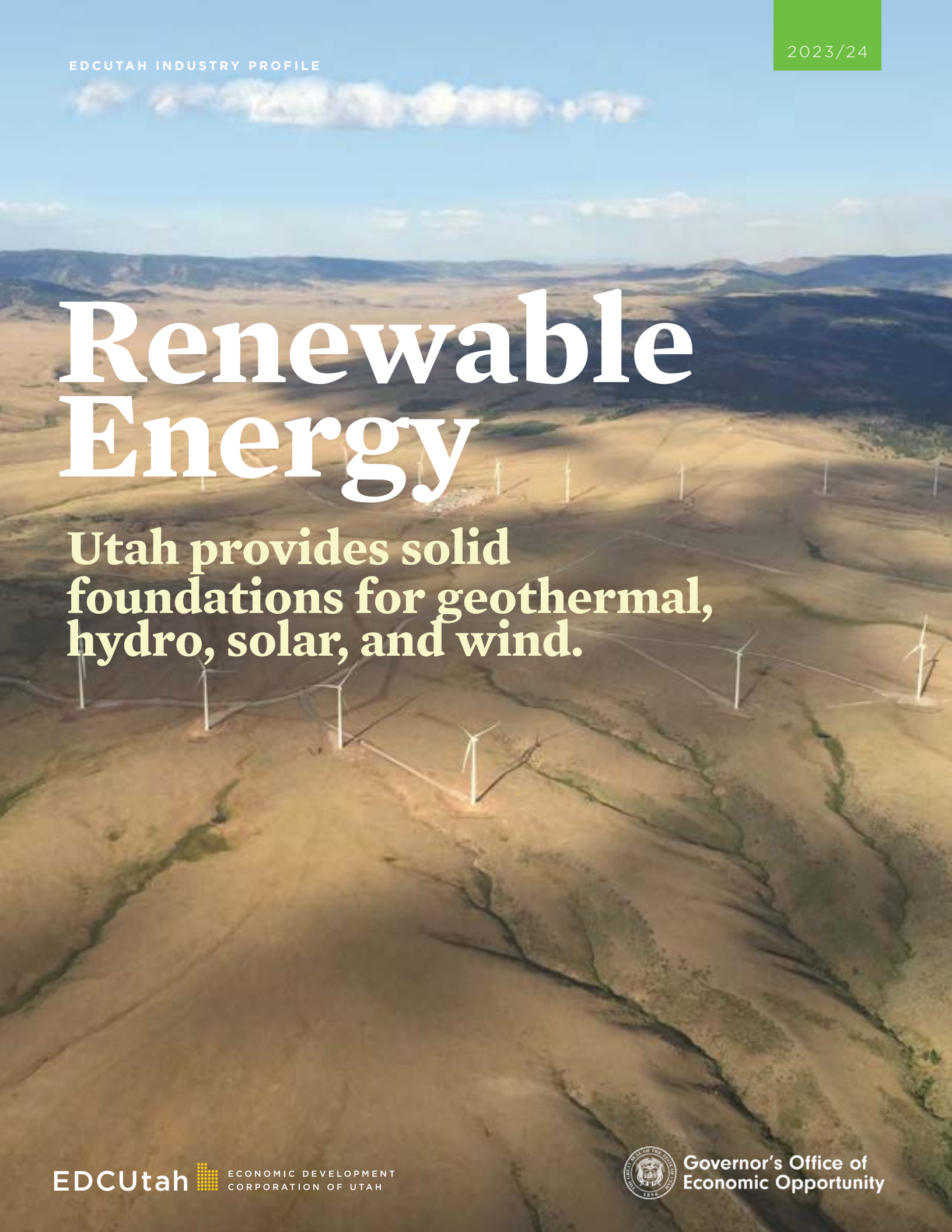
2023/24



Renewable Energy

Utah provides solid foundations for geothermal, hydro, solar, and wind.

EDCUtah ECONOMIC DEVELOPMENT CORPORATION OF UTAH

Governor's Office of Economic Opportunity

On the cover:
The Pioneer Windfarm
in Spanish Fork Canyon.

Low Risk. Low Cost. Great Access.

Industry

Utah has been a net-energy exporter since 1980. In 2018 Utah exported roughly 18% of energy produced to neighboring states such as California and Nevada. Utah's energy-related industries generates $21 billion in economic revenue on average and employs over 18,000 people statewide. Utah boasts a diverse array of renewable energy resources including solar, wind, geothermal, hydroelectric, and biomass. This diverse energy profile contributes to the resiliency of Utah's energy economy.

Just one of Utah's efforts to align government and industry is the Governor's Office of Energy Development (OED) established in 2011 under Governor Gary R. Herbert's 10-Year Strategic Energy Plan. OED's mission is to advance Utah's energy and mineral sector and support the growth of Utah's renewable energy industry.

Utah ranks third in the nation in total geothermal energy production and is a forerunner in geothermal technology development. This large-scale renewable energy development has prompted a burst of activity in Utah with private and public investors taking notice.

Business Climate

Forbes Magazine has recognized Utah as "The Best State for Business & Careers" six of the past seven years.

From 2012-16, Utah's post-performance tax incentives facilitated nearly 25,000 new jobs and more than $65M in new state revenue.



In 2018, the Tax Foundation ranked Utah's Total Tax Climate as the 8th best in the nation. Since 2011, Utah has eliminated or modified nearly 400 business regulations to ease the burdens placed on businesses.

Workforce Information

Utah has high employee concentrations of Mechanical and Electrical Engineers, Machinists, and Power Plant Operators, and many other renewable energy related occupations.

There are a wealth of renewable energy education resources in Utah, with 5 major institutions offering programs related to Energy Development, Conservation, and Natural Resources.

Utah currently has an abundance of Renewable Energy companies, with 95 renewable generating facilities in the state, producing roughly 1.6 million kW in electricity.

MAJOR UNIVERSITIES AND COLLEGES

1. Utah State University
2. Weber State University
3. University of Utah
4. Westminster College
5. Salt Lake Community College
6. Utah Valley University
7. Brigham Young University
8. Snow College
9. Southern Utah University
10. Dixie State University

MAJOR ENERGY PLANTS

BIOMASS

1. Trans-Jordan Landfill
2. Salt Lake Valley Landfill
3. Blue Mountain Biogas

GEOTHERMAL

1. Blundell Plant and Expansion
2. Cove Fort
3. Thermo Hot Springs Plant

SOLAR

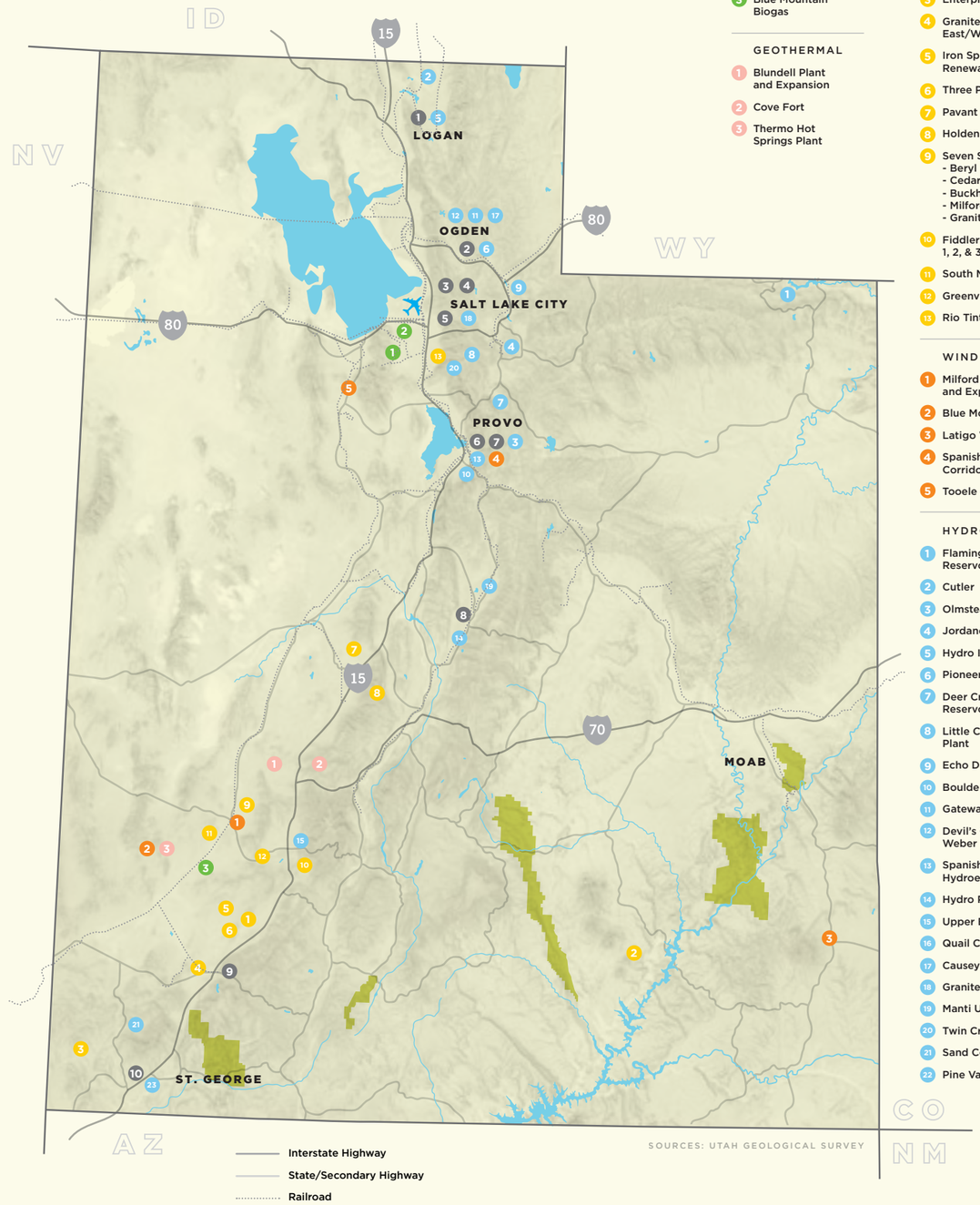
1. Red Hills Renewable Energy Park
2. Escalante I, II, III
3. Enterprise
4. Granite Mountain East/West
5. Iron Springs Dominion Renewable Energy
6. Three Peaks
7. Pavant I, II
8. Holden
9. Seven Sisters - Beryl - Cedar Valley - Buckhorn - Milford Flats - Granite Peak
10. Fiddler's Canyon 1, 2, & 3
11. South Milford
12. Greenville
13. Rio Tinto Stadium

WIND

1. Milford Corridor and Expansion
2. Blue Mountain
3. Latigo Wind Park
4. Spanish Fork Corridor
5. Tooele Army Depot

HYDRO

1. Flaming Gorge Reservoir
2. Cutler
3. Olmstead
4. Jordanelle
5. Hydro II
6. Pioneer
7. Deer Creek Reservoir
8. Little Cottonwood Plant
9. Echo Dam
10. Boulder Plant
11. Gateway Power Plant
12. Devil's Gate-Weber Hydroelectric
13. Spanish Fork Hydroelectric
14. Hydro Plant No. 3
15. Upper Beaver Plant
16. Quail Creek 1
17. Causey Power Plant
18. Granite
19. Manti Upper Plant
20. Twin Creeks Plant
21. Sand Cove
22. Pine Valley





Causey Dam Reservoir,
15 miles northeast of
Ogden, Utah

Utah's Major Renewable Energy Plants

TECHNOLOGY	PLANT	COMPANY	CAPACITY (KW)	MAP #
Biomass - landfill gas	Trans-Jordan Landfill	Granger Electric Co.	4,800	1
Biomass - landfill gas	Salt Lake Valley Landfill	Salt Lake County	3,200	2
Biomass - other gas	Blue Mountain Biogas	Alpental Energy Partners of Provo	3,200	3
Geothermal	Blundell Plant	PacifiCorp	38,100	1
Geothermal	**Blundell Expansion**	**PacifiCorp**	**30,000**	**1**
Geothermal	Cove Fort Geothermal Plant	Enel Green Power	25,000	2
Geothermal	Thermo Hot Springs Plant	Alterra Power Corp.	14,000	3
Solar - PV	Red Hills Renewable Energy Park	Scatec Solar	80,000	1
Solar - PV	Escalante I - Four Brothers	Dominion Renewable Energy	80,000	2
Solar - PV	Escalante II - Four Brothers	Dominion Renewable Energy	80,000	2
Solar - PV	Escalante III - Four Brothers	Dominion Renewable Energy	80,000	2
Solar - PV	Enterprise - Four Brothers	Dominion Renewable Energy	80,000	3
Solar - PV	Granite Mountain Solar East	Dominion Renewable Energy	80,000	4
Solar - PV	Iron Springs	Dominion Renewable Energy	80,000	5
Solar - PV	Three Peaks	Three Peaks	80,000	6
Solar - PV	Granite Mountain Solar West	Dominion Renewable Energy	51,300	4
Solar - PV	Pavant I	Dominion Renewable Energy	50,000	7
Solar - PV	Pavant II	Pavant Solar	50,000	7
Solar - PV	Holden	PacifiCorp	20,000	8
Solar - PV	Seven Sisters - Beryl	SunEdison	3,000	9
Solar - PV	Seven Sisters - Cedar Valley	SunEdison	3,000	9
Solar - PV	Seven Sisters - Buckhorn	SunEdison	3,000	9
Solar - PV	Seven Sisters - Milford Flats	SunEdison	3,000	9
Solar - PV	Seven Sisters - Laho	SunEdison	3,000	9
Solar - PV	Seven Sisters - Granite Peak	SunEdison	3,000	9
Solar - PV	Fiddler's Canyon #1	SunEdison	3,000	10
Solar - PV	Fiddler's Canyon #2	SunEdison	3,000	10
Solar - PV	Fiddler's Canyon #3	SunEdison	3,000	10
Solar - PV	South Milford	REUT Origination	2,900	11
Solar - PV	Greenville	SunEdison	2,200	12
Solar - PV	Rio Tinto Stadium	Rio Tinto	2,020	13
Wind	Milford Wind Corridor	First Wind	203,500	1
Wind	Milford Wind Corridor	First Wind	102,000	1
Wind	**Milford Wind Corridor**	**First Wind**	**100,000**	**1**
Wind	**Blue Mountain**	**Blue Mountain Power Partners**	**70,500**	**2**
Wind	Latigo Wind Park	Wasatch Wind	62,100	3
Wind	Spanish Fork Wind Corridor	Edison International	18,900	4
Wind	Tooele Army Depot	Tooele County	3,500	5

SOURCES: UTAH GEOLOGICAL SURVEY

BOLD TEXT SIGNIFIES PROPOSED OR CURRENT DEVELOPMENTS

Utah's Major Renewable Energy Plants

TECHNOLOGY	PLANT	COMPANY	CAPACITY (KW)	MAP #
Hydro	Flaming Gorge Reservoir	U.S. Bureau of Reclamation	151,800	1
Hydro	Cutler	PacifiCorp	30,000	2
Hydro	Olmstead	PacifiCorp	10,300	3
Hydro	Jordanelle Reservoir	Heber Light and Power Dept.	10,000	4
Hydro	Hydro II	Logan City Mun. Light and Power	6,600	5
Hydro	Pioneer	PacifiCorp	5,000	6
Hydro	Deer Creek Reservoir	U.S. Bureau of Reclamation	4,800	7
Hydro	Little Cottonwood Plant	Murray City Power Dept.	4,800	8
Hydro	Echo Dam	Bountiful City Light and Power	4,400	9
Hydro	Boulder Plant	Garkane Power Assn. Inc.	4,200	10
Hydro	Gateway Power Plant	Weber Basin Water Conserv. Dist.	4,000	11
Hydro	Devil's Gate-Weber Power Plant	PacifiCorp	3,800	12
Hydro	Spanish Fork Power Plant	Strawberry Water Users Assn.	3,600	13
Hydro	Hydro Plant No. 3	Ephraim City Power Dept.	2,800	14
Hydro	Upper Beaver Plant	Beaver City Corp.	2,500	15
Hydro	Quail Creek #1	Washington County WCD	2,300	16
Hydro	Causey Power Plant	Weber Basin Water Conserv. Dist.	2,100	17
Hydro	Granite	PacifiCorp	2,000	18
Hydro	Manti Upper Plant	Manti Light and Power Company	1,600	19
Hydro	Twin Creeks Plant	Heber Light and Power Dept.	1,500	20
Hydro	Sand Cove	PacifiCorp	800	21
Hydro	Pine Valley Power Plant	St George City Water and Power Dept.	600	22

SOURCES: UTAH GEOLOGICAL SURVEY

BOLD TEXT SIGNIFIES PROPOSED OR CURRENT DEVELOPMENTS

Renewable Energy Plant Summary

Biomass	Geothermal	Solar	Wind	Hydro
4 Facilities	3 Facilities	24 Facilities	4 Facilities	60 Facilities
12,800 KW	83,800 KW	846,400 KW	386,500 KW	235,000 KW
	1 Proposed facility with 30,000 KW		2 Proposed facilities with 179,500 KW	1 Proposed facilities with 20 KW

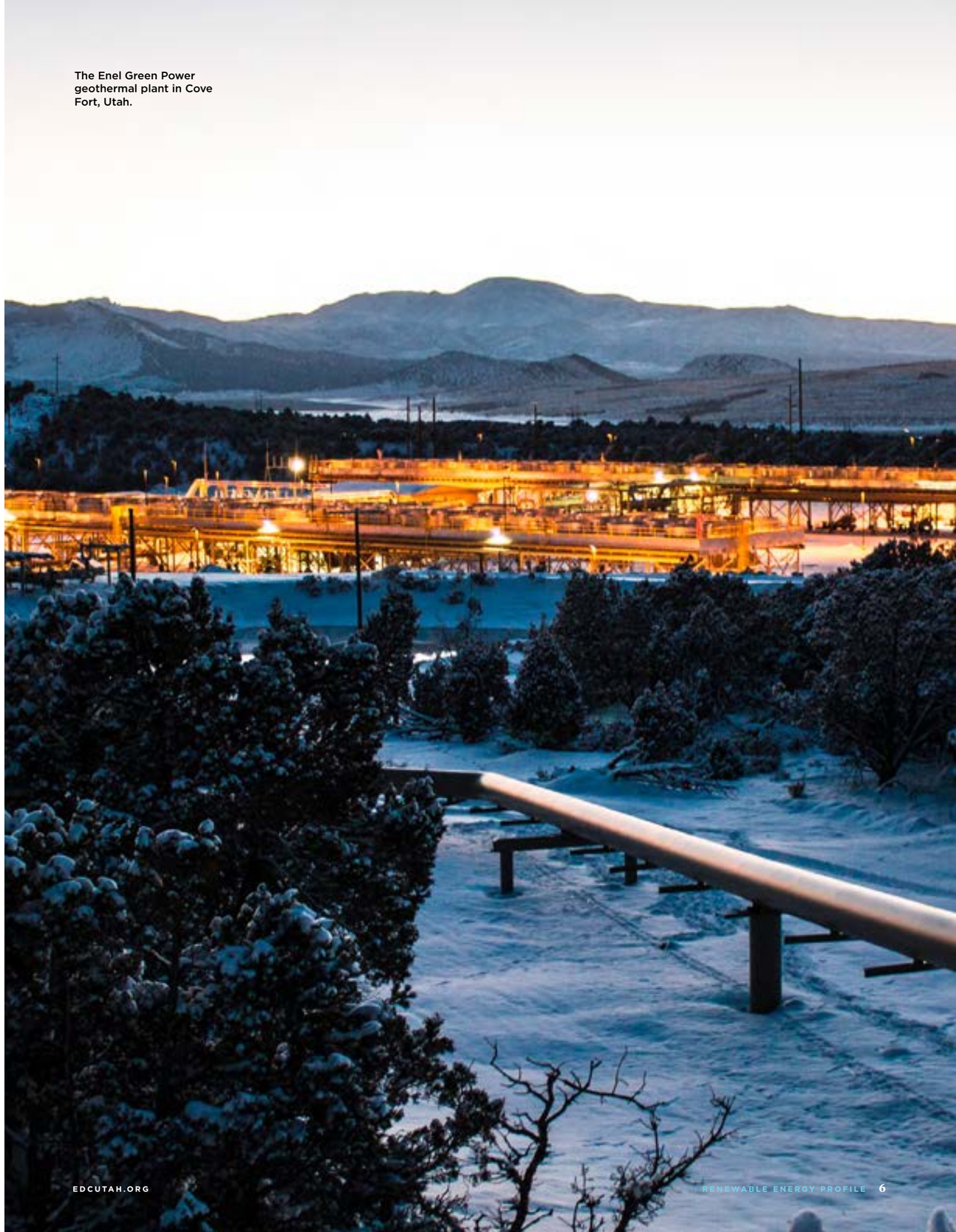
Total Renewable Energy Producing Plants: 95

Total Present Output: 1,564,500 KW

Total Proposed Renewable Energy Producing Plants: 4

Total Proposed Output: 209,520 KW

The Enel Green Power geothermal plant in Cove Fort, Utah.



Red Hills Renewable
Park outside
Parowan, Utah.
104 MW capacity.
$188M investment.

Recent Announcements

U.S. Department of Energy Awards Utah Innovation (2018)
The U.S. Department of Energy announced that the University of Utah is to receive up to $140 million in funding over five years to build a first-of-its-kind research laboratory that will seek to innovate geothermal technologies. After three years of planning, site characterization, and competition, a site in Milford, Utah was selected for the location of the facility.

C-Pace District Provides Private Funding for Clean Energy (2018)
C-Pace, also known as Commercial Property Assessed Clean Energy, provides zero down and 100 percent private financing for up to 30 years for commercial building improvements that utilize clean and renewable energy. Projects can include energy efficiency, renewable energy, water conservation, seismic upgrades, hybrid transport devices, EV charging stations, and battery storage.

Legislation Aids the Solar Industry (2018)
The Utah Legislature passed several renewable energy amendments that in part allow Rocky Mountain Power to begin construction of its own solar generation facility. Additionally, the legislature extended the Rooftop Solar Tax Credit, which is an incentive for the installation of residential rooftop solar arrays, extending the Rooftop Solar Tax Credit through 2035.

Vivint Solar Generates 3,000 Jobs in Lehi (2015)
Utah-born Vivint Solar has announced an expansion of existing operations in the state, generating over 3,000 jobs in conjunction with an estimated $91 million in capital investment. “Vivint Solar is proud to be headquartered in Utah,” said Greg Butterfield, CEO of Vivint Solar. “Utah has cultivated a hard-working, innovative workforce and we are excited to continue to expand our operations in the Beehive State.”



Vivint Solar in Lehi.
Headquartered in the area south of Salt Lake City known as Silicon Slopes.

Areas of Excellence

Utah's Renewable Energy Advantages

Low Natural Disaster Risk
Utah has a low natural disaster risk, ranked 5th in the nation for national disaster safety.

Low Power Rates
Utah enjoys some of the cheapest electricity and natural gas rates in the nation. Utah generates its own power, lowering transportation costs. Utah's power plants have transitioned to natural gas and steam over the last 15 years, and renewable energy sources such as solar and wind are growing at a fast rate. Utah's solar energy industry has expanded from 0 MW of electricity to 850 MW in just three years.

Energy Efficiency
Utah ranks second in the nation for percentage of ENERGY STAR certified K-12 schools and tenth in the nation for the number of LEED (Leadership in Energy & Environmental Design) certified buildings.

The "Frontier Line"
Utah, upon partnering with the governors of California, Nevada, and Wyoming, is calling for the construction of the "Frontier Line," a high-voltage electric transmission line that will run through these four states. This line will improve the connection of Utah's electric grid with neighboring states and provide new markets for Utah's renewable and conventional energy resources.

Beneficial Geography
Utah is known as the "Crossroads of the West," providing excellent access to the entire western region of the United States. As a net energy exporter, Utah is ideally situated to deliver energy to larger markets in the region.

Prime Natural Environment
Utah is classified as a cold desert and resides in the Sun Belt, making it an ideal landscape for solar energy generation. According to the Department of Interior, Utah has roughly 6,000 square miles of land with high solar electricity generation.

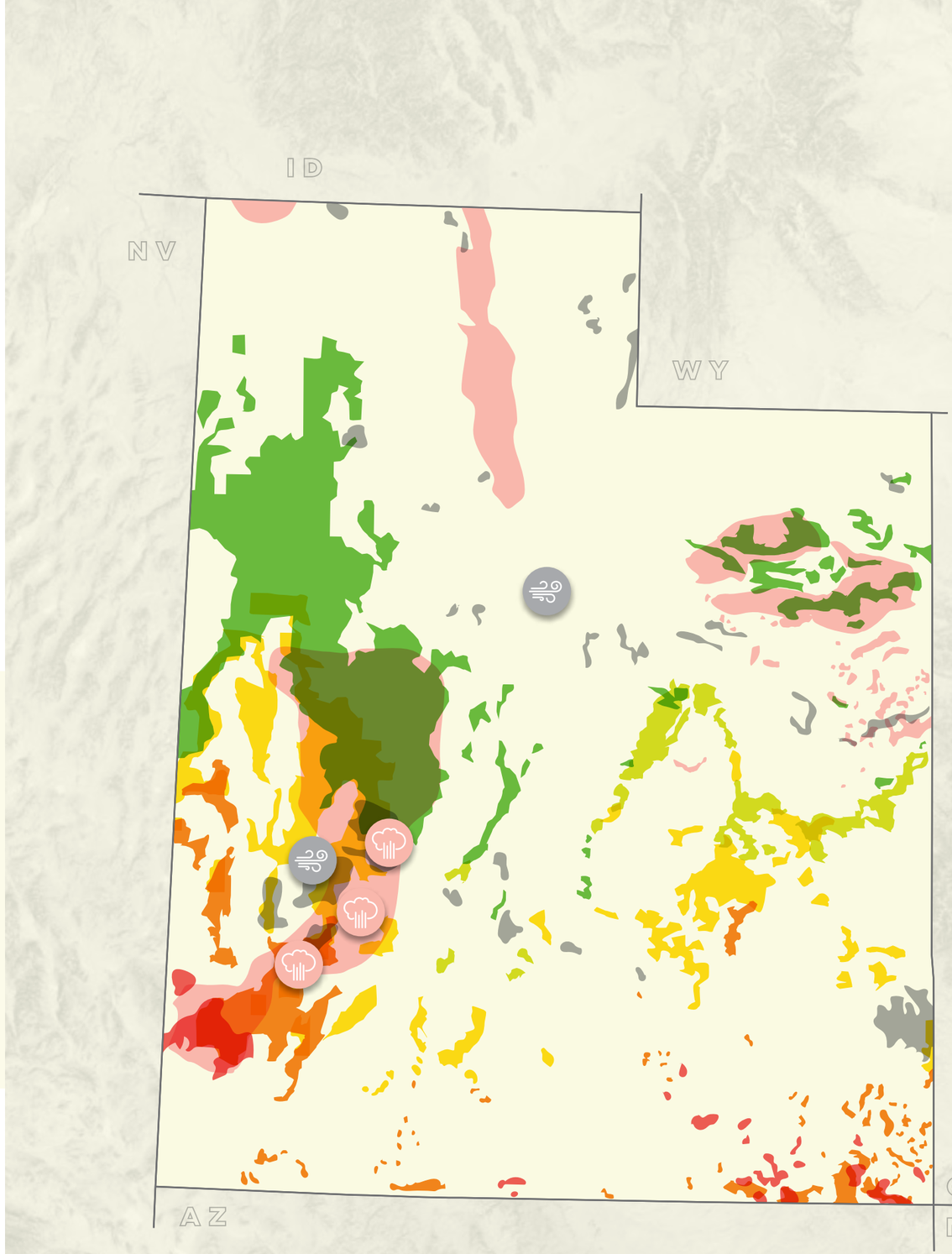
Geothermal Potential
Utah is one of just six states with a developable utility-scale geothermal resource, and is currently ranked third in total geothermal production. The Utah Geological Survey estimates a total of 2,100 MW of geothermal development potential exists within the state, 25 times the current production.

Tax Credits & Incentives
Utah boosts several tax credits and incentive programs for developers looking to produce or invest in the state. Programs administered by the Governor's Office of Energy Development.

Renewable Energy Systems Tax Credit
The RESTC provides incentives for investment and production of renewable energy technologies, including solar, wind, geothermal, hydroelectric, and biomass. The tax credit applies to both residential and commercial developers.

Alternative Energy Development Incentive (AEDI)
AEDI is a post-performance credit of 75 percent of all newly generated state revenue for 20 years, for the construction of electricity generation facilities of 2 megawatts or greater that utilize a renewable resource.

High Cost Infrastructure Tax Credit (HCITC)
The HCITC is an incentive that supports investments in qualifying cost-intensive infrastructure projects, including energy delivery systems. The total tax credit authorized for a project will be 50 percent of the cost of the infrastructure investment.



SOURCES:
CIRCLE OF BLUE, GOVERNOR'S OFFICE OF ENERGY DEVELOPMENT, DEPARTMENT OF ENERGY, WALLETHUB

Want to learn more about renewable energy in Utah?



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Governor's Office of Economic Opportunity