

# Institutionalizing Sustainability at Universities

Dr. Paul Shrivastava  
Chief Sustainability Officer, & Director, Sustainability Institute  
The Pennsylvania State University

## Outline

### 1. Sustainability and Climate Imperatives for Universities

- Global & Local Risks, 360<sup>o</sup> Impacts, Risk Multiplier Effect

### 2. Risks have reached Emergency Level

- SDG global consensus, Climate Summit - Planetary Emergency,

### 3. How We are addressing these risks at Penn State

- Land Grant Mission, Long history, SDGs, as Framework,
- Unit based, 3Cs Structure, Living Labs for Impactful Solutions



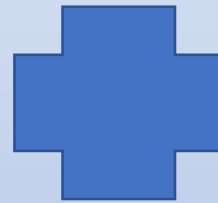
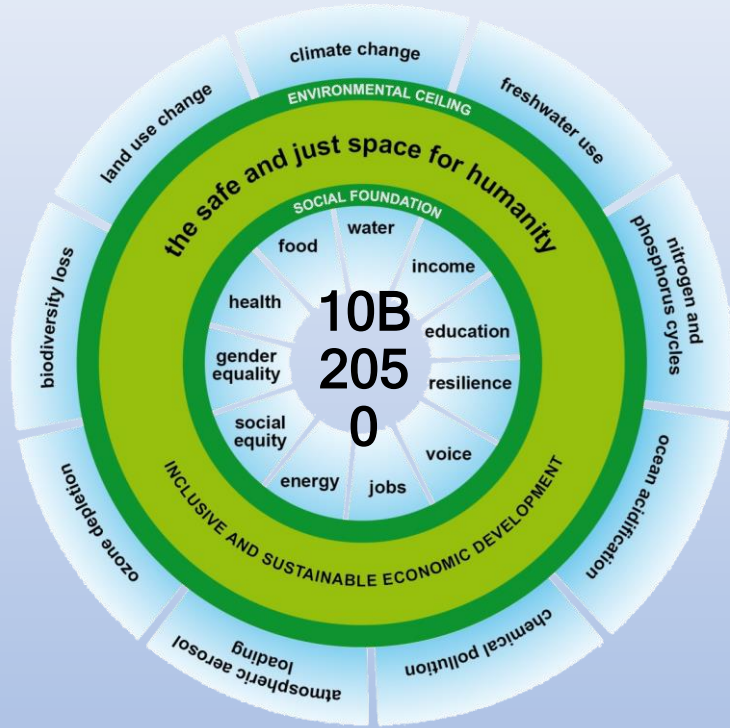
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# Global Challenges - Anthropocene, Climate Risks

May 2019, International Commission on Stratigraphy voted The Anthropocene epoch



## World Economic Forum – Global Risks

Likelihood

Impact



The 'doughnut', Kate Raworth  
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Report 2019

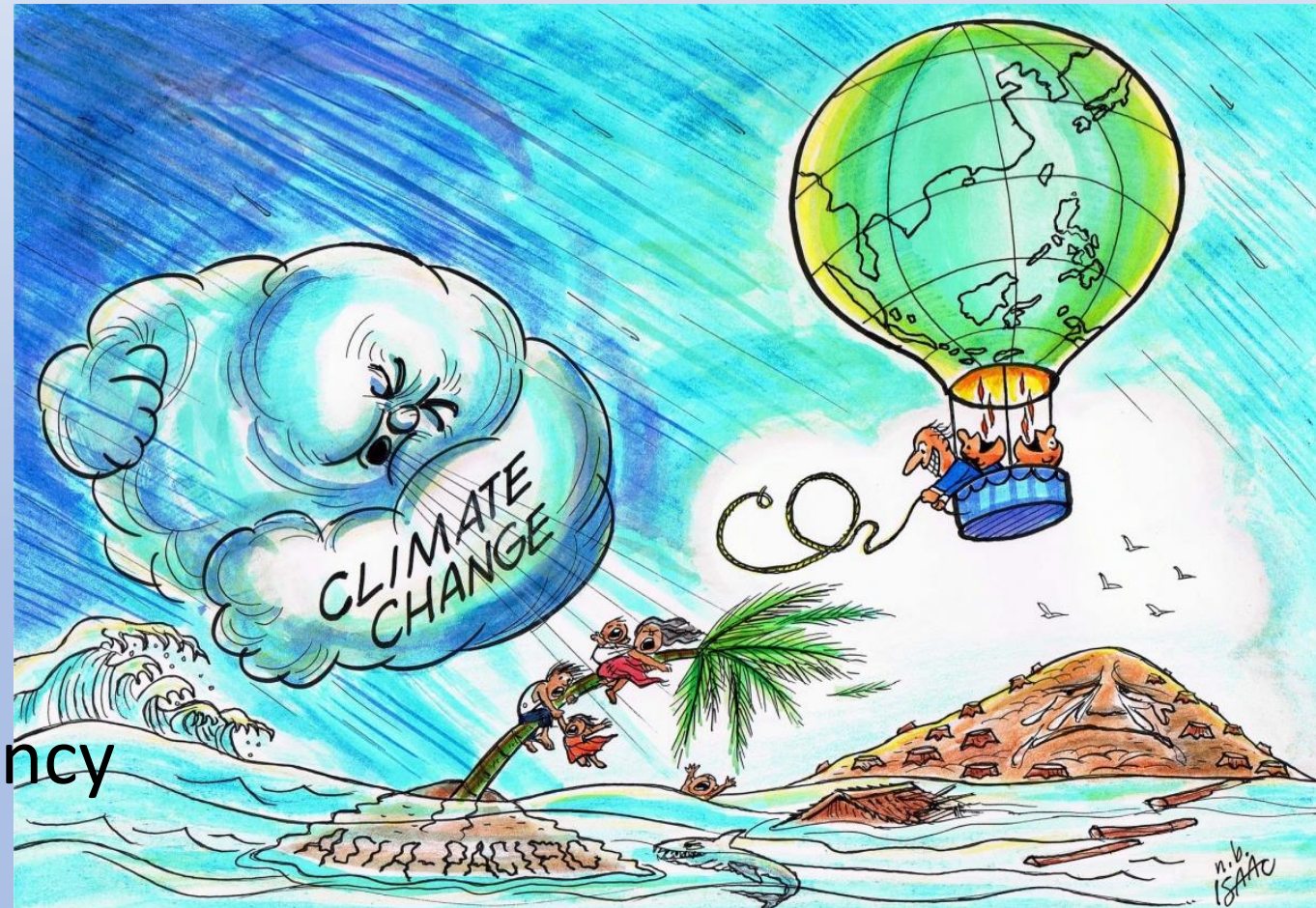
Source: World Economic Forum 2009-2019, Global Risks Reports.

Note: Global risks may not be strictly comparable across years, as definitions and the set of global risks have evolved with new issues emerging on the 10-year horizon. For example, cyberattacks, income disparity and unemployment entered the set of global risks in 2012. Some global risks were reclassified: water crises and rising income disparity were re-categorized first as societal risks and then as a trend in the 2015 and 2016 Global Risks Reports, respectively.

■ Economic ■ Environmental ■ Geopolitical ■ Societal ■ Technological

# Global Climate Emergency

- 200 years of climate research
- 6 IPCC Reports b/w 1989-2019
- 2015 Paris Climate Accord
- Sept 2019 UN Climate Summit
- Emergency Declarations
  - 1325 cities/municipalities
  - In 26 nations
  - 750 Mil citizens
  - 7000 Colleges/Univs
- Club of Rome Planetary Emergency







# The Pennsylvania State University

- Turning a Big, Complex, Mature Ship –
- Budget \$6.5B, 24 locations, 17,000 employees, 100,000 enrollment
- Land Grant Mission, Foundations, Strategic Plan Themes



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# Impacts on PSU risks?

As a statewide geographically distributed university (24 campuses),

- Extreme Weather Events - More university closures, productivity
  - 0-1-2 snow day closure increase ( 5)
  - Buildings without A/C could be unusable
- Higher cost for snow removal, mold & flood management, roads repair
- Changes in energy costs/affordability
  - Peak demand increases
  - Carbon tax will affect energy prices
- Decarbonizing Economy in a Fossil Fuel State will disrupt academic assets
- Enrollments from rural, poor areas decline (Rust belt towns)



# Institutionalizing Sustainability @ Penn State

- Institutionalization

- Unifying Framework for diverse units and locations - SDGs
- Principle: Units “own” Sustainability, develop internally
- SI coordinates, facilitates
- Sustainability for Pennsylvania
- Structure 3Cs – Champion, Charter, Council



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# Framework : Global Solution – UN Agenda 2030

## SUSTAINABLE DEVELOPMENT GOALS





# Sustainability @ PSU – Land Grant U for 21<sup>st</sup> Century

- Lots happening, Much more needed
  - Strategic Plan Themes
  - “We are Still In” Pledge,
  - Foundation- Ensuring a Sustainable Future
- Framework – Sustainable Development Goals



**GOAL 1:** End poverty in all its forms everywhere



**GOAL 2:** End hunger, achieve food security and improved nutrition and promote sustainable agriculture



**GOAL 3:** Ensure healthy lives and promote well-being for all at all ages



**GOAL 4:** Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all



**GOAL 5:** Achieve gender equality and empower all women and girls



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**GOAL 6:** Ensure availability and sustainable management of water and sanitation for all



**GOAL 7:** Ensure access to affordable, reliable, sustainable and modern energy for all



**GOAL 8:** Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all



**GOAL 9:** Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation



**GOAL 10:** Reduce inequality within and among countries



**GOAL 11:** Make cities and human settlements inclusive, safe, resilient and sustainable



**GOAL 12:** Ensure sustainable consumption and production patterns



**GOAL 13:** Take urgent action to combat climate change and its impacts



**GOAL 14:** Conserve and sustainably use the oceans, seas and marine resources for sustainable development



**GOAL 15:** Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss



**GOAL 16:** Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels



**GOAL 17:** Strengthen the means of implementation and revitalize the global partnership for sustainable development



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# Pennsylvania SDG Score

&

## Sustaining PSU Communities

PA Ranked 30 of 50



FIGURE 2: US State SDG Index and Dashboard

Rank	State	Score	1	2	3	4	5	6	7	8	9	10	11	12	13	15	16
1	Massachusetts	61.0															
2	Washington	59.8															
3	Vermont	59.4															
4	Minnesota	58.6															
5	Oregon	58.3															
6	California	55.6															
7	Maine	55.4															
8	Maryland	55.1															
9	New Hampshire	54.9															
10	Connecticut	54.8															
11	New York	54.7															
12	Rhode Island	54.4															
13	Hawaii	54.2															
14	New Jersey	52.7															
15	Colorado	52.2															
16	Wisconsin	52.2															
17	Iowa	51.2															
18	Idaho	50.6															
19	Nebraska	50.1															
20	Utah	49.6															
21	Virginia	49.4															
22	Illinois	49.2															
23	South Dakota	48.1															
24	Montana	47.9															
25	Michigan	47.2															
26	Delaware	46.6															
27	Kansas	46.1															
28	North Dakota	46.1															
29	Arizona	45.9															
30	Pennsylvania	45.1															
31	Nevada	44.8															



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# Sustainability Structure at Penn State

- Proposed Structure – Each Unit owns sustainability, develops from within, with facilitation by the Sustainability Institute
- 3Cs – Champion, Charter, Council
  - 9 Colleges leading
    - Smeal College of Business
    - College of Engineering
    - College of Arts and Architecture
    - College of Health and Human Development
    - College of Nursing
    - College of Medicine
    - College of Liberal Arts
    - College of Earth and Mineral Sciences
    - Eberly College of Science,
  - 5 Commonwealth Campuses leading:
    - Altoona, Behrend, Brandywine, Mont Alto, New Kensington



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# 13 Sustainability in Operations

- Operations
  - Efficiency in 600 building, 22 mil Sqft + 40 LEED Buildings,
  - Energy - 70MW Solar PPA, 2.5MW Solar Array
  - Water - Living Filter
  - Waste - Waste Stream Task Force
  - Supply Chain Greening
- Systems, Processes
  - Staff Engagement – Green Paws/Green Teams Programs
  - Sustainable Operations Council
  - Athletics – Energy Audits, EcoAmbassadors, NFL Collab
  - Strategic Planning + Audit
  - Faculty Senate
  - Enterprise Risk Management



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# Sustainability Research & Student Programs

- Living Labs:
  - Solar Installations, Water Living Filter
  - 33 Reinvention Fund projects
  - 25 Strategic Plan funded research
  - Drawdown Carbon Scholars & Conf
- Student Oriented Programs
  - Student Farm and the Sustainable Food Systems Program
  - Sustainable Communities Collaborative
  - Sustainable Experience Center



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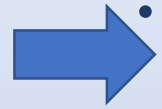
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# Sustainability Focus in 2020

- Sustainable Solutions Development for SDGs



- Partnerships SDSN + PERC + Alumni

- In that Context focus on Goal13 – Climate Action



- Initiating Climate Action Conversations

- Encourage Transdisciplinary Solutions



- Engaging Students



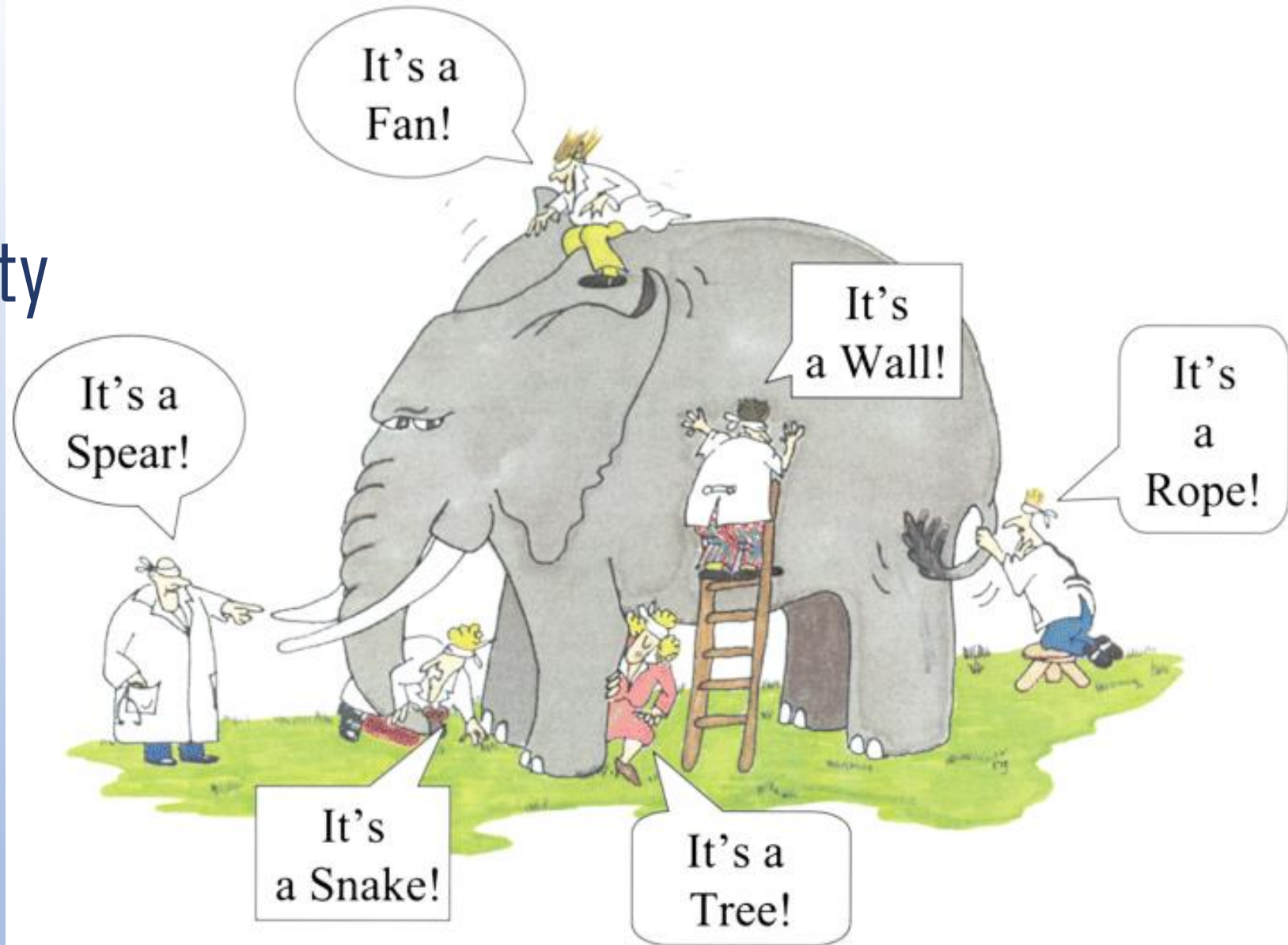
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# We Are ..... Figuring Out Sustainability

THANK YOU



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