



# Strategic Plan 2008 - 2023

November 2007

## Message from the Chairman

One of the most important jobs the 30,000 member-owners of KIUC entrust to the nine Directors they elect is to guide the co-op into the future for the benefit of all its members. This Strategic Plan represents that work and specifies KIUC's priorities for the next 15 years and beyond.

While a few of the priorities in this plan, like safety, reliability, and communications are evolutions and improvements of our current work and our current thinking, two important priorities in this plan are radical departures for Kauai's electric utility.

*KIUC is committing itself to generate at least 50% of its electricity renewably without burning fossil fuels within 15 years.* Continuing business as usual is something we all now know is unacceptable. We must stop depending on oil to generate most of our electricity when its rising price is completely beyond our control and adversely affects our members. It is wrong to continue using oil to generate most of our electricity now that we understand this is causing our planet's climate to change and destroying the environment our children will one day inherit. KIUC's goal is much more ambitious than the previously established goals. It requires a paradigm shift that will result in a radical restructuring of the way we do business.

*KIUC is committed to seek fair, restructured rates that meet the needs of our member-owners and recognize the changing nature of electric utilities.* We will not know what these rates will look like without a study, but we do know that the rate structure we are using today needs significant improvement. Some of the issues we must investigate include time-of-use rates that could delay the construction of expensive new infrastructure, green rates that would let people choose to pay a little more to fund the most environmentally-sound generation, life-line rates that would help low and fixed-income members, standby rates that encourage distributed renewable generation without subjecting members to unfair subsidies, partial occupancy rates that would ensure homes that sat idle paid their fair share, and equity goals that ensure financial stability for the co-op while keeping total rates as low and equitable as possible.

Our renewable generation and rate restructuring goals are radical ideas for us and for the electric utility industry in the state of Hawaii. Achieving these goals will not be quick and/or easy and we expect to learn many things along the way. But doing the right thing is not always easy. It requires a change in mindset and a change in past business practices to achieve these goals.

Ua mau ke ea o ka 'aina i ka pono.

Dennis M. Esaki, Chairman of the Board



## Situation Assessment

It is important to understand the current situation that KIUC operates under, so that today's challenges can be addressed through strategic planning. KIUC is a cooperative utility, founded in 2002 when ownership of the Island's utility was converted to a cooperative from an investor-owned utility named the Kaua'i Electric Division of Citizens Utilities Company. Governance of KIUC is provided by a nine-member Board of Directors, elected by the KIUC membership.

- At the end of 2006, KIUC had over 34,000 customers divided as follows: 76% Residential, 13% Commercial, 10% Street Lighting, 0.4% Industrial, and less than 0.1% Irrigation. Revenues, on the other hand, were divided as follows: 36% Residential, 35% Industrial, 28% Commercial, 0.8% Street Lighting, and just over 0.1% Irrigation.
- The latest Member Survey, taken in 2006, revealed that charging reasonable rates and delivering good value are the strongest, most significant drivers of overall satisfaction among KIUC members. Major concerns include the monthly energy adjustment, the need for increased alternative energy, and keeping members better informed during outages.
- The last rate case was completed in 1996. Since then, costs that were included in the base rate, such as materials and labor, have increased while the base rate has remained unchanged. On the other hand, the monthly energy adjustment, which is separate from the base rate and is meant to cover the variable cost of fuel, has varied widely and has, at times, been even higher than the base rate. This energy adjustment creates unpredictable cost for members and may cause negative financial impact when pursuing future renewable energy projects.
- In 2006, the average KIUC residential rate was 32.8 cents/kWh, while that of Hawaii Electric Light Company's (HELCO's) was 31.0 cents/kWh, Maui Electric Company's (MECO's) was 27.7 cents/kWh, and Hawaiian Electric Company's (HECO's) was 20.0 cents/kWh.
- KIUC currently relies on highly refined oil products (diesel and naphtha) for over 90% of its energy supply. In contrast, most of the state's energy is supplied from coal and residual fuel oil (RFO), both of which are significantly cheaper - coal is about 1/5, and RFO is about 5/8, the cost of diesel or naphtha. The U.S. Mainland, on average, produces 50% of its electricity from coal, 19% from nuclear, and 19% from natural gas, each of which are also significantly cheaper than diesel or naphtha.
- Other impacts that drive higher cost for KIUC include economies of scale (KIUC has roughly 50% as many customers as Maui or Big Island, and only 12% as many as Oahu) and increased cost from Hurricane Iniki.
- KIUC has 116 MW of firm, net generating capacity, and over half of those generators (59 MW) were installed over 30 years ago, making them candidates for replacement in the near future. Historically, KIUC has maintained enough firm generating capacity to meet the total peak customer demand with the largest unit out of service, and the morning peak customer demand with the largest and third largest units out of service. The all-time peak demand on

## Situation Assessment (continued)

the KIUC system is 77 MW, and the largest units are Kapaia's CT-1 (27.5 MW), Port Allen's GT-2 (22.6 MW), and Port Allen's GT-1 (17.5 MW).

- Hawaii's Renewable Portfolio Standard (RPS) mandates cost-effective renewable energy development with goals of 10% renewable net electricity sales by 2010, 15% by 2015, and 20% by 2020. In 2006, 8.2% of KIUC supply-side electrical generation was from renewable sources. Adding demand-side energy savings to this number brings the total to 13.9%. Focusing on supply-side only, significant additional renewable generation is required to meet 20% by 2020.
- Potentially more significant than Hawai'i's RPS requirement, Hawai'i's Greenhouse Gas (GHG) legislation requires a reduction in GHG emissions to 1990 levels by 2020. This requirement may effectively exceed the RPS. For example, KIUC's 2020 load is projected to be roughly double what it was in 1990, therefore KIUC would be required to generate 50% of its energy from carbon-neutral or non-carbon sources. This may seem like an effective increase of the RPS, but other solutions such as improved efficiency, demand side management, and carbon cap and trade could help meet GHG targets while not counting toward RPS. In any case, it is prudent for KIUC to install generators that are, or have the ability to be, carbon-neutral.
- KIUC has 161 miles of 69 kV transmission lines, and 1,202 miles of 12 kV distribution lines. Approximately 215 miles of distribution lines are underground. While under-grounding lines may provide improved aesthetics and resistance to wind and trees, they come with higher cost and potential for longer power outages upon failure, due to the difficulty in locating and repairing faults. KIUC is implementing a hardening plan that will improve service reliability for the island's critical infrastructure. This plan includes under-grounding portions of the distribution circuits.
- Transmission reliability is an area of concern for KIUC. Generating capacity is expected to shift from Port Allen to Kapaia and elsewhere. Transmission line capacity and redundancy need to be reviewed. Most of the island is served by at least two transmission lines. The far west side (Mana & PMRF) and the north shore (Kilauea to Haena) rely on only one transmission line each. There is also an initiative underway to install fiber optic communication links between substations and protective devices that will greatly reduce transmission fault clearing times, and improve the overall coordination of system protective devices.
- Historical reliance on energy produced by the sugar mills provided numerous benefits: renewable energy from bagasse and hydro, high-inertia turbine generators, and interruptible mill loads. The last two of these resulted in good system reliability for customers of KE – high inertia to ride through electrical faults caused by events such as lightning strikes or auto accidents, and interruptible loads so that residential and commercial customers were protected from load shedding required when demand exceeded supply.

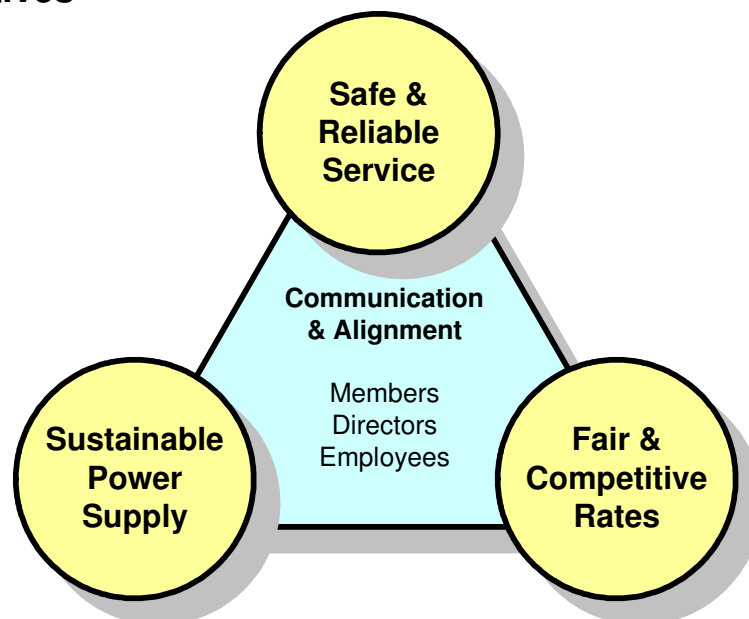
## Seven Cooperative Principles

- \* Voluntary and open membership
- \* Democratic member control
- \* Members' economic participation
- \* Autonomy and independence
- \* Education, training and information
- \* Cooperation among coops
- \* Concern for community

## KIUC Mission

The mission of KIUC is to provide high quality, reliable, and competitively valued electric service, in a safe, environmentally responsible manner, consistent with sound business practices and the seven cooperative principles, and to improve the quality of life for members and for Kaua'i.

## Strategic Objectives



The above diagram shows the three core strategic objectives for KIUC – delivering safe and reliable electrical service, achieving a high standard of sustainability with regard to power supply, and providing fair and competitively-valued rates. KIUC recognizes that these strategic objectives need to be balanced; focusing too heavily on one area may have negative effects on another. Making progress toward these strategic objectives will require effective communication and alignment between Members, Directors, and Employees of the cooperative. From these objectives, we derive our strategies.

## Strategies

- A. Deliver power safely
- B. Improve reliability
- C. Increase sustainable power supply
- D. Ensure fair and competitive rates
- E. Improve Member satisfaction
- F. Improve Employee satisfaction
- G. Cultivate a strong and effective Board / Staff team

## Measures Of Success

Strategy	Goal	Measurement
A. Deliver power safely	1. Achieve better than average of industry-specific national safety incident rate	Annual OSHA Incident Rate for Electric power generation, transmission, and distribution, 50-249 employees
	2. Improve safety culture	Rural Electric Safety Accreditation Program (RESAP) Certification
B. Improve reliability	1. Achieve better than average of Hawai'i Utilities' in outage frequency and duration	System Average Interruption Duration Index (SAIDI), System Average Interruption Frequency Index (SAIFI), and Customer Average Interruption Duration Index (CAIDI)
	2. Maintain sufficient firm, reliable generation to meet customer demand	Annual adequacy of supply statement
	3. Evaluate spinning reserve or other options that could reduce generation outages	Production-only SAIDI
C. Increase sustainable power supply	1. Significantly exceed Hawai'i Renewable Portfolio Standard (RPS)	Supply-side only, annual kWh generated from renewable sources
	2. Reduce electric power generation sector Greenhouse Gas (GHG) emissions to 1990 levels	Annual tons of CO2 equivalent from power generation
	3. Increase energy diversity so that no one source amounts to 50% or more of total energy supply	Annual kWh generated from any one source
	4. Increase conservation and demand-side management	Annual kWh saved through conservation and DSM
D. Ensure fair and competitive rates	1. Maintain reasonable, comparable rates with other Hawai'i Utilities	Average annual residential rate
	2. Maintain costs at or below inflation	Non-fuel O&M expense per Member
E. Improve Member satisfaction	1. Develop proactive and comprehensive methods of communicating and obtaining feedback to / from Members	Member participation and knowledge
	2. Improve results in major areas of member concern	Periodic Member surveys
	3. Improve communication to members during power outages	On-demand automated outage information for members
F. Improve Employee satisfaction	Improve results in employee satisfaction measures	Periodic Employee surveys
G. Cultivate a strong and effective Board / Staff team	Improve trust and confidence between Board, Staff, and Employees	Periodic evaluations

## Seven Cooperative Principles

Voluntary and open membership

Democratic member control

Members' economic participation

Autonomy and independence

Education, training, and information

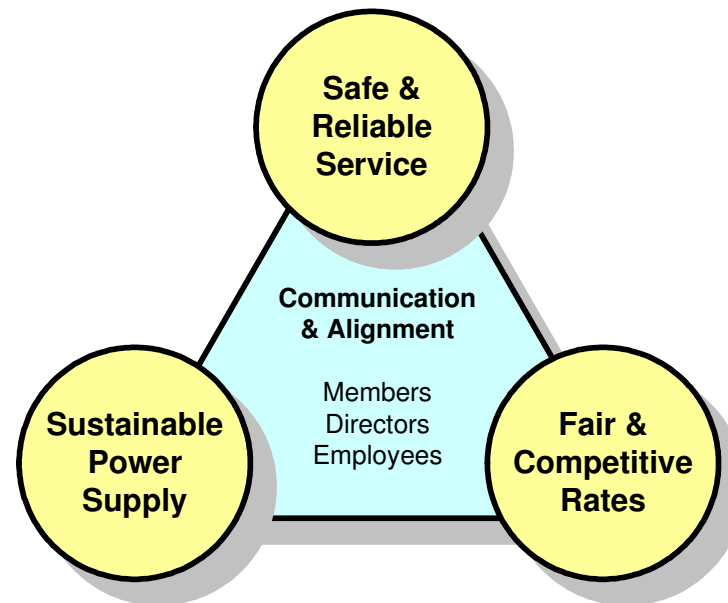
Cooperation among co-ops

Concern for community

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## Strategic Objectives



## Strategies

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## Goals

- A.1 Achieve better than average of industry-specific national safety incident rate
- A.2 Improve safety culture
- B.1 Achieve better than average of Hawai'i Utilities' in outage frequency and duration
- B.2 Maintain sufficient firm, reliable generation to meet customer demand
- B.3 Evaluate spinning reserve or other options that could reduce generation outages
- C.1 Significantly exceed Hawai'i Renewable Portfolio Standard (RPS)
- C.2 Reduce electric power generation sector Greenhouse Gas (GHG) emissions to 1990 levels
- C.3 Increase energy diversity so that no one source amounts to 50% or more of total energy supply
- C.4 Increase conservation and demand-side management
- D.1 Maintain reasonable, comparable rates with other Hawai'i Utilities
- D.2 Maintain costs at or below inflation
- E.1 Develop proactive and comprehensive methods of communicating and obtaining feedback to / from Members
- E.2 Improve results in major areas of member concern
- E.3 Improve communication to members during power outages
- F. Improve results in employee satisfaction measures
- G. Improve trust and confidence between Board, Staff, and Employees