### Environmental Processes to Mitigate Greenhouse Gas Emissions

**Reduction Energy Use by Installing High-Ceiling Lamps with LED Lamps**

- **Recognized as an innovative solution in reducing energy use.**
- **Improved energy efficiency and reduced energy bills.**
- **An estimated 20% reduction in energy consumption.**

**Use Renewable Energy by Switching to Solar-Powered Street Lighting**

- **Solar-powered lights provide a cost-effective and sustainable solution.**
- **Reduction in electricity bills and carbon footprint.**
- **Enhanced safety and security for pedestrians and vehicles.**

**Benefits of using LED fixtures**

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low operating temperature and energy use</td>
<td><strong>Reduces energy consumption and operational costs.</strong></td>
</tr>
<tr>
<td>Soft light</td>
<td><strong>Improves visual comfort and reduces eye strain.</strong></td>
</tr>
<tr>
<td>Durable (LED: 50,000 hours, approximate 1 year)</td>
<td><strong>High reliability and reduced maintenance costs.</strong></td>
</tr>
<tr>
<td>Less light attenuation</td>
<td><strong>Improves light efficiency and reduces light pollution.</strong></td>
</tr>
<tr>
<td>The mercury-vapor in the LED, and fluorescent lamp</td>
<td><strong>Diminishes harmful emissions and enhances indoor air quality.</strong></td>
</tr>
</tbody>
</table>

### Environmental Strategies and Demonstration Projects

**Formulation of City Ordinance for Tri-way Engine Upgrading**

- **Enables the city to enhance its public transport system and reduce emissions.**
- **Supports sustainable urban development and environmental conservation.**

**Formulation of City Ordinance for Lighting Future Replacement**

- **Promotes the use of energy-efficient lighting solutions.**
- **Enhances public safety and environmental sustainability.**

### Impacts of Climate Change Environmental Mitigation Efforts

- **Climate change mitigation actions in the city.**
- **Reduction in greenhouse gas emissions.**
- **Improved air quality and public health.**

### Challenges

- **High demand for fossil fuels and depleting resources.**
- **Threatens Environmental Stabilization.**

### Response

- **Reduction of Energy Consumption through Cost-Effective Systems**

- **Philippine government policies promote efficient use of energy through subsidies and incentives, and stringent regulations.**
- **The Environmental Protection Group (EUPROG) was formed to advocate for the efficient use of energy and resources.**

### Inventory of Local Energy Use, Local Renewable Energy Sources and Technologies

<table>
<thead>
<tr>
<th>Technology</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Wind turbines</td>
<td><strong>Renewable energy source.</strong></td>
</tr>
<tr>
<td>Solar panels</td>
<td><strong>High efficiency and long lifespan.</strong></td>
</tr>
<tr>
<td>Hydroelectric power generation</td>
<td><strong>Clean energy generation from water.</strong></td>
</tr>
<tr>
<td>Geothermal power generation</td>
<td><strong>Utilizes geothermal energy for heating and cooling.</strong></td>
</tr>
</tbody>
</table>

---

**Notes**

1. **Climate change mitigation actions in the city**
2. **High demand for fossil fuels and depleting resources**
3. **Threatens Environmental Stabilization**
4. **Philippine government policies**
5. **EUPROG**
6. **Wind turbines**
7. **Solar panels**
8. **Geothermal power generation**

---

**Graphical Representation**

- **Greenhouse Gas Emission Profiling in Sorsogon City**
- **Reduction of Energy Consumption through Cost-Effective Systems**
- **Inventory of Local Energy Use, Local Renewable Energy Sources and Technologies**

---

**Diagrams**

- **Graphs and charts illustrating energy consumption and renewable energy sources.**
- **Flowcharts outlining the process of energy efficiency improvements.**

---

**Conclusion**

- **Promotes sustainable development and environmental sustainability.**
- **Emphasizes the importance of renewable energy and efficient energy use.**
- **Encourages further research and implementation of environmental mitigation strategies.**