SINK
BURN
BLOWN AWAY
DISLOCATED

Mobilizing the Western Region for the Future (on Earth)

Robert Franco
Krista Hiser
Joseph Fullerton
Extreme rainfall has increased 12%
Summer wave run-up 3ft
Greenland faces a 66% chance that melting will become unstoppable at 1.8°C
The western U.S. fire season is 150 days longer than 40 yrs ago...

...the number of large fires has tripled
Heat waves are the deadliest natural disaster in the U.S.
~4000 people die annually in the U.S. from heat-related causes

Within 50 yrs this number could climb to 20,000
Hurricanes and Climate Change

- Warmer water = More fuel
- Larger
- More rain
- Stronger wind = Higher category
- Slower = More damage
- Higher storm surge
- Shifting away from equator

Weather disasters have doubled in two decades
A record-high share of the world’s population is displaced from their homes

<table>
<thead>
<tr>
<th>% of world population that is forcibly displaced</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0%</td>
</tr>
<tr>
<td>0.8%</td>
</tr>
<tr>
<td>0.6%</td>
</tr>
<tr>
<td>0.4%</td>
</tr>
<tr>
<td>0.2%</td>
</tr>
</tbody>
</table>

A growing refugee crisis is a global humanitarian crisis.

Note: Displaced includes internally displaced persons within their birth country, refugees and asylum seekers living in a different country who have yet to resettle permanently, and Palestinian refugees registered with the United Nations Relief and Works Agency (UNRWA) in Jordan, Lebanon and Syria.


PEW RESEARCH CENTER
Violence, food and water scarcity will drive 140-200 million people from their homelands.
Pacific Sea Level Rise Monitoring Network

- Philippines
- Palau
- Pohnpei
- Kosrae
- Indonesia
- Guam
- CNMI
- Yap
- Chuuk
- Marshall Islands
- Fiji
- American Samoa
- Tahiti
- New Caledonia

Hawaii
10 million people live in Micronesia. 
1/3 have already relocated in the United States. 
How might Western region colleges serve this population in job training, cultural preservation, and employment?
4 QUALITY EDUCATION
By 2030, ensure that all learners acquire the knowledge and skills needed to promote sustainable development, including, among others, through education for sustainable development and sustainable lifestyles, human rights, gender equality, promotion of a culture of peace and non-violence, global citizenship and appreciation of cultural diversity and of culture’s contribution to sustainable development.
Talloires

Association of University Leaders for a Sustainable Future

The Talloires Declaration
10 Point Action Plan

We, the presidents, rectors, and vice chancellors of universities from all regions of the world are deeply concerned about the unprecedented scale and speed of environmental pollution and degradation, and the depletion of natural resources.

Local, regional, and global air and water pollution; accumulation and distribution of toxic wastes; destruction and depletion of forests, soil, and water; depletion of the ozone layer and emission of “green house” gases threaten the survival of humans and thousands of other living species, the integrity of the earth and its biodiversity, the security of nations, and the heritage of future generations. These environmental changes are caused by inequitable and unsustainable production and consumption patterns that aggravate poverty in many regions of the world.

We believe that urgent actions are needed to address these fundamental problems and reverse the trends. Stabilization of human population, adoption of environmentally sound industrial and agricultural technologies, reforestation, and ecological restoration are crucial elements in creating an equitable and sustainable future for all humankind in harmony with nature.

Universities have a major role in the education, research, policy formation, and information exchange necessary to make these goals possible. Thus, university leaders must initiate and support mobilization of internal and external resources so that their institutions respond to this urgent challenge.

We, therefore, agree to take the following actions:
ACUPCC/Second Nature
Scientists’ Warning to Humanity

To prevent widespread misery and catastrophic biodiversity loss, humanity must practice a more environmentally sustainable alternative to business as usual. This prescription was well articulated by the world's leading scientists 25 years ago, but in most respects, we have not heeded their warning. Soon it will be too late to shift course away from our failing trajectory, and time is running out. We must recognize, in our day-to-day lives and in our governing institutions, that Earth with all its life is our only home.
Biosphere Declaration (NCSE/CCASE)

• We must marshal our collective will and dedicate ourselves to these actions:
• We must stay below +1.5C in global temperature.[1]
• We must rapidly transition to renewable energy sources, achieving near-zero economy-wide emissions by 2050. This transition must be made with an unwavering commitment to improving the lives of the poor and disadvantaged and a commitment to continued opportunity for those whose livelihoods have been dependent upon the old economy.
• We must protect, restore, and connect 50% of the world’s lands in order to maintain the functioning of ecosystems, including terrestrial, freshwater and marine ecosystems.
• We must preserve and enhance the ability of forests, mangrove swamps, and saltwater marshes to draw down CO2 from the atmosphere, to protect communities from climate impacts, and to ensure the continued functioning of the world’s terrestrial carbon sinks and watersheds as the world gets warmer.

• Chaired by Dr. Thomas E. Lovejoy, the Biosphere Declaration is a leadership initiative conceived of by the National Council for Science and the Environment and the Leonardo DiCaprio Foundation.
The Sustainability Tracking, Assessment & Rating System™ (STARS) is a transparent, self-reporting framework for colleges and universities to measure their sustainability performance.

STARS® is intended to engage and recognize the full spectrum of higher education institutions, from community colleges to research universities. It encompasses long-term sustainability goals for already high-achieving institutions, as well as entry points of recognition for institutions that are taking first steps toward sustainability. STARS is designed to:

- Provide a framework for understanding sustainability in all sectors of higher education.
- Enable meaningful comparisons over time and across institutions using a common set of measurements developed with broad participation from the international campus sustainability community.
- Create incentives for continual improvement toward sustainability.
- Facilitate information sharing about higher education sustainability practices and performance.
- Build a stronger, more diverse campus sustainability community.

Through participating in STARS, your institution can earn points toward a STARS Bronze, Silver, Gold, or Platinum Rating, or earn the STARS Reporter designation. Each seal represents significant sustainability leadership.
10 Reasons

1. Reflect the work of Sustainability in HEIs
2. Disaster planning (including rescheduling and completion during a disaster)
3. Accommodating new students displaced by Sea Level Rise
4. Campus mitigation & energy strategies
5. Workforce opportunities related to Mitigation
6. Health and mental health
7. Climate literacy & learning outcomes
9. Security
10. Relevance
How do students feel about climate change, sustainability and resilience issues? (Copy)

- **Hope** 28%
- **Fear** 37%
- **Sadness** 15%
- **Shame** 4.5%
- **Anger** 16%

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Chart: Hiser & Lynch, 2019 • Created with Datawrapper
10 Reasons

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## Selected green occupations with projected employment growth, 2016–26

<table>
<thead>
<tr>
<th>Occupation</th>
<th>New jobs, project 2016–26 (numeric change)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Solar photovoltaic installers</td>
<td>11,800</td>
</tr>
<tr>
<td>Environmental scientists and specialists, including health</td>
<td>9,900</td>
</tr>
<tr>
<td>Hazardous materials removal workers</td>
<td>7,900</td>
</tr>
<tr>
<td>Wind turbine service technicians</td>
<td>5,600</td>
</tr>
<tr>
<td>Environmental engineers</td>
<td>4,500</td>
</tr>
<tr>
<td>Environmental science and protection technicians, including health</td>
<td>4,200</td>
</tr>
<tr>
<td>Environmental engineering technicians</td>
<td>2,200</td>
</tr>
<tr>
<td>Conservation scientists</td>
<td>1,400</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Occupation</th>
<th>Median annual wage, 2017(^1)</th>
<th>Employment, 2016</th>
<th>Employment, projected 2026</th>
<th>Typical entry-level education</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental engineers</td>
<td>$86,800</td>
<td>53,800</td>
<td>58,300</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Environmental scientists and specialists, including health</td>
<td>69,400</td>
<td>89,500</td>
<td>99,400</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Conservation scientists</td>
<td>61,480</td>
<td>22,300</td>
<td>23,700</td>
<td>Bachelor's degree</td>
</tr>
<tr>
<td>Wind turbine service technicians(^2)</td>
<td>53,880</td>
<td>5,800</td>
<td>11,300</td>
<td>Postsecondary nondegree award</td>
</tr>
<tr>
<td>Environmental engineering technicians</td>
<td>50,230</td>
<td>17,000</td>
<td>19,100</td>
<td>Associate's degree</td>
</tr>
<tr>
<td>Environmental science and protection technicians, including health</td>
<td>45,490</td>
<td>34,600</td>
<td>38,800</td>
<td>Associate's degree</td>
</tr>
<tr>
<td>Hazardous materials removal workers(^3)</td>
<td>41,400</td>
<td>46,200</td>
<td>54,100</td>
<td>High school diploma or equivalent</td>
</tr>
<tr>
<td>Solar photovoltaic installers(^3)</td>
<td>39,490</td>
<td>11,300</td>
<td>23,100</td>
<td>High school diploma or equivalent</td>
</tr>
</tbody>
</table>

\(^1\) Excludes self-employed workers.

\(^2\) This occupation typically requires long-term on-the-job training for a worker to attain competency.

\(^3\) This occupation typically requires moderate-term on-the-job training for a worker to attain competency.

Note: None of the occupations listed typically requires work experience in a related occupation for entry.

10.3 Million Renewable energy jobs globally

a 5.3 % increase since 2017.

~ International Renewable Energy Agency

Grantham Research Institute on Climate Change and the Environment.
For three years in a row, the World Economic Forum’s Global Risk Report has identified climate change as the gravest threat for global business and industry. The report notes that “failure in climate change mitigation and adaptation – water crises – natural disasters” will impact business and industry worldwide.
SMCCD Sustainability Initiative
Kapiʻolani Community College

Mission
Committed to student success through engagement, learning, and achievement, we offer high quality certificates and associate degrees, and transfer pathways that prepare indigenous, local, national, and international students for their productive futures.

Vision
Kapiʻolani Community College is a model indigenous serving institution whose graduates strengthen the social, economic, and sustainable advancement of Hawaiʻi and the world.

Values
Kuleana: Sharing a common responsibility to support the future of our students, college, community, land, and sea.
standards

Read and Reflect
FOURTH NATIONAL CLIMATE ASSESSMENT

Volume II: Impacts, Risks, and Adaptation in the United States

The National Climate Assessment (NCA) assesses the science of climate change and variability and its impacts across the United States, now and throughout this century.
Stay connected

hiser@hawaii.edu
bfranco@hawaii.edu
fullertonj@smcccd.edu