2013. Kroger's "round-up" campaign, which encouraged customers to round up their purchase total to the nearest dollar and donate the difference to the American Red Cross, raised more than \$142,000 to support the victims of Hurricane Sandy.<sup>30</sup>
- Saxon Homestead hosts an annual charity barn dance to raise funds for rural environmental conservation and dairy education causes. Its 2013 barn dance hosted 250 guests, who donated more than \$18,000 to support charitable causes.<sup>31</sup>

**Educational opportunities:** Many dairy farms and plants across the country host educational tours that connect visitors with how milk and dairy foods are produced. Dairy professionals also sponsor demonstrations and participate in county fairs and community events. With the growing interest in how food is made, these educational events help visitors feel more informed about and connected to dairy operations and the industry as a whole.

The following examples from Sustainability Council member organizations highlight some recent educational outreach events:

- Breakfast on the Farm, a program launched by Michigan State University Extension, has welcomed more than 53,000 people to Michigan dairy farms since 2009. The 2013 Breakfast on the Farm event at Reid Dairy Farm in Jeddo, Mich., included self-guided farm tours of the solar-powered barn and the on-site nutrient management system that recycles manure for beneficial reuse.<sup>32</sup>
- Educating culinary students through the International Culinary Center's Farm to Table program helps connect culinary students with the source of food. In 2013, the students visited Hilmar, Calif., to tour Clauss Dairy Farms and Hilmar Cheese Company. The tour showed students how dairy farmers care for their land and their animals to make fresh milk and how processors use that milk to make cheese.<sup>33</sup>
- Prairieland Dairy in Firth, Neb., engages with the local community through daily tours, ice cream socials and its annual Prairieland Dairy Day that attracts 5,000 community members.<sup>34</sup>



To learn more, watch the Prairieland Dairy video in the Dairy's Sustainability Journey series at [worldwildlife.org/sustainablemilk](http://worldwildlife.org/sustainablemilk).



### Fighting hunger with nutrient-rich foods

Food security – specifically, domestic hunger – is a major issue affecting 1 in 6 Americans today. One in 5 children faces hunger in America.<sup>35</sup>

As discussed in the Our Consumers section, it's vital that those in need receive the nutrient-rich foods recommended in the 2010 *Dietary Guidelines for Americans* as foods to encourage: fruits, vegetables, lean protein, whole grains and low-fat or fat-free milk and milk products. Although milk is among the top five most requested items at Feeding America's food banks, it accounts for only 5 percent of the foods that it distributes annually.<sup>36</sup> As a result, the 37 million food-insecure individuals Feeding America serves, on average, receive less than 1 gallon of milk each year from the food bank.<sup>37</sup> Through individual and industry-level efforts, dairy farmers and companies are working to develop innovative solutions to increase access to nutrient-rich foods, including dairy.

**The Future of Food Partnership:** Providing a consistent supply of milk and dairy foods to people in need is a priority of dairy farmers and companies. In 2012, National Dairy Council, the hunger relief organization Feeding America and the Academy of Nutrition and Dietetics formed the Future of Food Partnership. The partnership is focused on increasing the availability of nutritious and affordable foods across the country.

In 2013, the Future of Food partnership enabled Feeding America to provide 10 network food banks with nutrition grants to support nutrition education and increased access to milk and dairy foods and other in demand, nutrient-rich foods. The partnership also developed the Healthy Food Bank Hub, an online resource to help health professionals, food banks, hunger experts and volunteers promote healthy food choices with individuals and families experiencing food insecurity.

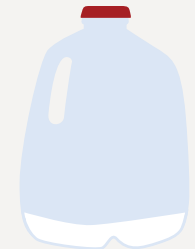
In support of these efforts, NDC and its state and regional affiliates created the Give Good with Dairy program to drive donations of milk, cheese and yogurt directly to food banks through retail partnerships, food voucher programs and local events.<sup>38</sup>



Across the dairy industry, dairy farmers and companies, including many Sustainability Council members, support Feeding America. The support includes formal partnerships, hands-on volunteerism and

monetary and product donations. The following examples highlight some of these contributions:

- Kraft Foods Foundation donated a fleet of 25 mobile food pantry trucks to help Feeding America deliver an estimated 33 million pounds of food to underserved communities across the country.<sup>39</sup>
- Schreiber Foods Inc., through its partnership with Feeding America, provides weekly donations of protein-rich dairy foods at its production facilities for distribution to more than 200 regional food banks and shelters.<sup>40</sup>
- The dairy-farmer-funded United Dairy Industry of Michigan teamed with The Kroger Co. and the Forgotten Harvest food rescue organization, a Feeding America member, to develop the Pour It Forward milk voucher program. The program overcomes the challenge of donating perishable milk by enabling customers to purchase 1-gallon milk donation vouchers for the Food Bank of Eastern Michigan agencies. When an agency's milk supply runs low, the agency can use the donation vouchers to replenish its milk stores.<sup>41</sup>



**95%**

of food banks say they  
don't receive enough milk  
to meet their clients' needs.

Source: Survey of 87 food banks in the Feeding America network.



# OUR COWS | Our commitment to animal stewardship



## IN THE GUIDE

The Guide includes indicators that help dairy farmers communicate their animal care practices in the following areas:

- Animal care guidelines
- Veterinary care
- Herd health

## 2013 NATIONAL DAIRY FARM PROGRAM RESULTS<sup>42</sup>



>70% of the U.S. milk supply is from participants in the National Dairy FARM Program.



### ON-FARM EVALUATIONS CONDUCTED:

**9,179**  
since enrollment opened  
in September 2010

**2,023** in 2013



**Dairy farmers work hard to ensure that their cows are** healthy, comfortable and cared for at all phases of their life. Responsible animal husbandry practices promote the health and safety of dairy cows as well as those who care for them. By following recognized best practices in animal care that incorporate a herd health plan, regular veterinary care and employee training, dairy farmers ensure that their animals are comfortable and productive.

Communicating dairy's care for animals builds consumer trust and confidence in our nation's milk supply. The *Stewardship and Sustainability Guide for U.S. Dairy* includes animal care indicators that dairy farmers can use to share their on-farm animal care practices (see outer column). The Guide reflects industry-endorsed animal care programs such as the National Dairy FARM Program: Farmers Assuring Responsible Management™ (FARM), described in the following section. The Guide also includes indicators for those not participating in the FARM Program or an equivalent animal care program. All dairy farmers can use the Guide to share their commitment to the health and care of their cows in a unified way.

## National Dairy FARM Program: Farmers Assuring Responsible Management

More than 70 percent of the U.S. milk supply is from cooperatives, proprietary processors and dairy farmers participating in the National Dairy FARM Program.<sup>43</sup> The voluntary, third-party-verified animal care and quality program was created by the National Milk Producers Federation (NMPF) with the support of DMI. In 2013, the Innovation Center endorsed the National Dairy FARM Program as the dairy animal care program for the U.S. dairy industry.

The FARM Program offers standard guidelines and educational tools for animal care best practices. It also provides on-site evaluations of a farm's management practices and approach to ensuring the health and comfort of its animals. Participation in the program, which nearly doubled from 2012 to 2013, reflects dairy farmers' dedication to animal care and helps assure consumers that dairy cows are treated well.

In 2013, NMPF released the revised *Animal Care Reference Manual* (2013) and a companion quick reference guide of best practices, which reflect the latest research and input from dairy farmers, veterinarians and animal care experts. Also in 2013, the National Dairy FARM Program shared the results of its annual third-party evaluation that assesses the program's consistent implementation of dairy farm audits, which confirmed the credibility and consistency of the program. To learn more, visit **NationalDairyFarm.com**.

**Strengthening the culture of animal care:** In 2013, the Center for Food Integrity and the U.S. pork and dairy industries launched the "See It? Stop It! Animal care starts with you" initiative that empowers farmers and their employees to report animal mistreatment. Endorsed by the American Humane Association, the program integrates well with the National Dairy FARM Program.<sup>44</sup> To learn more, visit **SeeItStopIt.org**.



# WHOLESOME MILK starts with a COW'S HEALTHY DIET

A look at how a cow's powerful digestive system maximizes nutrients  
– from expected and unexpected sources

## The POWER of 4

Cows have a **4-CHAMBERED STOMACH**, which means they can digest the nutrients in many types and parts of plants that people can't eat.

### WIDE RANGE of FEED INGREDIENTS

#### Some you might guess:

- Silage (corn, alfalfa, wheat, oat)
- Pasture and hay
- Corn and other grains
- Soybean and canola meal
- Vitamins and minerals

#### Others might surprise you:

- Distillers grains
- Brewers grains
- Cottonseed
- Citrus and beet pulp
- Almond and soy hulls



## The RIGHT MIX

To keep cows healthy and productive, dairy farmers work with animal nutritionists to combine ingredients into recipes that meet the **NUTRITIONAL REQUIREMENTS** of their cows.

- ✓ ENERGY
- ✓ PROTEIN
- ✓ VITAMINS
- ✓ MINERALS



### An ADDED BONUS

After producing food for people (like orange juice) and material (like cotton), many companies pass along the leftover, **unused plant parts** for use as **NUTRITIOUS FEED** for cows.

This puts all the nutrients and fiber to **GOOD USE**, helping cows provide quality milk.

And it **REDUCES WASTE** sent to landfills.



**HOMEGROWN & LOCAL**  
~35% of feed is grown on the DAIRY FARM  
The rest is usually sourced from LOCAL FARMERS & BUSINESSES.

## GOLD-LEVEL SPONSORS



Recognizing and rewarding innovative approaches to sustainable dairy practices provides real-life examples that help drive change throughout the industry. Now in its third year, the U.S. Dairy Sustainability Awards program honors outstanding dairy operations of all sizes for sustainability efforts that are good for the community, good for the planet and good for business. A panel of judges selects award recipients based on their positive triple-bottom-line results.

### Outstanding Dairy Farm Sustainability



**Maddox Dairy | Riverdale, Calif.**

#### Pioneer spirit paves the way for others

The pioneer spirit of the Maddox family has been a source of pride and growth for this California dairy farm. By sharing their experiences with other farmers, they have opened the door to different ways of dairying. For example, the total mixed ration feeding method, the use of drive-through freestall barns and galvanized self-locking stations – standards in today's industry – are techniques trail-blazed by Maddox Dairy. Recent projects focused on a dual fuel program that would reduce their dependence on diesel; and a 1-megawatt solar power generator. The results so far: reduced costs, healthier, more productive livestock for the dairy; and cleaner air and energy for the surrounding community.



**McCarty Family Farms | Rexford, Kan.**

#### When every drop counts, a community flourishes

Farmers know every drop of water counts. In its quest to conserve this resource, McCarty Family Farms partnered with Dannon in a way that brought new life to an entire community. They constructed a condensed milk processing plant that extracts more than 14 million gallons of water from milk each year. The water can be used for animal and crop care. McCarty Family Farms is working to create sustainable communities too, bringing more than 100 new jobs to the area, which translates into more children in the local school districts, increased housing demand, and tax revenues for the county and state.



**Sensenig Dairy | Kirkwood, Pa.**

#### Dairy perseveres with creative solutions and collaborations

Cliff and Andrea Sensenig are steadfast on ensuring their farm will be viable for the next generation. A methane digester can help, but with a small herd they needed a way to collect enough manure to fuel the digester. Three years of planning and collaboration with consultants and neighbors paid off. Today, the digester processes manure from 200 dairy animals, 2,000 hogs and 30,000 chickens from neighboring farms. Local food waste also fuels the digester. Each year the digester reduces greenhouse gas emissions by an amount equivalent to removing 206 cars from the road, while delivering environmental and financial benefits for the dairy.



## Outstanding Dairy Processing & Manufacturing Sustainability



**Joseph Gallo Farms | Atwater, Calif.**

### **A heritage of sustainability contributes to long-term success**

Sustainability is simply a new word for an age-old concept at cheesemaker Joseph Gallo Farms, where founder Joseph Gallo taught that stewardship and profitability go hand in hand. Energy efficient equipment reduces energy use. Cutting-edge technology in its cheese plant helps to conserve at least 2.9 billion gallons of water each year, in addition to accepting as much as 10 million gallons of stormwater and wastewater each day from local communities to use for irrigation. Joseph Gallo Farms is now one of the largest employers in its county and is creating green collar jobs, proving that when sustainability helps businesses succeed, it's the communities that win.

## Outstanding Achievement in Renewable Energy



**Vander Haak Dairy | Lynden, Wash.**

### **Cross-industry partnership helps advance dairy technology**

In 2004, an unprecedented collaboration between Vander Haak Dairy, Washington State University and Andgar Corporation built Washington's first dairy digester as a test bed for technology development and monitoring. They monitored how efficiently the digester system converted cow manure into biogas, animal bedding and liquid fertilizer, and analyzed the economics of the technology. The results were published and used to improve Vander Haak's system as well as the DVO digester technology used by Andgar. "After nearly a decade, it is safe to say that Steve's digester is literally the little engine that's been powering a renewable energy revolution in the U.S. dairy industry," says Steve Rowe of Darigold, Inc.

## Outstanding Achievement in Energy Efficiency



**Marshik Dairy | Pierz, Minn.**

### **Modernizing operations for the long-term good delivers unexpected benefits**

Dean Marshik and his wife, Clare Palmquist want a business that does right by its cows, its employees and the community, while offering quality of life and long-term viability for themselves and future generations. In 2010, this fifth-generation 155-cow family farm implemented a new, technologically advanced and energy efficient barn that included robotic milking facilities, energy efficient lighting and ventilation, and renewable wind and solar power. Robotics automation also increased cow comfort and improved their lifestyle and that of future generations on the farm. "These technologies can be implemented on any size dairy, as long as you're willing to search for the opportunities," Palmquist says.

## SILVER-LEVEL SPONSORS

Dolphin Water Care

Organic Solutions Management

Skip Shapiro Enterprises, Inc.

Syngenta

Learn more about the awards program at [USDairy.com/Sustainability/Awards](http://USDairy.com/Sustainability/Awards).



# OUR EMPLOYEES

Our commitment to ensuring a safe and respectful workplace



## IN THE GUIDE

The Guide includes indicators that help processors communicate their labor management performance in the following areas:

- Employment opportunities
- Employee benefits
- Employee retention
- Employee engagement in health and safety management
- Days of restricted work activity or job transfer (for facilities with 11 or more employees)



**Dairy families and businesses strive to provide** safe, healthy and engaging work environments for their employees. The sustainability of the dairy industry relies on the availability and retention of quality employees.

**“If our cows are the ‘stars,’ then people are our most valued asset – from the 60 community members we employ to the local growers from whom we buy 90 percent of our feed crops.”**

DAN RICE  
Dairy Farmer, General Manager and Partner  
PrairieLand Dairy

### Labor management

Labor management practices greatly influence a company’s culture, success and reputation. A culture that attracts and retains engaged employees and promotes their health and safety contributes to a positive work environment that builds long-term business value.

Many aspects of labor management are regularly tracked for compliance and business purposes. In addition, many companies include labor management indicators in publicly available sustainability and corporate social responsibility reports. The *Stewardship and Sustainability Guide for U.S. Dairy* provides guidance to help dairy processors and manufacturers measure and voluntarily communicate their commitment to providing a safe and respectful workplace (see outer column).

## Employee safety

Dairy farmers and processors work hard to protect employees and ensure safe working environments.



On the farm, the greatest safety risks arise from operating heavy equipment and handling animals. Proper training and education help to reduce these risks.

Dairy processing plants pose a different set of safety concerns. Employees in plants often perform repetitive tasks, such as sorting, packaging and lifting products, which can lead to chronic injuries. Workplace safety trainings and safety committees and teams are instrumental to maintaining a safety-conscious culture in the plant.

Dairy farms with more than 10 employees and dairy product manufacturers report data to the Occupational Safety and Health Administration (OSHA). Workplace injuries declined in 2012, both on the farm and in the plant. Illnesses in 2012 also dropped significantly from 2011 levels: On the farm, illnesses were approximately half of 2011 levels. DART rates, which reflect the number of days workers are unable to perform their core job function due to an accident or illness, were slightly lower than they were in 2011.<sup>45</sup>

Workplace fatalities are always a tragedy, and the industry is vigilant in protecting its employees. Based on preliminary 2012 labor statistics, there were 35 on-farm dairy fatalities, most of which were caused by transportation incidents and fatal contact with objects and equipment. Dairy farm fatalities account for less than 1 percent of the recorded fatalities that occurred in workplaces across the U.S.<sup>46</sup>



## EXEMPLARY SAFETY: 10TH ANNUAL IDFA DAIRY INDUSTRY SAFETY AWARDS

The International Dairy Foods Association (IDFA) Dairy Industry Safety Recognition Awards and Achievement Certificates program highlights dairy processors and transporters for outstanding worker safety based on OSHA performance measures. Of the 47 facilities/locations recognized in 2013, 41 are Sustainability Council member companies: Darigold, Dean Foods Company, Foremost Farms USA, HP Hood, Kemps LLC, The Kroger Co., Maryland & Virginia Milk Producers Cooperative Association, Inc., and Safeway.

For a full list of 2013 recipients, visit [idfa.org](http://idfa.org).



**“We’ve had an extremely positive response to this program for the past decade, and this ongoing interest clearly demonstrates the commitment of dairy companies and the industry overall to worker safety.”**

CLAY DETLEFSEN  
Vice President of Regulatory Affairs  
International Dairy Foods Association



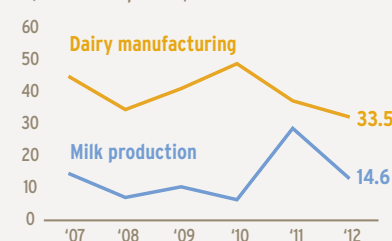
### OSHA Incidence Rates

- Dairy cattle and milk production (NAICS code 11212), excludes farms with fewer than 11 employees.
- Dairy product manufacturing (NAICS code 3115).

### Occupational Injury Incidence Rate (injuries per 100 full-time workers)

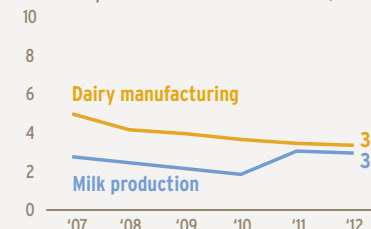


### Illness Incidence Rate (incidents per 10,000 full-time workers)



### DART\* Rate

(days away/restricted or transfers per 100 full-time workers)



\*The DART rate is based on trending over 200,000 hours based on those injuries and illnesses severe enough to warrant days away/restricted and job transfers.

Source: U.S. Department of Labor, Bureau of Labor Statistics. Preliminary 2012 data.





# OUR PLANET | Our commitment to environmental stewardship and the responsible use of natural resources

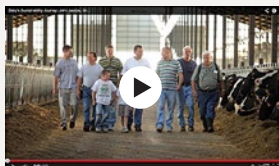
## WATCH DAIRY'S SUSTAINABILITY COMMITMENT IN ACTION

Learn how farmers are saving energy, reducing GHG emissions and creating business value in a series of videos highlighting dairy's sustainability journey at [worldwildlife.org/sustainablemilk](http://worldwildlife.org/sustainablemilk).

Energy efficiency saves money and helps the environment at **Ballard Family Dairy & Cheese**.



Anaerobic digesters turn organic waste into energy at **Green Valley Dairy**.



**Dairy's commitment to sustainability draws on a** deep legacy of environmental stewardship, innovation and efficiency.

In 2007, dairy farms produced four times more milk using fewer resources compared with 1944 (see Page 2).<sup>47</sup> Dairy farmers and companies are working harder than ever before to continue to protect and preserve the planet's limited resources for current and future generations.

Across the dairy value chain, this work is paying off: Continuous improvements, both large and small are maximizing efficiency, creating business value and building goodwill with dairy customers and consumers.

## Our priorities

Our environmental priorities of energy, GHG emissions and water reflect peer-reviewed scientific research and stakeholder input.



Key findings from the LCA studies for milk and cheese conducted for the U.S. dairy industry helped to identify and prioritize the areas with the most significant opportunities to improve dairy's environmental footprint. The development of the *Stewardship and Sustainability Guide for U.S. Dairy* used the LCA research findings and incorporated stakeholder consultations with experts within and outside of the dairy industry.

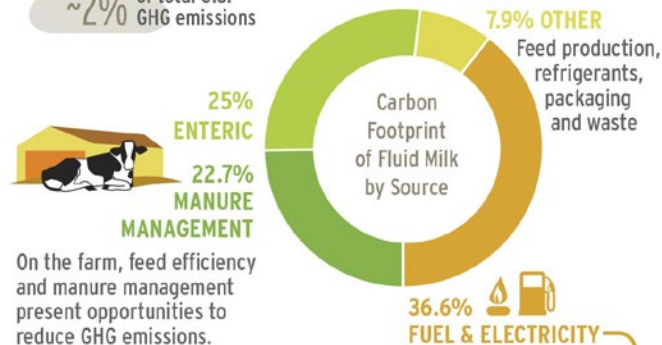
Environmental aspects such as soil health, biodiversity, air quality and waste are also important to dairy's overall environmental footprint. Ongoing research and work by individual companies and through industry efforts are underway in environmental areas not covered in this report.

## ENVIRONMENTAL PRIORITIES

### GHG EMISSIONS

THE PRODUCTION OF DAIRY PRODUCTS IN THE U.S. CONTRIBUTES

~20% of total U.S. GHG emissions



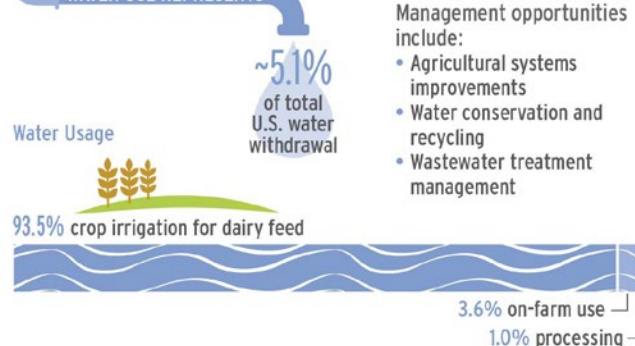
### ENERGY

ENERGY USAGE OCCURS ACROSS THE ENTIRE DAIRY VALUE CHAIN.

Opportunities to reduce energy use, GHG emissions and costs exist at every step from farm to fridge through conservation, efficiency and the use of renewable energy.

### WATER

DAIRY-RELATED WATER USE REPRESENTS



Sources: Henderson et al., U.S. Fluid Milk Comprehensive LCA, University of Michigan and University of Arkansas, 2012. Thoma et al., Greenhouse Gas Emissions of Fluid Milk, 2010.



### Energy and greenhouse gas emissions

Dairy farmers and companies are taking steps, both large and small, to protect the environment for current and future generations. One of the best ways they can do this is to reduce the energy use of their operations, which also reduces the GHG emissions associated with energy production and use. These reductions are good not just for the planet; they are good for business.

In 2013, many farms took smart steps to reduce energy and GHG emissions by getting an energy audit to identify the equipment and practices that can make their operations more efficient. Other farms are implementing new ways to recycle water throughout their operations and reduce the amount of energy needed to cool their milk. Many dairy businesses are investing in on-site renewable energy from digesters and solar and wind power. Still others are simply taking advantage of advances in lighting technology and changing light fixtures and bulbs in their facilities. Fleet managers are increasing fuel efficiency through driver education, route efficiencies and technologies. All these steps are adding up; each contributes to improvements in the industry's collective energy and carbon footprints.

### Innovation Center Sustainability Projects

Based on the LCA findings, the Innovation Center launched a series of projects in 2009 that reduce environmental impacts and increase business value for the benefit of the planet, our communities and future generations. The initial area of focus was GHG emissions to support the industry's voluntary goal to reduce GHG emissions by 25 percent by 2020.

The projects are expected to meet nearly half of the industry's 2020 GHG reduction goal by reducing GHG emissions by 11 percent by 2020, while delivering an estimated \$238 million in business value across the dairy value chain.

As a whole, the projects deliver science-based decision-support tools and resources to help dairy farms and businesses manage their environmental impacts and reduce costs. And because energy is critical all along the dairy value chain, most of the projects address ways to reduce the GHG emissions associated with energy use.

- Smart Tools: The Smart Tools – Farm Smart, Dairy Plant Smart and Dairy Fleet Smart – are a set of measurement and decision support software applications designed to foster continuous improvement on farms, in milk processing plants and through the transport of dairy products.
- Additional on-farm opportunities: Farm Energy Efficiency, Cow of the Future and Dairy Power/Biogas Capture and Transport each zero in on ways to support improvement opportunities on dairy farms.

Since their 2009 launch, the sustainability projects have made significant progress and expanded in scope, building on subsequent LCA research. The tools and resources will continuously be adapted to help dairy farmers and businesses measure, manage and communicate their sustainability commitment. The following sections highlight each project's 2013 progress.

To learn more about our sustainability projects, visit [USDairy.com/Sustainability](http://USDairy.com/Sustainability).



**INDUSTRY'S GOAL:**  
**REDUCE GHG EMISSIONS FOR**  
**FLUID MILK BY 25% BY 2020**



### IN THE GUIDE

The Guide includes indicators that align with the Smart Tools to help dairy farmers, processors and manufacturers communicate energy and GHG emissions consistently:

- Energy intensity (total energy use per unit of milk production, milk processed or production output)
- Total renewable energy production and total renewable energy consumption (optional)
- GHG intensity (total GHG emissions per unit of milk production, milk processed or production output)



“Farm Smart gives the dairy industry a shared set of metrics that show customers and consumers what producers are doing and where the industry is moving.”

TAI ULLMANN  
Sustainability Project Specialist  
Land O'Lakes, Inc.

#### THIRTEEN SUSTAINABILITY COUNCIL MEMBERS pilot tested one or more of the Smart Tools in 2013:

Agri-Mark/Cabot Creamery Cooperative  
Dairy Farmers of America  
General Mills Inc.  
The Kroger Co.  
Land O'Lakes, Inc.  
Leprino Foods Company  
Maryland & Virginia Milk Producers Cooperative Association, Inc.  
McDonald's Corporation  
Michigan Milk Producers Association  
Prairie Farms Dairy  
Safeway  
Starbucks Coffee Company  
United Dairymen of Arizona

## On-farm projects

### Farm Smart™

Farm Smart, an integrated online sustainability resource, gives dairy farmers science-based decision support tools to assess their environmental footprint, mitigate and track improvements, and communicate their progress. The 2013 release of Farm Smart Version 1.5 enables dairy farmers to measure energy use and GHG emissions in alignment with the indicators in the Guide (see Page 27). Farm Smart can be used solely for on-farm measurements of performance or it can be linked to the other Smart Tools – Dairy Plant Smart and Dairy Fleet Smart – to measure sustainability with milk processors and co-ops and with product transportation.



The Farm Smart team plans to release Farm Smart Version 2.0 in the latter half of 2014. Working in collaboration with industry stakeholders, governmental agencies, academia and others, the team will integrate additional features into each release to enhance business value and assess and reduce fuel and electricity use, and improve water quality and quantity. Feed and herd management, nutrient management and field production practices also will be incorporated.

Learn more at [USDairy.com/FarmSmart](http://USDairy.com/FarmSmart).

### Using science to enhance climate resiliency

In 2013, USDA funded a five-year, \$10 million research project: *Climate Change Mitigation and Adaptation in Dairy Production Systems of the Great Lakes Region*. The University of Wisconsin-Madison leads the multistakeholder project team, which includes DMI. The research will identify dairy production practices that minimize GHG emissions and maximize business value, productivity and climate resiliency. The work will be used to support Farm Smart, building upon the existing scientific LCA research already embedded in the tool.<sup>48</sup>

### SUPPLY CHAIN HIGHLIGHT

Sustainability Council members have been partnering to support the development and use of tools to measure, improve and communicate sustainability performance. Joint efforts like the following 2013 pilot tests contribute to shared progress across the dairy value chain.

**Measuring on-farm performance:** As a member-owned agricultural cooperative, Land O'Lakes' dairy farmers saw the value Farm Smart brings in measuring on-farm sustainability performance. They pilot tested the tool and provided invaluable insights for the tool's ongoing development. Farm Smart adds on-farm data to Land O'Lakes' other initiatives to help create a more complete picture of sustainability performance for internal evaluation and sharing with key customers.

**Working together:** Recognizing the importance of dairy within its supply chain, Starbucks Coffee Company partnered with key dairy suppliers Maryland & Virginia Milk Producers Cooperative Association, Inc., Prairie Farms Dairy, Safeway and United Dairymen of Arizona to pilot test the Smart Tools on farms, in plants and with fleets across the country. The feedback provided by the dairy farmers and the co-ops is helping Starbucks better understand dairy's impacts and progress.



“Our dairy partners have really gone through the Smart Tools to provide great feedback.”

PAULA EMERICK  
Sourcing Manager  
Starbucks Coffee Company



## On-farm projects

### Farm Energy Efficiency

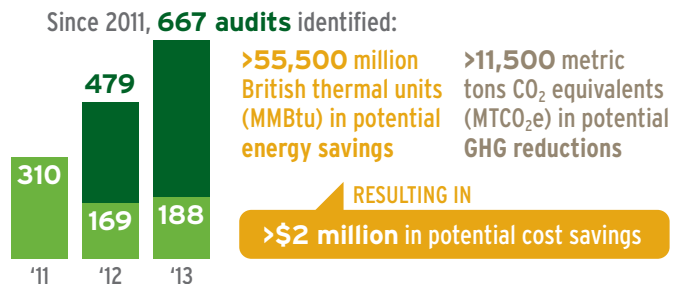
Farm Energy Efficiency promotes energy conservation, efficiency, cost savings and GHG reductions through outreach efforts that link dairy farmers to programs and funds to assist with energy audits and technology upgrades.

In 2013, the Farm Energy Efficiency program urged dairy farmers to “get on the road to energy savings” by applying for funding for an energy audit and equipment upgrades through the USDA Natural Resources Conservation Service’s Environmental Quality Incentives Program. The year ended with the completion of a three-year joint initiative with USDA NRCS to educate dairy farmers on the benefits of energy efficiency, build local partnerships that advance GHG reduction goals and train more than 50 dairy experts in 10 target states to help complete on-farm energy audits. In 2014, the team plans to update the current program website and provide additional easy-to-access program materials and tools.

Learn more at [USDairy.com/SaveEnergy](http://USDairy.com/SaveEnergy).

### 2013 FARM ENERGY EFFICIENCY RESULTS

#### Energy Audits Conducted (per year and cumulative)



*Estimated audit results are updated as historical program data becomes available. The 2011 and 2012 audit results are restated from the 2012 report, and 2013 audit results are expected to be revised in future reports.*

### BUILDING LOCAL PARTNERSHIPS

The Farm Energy Efficiency team works with state-level energy efficiency champions to promote on-farm energy audits and equipment upgrades that reduce emissions and energy costs. The team recently partnered with the Colorado Energy Office, Colorado Department of Agriculture, Colorado Rural Electric Association, USDA NRCS and Western Dairy Association to design and develop a statewide energy efficiency pilot program for Colorado’s dairy farmers.

The 2014 pilot program will provide energy audits and funding for recommended equipment upgrades for seven participating dairies. Based on pilot results, the program will be available to all Colorado dairies in 2014/2015. According to nationwide energy audit data supplied by program partner EnSave, Inc., the full program could expect to reduce each farm’s electricity use by roughly 99,000 kilowatt hours per year. Collectively, Colorado dairy farms could expect to save \$1.2 million in annual energy costs. The program also supports Colorado’s 2007 GHG emissions goal to reduce emissions by 20 percent below 2005 levels by 2020.



Sustainability Council members are taking action to reduce their energy and GHG emissions through energy efficiency initiatives and by setting public goals and commitments, as these examples highlight:

- Foremost Farms USA was recognized by the Wisconsin Sustainable Business Council’s Green Masters program for its 2013 energy and GHG emissions reductions.<sup>49</sup>
- Schreiber Foods set a goal to reduce energy and carbon production intensity by 25 percent.<sup>50</sup>
- United Dairymen of Arizona installed a new heat-efficient evaporative system in its 13-acre Tempe, Ariz., plant, which is expected to save more than \$1 million in natural gas costs and approximately 1,100 metric tons of CO<sub>2</sub> equivalents annually.<sup>51</sup>



## On-farm projects



Dairy companies such as Prairie Farms Dairy, Inc., Oakhurst Dairy, Stonyfield Farm, Inc., Tillamook County Creamery Association and The Kroger Co. are sharing their GHG reductions through the Carbon Disclosure Project (CDP), an independent not-for-profit organization that manages the world's largest database of primary corporate GHG emissions disclosures. Investors and insurers look to the CDP database to see which businesses are committed to transparency and how those businesses are managing their climate risk.

### A TOUCHDOWN FOR RENEWABLE ENERGY:

Through an innovative public-private partnership in Cleveland, food waste from FirstEnergy Stadium is diverted from the landfill to nearby anaerobic digesters. The digesters convert the food waste along with cow manure from local dairy farms into sustainable energy and nutrient-rich fertilizer. The project is part of a larger effort that aims to work with NFL stadiums across the country.

Learn more at [USDairy.com/news/2013/firstenergy-stadium-living-up-to-its-name](http://USDairy.com/news/2013/firstenergy-stadium-living-up-to-its-name).

### Dairy Power™/Biogas Capture and Transport

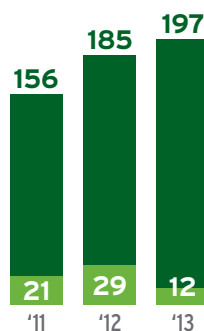
The Dairy Power/Biogas Capture and Transport project is focused on harnessing the significant value of manure and realizing the potential of anaerobic methane digester systems for U.S. dairy farmers. The project is helping to put 1,300 methane digesters on dairy farms by 2020.

The 2013 *National Market Value of Anaerobic Digester Products* economic impact study, available for download at [USDairy.com/DairyPower](http://USDairy.com/DairyPower), estimates a \$3 billion market potential for digesters on 2,647 dairy operations nationwide. In 2013, the Dairy Power team continued to raise awareness of the environmental and economic potential of anaerobic methane digesters through dialogue, collaboration and partnerships. A highlight of the year was the private-public partnership with the NFL and other stakeholders (see outer column).

Learn more at [USDairy.com/DairyPower](http://USDairy.com/DairyPower).

### 2013 DAIRY POWER RESULTS

**Digesters in operation**  
(number brought online per year and year-end total)



Since 2011, dairy digesters have:  
generated **>7.6 million MMBtu of renewable energy**  
reduced GHG emissions by **>4.7 million MTCO<sub>2</sub>e**

EQUIVALENT TO  
 **999,096 cars off the road for a year**

Data consolidated and converted to gigawatt hours and MMBtu reporting units by Innovation Center for U.S. Dairy. Source: EPA Anaerobic Digester Database, last updated January 2014, retrieved from <http://www.epa.gov/agstar/projects>.



### Cow of the Future™

Cow of the Future seeks scientifically sound, economically viable and socially responsible ways of reducing enteric methane emissions through improvements in dairy cow nutrition, genetics and health. The project focuses on the adoption of existing technologies and practices as well as research into new opportunities to reduce enteric emissions.

In 2013, the Cow of the Future team worked on the *Considerations and Resources on Feed and Animal Management: Cow of the Future™ Report to Improve Business Value and Reduce Greenhouse Gas Emissions*, which is scheduled for release in 2014. The report adds environmental and economic considerations to known feed and animal best management practices for on-farm decision-makers. Best animal management practices include the importance of identifying and providing the macro-and micro-nutrient needs at all phases of a cow's life to enhance animal health, increase productivity and reduce enteric emissions.

## Beyond-the-farm projects

### Dairy Plant Smart™

Dairy Plant Smart provides benchmarking and plant simulation data for plant managers who want to set goals and identify opportunities to reduce GHG emissions, energy use and costs. In 2013, several processors and manufacturers in the Sustainability Council used Dairy Plant Smart Version 1.5 and the Guide's companion indicators in their facilities. The team is working on the development of the Dairy Plant Smart Cheese module.

Learn more at [USDairy.com/PlantSmart](http://USDairy.com/PlantSmart).

Dairy Plant Smart promotes dairy industry participation in the EPA's ENERGY STAR® Challenge for Industry, a partnership between the ENERGY STAR program and the IDFA. The program recognizes individual dairy plants that have reduced their energy intensity by 10 percent within five years. With 148 dairy plants enrolled, dairy represents a considerable percentage of the companies participating in the ENERGY STAR Challenge.

Take the ENERGY STAR Challenge for Industry by visiting the ENERGY STAR Focus on Energy Efficiency in Dairy Processing page at [energystar.gov](http://energystar.gov).

### 2013 ENERGY STAR CHALLENGE RESULTS

Since the ENERGY STAR Challenge for Industry program began in 2010, **29 DAIRY PLANTS**, including four in 2013, have achieved the challenge, collectively contributing:

**>1.2 million** **247,654** MTCO<sub>2</sub>e  
**MMBtu in estimated** **in estimated GHG**  
**energy savings** **reductions**

ENOUGH TO POWER

 **27,818 homes**  
for a year

Data was provided by EPA ENERGY STAR Industrial Communications and Networking Manager (email communication, Feb. 11, 2014).

### Dairy Fleet Smart™

Dairy Fleet Smart provides fleet managers the tools and information they need to measure their fleet's emissions and develop an action plan to implement practices to reduce fuel consumption, costs and GHG emissions associated with milk transportation and distribution. Learn more at [USDairy.com/FleetSmart](http://USDairy.com/FleetSmart).

Dairy Fleet Smart complements the EPA's SmartWay program, which helps long-haul fleets and professional drivers reduce their fuel consumption, GHG emissions and air pollution. When used in tandem with the SmartWay program, Dairy Fleet Smart provides performance improvement tools tailored to dairy industry shippers and carriers.



EPA's 2012-2013 SmartWay Affiliate Challenge recognized the Innovation Center-led Dairy Fleet Smart project for its exceptional efforts to promote sustainable transit.

Join SmartWay at [epa.gov/smartway](http://epa.gov/smartway).



Sustainability Council member Dean Foods is an ENERGY STAR Challenge for Industry partner with 72 of its plants participating in the program and 18 plants having achieved the program's 10 percent reduction challenge as of Feb. 20, 2013.<sup>52</sup>





## IN THE GUIDE

The Guide includes indicators to help dairy processors measure and communicate their water profile in the following areas:

- Water use
- Water efficiency (water use per unit of milk processed or unit of output)
- Water discharge and quality
- Water recycling and reuse



Many Sustainability Council members share their water reduction goals and results in sustainability and environmental reports, as highlighted in these examples:

- Glanbia USA reduced its water consumption by 27 percent between 2010 and 2012.<sup>53</sup>
- Bel Brands USA decreased its water consumption by 19.8 percent between 2008 and 2012.<sup>54</sup>
- Hilmar Cheese Company lowered its well water use by 3 percent per thousand units of production between 2011 and 2012.<sup>55</sup>

## Water

Water is a critical resource for meeting the needs of the 21st century food system. A growing population, limited natural resources, shifting socio-economic demographics and a changing climate continue to strain the planet's capacity to feed the world, now and in the future.

In the U.S., the dairy industry continues to experience the impact of one of the longest and driest droughts of the past 50 years, with top-producing dairy states such as California suffering the worst effects.

### A focus on conservation

On-farm and in-plant water reuse and recycling are established practices. Across the industry, dairy farmers and companies implement new technology and equipment upgrades to lower their water intensity. They also reclaim evaporative and facility water for reuse. Many cheesemakers put the water extracted from raw milk during cheesemaking to good use in cleaning equipment and facilities and for cooling and irrigation. Still, constrained water supplies are challenging the industry to find even more conservation opportunities.

LCA findings tell us that there is no single solution: Water is a local issue influenced by a region's water supply and watershed. The Farm Smart and Dairy Plant Smart decision support tools can help dairy farmers and companies evaluate the impacts of different management practices on their water footprint. Both tools will continue to incorporate water-specific features in future versions.



The Guide includes water use and quality indicators for processors and manufacturers, and on-farm water indicators are expected to be incorporated in 2015. Using the tools and the Guide, dairy businesses can share their water stewardship story with dairy customers and others.



## SUPPORTING WATER QUALITY RESEARCH

Farmers and scientists regularly work together to understand and improve on-farm water quality. Exemplifying this collaborative approach is Koepke Family Farms, a fifth-generation farm in Oconomowoc, Wis. The Koepke family worked with Discovery Farms, a joint initiative of the University of Wisconsin (UW) Extension and UW-Madison that researches the economic and environmental effects of agricultural practices in Wisconsin. The Sand County Foundation, a nonprofit conservation foundation and Sustainability Council member, funded the study.

The farm has practiced no-till farming for 28 years and regularly rotates its crops to enhance soil quality, reduce the use of pesticides and commercial fertilizers, and minimize soil and nutrient loss. From 2005 to 2009, scientists monitored and analyzed on-farm surface and subsurface runoff that eventually drains to the Mississippi River. Research findings showed how different crop rotations and crop covers can reduce potential nitrate and phosphorus loss and how minimizing winter manure applications can affect water quality.

To share the results, Koepke Farms hosted on-farm tours and field day exhibits for dairy farmers, agricultural and environmental groups, nearby urban communities and government agencies. They also hosted "Ag in the Classroom" and other school programs for local students.

Learn more about the study at [uwdiscoveryfarms.org](http://uwdiscoveryfarms.org).

# OUR BUSINESSES

Our commitment to our businesses through a focus on long-term economic vitality

**Milk and dairy foods create jobs and generate income,** taxes and indirect economic impacts in every state. The \$125 billion U.S. dairy industry contributes to our nation's economic vitality.<sup>56</sup> Nationally, dairy is the fifth-largest agricultural commodity with estimated 2013 revenues of \$40 billion at the farm level, accounting for 10 percent of U.S. agriculture's total value.<sup>57</sup>

In 2012, the most recent year for which economic data is available, both U.S. milk production and production of dairy products exceeded the 200-billion-pound mark for the first time.<sup>58</sup> U.S. milk production was 200.3 billion pounds, setting a record for the third straight year. Processors and manufacturers created 203.4 billion pounds of dairy products in 2012.

Globally, the U.S. is the largest dairy exporter with 23.5 billion pounds of dairy products valued at \$5.1 billion exported in 2012.<sup>59</sup> Exports continue to grow, responding to increasing demand in the Asian and European markets.

## Local economic impacts

Dairy's economic impacts begin with farm families: Approximately 95 percent of America's dairy farms are family-owned.<sup>60</sup> The tradition of keeping a farm in the family fosters a long-term mindset and stewardship ethic, as each generation strives to pass on an economically vital operation to the next.

Dairy businesses and those they support, especially in rural areas, can be essential to the health of a local economy. These impacts multiply when dairy processing plants locate near their milk suppliers. In the country's top-producing dairy regions, dairy farmers and companies are close neighbors, creating jobs and contributing to the economic vitality of the region.

Dairy farmers and processors provide jobs in all 50 states, supporting the economic stability of local communities. Dairy is the No. 1 or No. 2 ranked agricultural commodity in 16 states based on 2012 farm receipts (see map above).<sup>61</sup>

## DAIRY'S KEY ROLE IN STATE ECONOMIES

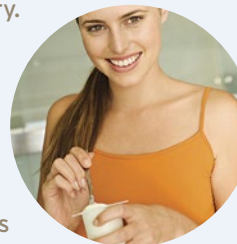
Dairy is the **No. 1** or **No. 2** ranked agricultural commodity in 16 states.



USDA/ERS. Farm Business Economics Report, Table 8: Importance of the Dairy Sector by State. 2012.

## INDUSTRY HIGHLIGHT: GREEK YOGURT FOSTERS HEALTHY RURAL ECONOMIES

Greek yogurt is a true success story. It accounted for 44 percent of the \$7.6 billion yogurt market in 2013, up from just 1 percent in 2007,<sup>62</sup> making Greek yogurt the most important trend in the industry.<sup>63</sup> The taste and nutrition aspects of Greek yogurt are responsible for its huge popularity. Greek-style yogurts have almost twice the protein of regular yogurts. People also appreciate the indulgent, thick and creamy texture.



Increasing demand is driving Greek yogurt production, creating jobs and fostering economically stable dairy sheds across the U.S. The growth in production is a boon to dairy farmers that supply the yogurt plants.<sup>64</sup> Since 2007, New York's Greek yogurt production has tripled, with more than 40 new plants in the state. The growth is contributing to New York's reputation as the "Silicon Valley" of yogurt. In rural upstate New York alone, Greek yogurt production has contributed to the creation of more than 1,400 new jobs and \$518 million in investments.<sup>65</sup>



## 2012 EMPLOYMENT AND WAGES

### Milk Production

94,327 jobs

\$2.720 billion in wages

### Dairy Product Manufacturing

132,437 jobs

\$7.029 billion in wages

Source: U.S. Department of Labor, Bureau of Labor Statistics, Quarterly Census of Employment and Wages. Milk production includes only producers covered by unemployment insurance.



## Looking Ahead

“We see the value in an industrywide standard for tools and reporting, and the work we’re doing with the Innovation Center is key to making that happen.”

DAVE LATTAN  
Vice President, Engineering  
Prairie Farms Dairy



As we look ahead, we continue to broaden our scientific understanding of dairy’s impacts. This includes new, science-based approaches that help companies and sectors, like the dairy industry, measure and accelerate the larger benefits of our actions: the positive contributions farm families and businesses are making to improve child health and wellness, alleviate hunger and enhance environmental quality. These contributions, both small and large, are helping the world become a healthier, more sustainable place for future generations.



We’ve invested several years of working across the dairy value chain to develop and test the science-based tools and resources we need to understand, measure and improve dairy’s sustainability impacts. We are now ready to make significant strides through industrywide adoption and implementation of these tools and resources, driving toward meaningful and lasting improvements for our businesses, our communities and our planet.

The actions we take now and in the coming years will support a global, sustainable food system for this generation and the next. Let’s move forward together.



### About the Innovation Center for U.S. Dairy

The Innovation Center for U.S. Dairy provides a forum for the dairy industry to work pre-competitively to address barriers to and opportunities for innovation and sales growth. The Innovation Center aligns the collective resources of the industry to offer consumers nutritious dairy products and ingredients, and promote the health of people, communities, the planet and the industry.

### Founded, funded and supported by dairy farmers

In 2008, the Innovation Center was established through Dairy Management Inc., the nonprofit organization that manages the national dairy checkoff program on behalf of America's nearly 49,000 dairy farmers as well as dairy importers. The dairy checkoff was put into place by dairy farmers to increase sales of and demand for dairy products and ingredients by working proactively, and in partnership with leaders and innovators, to increase and apply knowledge that leverages opportunities to expand dairy markets.

In 2010, the Dairy Research Institute®, a nonprofit 501(c)(3), was established under the leadership of America's dairy farmers, serving as the research arm of the Innovation Center to strengthen the dairy industry's access to and investment in the technical research required to drive innovation and demand for dairy products and ingredients globally. The Dairy Research Institute collaborates with industry, academic, government and commercial partners to drive pre-competitive research in nutrition, products and sustainability.

### Organizational structure

Dairy Management Inc., headquartered in Rosemont, Ill., staffs the Innovation Center and the Dairy Research Institute. The Innovation Center board of directors represents U.S. dairy farmers, dairy cooperatives, processors, manufacturers, retailers and brands.

The board, which meets twice annually, has six operating committees that represent strategic focus areas: Sustainability, Health and Wellness, Research and Insights, Food Safety, Consumer Confidence and Globalization. The Sustainability Operating Committee oversees the Sustainability Council, a multistakeholder governing body described on Page 5.



**“Years ago, the industry understood that getting into the sustainability conversation with integrity and vision was going to be a critical contribution to building a sustainable food system, now and for the future.”**

MOLLY JAHN  
Professor  
Laboratory of Genetics and  
Department of Agronomy  
Special Advisor to the Chancellor and  
Provost for Sustainability Sciences  
University of Madison-Wisconsin



Stakeholder investments of funds, time and expertise are vital contributions that help the dairy industry collectively develop solutions that contribute to a resilient and sustainable 21st century food system.

## Funding

Funding from investors continues to augment dairy farmer support from the checkoff program. Direct funding through partnerships, sponsorships and the in-kind contributions of more than 620 industry stakeholders supported our sustainability efforts. In 2013, funding exceeded \$6.1 million.

2013 FINANCIAL SUPPORT	
<b>DIRECT FUNDING</b>	<b>\$3,094,305</b>
<b>Partnerships</b>	<b>\$326,184</b>
USDA NRCS	276,096
USDA Rural Development	Not available at time of printing
World Wildlife Fund	50,088
<b>Sponsorships</b>	<b>\$290,000</b>
<b>Gold-level sponsors:</b> CAES, DeLaval USA, DVO Anaerobic Digesters, Elanco, HDR, Inc., InSinkErator, Tetra Pak Inc., U.S. EPA, WWF and Zoetis Inc. <b>Silver-level sponsors:</b> Dolphin WaterCare, Organic Solution Management, Skip Shapiro Enterprises, LLC, Syngenta	
<b>In-kind Contributions</b>	<b>\$2,478,121</b>
Value of formal stakeholder participation (21,522 hours valued at \$115/hour)	
<b>INDIRECT FUNDING</b>	<b>\$3,008,915</b>
<i>Grants and awards given to external organizations that support efforts to advance a sustainable dairy industry</i>	
USDA National Institute of Food and Agriculture (NIFA), Climate Change Mitigation and Adaptation in Dairy Production Systems of the Great Lakes Region grant	1,999,086
USDA NIFA, Support grant for the 4th EAAP International Symposium on Energy and Protein Metabolism and Nutrition Meeting	10,000
USDA NIFA, Evaluating Innovation and Promoting Success in Community and Regional Food Systems grant	999,829
<b>TOTAL DIRECT AND INDIRECT FUNDING</b>	<b>\$6,103,220</b>

## Endnotes

Refer to the PDF version of this report, available at **USDairy.com/Sustainability/Reporting**, for a complete list of endnotes.

## Acknowledgements

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## Report feedback

We welcome your feedback on this report and the industry's sustainability efforts. Please contact us at **InnovationCenter@USDairy.com**.



## Endnotes

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