## Strategic Energy Plan Findings

### Lighting upgrades*

<table>
<thead>
<tr>
<th></th>
<th>One-time Investment</th>
<th>Annual Savings</th>
<th>Annual Electricity Saved (kWh)</th>
<th>Average Simple Payback Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average per community</td>
<td>$28,314</td>
<td>$4,091</td>
<td>16,727</td>
<td></td>
</tr>
<tr>
<td>Average per Building</td>
<td>$6,973</td>
<td>$1,007</td>
<td>4,452</td>
<td>6.9 years</td>
</tr>
<tr>
<td>Total</td>
<td>$198,197</td>
<td>$28,636</td>
<td>117,088</td>
<td></td>
</tr>
</tbody>
</table>

Source: Based on lighting upgrades completed with VEEP and EECGB grants through 2013 in Beaver, Fort Yukon, Holy Cross, Kaltag, Koyukuk, Nikolai and Shageluk. Data source: (Alaska Energy Authority, 2013).

6.9 years payback if not grant supported

How can you finance the one time investment?

*Interior Regional Energy Plan. Phase II Stakeholder Engagement. December 2015*
Energy Savings Performance Contracting (ESPC)

An ESPC is a no up-front cost contracting mechanism between a site customer and an energy service company (ESCO). Energy conservation measures and on-site energy generation are financed and implemented by an ESCO, which is repaid through energy savings.

Energy Service Company (ESCO)

- Identifies energy conservation measures
- Designs, engineers and constructs measures
- Guarantees savings
- Pays any savings shortfalls
- Examples of ESCOs: Ameresco, McKinstry, Chevron, Siemens, Honeywell, Tetra Tech, Johnson Controls and Trane
- Concept of Native Corporations creating ESCOs.

For full DOE Listing: http://energy.gov/eere/femp/qualified-list-energy-service-companies.
ESPCs Reallocate Current and Future Energy Spending

- **Customer's Cash Flow**
  - **No ESPC**
  - **During ESPC**
  - **After ESPC**

- **Customer's Savings**
- **Guaranteed Savings for ESCO Services Fee and Financing**
- **Energy and Operations and Maintenance Costs**
Typical ESPC Measures

- Lighting – indoor, outdoor, street lights
- Heating Ventilation & Air Conditioning (HVAC)
- Energy Management Systems
- Motors and Variable Speed Drives
- Building Envelope Measures
- Water Conservation Measures
- DG and CHP – renewable or fossil fuel
- Other Systems (kitchen, security, etc.)
Resources for ESPCs

- DOE FEMP ESPC resources at http://energy.gov/eere/femp/resources-implementing-energy-savings-performance-contracts
- Measurement & Verification (M&V) document templates
  - M&V plan
  - Post installation M&V report
  - Periodic M&V report
- Renewable energy screening
- Pre project analysis of cost-effective RE opportunities
  - Solar
  - Wind
  - Biomass
  - Geothermal Heat Pumps