

DOE OFFICE OF INDIAN ENERGY

# DOE Alaska Native Village Energy

## Development Workshop : Alternative and Innovative Financing

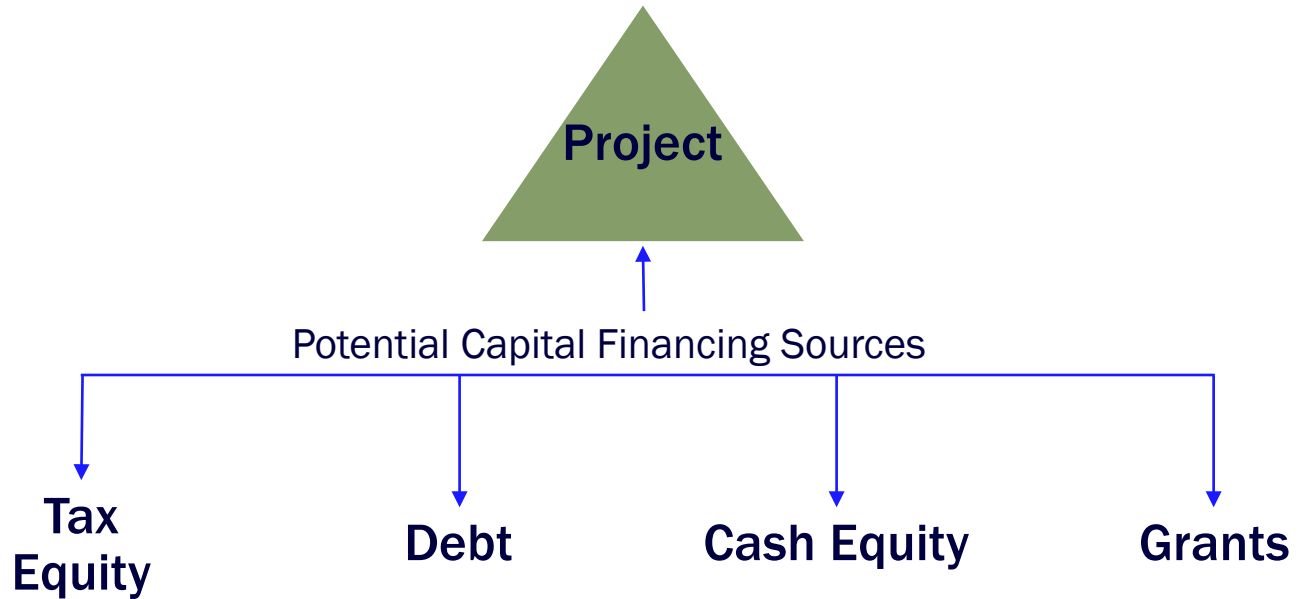
Anchorage, Alaska, April 30, 2014



U.S. DEPARTMENT OF  
**ENERGY**

Office of  
Indian Energy

# Project Capital Structure



# Common Ways to Finance Renewable Energy

## Government Sponsored

- Grants
- Loans
- Tax Exempt Bonds
  - CREBS
  - QECS (AK \$7,100,000)
- Renewable Energy Credits
- Tax benefits
  - Tax credits
  - Depreciation benefits

## Private Financing

- Equity
  - Equity from project owner
- Debt
  - Banks
  - ESCOs - Energy savings performance contracting
- Tax equity
  - Upfront equity, in exchange for tax credits and other benefits, primarily from US banks and insurance companies (and Google)

# Federal Energy Programs

- DOE
  - Tribal Energy Grant Program
  - Incremental hydroelectric incentive payment
  - Innovative Technology Loan Guarantee
- DOI – Office of Indian Energy and Economic Development
  - DEMD Grants and Technical Assistance
  - Loan Guarantee
- USDA – Rural Development
  - RUS Loan Guarantee Program
  - REAP Grant/Loan Program
  - Woody Biomass Program
  - RBOG Grant/Loan Program
- EPA
  - Clean Diesel Grant Program
- Commerce
  - EDA
  - MBDA
- Treasury
  - New Clean Renewable Energy Bonds (CREB) - \$1.4B est. reallocation
  - Qualified Energy Conservation Bonds (QECCB) – AK \$7,100,000
  - New Market Tax Credits
- DHS/FEMA
  - Climate change, disaster mitigation

# Bulk Purchasing

- Aggregate demand for energy systems: individuals, companies, government entities
- Reduced pricing from vendors – scale
- Simplified purchasing process
- Examples:
  - Los Angeles, Portland, San Francisco
  - San Jose in partnership with SJFCU for low cost loans

## Leasing/PPA Models

- Renewable energy company installs, owns, operates, and maintains energy system – receives 30% tax credit
- RE company has PPA with host to sell power from system
- Host leases system and buys power from RE company at price < utility retail price
- Lease to purchase terms available to buy system at end of lease

# Renewable Energy Tax Incentives

- **Investment Tax Credits (ITC)**
  - Solar , small wind (30%), geothermal, microturbines, combined heat and power (10%) – expires 2016
  - Wind (30%) expires 2013
- **Production Tax Credits (PTC)**
  - The amount of the PTC is adjusted for inflation each year
  - 2.2¢/kWh for wind, geothermal, closed-loop biomass; 1.1¢/kWh for other eligible technologies
  - Expires 2013
- **New market tax credits**
  - Qualified Equity Investments (QEIs) in qualified community development entities (CDEs)
  - Intended for “low income communities”
  - Indian tribes qualify as *targeted populations*, treated as *low income communities* for IRS purposes
- **Accelerated Depreciation**
  - Renewable energy projects are eligible for five-year accelerated depreciation recovery period

# ■ Tax Equity Investor

- Entity with high tax liability to take advantage of tax credits/depreciation
- In exchange for providing cash to project, monetizes the ITC and accelerated depreciation benefits
- Must own project, to monetizes tax benefits
- Tax equity investors are typically very large corporations or banks
- Represents roughly 50-55% of the initial capital costs
- Can negotiate future purchase/flip of the project to village or coop utility.



# Green Bonds

- Finance tool for green projects: projects and activities that promote climate and other environmentally sustainable purposes
  - Renewable energy
  - Energy efficiency
  - Sustainable waste management
  - Clean transportation
- Nascent market for institutional investors who have climate considerations in their investment objectives
  - Currently led by international organizations (WB, IMF)
  - Some states beginning to look at (MA and HI have issued some green bonds)

## Additional Information & Resources

Financing Opportunities For Alaska Native Villages

Innovations in Voluntary Renewable Energy Procurement, NREL Report #TP-6A20-54991 (Sept. 2012)

Federal Financing Facilities

Federal Loan Programs for Indian Country



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