Introduction to NV Energy
Assembly Committee On Commerce and Labor
Subcommittee on Energy
February 15, 2017

NV Energy
Agenda

• Brief Company History
• NV Energy Today
• Core Principles
• Commitment to Our Communities
• Energy Choice Initiative
• Appendices
Brief Company History
The origins of Nevada Power Company and Sierra Pacific Power Company can be traced back to before Nevada statehood (October 31, 1864)

- Began by serving the gold and silver mines in Virginia City, the Comstock Lode
- In 1905 Nevada Power Company began operating in Las Vegas
- In 1998 the Sierra Pacific Power Company and Nevada Power Company merger was announced and closed 15 months later as Sierra Pacific Resources
- 1999 failed bid to acquire Portland General Electric
- Through 1990s, energy was supplied in the majority from out of state power purchase agreements
- Renewable Portfolio Standard was created in 2001
Brief Company History

• Deregulation began in 1997; negotiated sale of generation assets
• Reno water business sold in 2001 to Truckee Meadows Water Authority
• Western energy crisis resulted in deregulation being stopped in 2001
• AB661 (2001) paved way for customers over 1 megawatt to utilize alternative energy provider in order to utilize existing generation resources to meet needs of other customers
  – Right continues today under Nevada Revised Statute Chapter 704B
• In 2002 Nevada Power Company filed a $922 million rate case, largely associated with keeping the lights on during the energy crisis; $437 million was denied
• In 2003 Nevada was fastest growing state in the nation
  – Record number of meters set in 2006
    • Electric meters - 53,425
    • Gas meters – 5,991
Brief Company History

• Energy independence strategy established by Public Utilities Commission of Nevada with focus on addition of company-owned generation to reduce reliance on market purchases
  – 2,797 megawatts owned in 2003 compared to 6,138 megawatts summer peak capacity as of December 31, 2016
• Sierra Pacific Resources, the holding company for Sierra Pacific Power Company and Nevada Power Company changed its name to NV Energy, Inc. in 2008
• NVEnergize, or digital smart meter project, kicked off in October 2009
• California assets were sold in January 2011
• Acquisition by Berkshire Hathaway Energy announced in May 2013; closed December 19, 2013
  – Purchase price of $5.59 billion and assumed debt of $4.84 billion
• NV Energy begins full participation in California Energy Imbalance Market December 1, 2015
NV Energy Today
Headquartered in Las Vegas, with major operations in Reno and Carson City
- 2,465 employees (month-end January 2017)
- 1.25 million electric and 162,000 gas customers
- Service to 90% of Nevada population, along with tourist population in excess of 45 million

Nevada Power Company
- Provides electric services to Las Vegas and surrounding areas
- 910,000 electric customers
- 4,766 megawatts of owned power generation capacity(1)

Sierra Pacific Power Company
- Provides electric and gas services to Reno and northern Nevada
- 340,000 electric customers and 162,000 gas customers
- 1,372 megawatts of owned power generation capacity(1)

(1) Net summer peak megawatts owned in operation or in transition as of October 31, 2016
Core Principles

VALUE
CUSTOMER SERVICE

PEOPLE
EMPLOYEE COMMITMENT

REDUCING IMPACT
ENVIRONMENTAL RESPECT

REGULATORY INTEGRITY

OPERATIONAL EXCELLENCE

BERKSHIRE FINANCIAL STRENGTH

OWNERSHIP

NV Energy
Berkshire Hathaway ownership, combined with our core principles, strengthens the company and provides for long-term sustainability.
2016 Recordable incident rate at 0.68

Employee Commitment and Safety

OSHA Recordables

- 2010: 81 OSHA Recordables
- 2011: 75 OSHA Recordables
- 2012: 65 OSHA Recordables
- 2013: 37 OSHA Recordables
- 2014: 18 OSHA Recordables
- 2015: 17 OSHA Recordables
- 2016: 17 OSHA Recordables

Incident Rate

- 2010: 0.5
- 2011: 1.0
- 2012: 2.5
- 2013: 2.0
- 2014: 1.5
- 2015: 1.0
- 2016: 0.5
Employee Commitment
Strong Relationship with Organized Labor

• 2,465 employees; senior leadership team is for the most part “home grown”
  – 20 senior leaders, with only five who moved to Nevada from other Berkshire Hathaway Energy businesses in 2014
  – Hire close to 40 interns every summer

• In December 2013, made commitment to no layoffs while executing on significant expense reductions
  – 2013 adjusted operations and maintenance expense of $560.0m compared to 2015 adjusted operations and maintenance expense of $435.0m
  – In 2014, redeployed 101 colleagues to new positions

• 1,239 colleagues represented by two International Brotherhood of Electrical Workers labor agreements
  – Local 1245 (northern Nevada) contract through September 22, 2022
  – Local 396 (southern Nevada) contract through June 30, 2021
• In 2016, Local 396 and NV Energy executed Commitment to Excellence
  – Shared responsibilities to each other ensures focus on continuous improvement
• NV Energy was awarded the Bill Bennett Employer of the Year honor at 2016 State Convention
• International Brotherhood of Electrical Workers and AFL-CIO are partners in the business; safety performance is proof that progress is being made
• Between 2005 and 2015, Nevada reduced carbon emissions from its power sector by 44%

• Nevada Power Company will be out of company-owned coal by December 2019, if not sooner; Sierra Pacific Power Company’s current planning projects 2025

• NV Energy’s CO₂ Emissions
  – 888 pounds per megawatt-hour in 2016

• Clean Power Plan Rate-Based Goals for CO₂ Emissions
  – 2022 – 2024: 1,001 pounds per megawatt-hour
  – 2025 – 2027: 924 pounds per megawatt-hour
  – 2028 – 2029: 877 pounds per megawatt-hour
  – 2030 and beyond: 855 pounds per megawatt-hour
Environmental Respect
Commercial Geothermal Resources

<table>
<thead>
<tr>
<th>Map No.</th>
<th>Project</th>
<th>Nameplate Capacity (MW)</th>
<th>Commercial Operation Date</th>
<th>Termination Date</th>
<th>2016 Rate ($/MWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Beowawe</td>
<td>17.7</td>
<td>4/21/2006</td>
<td>12/31/2025</td>
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<td>2</td>
<td>Brady</td>
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<td>3</td>
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<td>5</td>
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<td>13.0</td>
<td>5/2/2007</td>
<td>12/31/2027</td>
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<td>6</td>
<td>Galena 3</td>
<td>26.5</td>
<td>2/21/2008</td>
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<td>Homestretch</td>
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<td>NGP Blue Mountain</td>
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<td>11/20/2009</td>
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<td>Salt Wells</td>
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<td>9/18/2009</td>
<td>12/31/2029</td>
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<td>12</td>
<td>Soda Lake I &amp; II</td>
<td>23.1</td>
<td>12/31/1997</td>
<td>8/4/2021</td>
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<td>13.4</td>
<td>12/13/1992</td>
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<td>18</td>
<td>USG San Emidio</td>
<td>11.8</td>
<td>5/25/2012</td>
<td>12/31/2037</td>
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Total 484.6
Environmental Respect
Commercial Solar Resources

<table>
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<tr>
<th>Map No.</th>
<th>Project</th>
<th>Capacity (MW)</th>
<th>Commercial Operation</th>
<th>Term Date</th>
<th>2016 Rate ($/MWh)*</th>
<th>NGR Customer</th>
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<tbody>
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<td>Apex Solar Power</td>
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<td>Boulder Solar 1</td>
<td>100.0</td>
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<td>12/31/2036</td>
<td>46.00</td>
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<td>Boulder Solar 2</td>
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<td>Crescent Dunes (Solar Reserve)</td>
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<td>11/9/2015</td>
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<td>Fort Churchill Solar -- Leased</td>
<td>19.5</td>
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<td>Las Vegas Valley Water District (Sunpower) -- PCs Only</td>
<td>3.0</td>
<td>4/20/2006</td>
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<td>Mountain View Solar</td>
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<td>Nellis Solar Array I -- PCs Only</td>
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<td>Nevada Solar One</td>
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<td>3/5/2012</td>
<td>12/31/2029</td>
<td>104.67</td>
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Total: 541.2

* Power purchase agreements and portfolio credit agreements have 1% annual escalation rates, with exception of Boulder Solar 1 (0% escalation rate) and Boulder Solar 2 (3% escalation rate)

** Partial assignment of project capacity to NGR

MW = megawatt, MWh = megawatt-hour, NGR = NV GreenEnergy Rider, PC = portfolio energy credit
### Environmental Respect

**Solar Resources in Development**

<table>
<thead>
<tr>
<th>Map No.</th>
<th>Project</th>
<th>Capacity (MW)</th>
<th>Commercial Operation</th>
<th>Term Date</th>
<th>Start Rate ($/MWh)*</th>
<th>NGR Customer</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Techren Solar 1</td>
<td>100</td>
<td>1/1/2019</td>
<td>12/31/2043</td>
<td>33.99</td>
<td>**</td>
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<tr>
<td>1</td>
<td>Techren Solar 2</td>
<td>200</td>
<td>5/1/2019</td>
<td>12/31/2044</td>
<td>31.15</td>
<td>Apple</td>
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<tr>
<td>2</td>
<td>Playa 2</td>
<td>100</td>
<td>5/31/2017</td>
<td>12/31/2037</td>
<td>38.70</td>
<td>Switch</td>
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<tr>
<td>2</td>
<td>Playa 1</td>
<td>79</td>
<td>9/30/2017</td>
<td>12/31/2037</td>
<td>38.70</td>
<td>Switch</td>
</tr>
</tbody>
</table>

- Total 479

* Power Purchase Agreement price escalation: 3% for Playa 1 and 2, 2% for Techren Solar 1 and 2

** The project will serve native load and provide PCs for the Renewable Portfolio Standard.

*** Pending Public Utilities Commission of Nevada approval.

**MW** = megawatt, **MWh** = megawatt-hour, **NGR** = NV green energy rider, **PC** = portfolio energy credit
Customer Service
Compare 2017 to 2007 Prices

• Northern average monthly residential bill lower today than in 2007
  – Based on average usage of 743 kilowatt-hours
  – $76.98 January 2017 vs. $98.50 July 2007
  – 2016 general rate case settlement resulted in a $2.9 million reduction to the revenue requirement

• Southern average monthly residential bill
  – Based on average usage of 1,141 kilowatt-hours
  – $141.91 October 2007 vs. $140.77 January 2017
  – 2017 mandatory general rate review objective is to have no change or a reduction in the revenue requirement, similar to 2014
Nevada Power Company
Average Monthly Bill (Schedule RS - Residential Service)

Average Usage = 1,141 kWh

Jan'17
$140.77
Customer Service
Sierra Pacific Monthly Bill Comparison

Sierra Pacific Power Company
Average Monthly Bill (Schedule D-1 - Residential Service)

Average Usage = 743 kWh

Jan'17
$76.98
NV Energy is a summer peaking utility driven by the loads in the Las Vegas and Reno areas.
Operational Excellence
Generation and Energy Supply Overview

- Power generation fleet is managed as a single operation across Nevada Power Company and Sierra Pacific Power Company.
- Company owns 75 generating units and has 61 power or portfolio credit purchase agreements.
- Annual volumes in excess of 30,000 gigawatt-hours are delivered to fully bundled customers, around two-thirds in southern Nevada.
- Over 22,000 gigawatt-hours is self-generated with the balance from power purchase agreements.
- Long- and short-term gas transportation contracts ensure firm supply to meet summer peak demand; approximately $135 million in transportation costs annually.

### Key facts

<table>
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<th>YE 2017</th>
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<tbody>
<tr>
<td>Energy Supply Asset base</td>
<td>$3,226.0m</td>
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<tr>
<td>Owned summer peak capacity (Excludes 257 megawatts from Reid Gardner 4; includes Navajo Generating Station)</td>
<td>5,881MW</td>
</tr>
<tr>
<td>Energy mix (owned capacity):</td>
<td></td>
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<tr>
<td>Gas</td>
<td>90.9%</td>
</tr>
<tr>
<td>Coal</td>
<td>8.8%</td>
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<tr>
<td>Renewables</td>
<td>0.3%</td>
</tr>
<tr>
<td>Volume generated</td>
<td>22,116GWh</td>
</tr>
<tr>
<td>Volume from Power Purchase Agreements</td>
<td>9,009GWh</td>
</tr>
<tr>
<td>Employees/Payroll Supporting Energy Supply</td>
<td>564/$91.9m</td>
</tr>
</tbody>
</table>
Operational Excellence
Northern Nevada Local Gas Distribution

- 800 square miles and highly consolidated in Reno/Sparks area
- Approximately 162,000 gas customers
- Predominantly distribution company with minimal transmission assets and no liquefied natural gas ownership
  - Small propane system with 400 customers
- Peak load = 163,574 decatherms
- Approximately 1,760 miles of distribution mains and 1,450 miles of distribution services
- No major system capacity upgrades anticipated for the next five years
Operational Excellence
Transmission Assets

- 45,700-square-mile territory with statewide transmission network
- Backbone transmission system
  - 500 kilovolts (401 miles)
  - 345 kilovolts (983 miles)
  - 230 kilovolts (960 miles)
  - Underlying 138-kilovolt and 120-kilovolt transmission network
- Interconnections
  - Bonneville Power Administration
  - California Independent System Operator
  - Idaho Power Company
  - Los Angeles Department of Water & Power
  - PacifiCorp East
  - Western area lower Colorado
- Transmission service provided through Federal Energy Regulatory Commission Open Access Transmission Tariff
Operational Excellence
One Nevada Transmission Project

- 235-mile 500-kilovolt line interconnects northern and southern transmission systems; $530.5m capital costs and placed in-service December 31, 2013
- Consolidated Balancing Area reviewed and certified by North American Electric Reliability Council in January 2014
- Allows optimization of generating resource dispatch and renewable delivery
  - Permits economic fleet dispatch
  - Increases reliability
  - Facilitates more renewable energy development opportunity
- Capture benefits through comparison of costs with joint dispatch (actual) versus without joint dispatch (counterfactual)
  - Total customer benefits: $12.0m (2014); $18.1m (2015) and $16.7m (2016)
- Increases opportunity to participate in Energy Imbalance Market with California Independent System Operator
Operational Excellence
Energy Imbalance Market

- Provides efficient method for balancing supply and demand through automated dispatch by a market operator (California Independent System Operator)
- Pre-Energy Imbalance Market NV Energy balanced supply and demand using internal resources
- Post-Energy Imbalance Market balancing occurs regionally with more diverse resource portfolio, including integration of renewable energy (solar and wind)
- NV Energy entered the market in December 2015
- Captured $13.5m of transactional benefits from energy purchases and sales
- Benefit range presented to the Public Utilities Commission of Nevada was $6.0m to $9.5m in 2017
Operational Excellence
Distribution Assets

- Outage performance metrics remain top decile when compared to industry
- Northern Nevada system reliability improvements are top priority
• NV Energy is obligated to serve every customer in regulated service territory; responsible for ensuring the resource adequacy needed to ensure firm, reliable service

• Public Utilities Commission of Nevada
  – has statutory approval authority over prices customers pay for service; proceedings are open to participation by interested parties
  – reviews prudency of operations and energy costs annually through deferred energy accounting filing – typically filed March 1
  – approves long-term energy supply plans and detailed integrated resource plans through statutory process – filed triennially

• Customers have direct access to Public Utilities Commission of Nevada for purposes of complaint resolution
# Financial Respect
## Impact Of Company Operations to Nevada

<table>
<thead>
<tr>
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<th>Northern Nevada</th>
<th>Southern Nevada</th>
<th>Total</th>
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<tbody>
<tr>
<td><strong>2016 Total Payroll</strong></td>
<td><strong>$ 111,340,639</strong></td>
<td><strong>$ 167,010,959</strong></td>
<td><strong>$ 278,351,598</strong></td>
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<tr>
<td><strong>Taxes and Fees Paid</strong></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Nevada property taxes</td>
<td>$ 22,183,191</td>
<td>$ 34,012,927</td>
<td>$ 56,196,118</td>
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<tr>
<td>Franchise, utility and business license fees</td>
<td>29,370,879</td>
<td>114,010,131</td>
<td>143,381,010</td>
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<td>Nevada modified business tax</td>
<td>1,592,647</td>
<td>1,684,275</td>
<td>3,276,922</td>
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<tr>
<td>Commerce tax</td>
<td>1,095,112</td>
<td>3,100,621</td>
<td>4,195,733</td>
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<td>Universal energy charge</td>
<td>3,082,453</td>
<td>7,373,364</td>
<td>10,455,817</td>
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<td>Mill tax (paid to PUCN)</td>
<td>2,526,274</td>
<td>6,845,130</td>
<td>9,371,404</td>
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<td>Use tax paid to Nevada</td>
<td>2,038,367</td>
<td>2,074,537</td>
<td>4,112,904</td>
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<td>Possessory interest</td>
<td>376,083</td>
<td>568,592</td>
<td>944,675</td>
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<td>Unemployment taxes</td>
<td>177,564</td>
<td>482,397</td>
<td>659,961</td>
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<tr>
<td><strong>Total paid in fees and taxes in Nevada</strong></td>
<td><strong>$ 62,442,570</strong></td>
<td><strong>$ 170,151,974</strong></td>
<td><strong>$ 232,594,544</strong></td>
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Commitment To Our Communities
Charitable Giving and Volunteerism

• In December 2013, Berkshire Hathaway Energy provided $16.0m to the NV Energy Foundation
• NV Energy and the NV Energy Foundation have authorized over $5 million in annual giving since 2014
  – Employee committees are responsible for reviewing grant requests and allocating grant funding
  – Charitable giving and support is provided at no cost to customers
• NV Energy colleagues provided over 175,000 hours of volunteer effort to local communities over the past five years
## Community Commitment

<table>
<thead>
<tr>
<th>Total Giving 2016</th>
<th>Total 2016 Volunteer Hours</th>
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<tbody>
<tr>
<td>$5.5 million</td>
<td>37,758</td>
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</table>

<table>
<thead>
<tr>
<th>Top Giving Types</th>
<th>Total</th>
<th>% of total</th>
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</thead>
<tbody>
<tr>
<td>Health and Human Services</td>
<td>$1.9 million</td>
<td>34%</td>
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<td>Community Events/Sponsorships</td>
<td>$1.8 million</td>
<td>33%</td>
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<td>Education/Youth Development</td>
<td>$1.1 million</td>
<td>20%</td>
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<td>Environment</td>
<td>$400,000</td>
<td>7%</td>
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<tr>
<td>Arts and Multi-Cultural</td>
<td>$300,000</td>
<td>6%</td>
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</table>

The totals are in – Last year, our employees collectively volunteered 37,758 hours to community efforts throughout Nevada. Great work!
Energy Assistance
Support To Those Who Need It

- Project REACH (southern Nevada)
  - NV Energy funded to help seniors, medically fragile and Reserve and National Guard members
  - Annual Senior Energy Assistance Expo
  - Administered by partner agencies
  - Distributes approximately $500,000 from the NV Energy Foundation to qualifying customers annually

- SAFE (northern Nevada)
  - Gap filling program
  - Supplements state and federal low-income energy assistance programs
  - Administered by partner agencies
  - Distributes approximately $300,000 from the NV Energy Foundation to qualifying customers annually
Energy Choice Initiative
• Customers across all categories (residential, commercial, industrial) want and value choice
• Customers want a cleaner energy mix
  – Energy policy should encourage development of low-cost clean energy using domestic resources
• Customers want low-cost reliable energy
  – Move to choice should not result in customer price increases when compared to current regulated model
• Market restructuring must not shift costs to vulnerable populations
• Must not result in unrealized investment or stranded assets
  – Key tenets of the regulatory compact must be honored
• Should seek to protect the employment of Nevadans
• Market participants should compete on a level playing field and be subjected to the same requirements
  – Critical to ensure rules are in place to treat all providers equitably
  – All suppliers should be asked to comply with consumer protection standards
  – All suppliers should have consumer complaint resolution processes
  – If one company is asked to meet renewable portfolio or energy efficiency standards, or charge customers directly for social or public policy program costs, then all companies should do the same
• Broad-based stakeholder involvement in restructuring is fundamental to ensuring alignment around policy objectives; sufficient planning, education and execution; and to reducing uncertainty that could impact future capital investment in the state
Simple Framework To A Complex Transition

NV Energy Respects Public Policy

MARKET POLICY
- Level playing field for all retail providers
- Customer protections

CUSTOMERS
- No structural winners and losers
- No increase in prices paid over current model
- Reliable service

NO STRANDED ASSETS
- 564 jobs/$91.9m payroll
- $3.2b owned generation assets
- $4.2b energy contract obligations (NPV 2020-2046)

ENERGY POLICY
- Resource adequacy
- Renewable and economic development
- Energy efficiency

Transition Plan 2018
- Market Structure
- Competitive Services
- Regulatory Framework
- Restructuring and Transition Costs

Regulated and efficient competitive market
July 2023
• Restructuring related transition costs beyond stranded generation and regulatory assets can include:
  – Deferred cost recovery as needed to facilitate rate freezes or reductions typically put in place to ease the transition to retail suppliers and market rates
  – Establishing provider of last resort or default full service entity
  – Creating an independent entity and a new Federal Energy Regulatory Commission approved tariff for transmission system open access and operations
  – Creation and operation of a new entity responsible for market operations
  – Reconfigure customer service and billing architecture
  – Create a customer choice and switching mechanism among retailers
  – Manage the customer electronic data interchange that the utility, retailers and system/market operator will need to access
  – Workforce and downsizing of assets no longer needed to support utility
Potential Transition Costs

- State implementation and oversight costs related to restructuring
  - Creation and implementation of new regulatory regime tasked with licensing energy marketers and to set forth rules of data handling and market behavior
  - Creation and implementation of audit function and enforcement arm for new regulatory regimes
  - New regulatory regime for administering social policy programs
  - Additional resources to receive and process customer complaints concerning new market players
  - Costs to establish auction or to oversee auction for provider of last resort or default service
  - Costs to educate consumers on how retail choice and accessing options

- Potential cost shifts to Sierra Gas local distribution company customers
  - Retained gas transportation contracts will no longer be shared with electric customers
  - Cost efficiencies of shared billing with electric customers may be eliminated
  - Ability to direct gas during extreme temperature events may have reliability impacts
Consistent with the Energy Choice Initiative ballot language, the following may be assumed:

- Power generation and energy supply will be established as a competitive service; will require utilities to divest of existing power plants, power purchase agreements and gas transportation contracts
  - NV Energy, and any affiliates, will be out of the power generation side of the business in order to prohibit the grant of monopolies for the supply of electricity
- Transmission and distribution service will remain a regulated rate of return service due to the cost of duplicating investments
  - Consistent with what has been done in other fully competitive retail jurisdictions
  - Legislature need not provide for transmission and distribution deregulation to establish the competitive retail market
- Default or provider of last resort service will not be provided by regulated utilities in order to prevent the grant of an exclusive monopoly
  - NV Energy will not provide default or provider of last resort services
- Jobs for NV Energy colleagues will remain a primary focus of decision makers in the transition
Energy Choice Initiative
Market Design Considerations

NV Energy
Restructuring issues could be divided into major categories but requires coordination on interdependent design elements:

- Wholesale market structure
- Retail market structure
- State regulatory functions
- Default and provider of last resort services
- Transmission and distribution services
- Energy policies and programs
What is the most appropriate and cost effective wholesale market structure for Nevada?

- All full retail choice jurisdictions operate within a statewide or regional independent system operator that provides transmission service and also runs an organized wholesale energy market regulated by the Federal Energy Regulatory Commission. In Nevada, wholesale energy transactions are currently accomplished through independent bilateral contracts.

- Potential considerations include:
  - The attributes and services (e.g. capacity market, day-ahead market, congestion management) of a wholesale market structure most appropriate for Nevada and its restructuring objectives.
  - Initial market structure needs and the possibility of using Nevada's existing wholesale structure (NV Energy provides transmission services and suppliers enter bilateral wholesale contracts) allowing for evolution to an independent system operator over time.
  - Regional or Nevada-only market and identification of other entities if regional.
  - The viability of joining or forming an independent system operator from a cost/benefit, governance and schedule perspective.
  - Eligibility of the regulated wires utility to provide transmission service and/or settle the market.
  - Process for selecting a separate entity, if necessary.
  - Current and future resource adequacy requirements for the competitive retail market and if the state will oversee.
What is the most appropriate design/requirements for Nevada’s retail market?

• Determine if the state should establish market power criteria for its competitive retail market and/or impose limits on generation ownership within the state (or north or south territories) to facilitate diversity of ownership needed for competition

• Determine licensing qualifications and requirements for competitive retail providers

• Define the process for divesting the utilities of generation assets, power purchase agreements and other associated assets

• Define the process for calculating and recovering stranded costs and estimated impacts related to competitive market restructuring
Energy Choice Initiative
Potential State Regulatory Functions

What are the regulatory processes, enforcement agencies, costs and funding sources necessary for Nevada’s restructured electric market? For example:

- Licensing, market behavior, transactional rules and related enforcement regimes
- Routine monitoring and oversight of market participants
- Resource adequacy and system planning
- Customer education on the marketplace and their rights
- Customer complaint and dispute resolution
- Management of customer enrollments and supplier switching
- Transmission and distribution system rate design and recovery
- Market participant compliance with energy supply (renewable portfolio standard), emerging technologies, net metering, energy efficiency, demand response requirements
- Low-income customer assistance
- Collection of city franchise taxes
- Transitional regime and rate structure to recover costs of transition and stranded costs
- Regulation of electricity service in territories of cooperatives, municipalities, and public utility districts
How will Nevada ensure that all customers have continuous electric service?

- Determine which entities will serve customers on Day 1

- Determine which entities provide service for customers who do not choose or whose retail provider defaults. Potential options to consider include:
  - A state agency
  - Assignment to another retail provider

- Determine how energy will be procured. Potential options to consider include:
  - Purchase through an auction
  - Purchase on forward and short-term wholesale market
  - Supply owned by the service provider

- Determine how costs for providing these services will be recovered
What changes are needed regarding distribution and transmission service obligations and cost of service?

- Determine cost and recovery aspects of regulated services – which will rely in part on stranded cost and transition cost decisions and recovery
- Identify other transition costs and how they will be estimated and recovered
- Determine how customer data will be managed
- Determine how customer enrollments and switching will be managed and tracked – including establishment of a data interchange and protocols
- Determine utility resources necessary to support interactions with retail providers
- Determine the jurisdiction and billing relationships for distribution and transmission service
What will be the requirements of various state policies and programs? Which entities will be responsible for compliance? Which entities will be responsible for administration and oversight?

- Renewable portfolio standards
- Metering services
- Billing protocols and options (time of use, net metering, payment plans)
- Demand-side management programs
- Energy efficiency programs
- Low-income customer assistance programs
- Aggregation programs
- Management of job loss and retraining funding
NV Energy’s Power Generation Fleet
Chuck Lenzie
• 1,102 megawatts, heat rate – 7,200 British thermal units/kilowatt-hour
• In-service date March 2006 (purchased October 2004)
Silverhawk
- 525 megawatts, heat rate – 7,467 British thermal units/kilowatt-hour
- Southern Nevada Water Authority owns 25% (under contract for Nevada Power Company to purchase)
- In-service date May 2004 (Purchased January 2006)
Harry Allen – Unit 7
- 484 megawatts, heat rate – 7,013 British thermal units/kilowatt-hour
- In-service date May 2011
Walter M. Higgins
- 530 megawatts, heat rate – 7,350 British thermal units/kilowatt-hour
- Grey water in use from local casinos
- In-service date February 2004 (purchased December 2008)
Frank A. Tracy – Unit 10
• 541 megawatts, heat rate – 7,150 British thermal units/kilowatt-hour
• In-service date July 2008
**Coal-Fueled Power Plants**

**North Valmy Unit 1 and Unit 2**
- Unit 1: 254 megawatts, heat rate – 9,916 British thermal units/net kilowatt hour
- Unit 1: emission controls: low oxide of nitrogen burners, baghouse, dry sorbent injection (2015)
- Unit 2: 268 megawatts, heat rate – 10,372 British thermal units/net kilowatt hour
- Unit 2 emission controls: low oxide of nitrogen burners, baghouse, dry sulfur dioxide scrubber
- In-service date 1981 (Unit 1) and 1985 (Unit 2)
- Co-owned with Idaho Power Company – 50%
Reid Gardner Unit 4

- 257 megawatts, heat rate – 11,209 British thermal units/net kilowatt hour
- Emission controls: low oxide of nitrogen burners, baghouse, wet (sodium) sulfur dioxide scrubber, rotating over fire air system
- In-service date 1983
- Formerly co-owned with California Department of Water Resources
- Will retire from service in March 2017
Navajo Generating Station  Units 1 thru 3

- 2,250 megawatts (each unit is 750 megawatts), heat rate – 10,090 British thermal units/net kilowatt-hour
- Salt River Project is the operator
- NV Energy owns 11.3% of the plant – 255 megawatts
- Emission controls: low oxide of nitrogen burners, hot-side precipitators, wet sulfur dioxide scrubber
- In-service date 1974 (Unit 1), 1975 (Unit 2), 1976 (Unit 3)
- Original lease expires December 2019
Intermediate/Peaking Combined-Cycle Units

Clark Combined-Cycle Units – Unit 9 and Unit 10

- 430 megawatts, heat rate – 9,730 British thermal units/net kilowatt-hour
- Emission controls: dry-low oxide of nitrogen burners
- Each combustion turbine has a bypass duct – heat rate is 15,050 British thermal units/net kilowatt-hour in this mode
- Plant uses grey water from the City of Las Vegas
- In-service date 1979 (Units 5 and 6), 1980 (Unit 7), 1982 (Unit 8), 1993 (Unit 9) and 1994 (Unit 10)
Tracy Combined-Cycle Unit 5
- 104 megawatts, heat rate – 8,355 British thermal units/net kilowatt-hour
- Emission controls: dry low oxide of nitrogen burners and steam injection
- Steam augmented output
- In-service date 1996
- Unit is currently used for overnight low-load voltage support
- Unit was originally constructed as an integrated gasification combined-cycle unit
Las Vegas Generating Station
• 272 megawatts
• In-service date 1994 (Block 1) and 2003 (Blocks 2 and 3)
• NV Energy purchased the plant in 2014
Gas-Fueled Steam Units

**Tracy Unit 3**
- 108 megawatts, heat rate – 10,001 British thermal units/net kilowatt-hour
- In-service date 1974
- Unit is currently used for overnight low-load voltage support (must run)
Fort Churchill Units 1 and 2

- 226 megawatts (each unit is 113 megawatts), heat rate – 10,092 British thermal units/net kilowatt-hour
- In-service date 1968 (Unit 1), 1971 (Unit 2)
- Units are currently required (must run) for Carson area load support
Clark Unit 4

- 54 megawatts; 12,900 British thermal units/net kilowatt-hour
- In-service date 1973
- Start time – 12 minutes
Clark Peaking Units 11 – 22

- 619 megawatts (51.5 megawatts each), heat rate – 10,700 British thermal units/net kilowatt-hour
- Emission controls – water injection and selective catalytic reduction
- In-service date 2008
- Start time – 6 minutes
**Harry Allen Unit 3 and 4**
- 144 megawatts (72 megawatts each), heat rate – 12,900 British thermal units/net kilowatt-hour
- Emission controls – dry low oxide of nitrogen burners
- In-service date 1995 (Unit 3), 2006 (Unit 4)
- Start time – 8 minutes
Peaking Units

Tracy Peakers Unit 3 and Unit 4 – Dual Fuel Capable

- 132 megawatts (66 megawatts each), heat rate – 13,929 British thermal units/net kilowatt-hour
- Emission controls – dry low oxide of nitrogen burners
- In-service date 1994
- Start time – 8 minutes
Sun Peak Units 3, 4 and 5 - Dual Fuel Capable

- 210 megawatts (70 megawatts each)
- In-service date 1991; NV Energy purchased the plant in 2014
- Start time – 8 minutes
Goodsprings Waste Heat Generator

Goodsprings Compressor Station
5.0 megawatt plant
2010 In-Service
Uses waste heat from Kern River Gas pipeline
Nellis Solar Photovoltaic II

15.0 megawatts in commercial operation December 2015
State of Nevada Power Purchase Contracts
## Power Purchase Agreements

### Sierra Pacific Power Company d/b/a NV Energy Long Term Agreements

<table>
<thead>
<tr>
<th>Contract Name</th>
<th>Contract Type</th>
<th>Capacity (MW)</th>
<th>Operation Date</th>
<th>Termination Date</th>
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<td><strong>PC Purchase Agreement</strong></td>
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<td><strong>PPAs (Pre-Commercial)</strong>(^{3})</td>
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<td>197.0</td>
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</table>

Notes:
1. Short Term Agreement rolled over annually through perpetuity per legal.
2. Sierra Pacific Industries, RO Ranch Hydro and the Steamboat 1A facilities are shut down indefinitely (the PPAs are still active).
3. Facilities are either under development or construction (the dates shown are expected dates).
4. The current monthly contract demand ranges from approximately 70 MW (June) to 140 MW (December).

\(S=\)Single Axis Tracking, \(T=\)Solar Thermal (Tracking), \(F=\)Fixed Tilt

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## Power Purchase Agreements

### Nevada Power Company d/b/a NV Energy Long Term Agreements

<table>
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<tr>
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<td>WM Renewable Energy-Lockwood&lt;sup&gt;4&lt;/sup&gt;</td>
<td>Solar&lt;sup&gt;4&lt;/sup&gt;</td>
<td>3.2</td>
<td>4/11/2012</td>
<td>12/31/2032</td>
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<td><strong>Non-Renewable Purchase Agreements</strong></td>
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<td>Nevada Cogeneration Associates #1</td>
<td>Natural Gas</td>
<td>85.0</td>
<td>6/18/1993</td>
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<td>Nevada Cogeneration Associates #2&lt;sup&gt;15&lt;/sup&gt;</td>
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<td>2/1/1993</td>
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<td>Saguarito Power Company</td>
<td>Natural Gas</td>
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<td>10/17/1991</td>
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<td>Griffith Energy</td>
<td>Natural Gas [Gas Tolling-Summer Only]</td>
<td>570.0</td>
<td>6/1/2008</td>
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<td>Southern Nevada Water Authority (SNWA)</td>
<td>Natural Gas [Gas Tolling]&lt;sup&gt;4&lt;/sup&gt;</td>
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<td>6/1/2013</td>
<td>12/31/2018</td>
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<td><strong>PC Purchase Agreements</strong></td>
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<td>NPC-SPPC</td>
<td>Geothermal</td>
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<td>Nellis I (Solar Star)</td>
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<td><strong>PPAs (Pre-Commercial)&lt;sup&gt;1&lt;/sup&gt;</strong></td>
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<td>Switch Station 1</td>
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<td>100.00</td>
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<td>Switch Station 2 (NPC)</td>
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<td>Techren 1</td>
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<td>100.0</td>
<td>1/1/2019</td>
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| | | | | |
| | | | | |

### Notes:
1. A solar facility was added to the Stillwater PPA.
2. Facilities are either under development or construction (the dates shown are expected dates).
3. The Power Exchange Agreement with SNWA provides Nevada Power with the dispatching rights to SNWA's 25% interest in the Silverhawk Power Plant (approximately 130 MW), in exchange for providing SNWA with 125 MW of firm on-peak energy and 25 MW of firm off-peak energy delivered to the Meadow Substation. Nevada Power provides the gas under the agreement. The PUCN has approved NVE's purchase of SNWA's 25% share with an estimated closing on or about April 30, 2017 followed by the termination of this agreement.
4. NPC shall sell 43,200 kPCs for three years.
5. S=Single Axis Tracking, T=Solar Thermal (Tracking), F=Fixed Tilt