Sustainable Renewable Energy Model in Nepal

June 15, 2023, Asia Clean Energy Forum
Outline of presentation

• Historical Background
• Evolution of a Company (SCECO)
• The Local Operation and Management (SCECO)
• Connection with the GRID
• Sustainability of SCECO

Story line – What made this small isolated ‘off-grid’ renewable energy system a self sustainable model in over 30 years and still running efficiently
History of SCECO

• Clean electricity to Tobetan refugees and local people in Solukhumbu (base of EVEREST) in 1982, upgraded in 1991, expanded in 2013
• Saves trees/forests, environment and health
• Stand-alone off-grid micro-hydropower (670 KW) from local run-off river
Intake, Sand trap, Canal and Fore bay
Power Houses and Electro-mechanical components inside
Embassy of Switzerland in Nepal

- **HT Indoor Switchgear Panel**
- **Sub-Distribution Box for underground service cable**
- **Power Transformer (380V/11000V)**
- **H-Pole/Transformer/11kV Line**
Evolution of Salleri-Chailsa Electricity Company (SCECO)

- Established as a public company in 1991
- Shareholding of Nepal Electricity Authority (NEA) of the Government of Nepal – 33%, SDC of Swiss Government - 33% and Local consumers (34%)
- Transfer of Swiss Knowhow to local engineers, managers and operators
- Local ownership, profit-making but not distributing
- Profits accumulated as reserves for major maintenance and further expansion
Connection with the Grid

- SCECO System was connected to the national grid on **February 26, 2021** through **Net** metering system on an agreed rate
- SCECO sells spill energy during off peak hour and night time to national grid
- SCECO buys electricity from the national grid to meet the consumer demand during peak hours

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Domestic Households (HHs)</td>
<td>49.66%</td>
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<tr>
<td>Commercial (Hotel/Shop)</td>
<td>7.51%</td>
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<tr>
<td>Office/Hospital/School</td>
<td>33.37%</td>
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<td>4.69%</td>
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<td>0.4%</td>
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<td>1.19%</td>
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<td>3.18%</td>
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SCECO’s consumers (over 2000)
After grid connection, electricity generation increased by maximum of 32% due to operation of plants during off-peak hours at night time.
Local Operation and Management

• Nine Board of Directors – SDC- 3, NEA -3, and 3 from Local
• Board of Directors guides local management, Board meetings and Annual General Meeting
• Operation is done by 17 staff headed by General Manager – 12 local staff (13% female)
Sustainable Model

• Strong local ownership
• Effective and capable local operation and management
• The company is running on profit and is financially sustainable.
• The retained earnings till date is over 1.0 Mio CHF

Thank you