Environmental Stewardship

A DAIRY PERSPECTIVE

Njoe Nyoni, PhD
Sr. Director of Sustainability, DFW
nnyoni@wadairy.org

Vision

Washington dairy is a pillar in our communities, recognized as healthy, sustainable, and irreplaceable

Mission

Build trust and drive sales for Washington dairy through collaboration and innovation

Importance of Sustainability

CONSUMERS

67% base product choices on concerns for the environment or social well-being

62% have switched to comparable products/services that have a positive impact

INVESTORS

BlackRock

State Street

Vanguard

Decarbonize portfolios

Increase investment in climate solutions

SUPPLY CHAIN

Nestlé — 50% by 2030

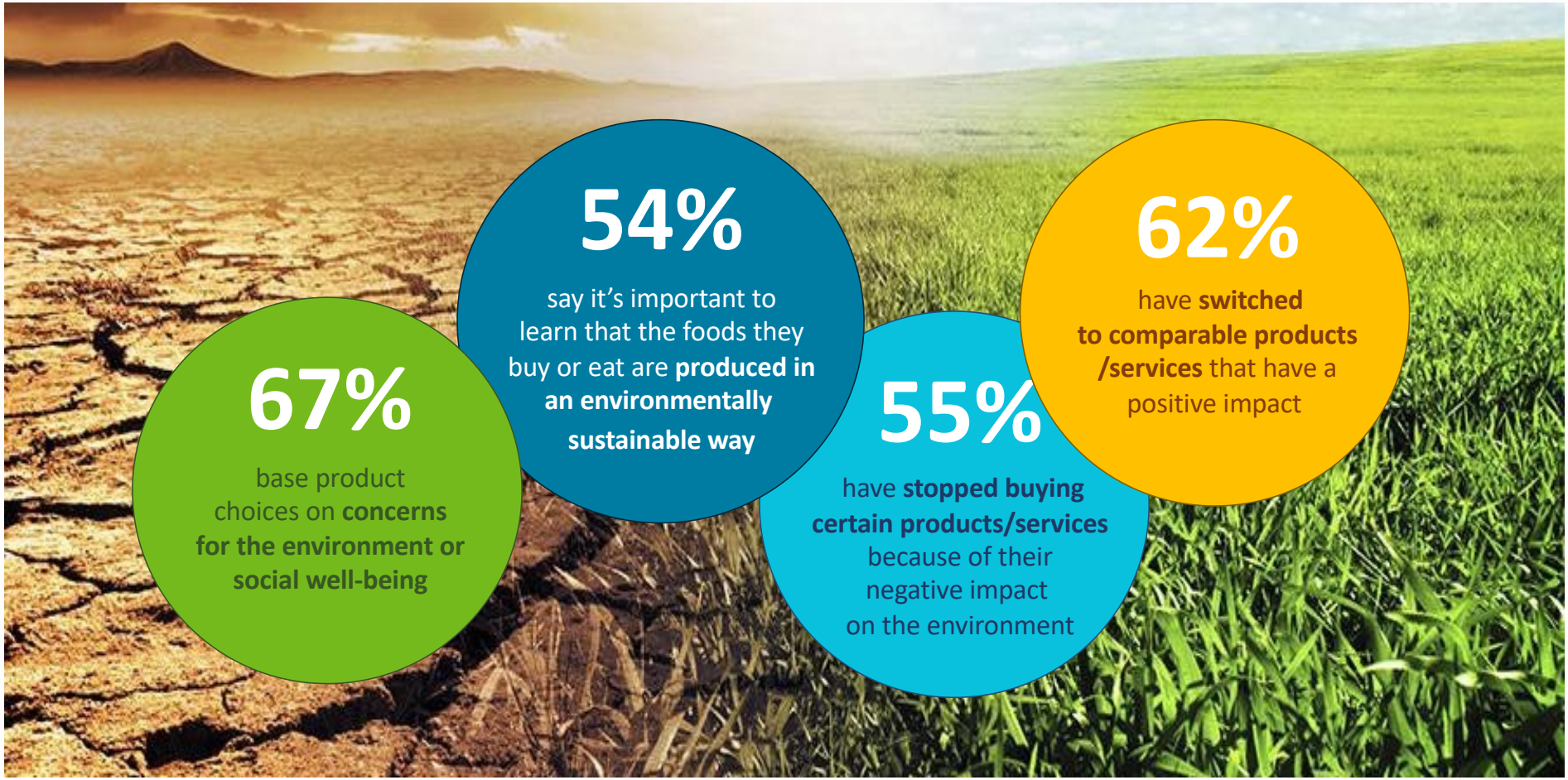
Unilever — Net zero by 2039

Walmart

Avoid 1 gigaton of GHG emissions by 2030

Source: Sources: IFIC 2021, Hartman Group Sustainability 2021

Consumers expect brands to have sustainability commitments and help them achieve sustainable lifestyles



Millennials, GenZ, and Gen Alpha will expect brands to be sustainable and aide them in leading more sustainable lifestyles

of youth **feel** that **sustainability is now even more** important post COVID

of youth **agree** that **sustainability was important** to them before COVID

of millennials want to see companies take the lead in developing more **sustainable packaging solutions**

The global landscape intensifies as companies, countries, NGOs and others weigh in on sustainability standards

- Investor groups look to **decarbonize portfolios** and increase investment in climate solutions
- U.S. and global dairy customers **prioritize sustainability** in their supply chains
- U.S. and global dairy leaders **set sustainability goals**
- Countries including UK, NZ, France, Demark & Sweden **commit to carbon-neutral**

BlackRock · Vanguard · State Street

Starbucks · Walmart (Save money. Live better.) · Coca-Cola · McDonald's · Mars

Kroger (Fresh for everyone) · Danone (One planet. One health) · Fonterra · Nestlé · Unilever

				
By 2050	By 2050	By 2050	By 2050	By 2045

Dairy Environmental Stewardship and Net Zero Initiative (NZI)

Vision

- US dairy is an environmental solution

By 2050, US dairy collectively commits to:

- Achieve **greenhouse gas (GHG)** neutrality
- **Optimize water use** while maximizing recycling
- Improve **water quality** by optimizing utilization of manure and nutrients

Dairy's Environmental Footprint

Estimated GHG contribution of each "print" to the total*:

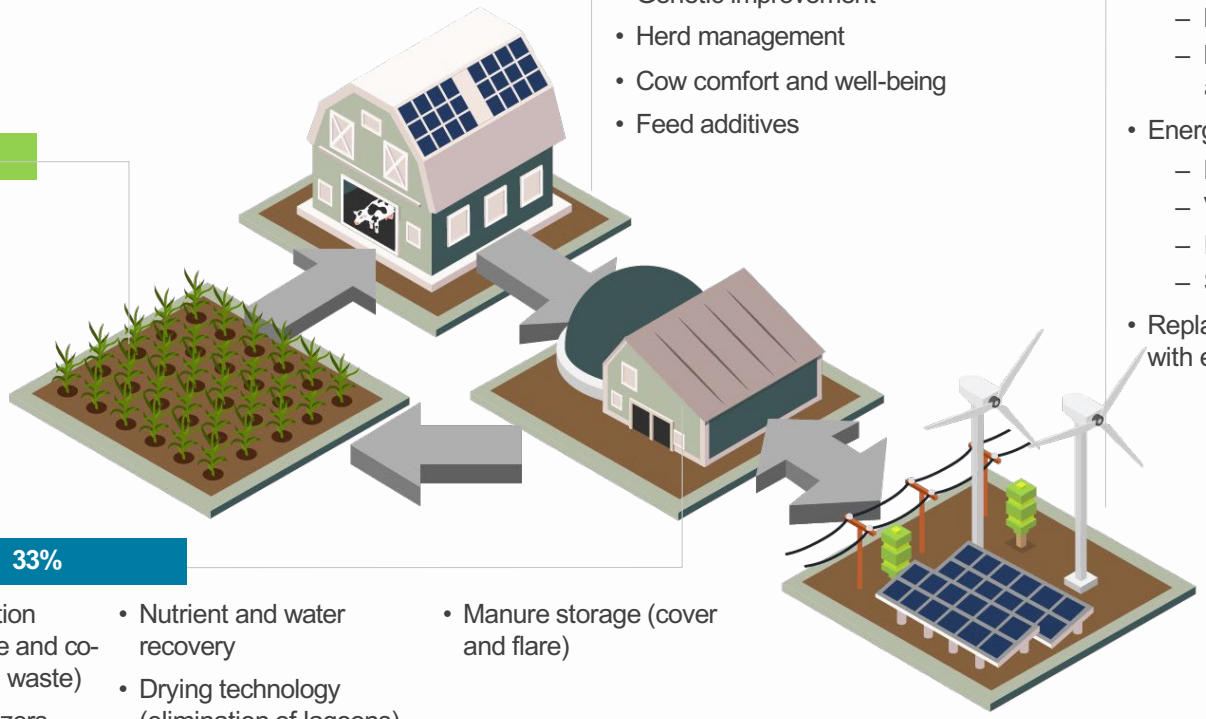
Feed (26%) | Enteric (35%) | Manure (33%) | Energy (6%)

FEED 26%

- No/low-till farming
- Cover crops
- Nutrient management
- Precision agriculture
- Water use efficiency

ENTERIC METHANE 35%

- Diet management
- Genetic improvement
- Herd management
- Cow comfort and well-being
- Feed additives



ENERGY 6%

- Renewable energy:
  - Renewable electricity
  - Renewable natural gas
  - Renewable energy from wind and solar sources
- Energy efficiency:
  - LED lighting
  - Variable speed pumps
  - Milk pre-cooling technology
  - Soft start motors
- Replacement of fossil-fueled engines with electric motors

MANURE 33%

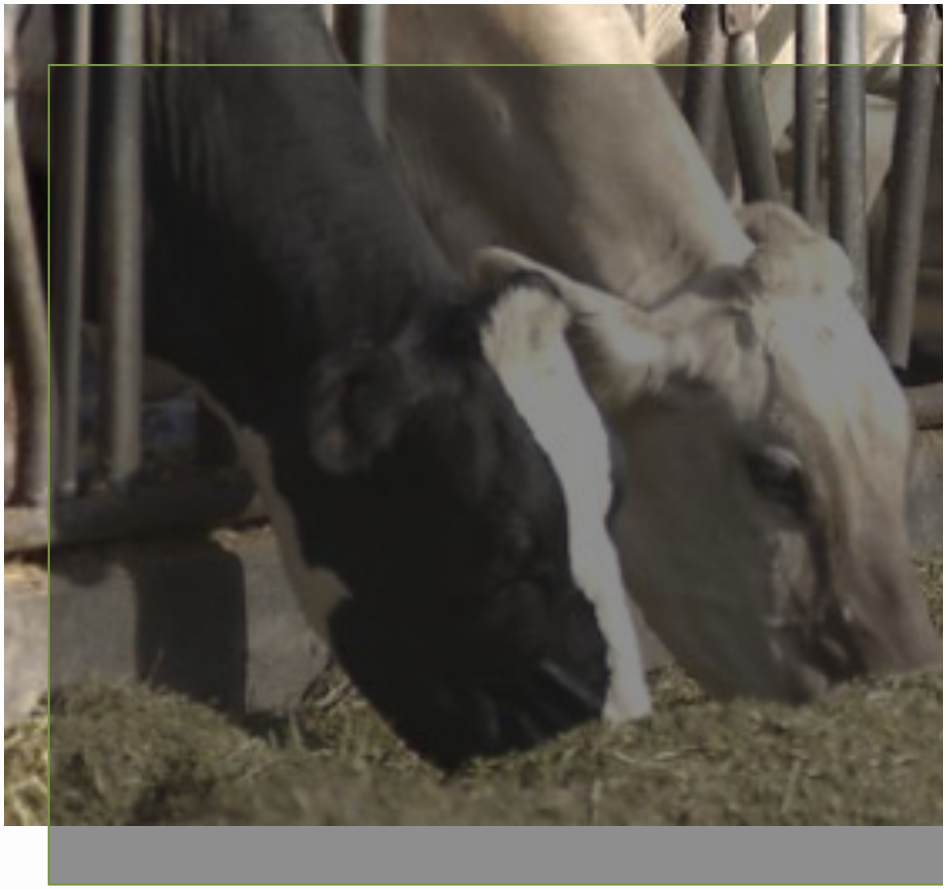
- Anaerobic digestion (includes manure and co-digestion of food waste)
- Renewable fertilizers
- Nutrient and water recovery
- Drying technology (elimination of lagoons)
- Manure storage (cover and flare)

US Dairy Stewardship Commitment

- Advancing sustainability leadership and transparently report progress

- Key elements:
  - Adopting best practices
  - Measuring & Reporting
  - Supporting the NZI and 2050 environmental goals
  - Communicating the value and values of dairy

- Benefits for dairy farms:
  - Accessing tools and resources
  - Receiving recognition and incentives
  - Joining a network of peers and partners



Sustainability Strategy

Objective: Demonstrate that dairy is an environmental solution - backed by science and proof – and economically additive for farmers, markets and society

Target: NGOs, Government, Corporate/Customers, Academia, Allied Agriculture, Supply Chain

Partners: Farmers, Industry including WSDF, NDA, Regional/National Checkoff, Enterprise, Government Agencies

RESEARCH & PLANNING

Support generation of proof points and overall progress through mapping and research to build the industry's overall knowledge base and advance net-positive on-farm options.

COMMUNICATION

Engage stakeholders in a two-way dialogue to increase understanding of dairy sustainability while incorporating feedback to ensure feasibility, alignment, and progress.

PARTNERSHIPS

Create partnerships that bridge industry and non-industry to broaden understanding, increase support, and align resources, ultimately advancing the industry's environmental stewardship goals.

Emerging and Diverse Carbon Markets

Opportunities and benefits:

- Income and diversifying revenue
- Reducing costs and risks
- Meeting the demand and expectations
- Mitigating climate change and enhancing environmental quality

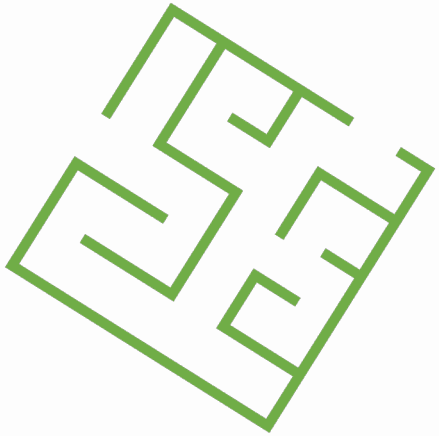
Types and sources of carbon markets:

- Compliance markets
- Voluntary markets
- In-setting markets
- Grants, cost-share, and other support programs

Key Messages

- US dairy's commitment ➔ Net Zero emissions by 2050
- Environmental Sustainability = *f*(Efficiency + Productivity + Resilience + Profitability)
- The Stewardship Commitment provides tools, resources, recognition, incentives, and networks for dairy farmers
- Environmental stewardship opens access to carbon markets and other programs that monetize environmental services

$$\frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$$



Q & A

Njoe Nyoni, PhD
Sr. Director Sustainability, Dairy Farmers of WA
nnyoni@wadairy.org

Thank You