# Sustainable Tourism in Samoa

## Renewable Energy and Tourism

Day 2 Session 10, 04 March 2022

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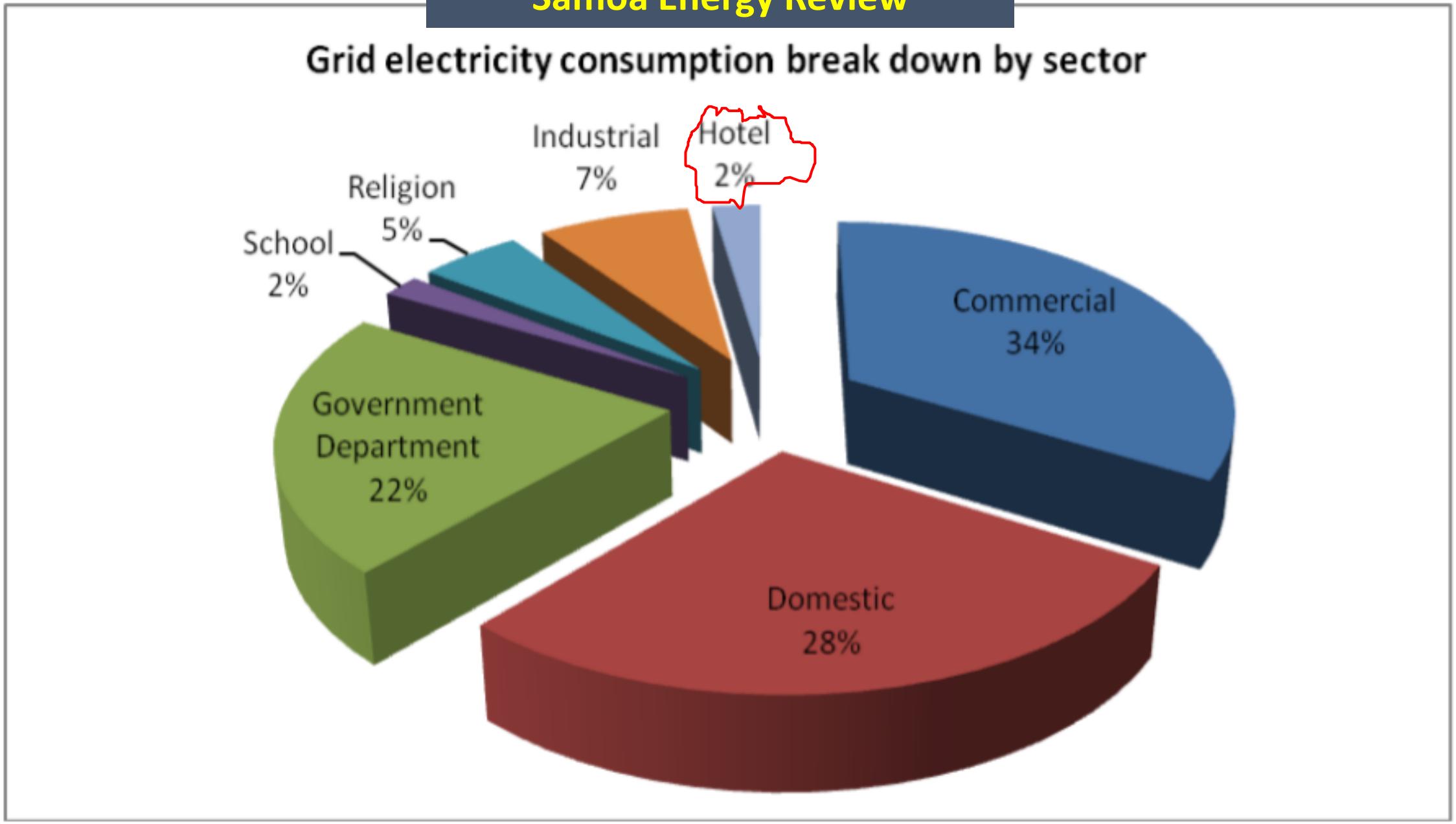
- Tourism energy use in Samoa (electricity)
- Where is energy used in Tourism?
- Composition of a Tourism Energy Bill
- Energy efficiency & Tourism
- Renewable Energy & Tourism
- Is there a role for Renewable Energy in Tourism?
- Policy influence on Renewable Energy for Tourism
- Case Studies
- Renewable energy, EIA, ESS and Tourism
- Discussions

# Presentation Focus

SPREP
Secretariat of the Pacific Regional Environment Programme

# Samoa Energy Review



# Areas of energy use in Tourism

**Fuel Sources**

**Travels (at the destination)**

- By road
- Sea /rivers
- Air

- Unleaded, diesel and aviation fuel

**Accommodation**

- air conditioning
- lighting
- hot water
- kitchen (cooling, refrigerators, freezers, stoves, etc.)

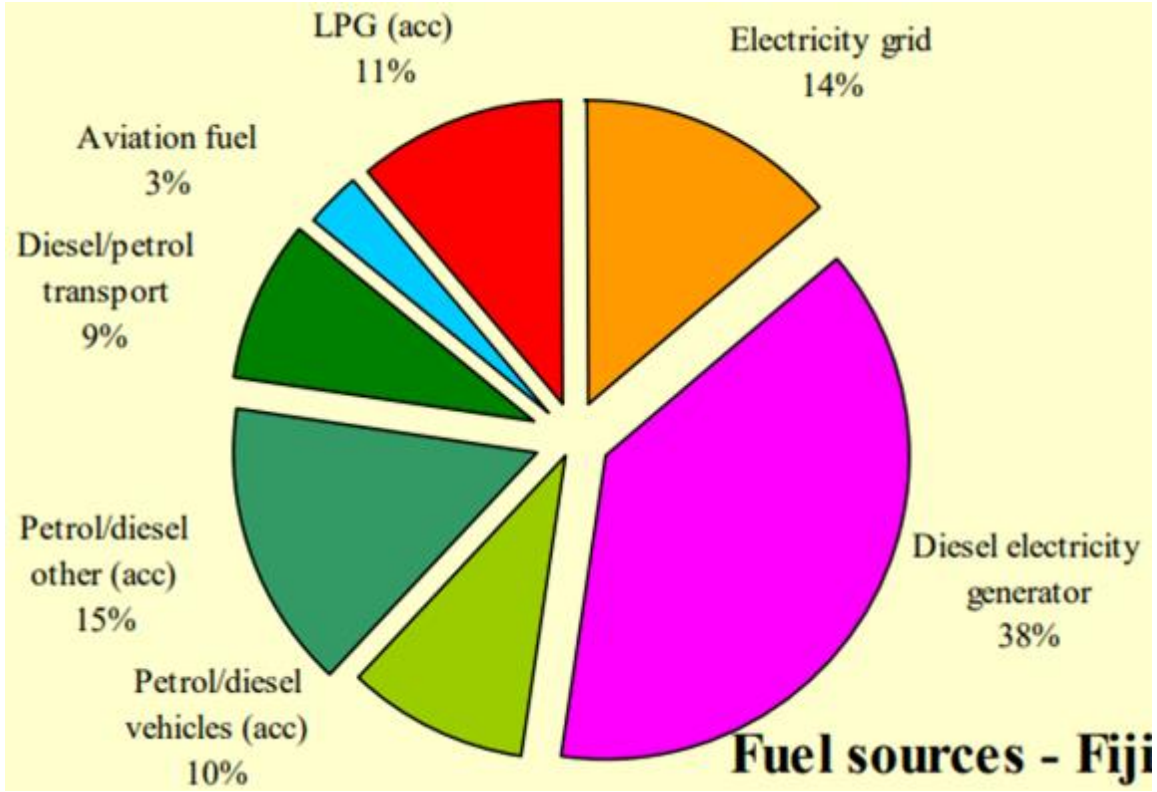
**2%**

- Electricity grid
- Electricity (generator)
- LPG

**Activities and attractions**

- Motorized sports
- Entertainment

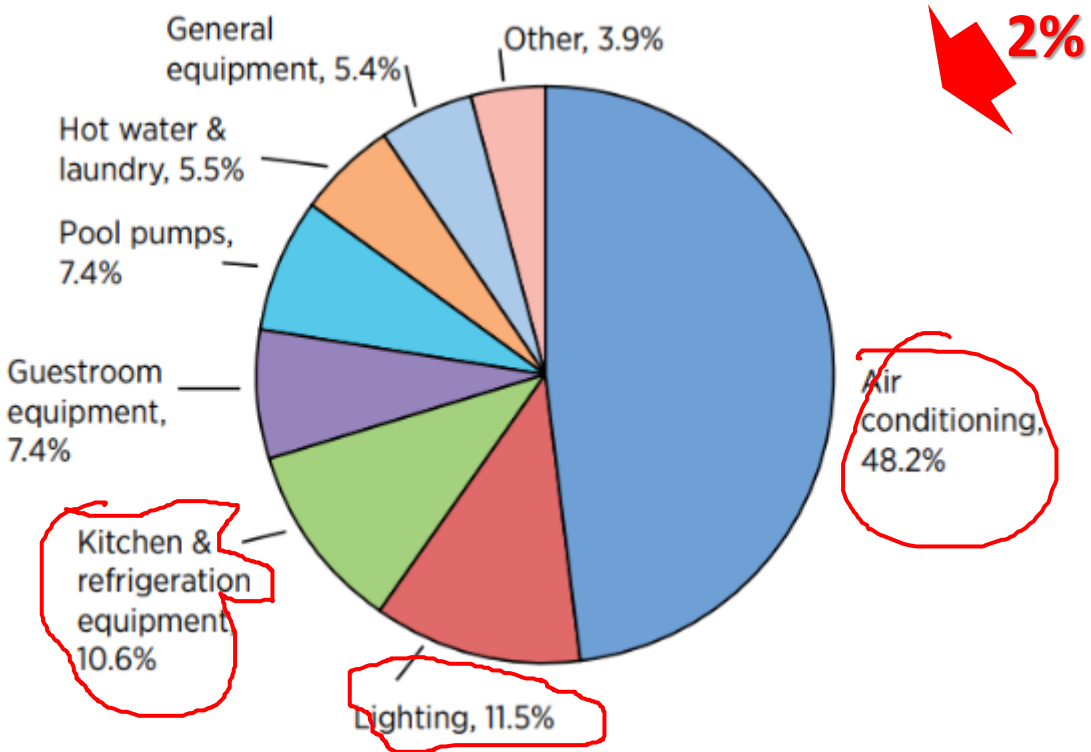
- Electricity grid
- Electricity (generator)
- Unleaded, diesel




*An example of energy sources splits in Tourism*

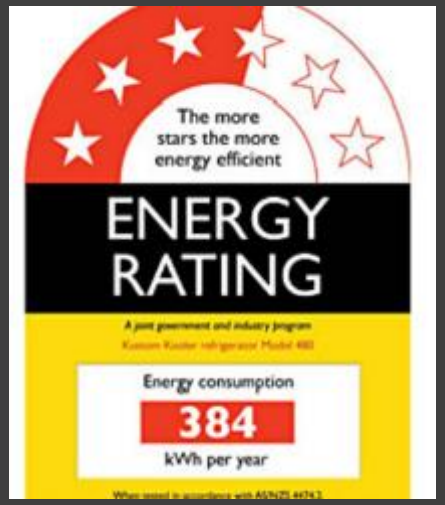
# Tourism Energy Bill

- Unleaded & Diesel = 34%
- Electricity = 52%
- LPG = 11%
- Aviation fuel = 3%

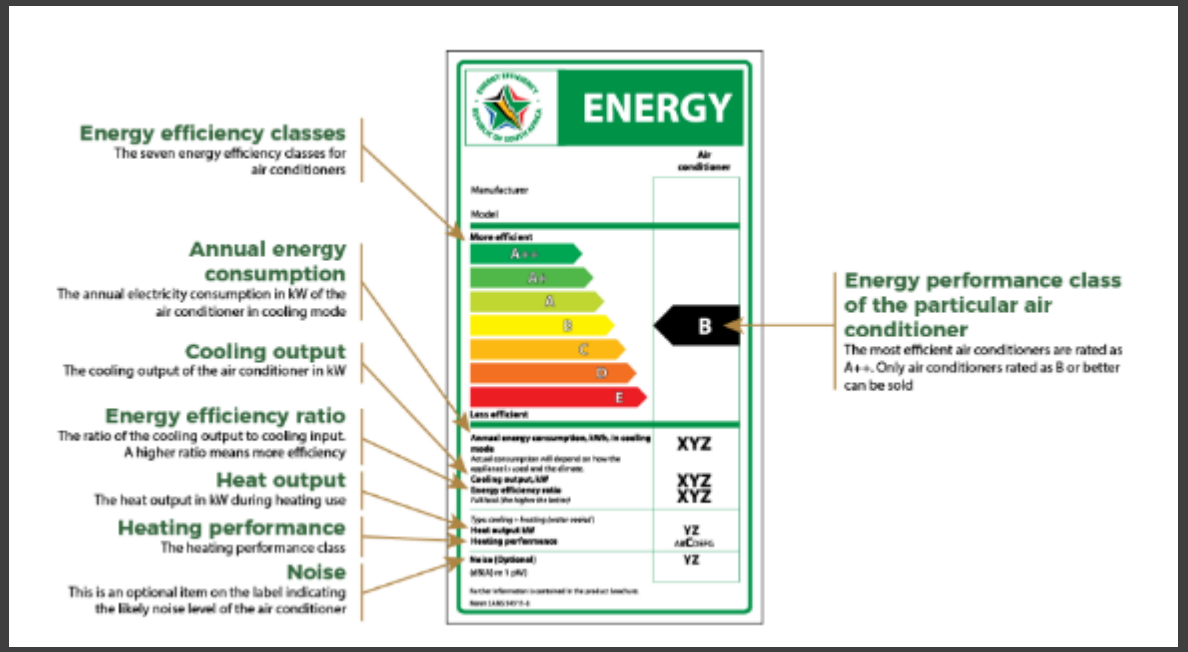



2%

**Message: target high energy consumption areas**








# Energy efficiency in Tourism

- High energy consumption areas
- How can we reduce the energy bill?
- Inefficient use of energy
- Energy Audits
- Efficient appliances, etc.

**Message:**

**Is there room to improve efficiency in the identified high energy consuming areas?**

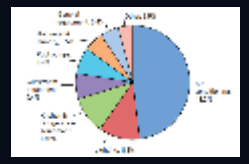
# Renewable Energy Technologies and Tourism

- Solar Photovoltaics
- Solar hot water systems
- Solar-powered air conditioning
- Electric vehicles (e.g., golf carts) charged by renewable energy
- Hybrid renewable energy systems (solar and wind)



# Areas of energy use in Tourism

- Travels (at the destination)
  - By road
  - Sea /rivers
  - Air
- Accommodation
  - air conditioning
  - lighting
  - hot water
  - kitchen (cooling, refrigerators, freezers, stoves, etc.)
- Activities and attractions
  - Motorized sports
  - Entertainment



**Fuel Sources**

- Unleaded, diesel and aviation fuel
- Electricity grid
- Electricity (generator)
- LPG
- Electricity grid
- Electricity (generator)
- Unleaded, diesel

## How can Renewable Energy feature?


# Policy Influence & Mechanisms

- Tax free on all renewable energy equipment
- Incentives to invest in renewable energy
- Financial mechanisms
- Any incentives for energy efficiency?

# Case Studies

- Family-run B&B accommodation in Palau
- Turtle Island Resort in Fiji
- Grid connected renewable energy systems


# B&B Accommodation in Palau

- Development Bank Initiative
- Solar PV system capacity capped at 2kW
- GEF /UNDP project
- Local technicians were trained to conduct the installations
- Power Utility gives the approval to connect to the grid
- Government waived taxes on the solar PV equipment
- Palau Electricity Act was amended to allow for such installations
- Number of systems were limited by the Power Utility to avoid grid instability

**Message:** need policies, financing mechanisms, review of legislation, technical capacity, etc. in place

**Message:**

**Demonstrates savings on energy costs and contribution towards meeting the NDC target**

# Turtle Island resort, Yasawa Islands, Fiji

- 228 kWp system (968 solar panels)
- Generates 630 kWh of electricity every day (56% of the island's power needs)

- Installed in 2013, costed USD 1.065 million
- Reduces annual diesel costs for hotel electricity by USD 124,000 /year (maintenance costs & others not included)
- Prevents 205 tons of $CO_2$ emissions every year

# Grid connected renewable energy systems in Samoa




- Independent Power Producer (IPP) arrangements
- Power Purchase Agreement (PPA) (negotiated)
- Need legislation to allow for such arrangements
- EPC grid needs to stay stable
- EPC generation mix = hydro, biomass, solar, wind & diesel

- Energy Infrastructure
- Environment Impact Assessments
- Environment Social Safeguards
- Examples (construction of hydro, installation of wind turbines, installation of solar PV systems)

# Discussions

1. Ensure that energy use is efficient before installing renewables
2. Yes, renewable energy has a place in Tourism
3. What are the benefits?
4. Do we have an enabling environment to entice investments in renewable energy?
5. EIA, ESS, Energy & Tourism
6. Project Ideas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