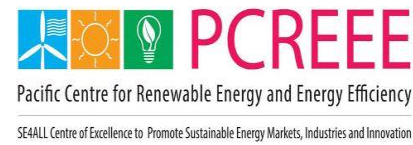


Capacity Building and Awareness Program on Sustainable Energy for Ha'apai Secondary School

Pangai, Ha'apai | 03 Dec 2025



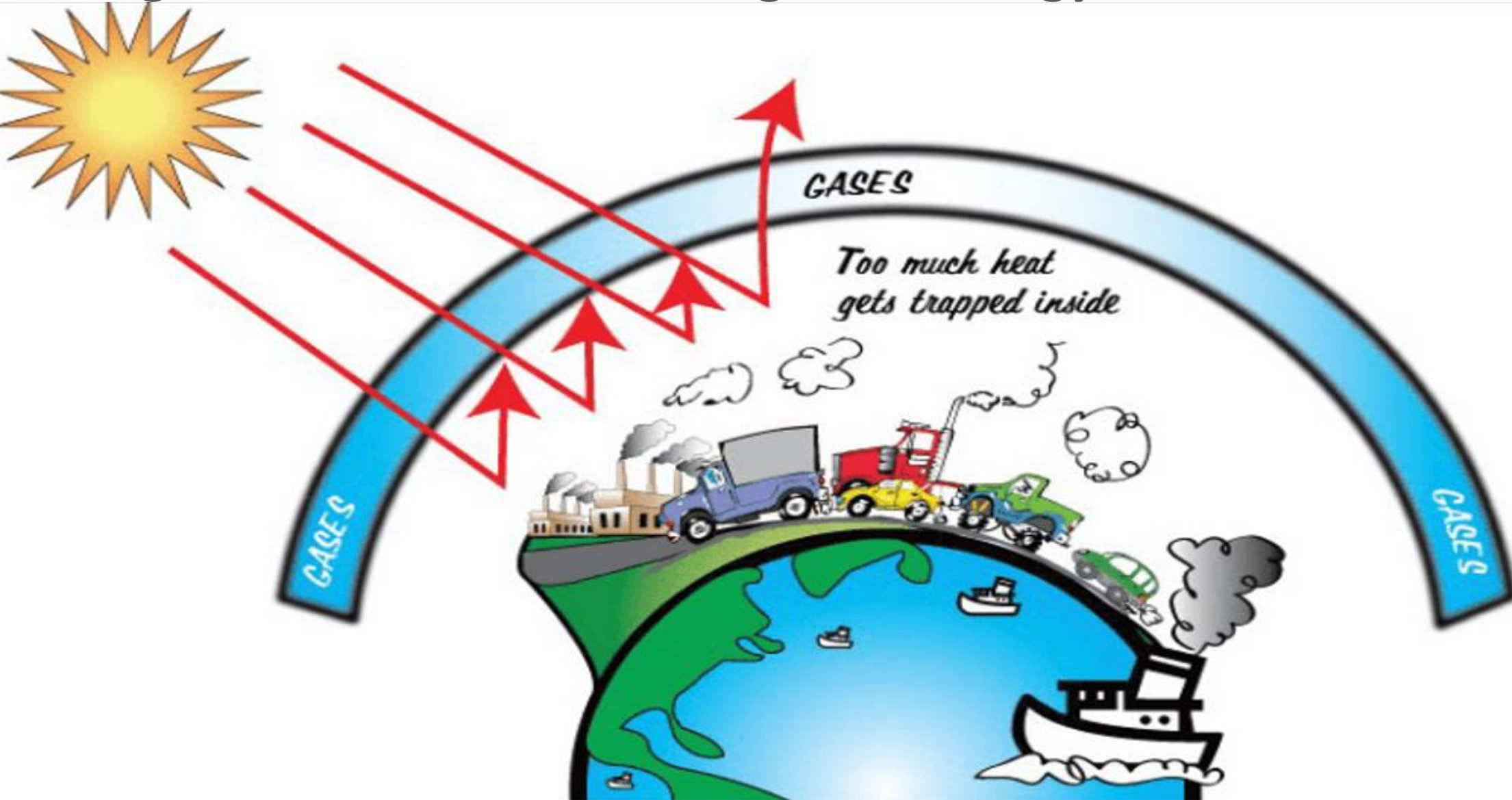
Transforming
Energy
Access



SE4ALL Centre of Excellence to Promote Sustainable Energy Markets, Industries and Innovation



Linkage between Climate Change and Energy



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HUMAN ACTIVITIES GENERATING GREENHOUSE GASES



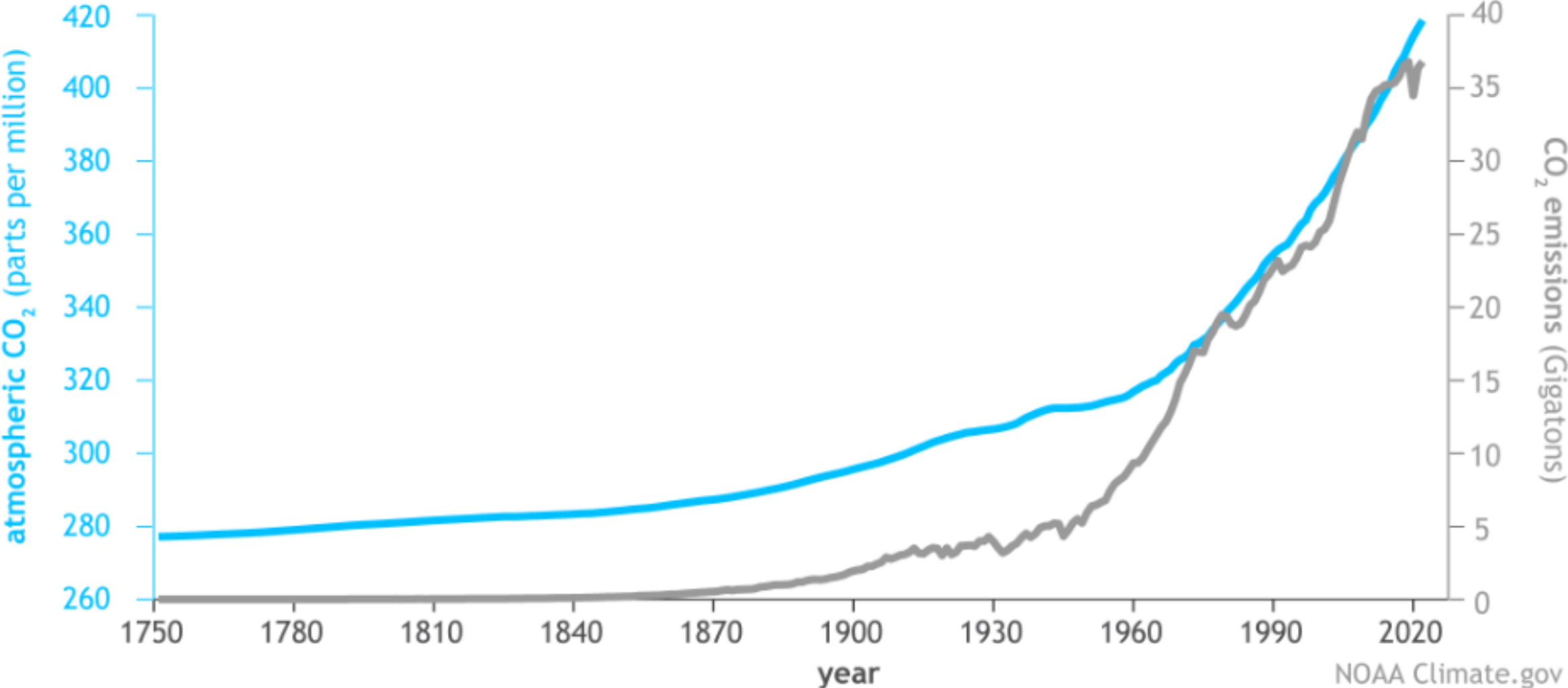
Adobe Stock | #469292935

<https://stock.adobe.com/images/human-activities-generating-greenhouse-gases-with-percentage-outline-diagram-labeled-educational-co2-sources-comparison-with-transportation-agriculture-and-electricity-industry-vector-illustration/469292935>



Pacific Centre for Renewable Energy and Energy Efficiency
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Global atmospheric carbon dioxide compared to annual emissions (1751-2022)



NOAA Climate.gov
Data: NOAA, ETHZ, Our World in Data

- Amount of CO₂ in the atmosphere
- Human emissions – e.g., burning of fossil fuel

Climate Change is “real” in the Pacific Islands

Sea level rise



Severe tropical cyclones



2100



IPCC predicted; sea level may rise to 1-2meters in 2100 and more

<https://www.nytimes.com/2018/02/13/world/asia/tonga-storm-parliament.html>



Paris Agreement 2014.....



Nationally Determined Contributions (NDCs) – heart of the Paris Agreement

**national climate action plans that outline each country's efforts to reduce GHG emissions and adapt to climate impacts.



Tonga's NDC

- 13% reduction in GHG emissions by 2030 compared to 2006 through a transition to **70% renewable electricity** as well as **energy efficiency measures**

- The goal of the Paris Agreement is to stop the world's average temperature rising more than two degrees, or ideally 1.5°C.
- **196** countries signed the Paris Agreement



13% reduction in GHG emissions by 2030 compared to 2006 through a transition to **70% renewable electricity** as well as **energy efficiency measures**

Power



Land Transport



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Renewable Energy Technologies



Go electric, reduce transport emissions



What is PCREEE? – Pacific Centre for Renewable Energy and Energy Efficiency

- Established in 2017 (office based in Tonga)
- Going 9 years now
- UNIDO, Austria, Norway UK & NZ funding support



BUSINESS PLAN 2020-2030

Pacific Centre for Renewable
Energy and Energy Efficiency



Four (4) Strategic Areas

- **Programme 1. RE&EE Business Start-Up and Entrepreneurship Support**
- **Programme 2. RE&EE for Sustainable Mobility**
- **Programme 3. RE Mini-grids**
- **Programme 4. Energy Efficiency Investment**



Support to PICs

1. Capacity Buildings Program
2. Energy Policy Development – (incl. guidelines /standards)
3. Energy Forum, Awareness
4. Development/review of Concept Note and Project Proposal.

Initiatives supported by PCREE that could benefit the youth in Tonga...

- **Development AND Delivery** of National Qualifications in Sustainable Energy
- Support **Productive Uses of Energy**
- **Internship Program**
- Support the **Sustainable Mobility Demo Project** across the PICs



1. Development AND Delivery of National Qualifications in Sustainable Energy



- NSCE Level 1 & 2 successfully started on the 12 September 2022 with 20 students (71% female, 29% male) registered under Level 1 and 30 students for Level 2 (21% female, 79% male).



- Certificate Level 3 successfully registered in Tonga 2023.
- Next step is for TIST to seek accreditation from TNQAP to deliver these registered Level 3 courses
- Development of SE National Certificates Level 4 is underway.
- Hopes to extend the qualifications to Diploma level in the future.

2. Support the Productive Use of Energy [20 – 30%]

1. Subsidized the purchase of PUE technologies

- One rural community in the Solomon Islands reached out to PCREEE for funding assistance to purchase solar freezer systems that could be used to store their catches /fish for sale at the markets in Honiara.
- PCREEE provided subsidy ~ 30% of the total cost.



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3. Internship Opportunities



Tiueti Sisilia Fangupo

Ms. Tiueti Fangupo completed her 6 weeks Summer Internship with the PCREEE in February 2019. She was a Structural Engineering student from the University of Technology, Auckland, NZ. Tiueti started her Summer Internship in December 2018 and her internship included working with the Tonga Department of Energy exposing her to some of the small scale and community-based Renewable Energy projects that the department is working on.

Intern



Sione Folau

Mr. Sione Folau was a Master of Science in Climate Change student from the Pacific Centre for Environment and Sustainable Development (PaCE-SD) of the University of the South Pacific. Sione completed 3 weeks with PCREEE in March 2018, doing research for his thesis on the topic – Carbon Footprint Mitigation Strategies for the Kingdom of Tonga. The research is based on Tonga's Energy Sector. Sione worked closely with the PCREEE team together with the Tonga Department of Energy and was grateful for their inputs to his research.

Intern



Annie Marie Malolo

The PCREEE is pleased to welcome Ms Annie Marie Malolo who is on a 6 months internship with the PCREEE that started on 14 th November 2024. Ms Malolo is a Graduate of the University of the South Pacific, majoring on Information Systems and Geography. She is a keen Taekwondo enthusiast and loves to do further studies on climate change.

2. Support E-mobility Demo project across the PICs

1. Nauru Electric Bus



2. Tuvalu



THE ALL NEW
MG ZS EV
INDIA'S FIRST PURE ELECTRIC INTERNET SUV



3. Samoa



4. Cook Islands



Malo 'aupito

