

National Academy of Medicine

Action Collaborative on Decarbonizing the U.S. Health Sector

Victor J. Dzau, MD
President, NAM

April 27, 2023



NATIONAL ACADEMY OF MEDICINE

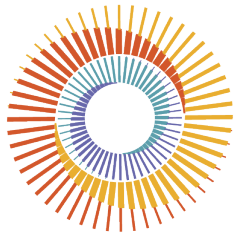
Leadership • Innovation • Impact | *for a healthier future*



NATIONAL ACADEMY of MEDICINE
**GRAND CHALLENGE ON
CLIMATE CHANGE,
HUMAN HEALTH & EQUITY**

- Bold initiative to tackle climate change, human health, and equity crisis
- 2 years of planning and launched in October 2020
- Chaired by Judith Rodin, past President, Rockefeller Foundation and President Emerita, Pennsylvania University
- 180+ experts representing diverse sectors and disciplines engaged throughout the Grand Challenge
- Public private collaboration
 - Partnership with HHS Assistant Secretary of Health and OCCHE
 - Partnership with private industry, biopharma, medical device, supply chain
 - Partnership with health systems, public health and education systems
 - Engagement with global academies (InterAcademy Partnership) to advance policy, research, and collaboration





NATIONAL ACADEMY of MEDICINE
**GRAND CHALLENGE ON
CLIMATE CHANGE,
HUMAN HEALTH & EQUITY**

Programmatic Pillars

**COMMUNICATIONS
& MESSAGING**

**ACTION
COLLABORATIVE ON
DECARBONIZING U.S.
HEALTH SECTOR**

**ROADMAP FOR
SYSTEMS
TRANSFORMATION**

**RESEARCH &
INNOVATION**

CLIMATE COMMUNITIES NETWORK



NATIONAL ACADEMY OF MEDICINE

NAM Action Collaborative on Decarbonizing the U.S Health Sector

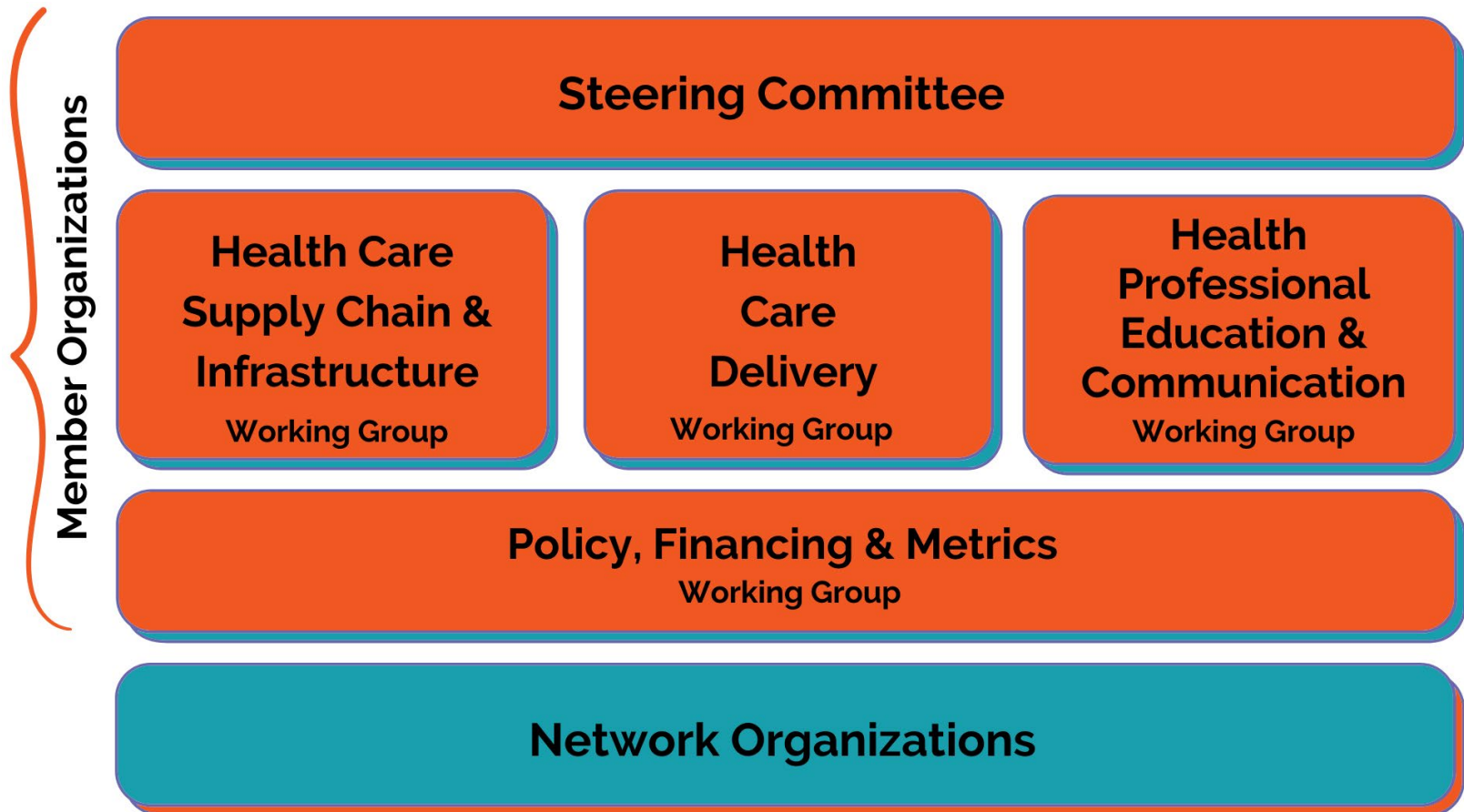
- Public-private partnership launched as part of NAM Grand Challenge on Climate Change, Human Health, and Equity
- Convenes leaders from across the health sector to co-develop and implement a shared action agenda to reduce the carbon footprint of the health sector and strengthen its resilience
- Focus areas: Supply chain; health care delivery; health professional education and communication; policy, financing, and metrics
- Members represent hospital systems, clinicians, private payers, health care distributors, biopharmaceutical and medical device companies, health professional education, academia, nonprofits, and the federal government



Public-Private Partnership

- **Health systems:**
 - Kaiser, Providence, USC Keck Medicine, OhioHealth, Yale-New Haven, Cleveland Clinic, Gunderson, CommonSpirit, Advocate, etc.
- **Education systems and professional associations:**
 - AAMC, ACGME, AMA, Medical Students for a Sustainable Future, National League for Nursing, America's Essential Hospitals, American Hospital Association, ASHE, AHRMM, APHA, AAHC, etc.
- **Industry:**
 - Pharma (GSK, J&J, United Therapeutics, AstraZeneca, Sustainable Medicines Partnership, etc.)
 - Medical Device (Medtronic, Philips, AdvaMed, ThermoFisher, etc.)
 - Distribution (Healthcare Distribution Alliance, McKesson, Cardinal Health, Henry Schein, AmerisourceBergen)
- **Government, insurers & regulators**
 - HHS, CMS, CDC, FDA, AHRQ, VA, United/Optum, Joint Commission
- **Academia:**
 - Harvard Chan C-CHANGE, George Mason, Columbia, Yale, Northeastern, University of Minnesota, University of Wisconsin-Madison, UCSF, University of Wisconsin, etc.
- **Nonprofits & Foundations:**
 - Health Care Without Harm, Institute for Healthcare Improvement, The Commonwealth Fund, Mazzetti and Sextant Foundation, etc.

Action Collaborative Structure



Steering Committee

- ▶ **Victor Dzau, MD**, *Co-Chair* | National Academy of Medicine
- ▶ **Rachel L. Levine, MD**, *Co-Chair* | U.S. Department of Health and Human Services
- ▶ **George Barrett, MBA**, *Co-Chair* | Cardinal Health (former)
- ▶ **Sir Andrew Witty**, *Co-Chair* | UnitedHealth Group
- ▶ **Aaron “Ari” Bernstein, MD, MPH** | The Center for Climate, Health, and the Global Environment at the Harvard T.H. Chan School of Public Health
- ▶ **Don Berwick, MD, MPP** | Institute for Healthcare Improvement
- ▶ **Gary Cohen** | Health Care Without Harm
- ▶ **Chester “Chip” Davis, Jr., JD** | The Healthcare Distribution Alliance
- ▶ **Elizabeth “Liz” Fowler, JD** | Center for Medicare and Medicaid Innovation, U.S. Centers for Medicare and Medicaid Services
- ▶ **Andrea Garcia, JD, MPH** | American Medical Association
- ▶ **David Grossman, MD, MPH** | Kaiser Permanente
- ▶ **Michelle Hood, MHA** | American Hospital Association
- ▶ **Beverly Malone, PhD, RN, FAAN** | National League for Nursing
- ▶ **Jonathan B. Perlin, MD, PHD** | The Joint Commission
- ▶ **Nazneen Rahman, MD, PhD** | Sustainable Medicines Partnership and AstraZeneca
- ▶ **David Skorton, MD** | Association of American Medical Colleges
- ▶ **Greg Smith** | Medtronic
- ▶ **Walt Vernon, MBA, JD, LLM** | Mazzetti and Sextant Foundation



Working Groups

- Health Care Delivery
- Health Professional Education & Communication
- Health Care Supply Chain
- Policy, Financing, and Metrics



I. Health Care Delivery Working Group

Challenges

- Lack of shared measures; inconsistency and variability in measuring and reporting emissions
- Lack of a clear business case; insufficient financial and payment incentives

Working Group Charge

- ▶ Scale sustainable, quality, and equitable health care operations and practices, including reducing the carbon footprint of health care delivery organizations and unnecessary health care services

Areas of Focus

- ▶ Building a multifaceted case for decarbonization for health care organizations' (HCOs) leadership
- ▶ Identifying key sustainability metrics for HCOs
- ▶ Assembling decarbonization best practices and playbooks for HCOs
- ▶ Highlighting policy & regulatory challenges and solutions



II. Health Professional Education & Communication Working Group

Working Group Charge

- ▶ Empower health workers and learners to better advocate for decarbonizing healthcare through education and communication that emphasize the health and equity benefits of climate actions

Areas of Focus

- ▶ Identify knowledge gaps on climate and health
- ▶ Mobilize support for decarbonizing health care, as well as greater climate and health education
- ▶ Standardize and scale climate and health curricula and educational programming for health professionals
- ▶ Identify opportunities to expand curricula and other educational opportunities across the continuum (UE, GE, CE)



III. Health Care Supply Chain Working Group

Health care supply chain generates 71% of the health sector's emissions globally, and in the U.S., ~82% of health sector's carbon emissions

Working Group Charge

- ▶ Identify and advance opportunities to reduce the carbon footprint of the health care supply chain and strengthen its resilience, as well as promote sustainable innovation in services, product manufacturing, packaging, and distribution

Areas of Focus

- ▶ Scaling resources and best practices for decarbonization
- ▶ Highlighting policy & regulatory challenges and solutions
- ▶ Fostering alignment around metrics, accounting, and reporting standards



IV. Policy, Financing, and Metrics

Working Group

Fundamentally, progress will hinge on having supportive policies, payment and financing, as well as transparency and accountability through metrics

Working Group Charge

- ▶ Identify and advance evidence-informed policies, regulations, metrics, financing, and payment structures to support and accelerate health sector decarbonization and resilience

Areas of Focus

- ▶ Create an integrated and cohesive policy and regulatory agenda based on key barriers and opportunities identified across the working groups
- ▶ Identify financing mechanisms and pathways to support HCO decarbonization
- ▶ Support identification and implementation of decarbonization metrics for HCOs



Progress to Date

Climate Collaborative launched on September 28, 2021

Key Accomplishments

- Aligned around shared decarbonization goals for health sector
 - Action Collaborative aligned with existing economy-wide goals of 50% emissions reduction by 2030 and achieving net zero by 2050
 - Collaborated with OCCHE in support of White House/HHS Climate Pledge Initiative
- Established four working groups, defined priorities & deliverables
- Mobilized and expanded membership, reach and influence
 - 70+ members from across the health sector and 60+ network organizations
 - Several Collaborative members now taking action in important ways (TJC, UHG, IHI, AHA, AMA, AAMC, among others)
- Laying the foundation for systems change
 - All parts of the health sector must align and work together to achieve decarbonization (requires a “systems approach”)
 - Collaborative provides a necessary venue for coordination, alignment, evidence and information sharing



Progress to Date

Established four working groups, defined priorities & deliverables

Health Care Delivery

- Phase I Priorities (2021-23): Present the case for HCOs to decarbonize; Identify policy barriers and propose solutions; Propose metrics to guide HCOs decarbonization; Assemble decarbonization playbooks and best practices
- Phase I Products (2021-23): Building case for decarbonization and resources for HCO leaders (Discussion paper; Feature Story; Health Leaders meeting at AHA; Short list of key actions for HCOs to reduce GHG emissions)

Health Professional Education & Communication

- Phase I Priorities (2021-23): Understand gaps in climate/decarb knowledge & education; Identify opportunities and needs for climate and health education; Communicate why decarbonizing matters for the U.S. health sector
- Phase I Products (2021-23): Stakeholder focus groups; Education Leadership meeting; Decarbonization primer



Progress to Date

Established four working groups, defined priorities & deliverables

Policy, Financing, and Metrics

- Phase I Priorities (2021-23): Identify and advance policies, regulations, metrics, financing, and payment structures to support and accelerate health sector decarbonization and resilience
- Phase I Products (2021-23): Carbon Accounting Clinics; Policy and Regulatory Agenda Paper Series; Financing mechanisms to support HCO decarbonization

Supply Chain & Infrastructure

- Phase I Priorities (2021-23): Collate and scale resources and best practices for supply chain decarbonization; highlight policy & regulatory challenges and solutions; foster alignment around metrics, accounting, and reporting standards
- Phase I Products (2021-23): Climate Journey Map & Resource Repository for Health Care Supply Chain; Case Study Series



Looking Forward

- Build capacity to meet decarbonization goals
 - Develop and assemble learning resources, best practices, toolkits, and playbooks to support emissions inventorying, accounting, and reporting
 - Share progress and highlight achievements; begin voluntary reporting for those who are ready
- Complete work products and develop plans for communication and amplification
- Continue to mobilize and engage others in the sector
 - Particularly through strategic partnerships (SMI, IHI, Kaiser, HCWH, etc.) and Network Organizations
- Develop a strategy for phase II (2024-2025)



Thank You!

Join our listserv: bit.ly/NAMlistserv

Questions? ClimateandHealth@nas.edu



Stop sharing until Pam Cheng



Scaling Climate Action Across Health Care

Pam Cheng, EVP Global Operations, IT & Chief Sustainability Officer, AstraZeneca

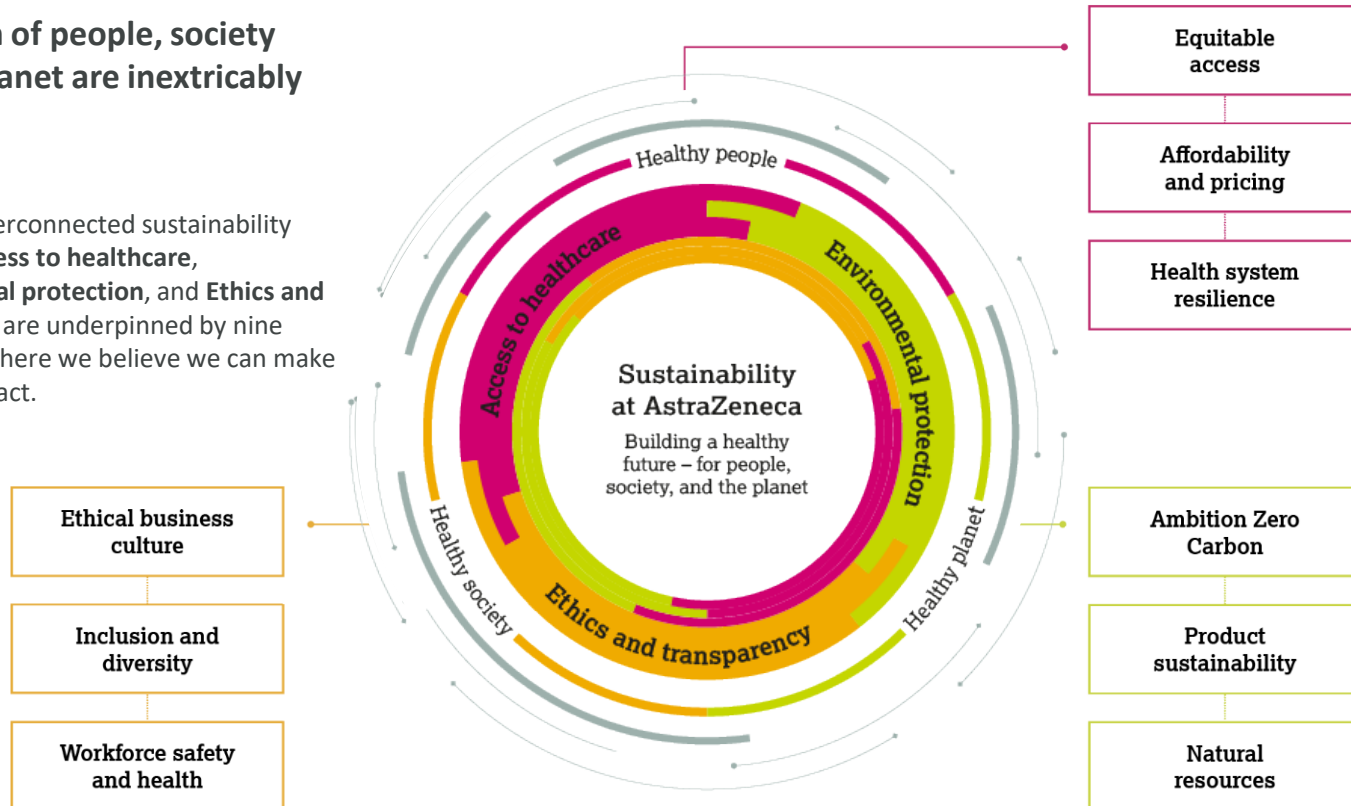
27 April 2023



Delivering on our sustainability strategy at AstraZeneca

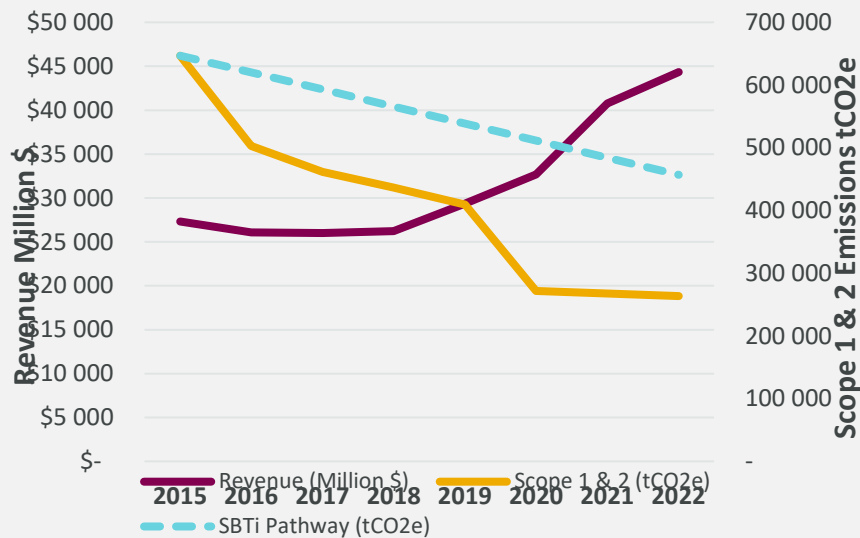
The health of people, society and our planet are inextricably linked.

Our three interconnected sustainability priorities **Access to healthcare**, **Environmental protection**, and **Ethics and transparency** are underpinned by nine focus areas where we believe we can make the most impact.



Driving continued emissions reductions and business growth

Making progress against our science-based targets:



*vs 2015 baseline

Core priorities critical to reducing emissions:



By 2026: Reduce Scope 1 & 2 GHG emissions by 98%. 59% reduction to date*



By 2030: Reduce absolute Scope 3 GHG emissions by 50% on path to net zero



Supplier engagement: 95% of key suppliers to have Science Based Targets by end 2025



What collective action can deliver...



**Sustainable
Markets
Initiative**



SMI Health Systems Task Force launched joint minimum targets to drive supplier decarbonisation

Pharma Manufacturing Forum - Emissions Reduction Memorandum -

 Stephen Muldoon AbbVie	 Eiríkur Santos Aegion	 Pam Cheng AstraZeneca
 Helge Weizen Bayer Pharmaceuticals	 Kaiti Samakia Boehringer Ingelheim	 Tereza Rado Boehringer Ingelheim
 Edgardo Hernandez Eli Lilly	 Stacey Ma Gilead Sciences	 Diego J. Suarez GSK
 Sam Chatterjee Merck & Co. Inc., USA, known to MSD outside of US and Canada	 Teresa Rado Merck, known to Merck KGaA, Darmstadt, Germany to US and Canada	 Henrik Walff Novo Nordisk
 Mike McDermott Pfizer	 Susanne Hindrichsen Roche	 Brendan O'Callaghan Sanofi
 Thomas Wozniakowski Takeda	 Kirsten Lund-Jorgensen USB	 Olatunji Ajayi Janssen

18 Global Heads of Manufacturing and Supply Chain Operations call for suppliers to set 1.5C aligned science-based targets



Energize is supporting the energy transition through education on renewables and PPAs in Europe & US



Improving health outcomes while reducing emissions makes solid economic and moral sense - and is critical for our future




Liz Fowler – no slides

Sustainable innovation that matters

Jeff DiLullo

Chief Region Leader, North America

April 27, 2023

innovation  you





WE AIM TO IMPROVE

2.5 BILLION

LIVES PER YEAR BY 2030

INCLUDING 400 MILLION

IN UNDERSERVED COMMUNITIES.



Ambitious science-based targets by 2025

Advancing sustainability in health systems with innovation, circularity and supplier focus



Sustainable design for health tech

- We will **design 100% of our new products** and services in line with our EcoDesign requirements, with 'Eco-Heroes' accounting for 25% of revenues



Sustainable use of materials

- We will generate **25% of our revenue from circular health tech products**, services and solutions, and offer a trade-in on all professional medical equipment
- We will put zero waste to landfill



Sustainable use of energy

- Maintain **carbon-neutrality and 100 percent renewable electricity** while advancing to 75% renewables across all energy sources (including fleet)



Supplier sustainability

- We will improve the lives of 1 million workers in our supply chain and reduce its environmental footprint
- We aim to have at least 50% of our suppliers commit to reducing CO₂ emissions with science-based targets by 2025



The Joint Commission

DRAFT SUSTAINABILITY STANDARDS

Jonathan B. Perlin, MD, PhD
President & CEO, The Joint Commission
National Academy of Medicine
Action Collaborative on Decarbonizing the U.S. Health Sector
April 27, 2023

Environmental Sustainability Standards

Background:

The Joint Commission convened two Technical Advisory Panels (TAP) in 2022:

- The first TAP was focused on “scrubbing” current Joint Commission standards to be sure there were no implications that drove excess consumption.
 - Examples: Single Use, equipment reprocessing, etc.
 - NB: Deferred to other authorities, manufacturer instructions, etc.
- The second TAP generated proactive standards to accelerate health care organization efforts in carbon accounting and decarbonization.

Environmental Sustainability Standards

LD.XX.XX.XX (Leadership Chapter)

The hospital decreases greenhouse gas emissions and waste.

***EP 1.** The hospital leaders designate an individual(s) responsible for the oversight of activities to reduce greenhouse gas emissions in coordination with clinical and facility representatives.

Environmental Sustainability Standards

LD.XX.XX.XX (Leadership Chapter)

The hospital decreases greenhouse gas emissions and waste.

EP 2. The hospital measures three or more of the following:

- ☐ Energy use
- ☐ Purchased energy (electricity and steam)
- ☐ Anesthetic gas use
- ☐ Pressurized metered dose inhaler use
- ☐ Fleet vehicle gasoline consumption
- ☐ Solid waste disposal to landfills or through incineration

Environmental Sustainability Standards

LD.XX.XX.XX (Leadership Chapter)

The hospital decreases greenhouse gas emissions and waste.

EP 3. The hospital develops written goals and action plans to reduce greenhouse gas emissions in three or more areas that they have measured.

Environmental Sustainability Standards

LD.XX.XX.XX (Leadership Chapter)

The hospital decreases greenhouse gas emissions and waste.

□ **EP 4.** At least annually, the hospital analyzes its sustainability measures (EP 2) to determine whether it is meeting its goal(s) and revises its plan (EP 3) if goals are not achieved or sustained.

Environmental Sustainability Standards

Field Review & Reaction

- Over 300 responses have been received. The tenor is negative. Healthcare executives report capacity overwhelmed by:
 - Workforce Shortages
 - Financial Challenges
 - Patient Disposition Challenges (especially behavioral health)
- On the other hand, younger clinicians are asking for sustainability standards.
- TJC reviewed standards with members of Policy, Finance & Metrics Workgroup

Environmental Sustainability Standards

Current Plan

- Introduce Standards initially as “extra credit” (i.e., not determinative of accreditation decision)
- Typically, there is a 6-month lead from publication to implementation of standards. Thus, considering . . .
 - July 1, 2023 publication for Jan 1, 2024 implementation, or
 - Jan 1, 2024 publication for July 1, 2024 implementation
- Appreciate your help in popularizing the *moral obligation* to “first, do no harm” in healthcare



Environmental Stewardship

Ali Santore





120k
CAREGIVERS



36k
NURSES



25k
PHYSICIANS



\$1.9b
COMMUNITY
BENEFIT



52
HOSPITALS



950
CLINICS



28.1m
TOTAL
PATIENT
VISITS



1.9m
COVERED
LIVES



1700+
PUBLISHED
RESEARCH
STUDIES



1
HEALTH
PLAN

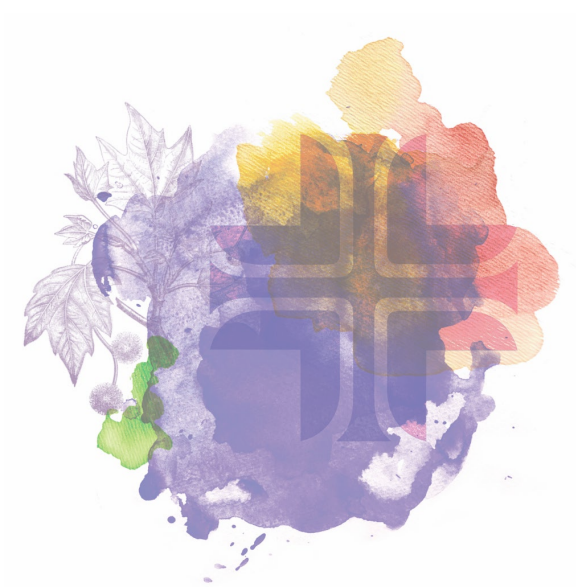


17
SUPPORTIVE
HOUSING
FACILITIES



HIGH SCHOOL
NURSING
SCHOOLS &
UNIVERSITY

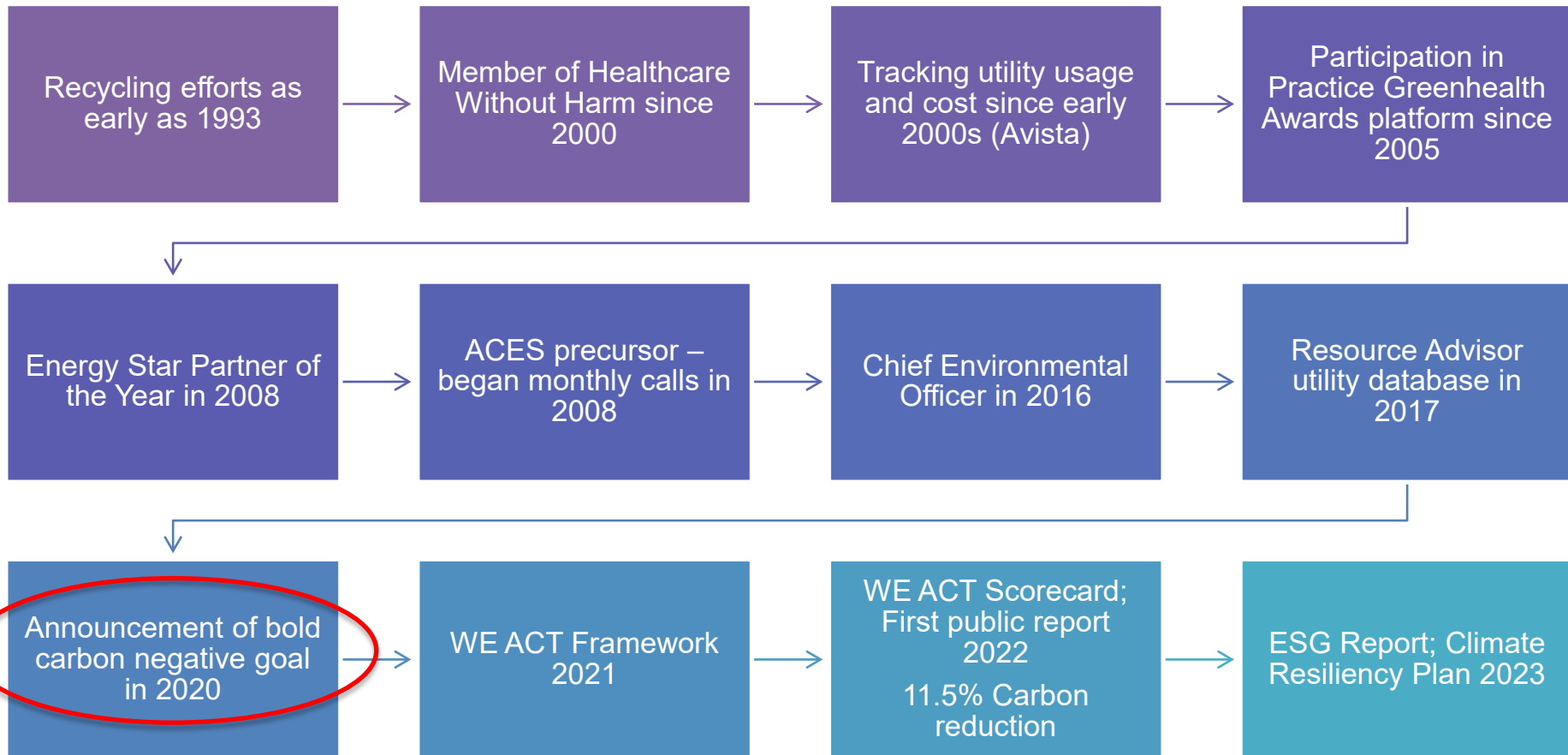
Providence Mission



Value of Justice

*We strive to care wisely for our people,
our resources and our earth.*

History of Environmental Stewardship at Providence



Carbon Negative by 2030



“Scope 1” emissions

Direct emissions from our onsite operations: from utilities, owned vehicles, and other on-site sources



“Scope 2” emissions

Indirect emissions from offsite purchased *electricity and steam*



“Scope 3” emissions

Indirect emissions from sources such as purchased goods and services, capital, business travel, employee commuting, waste, and investments.

Providence Environmental Stewardship Strategy Map

W: Waste Optimization

E: efficiency, renewables

A: low carbon & waste, sustainable

C: anesthesia, N2O; chemicals

T: Business, commuting, EVs

**Mitigation:
WE ACT**

WE ACT Scorecard

Environmentally
Preferred Purchasing

**Adaptation:
WE REACH**

Resiliency-Equity-Adaptation-Climate-Health

Infrastructure; Clinical Care; Communities

Advocacy

WA/CA Climate Councils

Federal, State, Regional

Race to Zero, America's All In

NAM, HCWH, CHA, AHA

Action Hub

Clinician Voice

Internal Advocacy



Providence

*Carbon Negative
by 2030*

Key Elements

Governance

Mission/Justice

Leadership

Finance/Philanthropy

Green Revolving Fund

Accountability - LTIP

Reporting

Communications

Action Groups

Green Teams

ACES

WE ACT Data Team

ES Tech Adv Comm

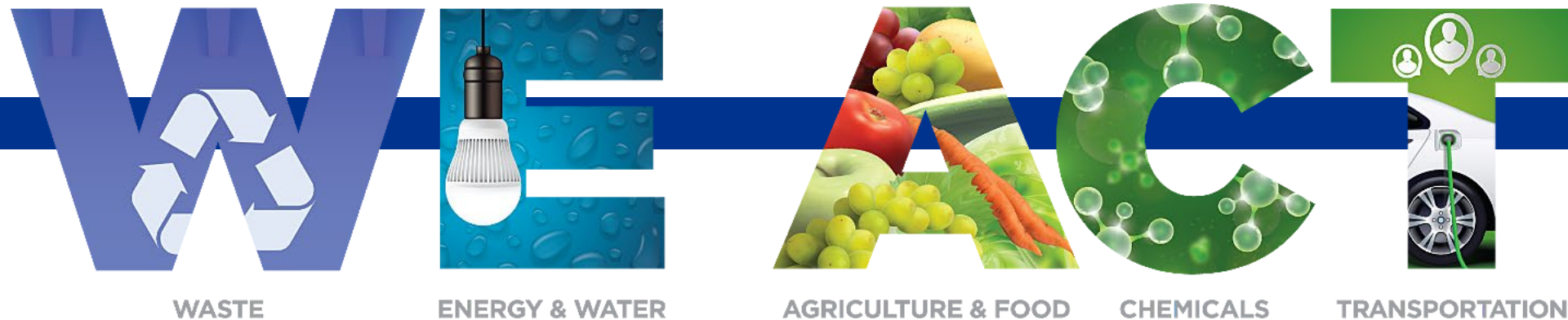
ES Procurement

ES FANS

ES Clinical Alliance

EJ Collaborative

Accountability Circle



Reduce waste to
landfill / incineration

More efficient
use of energy &
water resources

More local and healthy
agriculture choices

Fewer, less toxic,
lower carbon
emissions

Less carbon
intensive forms
of travel

Advocacy, Communications, Data/Metrics, Accountability, Procurement, Community Health, Equity, Engagement



We REACH clinicians and all caregivers to help prepare them to deliver climate-safe care



We REACH out to community partners to help forestall avoidable harm from climate change



We REACH toward the future to prepare for and adapt to changing conditions

Resilience Planning 2023

Resiliency Equity Adaptation Climate Health

How are we doing?

We are on the right track!



- We have reduced carbon emissions in our hospitals by 13% in 7 categories in Scopes 1, 2, and 3
- Several hospitals have reduced waste by over 50%, and all are on track to optimize waste by 2025
- 24 Providence facilities operating on 100% renewable electricity
- We have reduced carbon emissions from anesthetic agents by 70%, saving \$3.5M annually
- We have reduced business travel by 70%, flights by 90%, saving \$5.4M annually
- We have designed and developed a one-of-a-kind environmental stewardship database and scorecard to guide decisions and reporting

*MTCO₂e = Metric **Tons** of Carbon Dioxide equivalent.
This is how we measure and report our greenhouse gas pollution.

Our Commitment

- WE ACT...** to become Carbon Negative by 2030
- TOGETHER...** with caregivers to reduce costs and our environmental footprint
- on HEALTH...** and justice for individuals and the communities we serve
- for a BETTER WORLD...** by caring for our common home that we will pass to future generations





Health for a Better World