

Tariffs, Metering & Economics

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Hybrid Power Workshop

Village Power '98

October 5, 1998

Subsidies

Renewable suppliers trying to capture the subsidies that go to conventional rural electrification are playing to their opponents' strengths.

Instead of using large subsidies to supply a small number of communities with large quantities of energy at low tariffs, hybrids should use a limited subsidy to supply a large number of communities with small quantities of energy at a high tariff.

Unlike grid extensions and simple diesel systems, hybrid systems can be scaled down in size so that, with appropriate tariffs, full cost recovery is possible.

Tariff Structure

The success of solar home systems is due to their ability to sell power for $> \$1/\text{kWh}$ without the customer knowing it.

With the right tariff structure load growth can finance the necessary system expansion.

With the right tariff structure, universal service is possible.

Two-part tariffs:

- Place a cap on the financial burden of a subsidy
- Ensure that the bulk of the subsidy goes to the poor
- Allow the more prosperous to use whatever appliance they can afford to use.

Metering

Metering is mandatory for hybrid systems, but optional for part-time diesels.

Pre-pay meters may be the single most important technology to the widespread usage of hybrid systems.

Rural people understand the value of scarce resources and will respond to price signals.

End-uses

Most of the energy in remote mini-grids is used for applications whose value is much less than the cost of power.

The value of the first increment of power is MUCH greater than the cost.

Hybrid power systems that power incandescent lights or conventional refrigerators are management failures.

The slogan “Power to the people” doesn’t apply to 24 hour AC power delivered to dispersed homes.

In rural areas of developing countries where there is excess labor, it is more appropriate to transport batteries, ice, and materials than to build extensive AC distribution systems.