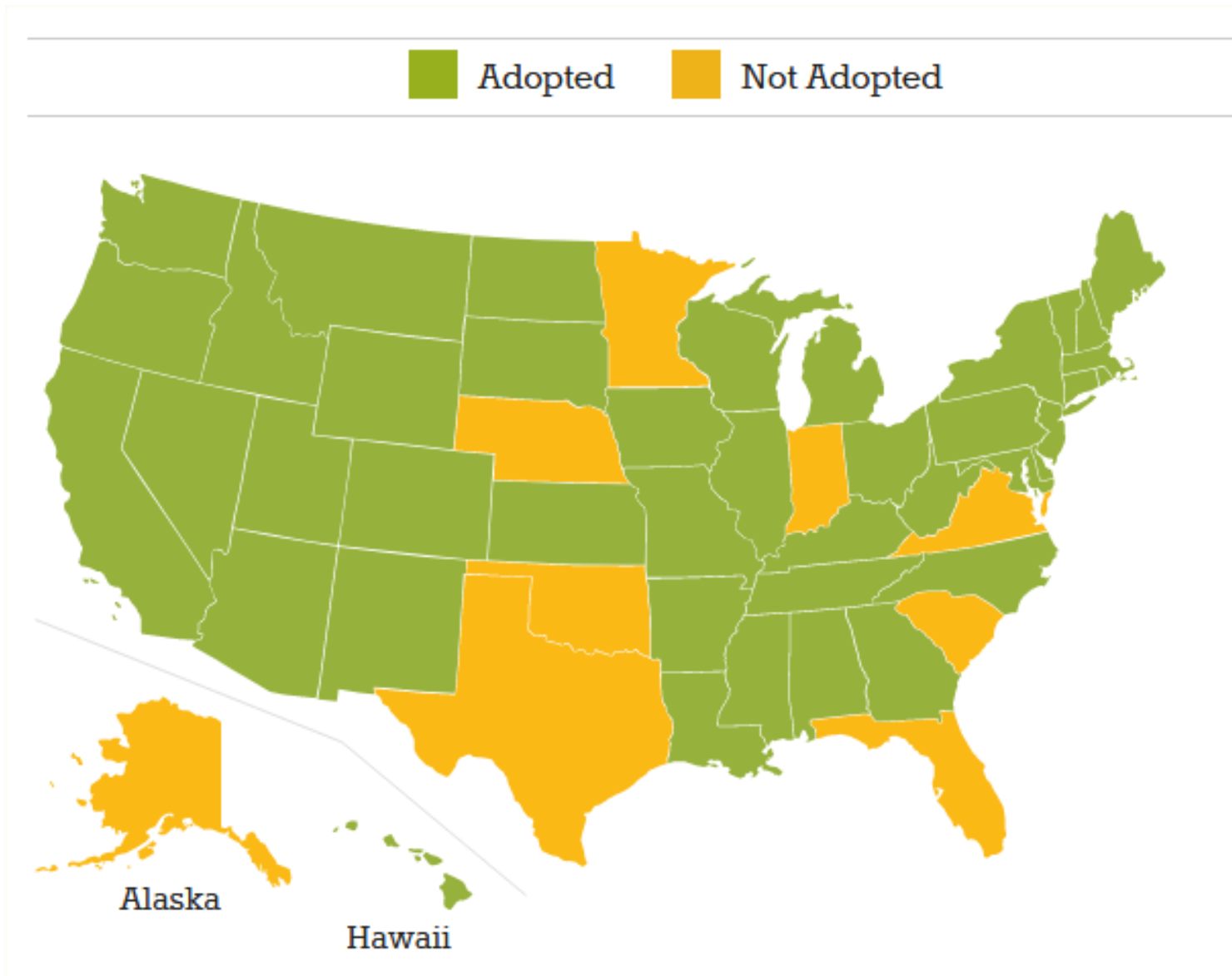


Lessons from the Political Front: The Grisham Energy Plan Why Johnny Can't Read Etc.

Why Johnny Can't Read: Common Core



Why Johnny Can't Read:

Rudolph Flesch: Kids can't read because educators are unwilling to teach our kids how to comprehend our Alphabetic Alphabet. Our schools are teaching a reading [pedagogy that doesn't work](#). Poor reading is then blamed on children or parents.

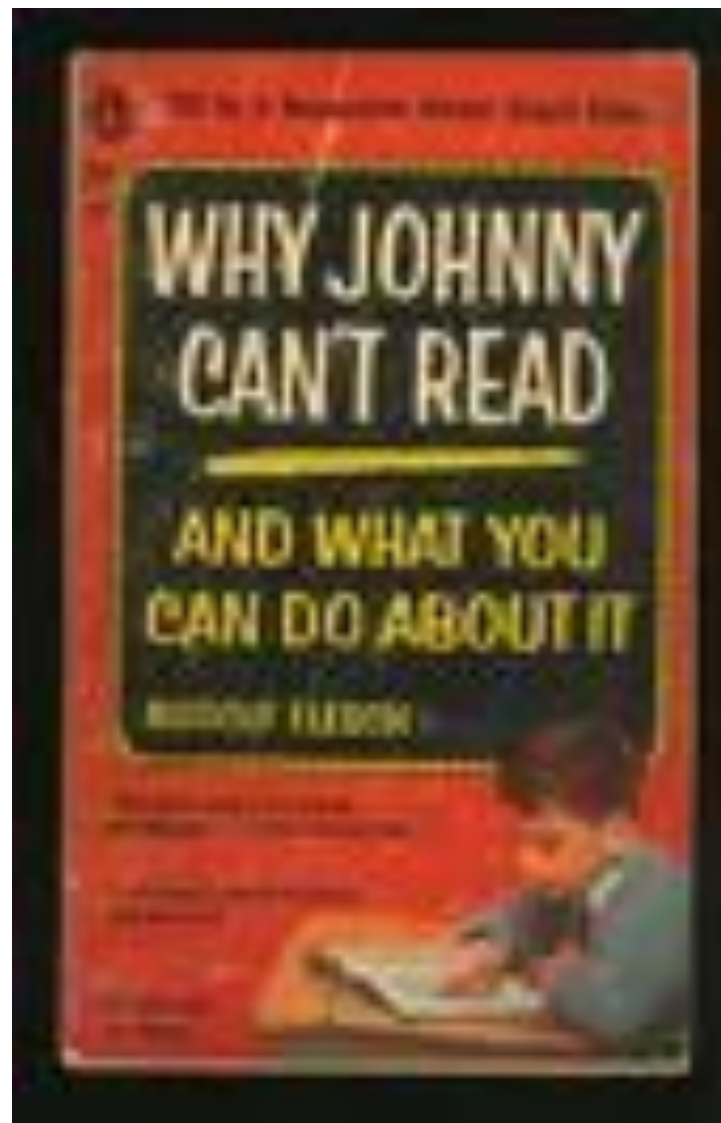
Here's a sampling of the [Experts' Pronouncements](#):

"It is detrimental indeed to have the children spell or sound out their words at this stage." Prof Guy Bond

"Current practice in the teaching of reading does not require knowledge of letters." Dr. Donald Durrell

"English is essentially an unphonetic language....The skillful teacher will be reluctant to use any phonetic method with all children." Dr. Paul Witty

"Little is gained by teaching the child his sounds and letters as a first step to reading. More rapid results are generally obtained by the direct method of simply showing the word to the child and telling him what it is." Professor Walter Dearborn



Common Core Phonetics Approach

1st Grade Standards:

1st 9 Weeks: Children Learn 37 Phonetics Rules.

After 9 Weeks: Phonetics Methods Abandoned and Whole Word Approach Used Thereafter.

[Dolch Words](#) (AKA Sight Words): 250 basic words.

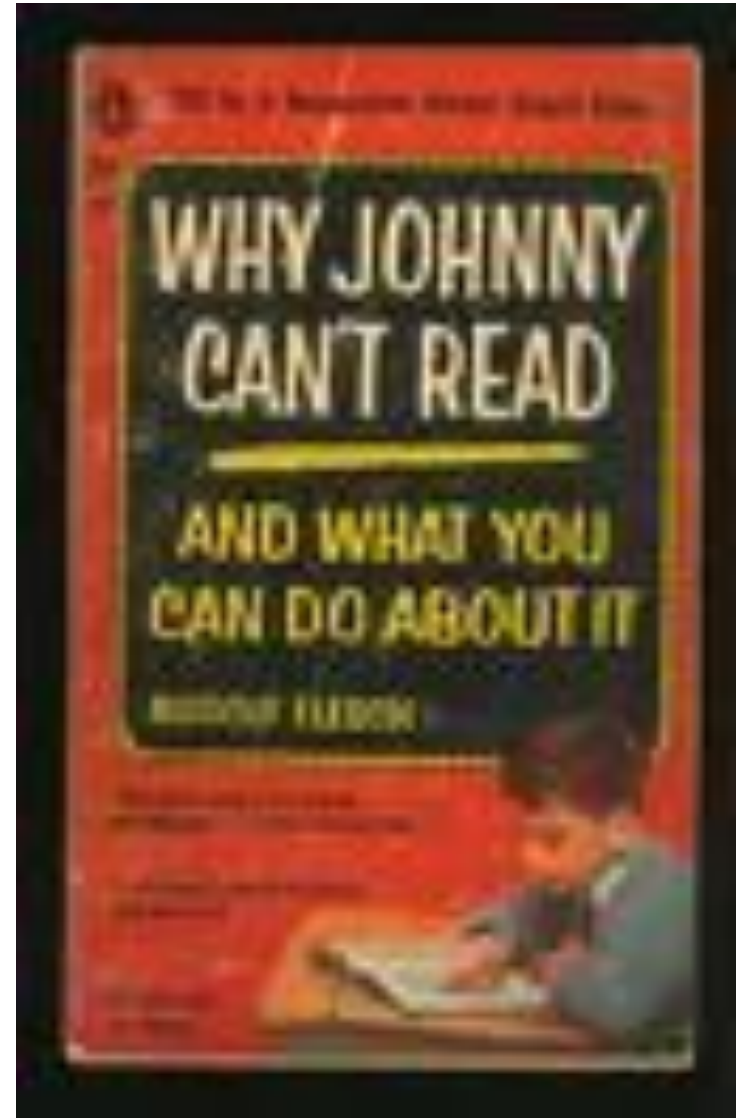
Problem: Without rules to analyze words, ALL additional words must be memorized.

300 words per year x 12 years = Vocabulary of only 3600 words.

Issue: 1st Grade Students ARRIVE at school with a vocabulary of 25,000 words!

Issue: (Elementary Teacher) Enough time to INTRODUCE material, not enough time to MASTER material.

Common Core – excessive # of required topics.
--basics never mastered.



KY Common Core ELA First Grade

Solution: Simplify Standards

Teacher Opt-Out Letter (no strings)

Prioritize Requirements, Don't Reach All

Let Teacher Teach (get the job done)

Teach to the Student, not the Test or the Standard

Focus on Reading and other Basics, ditch the BS



What is the Grisham Plan?

50% Renewables Dependence by 2030

80% Renewables by 2040

2017 Nathan Small/Mimi Stewart Plan

1

SENATE BILL 312

2

53RD LEGISLATURE - STATE OF NEW MEXICO - FIRST SESSION, 2017

3

INTRODUCED BY

4

Mimi Stewart and Nathan P. Small

10

AN ACT

11

RELATING TO UTILITIES; REQUIRING THAT RENEWABLE ENERGY COMPRISE

12

SEVENTY PERCENT OF TOTAL RETAIL SALES TO NEW MEXICO CUSTOMERS

13

OF RURAL ELECTRIC COOPERATIVES BY 2040; REQUIRING THAT

14

RENEWABLE ENERGY COMPRISE EIGHTY PERCENT OF TOTAL RETAIL SALES

15

TO NEW MEXICO CUSTOMERS OF PUBLIC UTILITIES BY 2040.

The Grisham Plan's Roots

California will ban sales of gasoline vehicles by 2040 if upcoming bill passes Dec. 5th 2017

Update: Calif. AB 1745 postponed hearing in Apr. 2018. To be reintroduced by sponsor Ting in 2019. No bill analysis report.

Nevada Assembly clear bill boosting renewables mandate to 80% by 2040 May 25, 2017

Sandoval vetoes community solar, higher clean-energy standard
June 16, 2017

The Grisham Plan: California Dreaming

California breaks energy record with 80% of state's power generated using renewable methods (on one day)

The Golden State has soaked up enough rays to generate **67.2 per cent** of its energy from renewables last month.

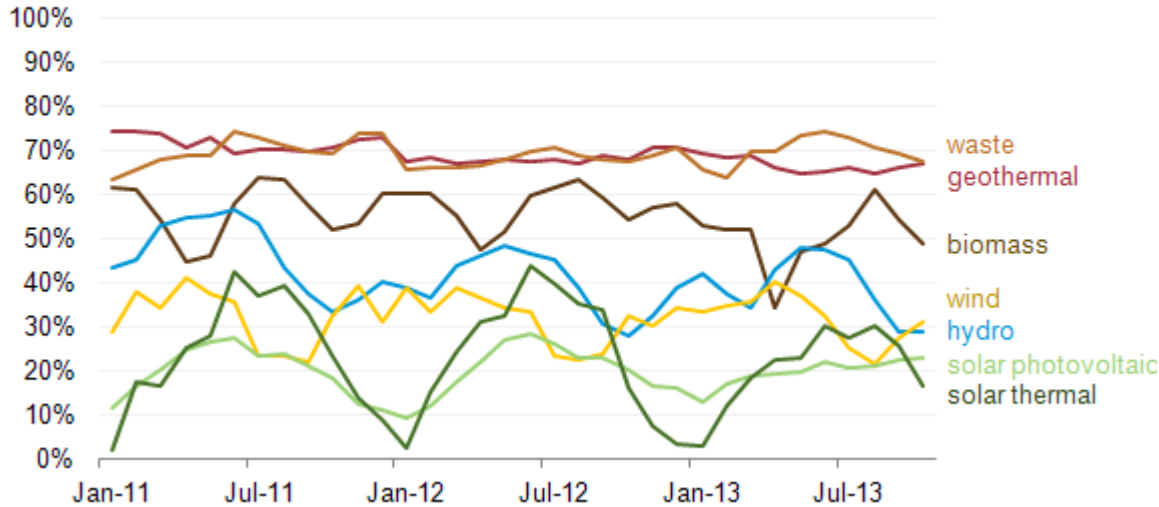
When combining California's largest grid with **hydropower facilities**, renewable energy rose even further to 80.7 per cent of total energy generation on **13 May**.

Thanks to ample sunshine, **full water reservoirs** and more solar facilities, the California Independent System Operator, the largest grid in the state, beat previous records.

California also set a new record on 16 May for wind power, producing **4,985 megawatts** on one day.

Monthly Capacity Factors

Monthly capacity factors for select renewable fuels and technologies
(January 2011–October 2013)

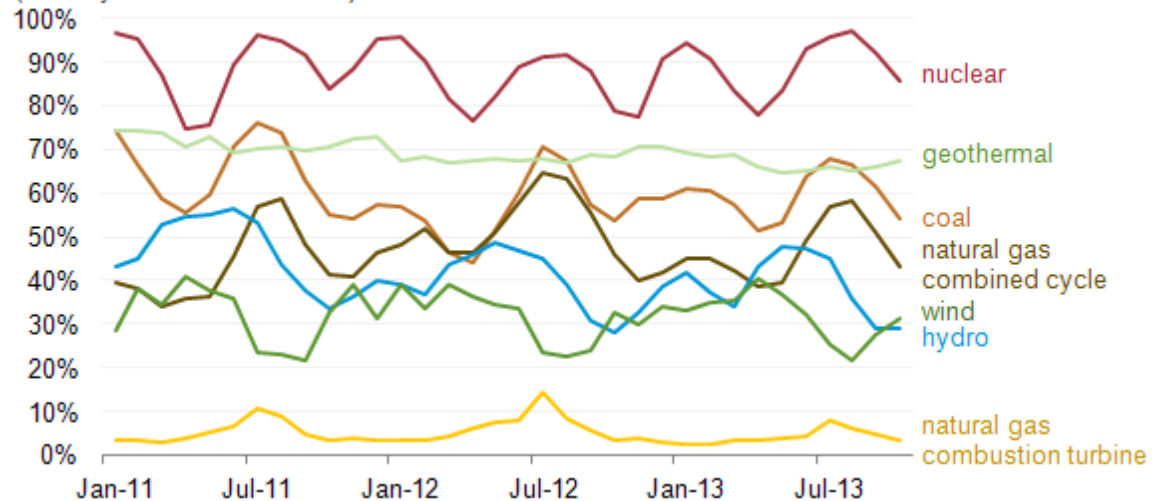


EIA: U.S. Energy
Information
Administration

Wikipedia

Archived Google Images Version

Monthly capacity factors for select fuels and technologies
(January 2011–October 2013)



**Low
Capacity
Factors = High
Intermittency**

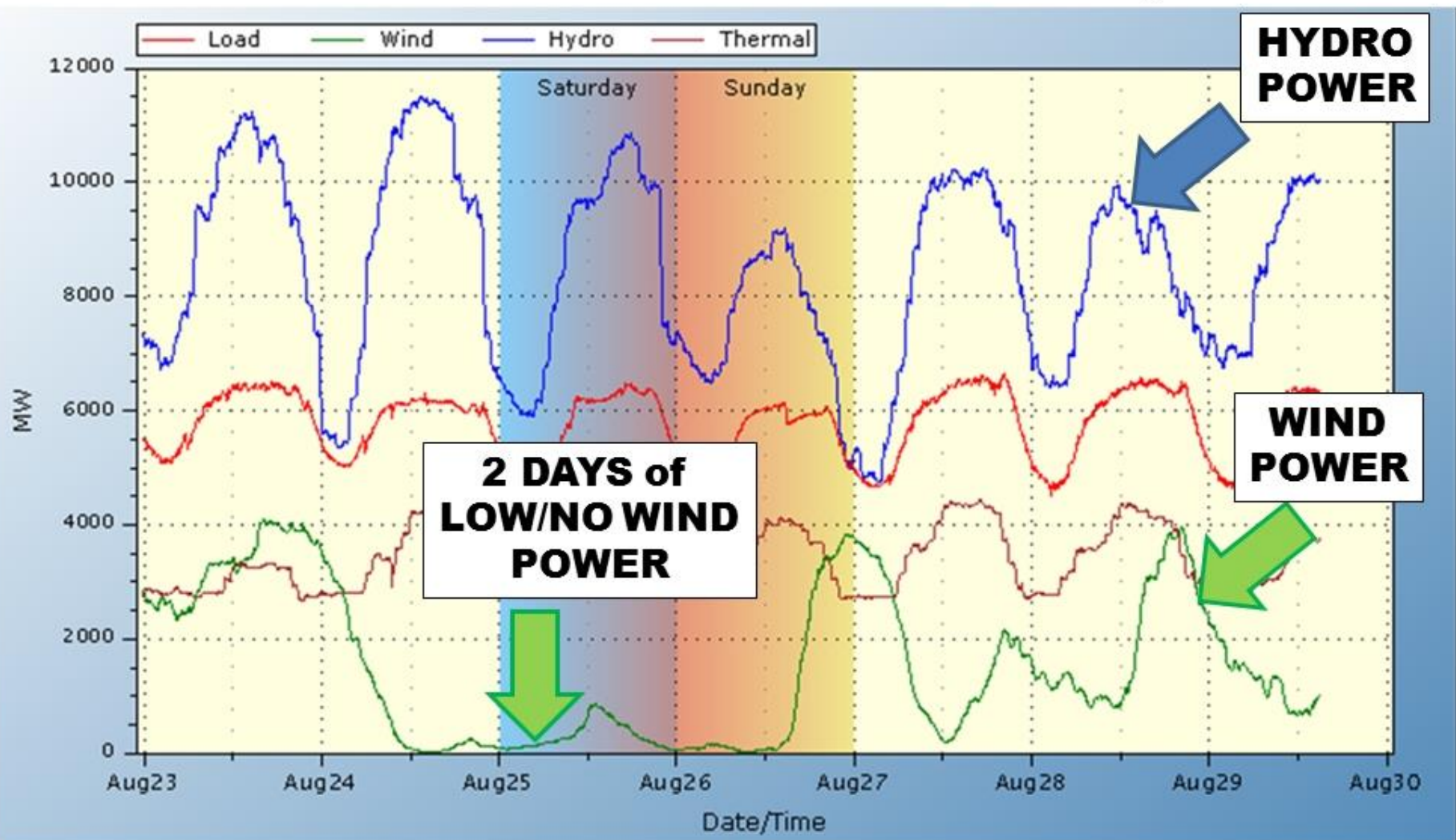
Bonneville Power ... Week of 23-30 August 2012

Green = Wind

Thermal = Brown

Load = Red

Hydro = Blue



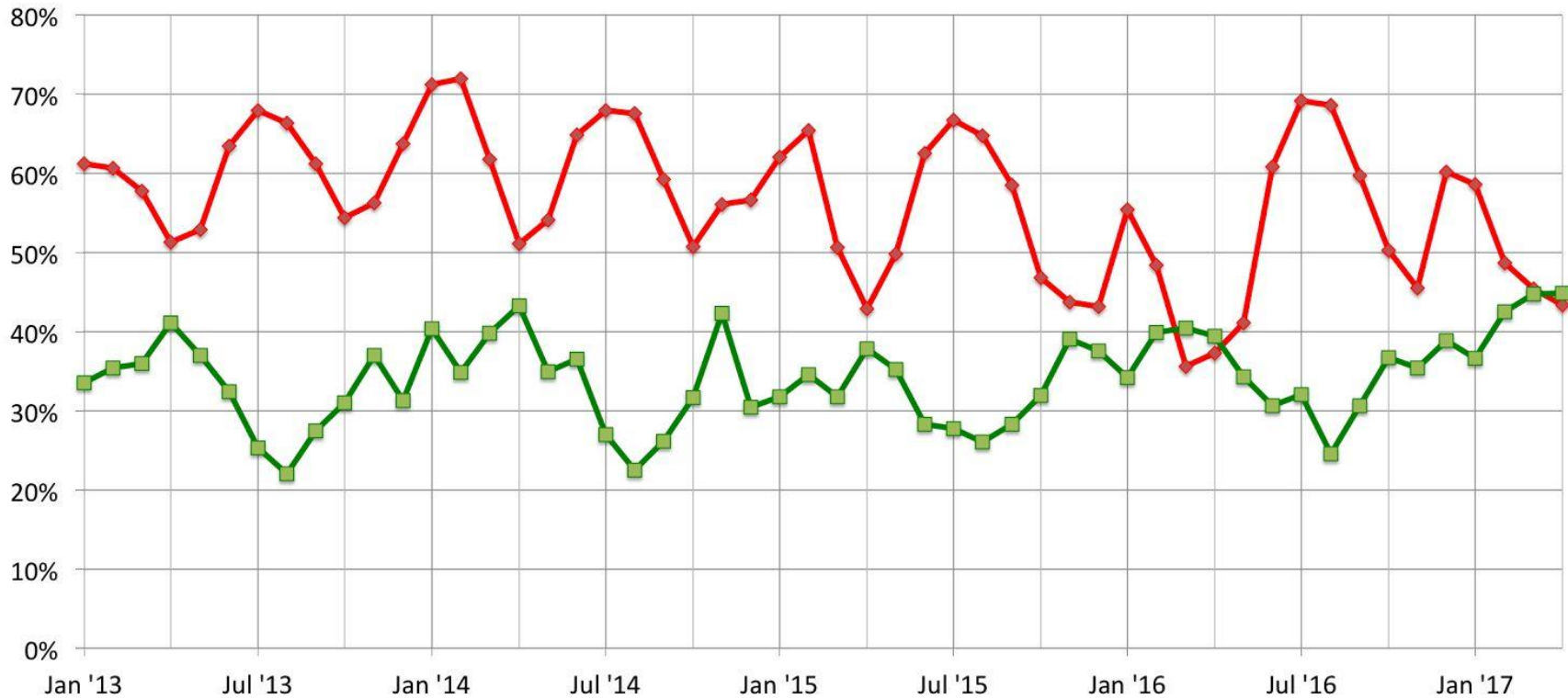
<http://transmission.bpa.gov/business/operations/wind/baltwg.aspx>

Monthly Capacity Factors

Low Capacity Factors = High Intermittency?

U.S. **Coal** and **Wind** Fleet Capacity Factor by Month

EIA *Electric Power Monthly*, Tables 6.7.A, 6.7.B



Matthew Klippenstein for GreenTechMedia.com

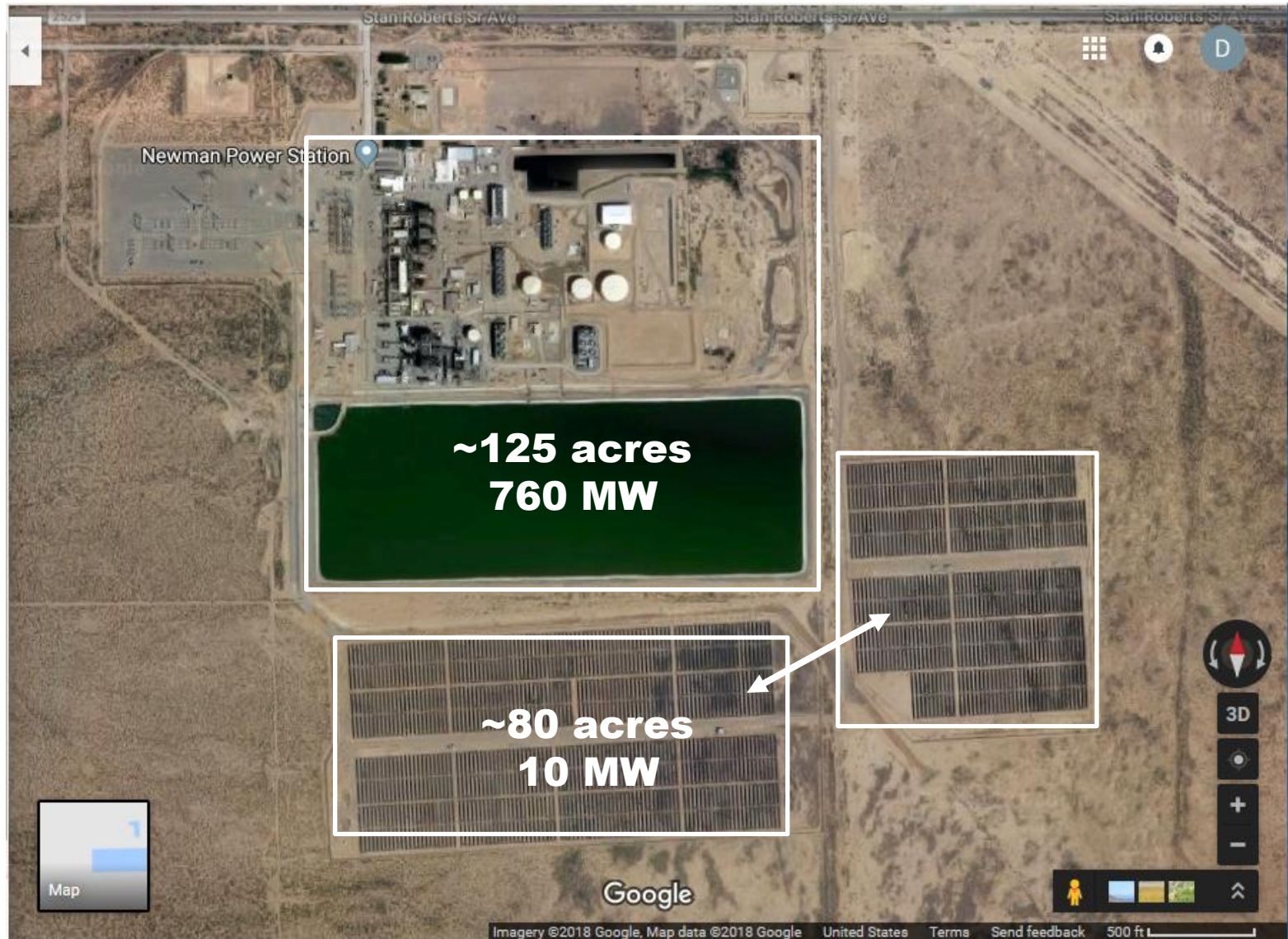
At What Cost Wind Power?

- Thousands of Endangered Species Birds Dead
- Potential for Endangered Bird and Bat Species Extinctions
- Wind Farms given a Pass
- No Breaks for Oil and Natural Gas Producers
- We estimate **hundreds of thousands** of birds and bats die every year when they accidentally collide with turbine blades.
- Windfarms kill 10-20 times more than previously thought

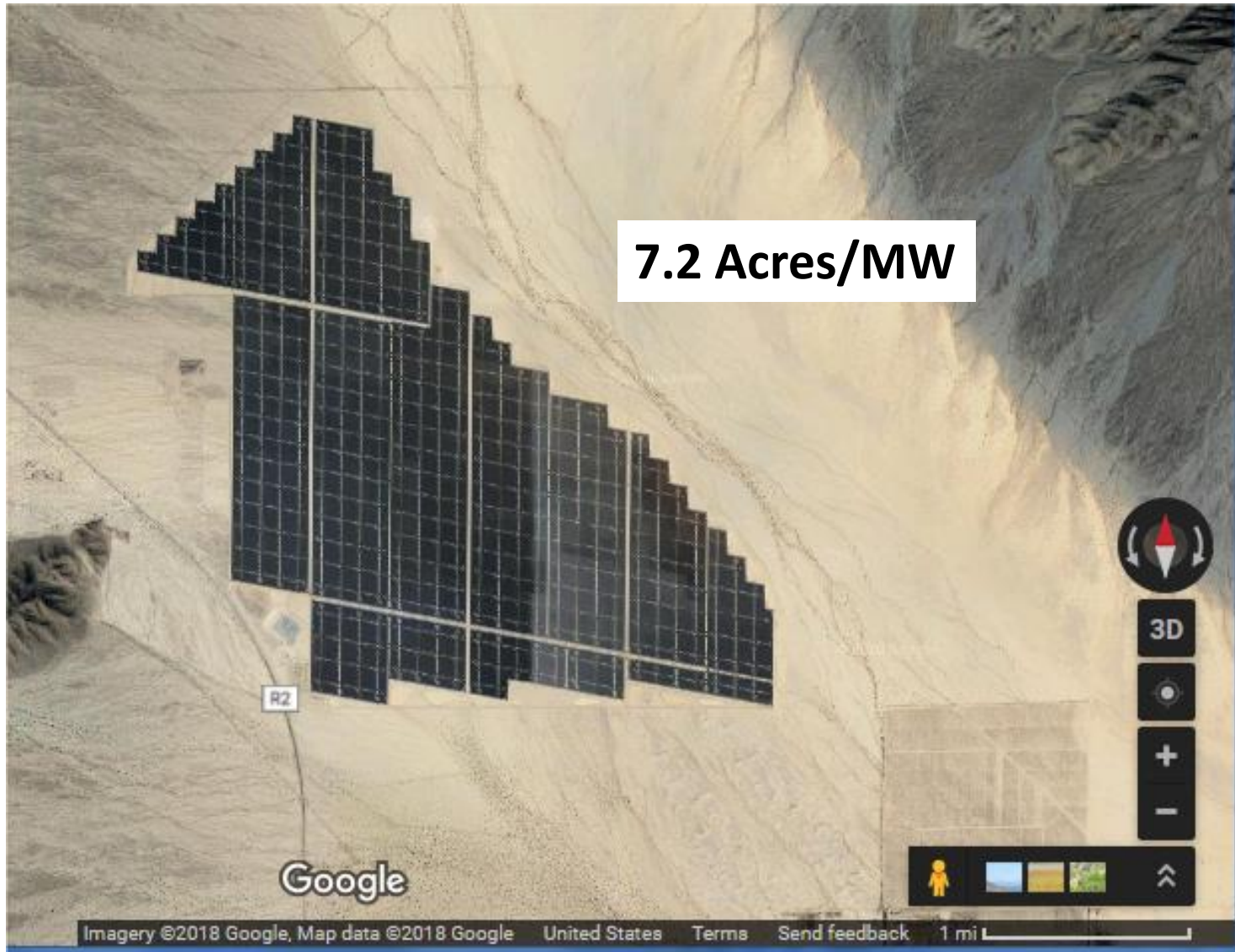


At What Cost Solar Power?

El Paso Electric Newman Power Plant



550 MW Desert Sunlight Solar Farm, CA



6.2 Sq. Miles (just north of Desert Center, CA)

Map from Google

Desert Sunlight Solar Farm, CA

From Wikipedia:

Clean energy advocate [John Podesta](#), in a speech on large-scale solar facilities and desert solar noted, "So even as we look to expand clean energy production on public lands and in public waters, we must keep the day-to-day work of environmental protection in mind.

Renewable energy projects can still disrupt the natural environment if put in the wrong places and if proper precautions are not taken—an outcome fundamentally at odds with the reasons we’re developing clean energy in the first place."[\[7\]](#)

In 2012 the [National Parks Conservation Association](#) issued a report identifying three desert solar power plants sited within five miles of National Parks in the California Desert as projects that they suggest **should not have been approved** in their locations, including the Desert Sunlight Solar Farm.[\[8\]](#)

The group cites damage to visual resources, and impacts on desert species.[\[9\]](#)

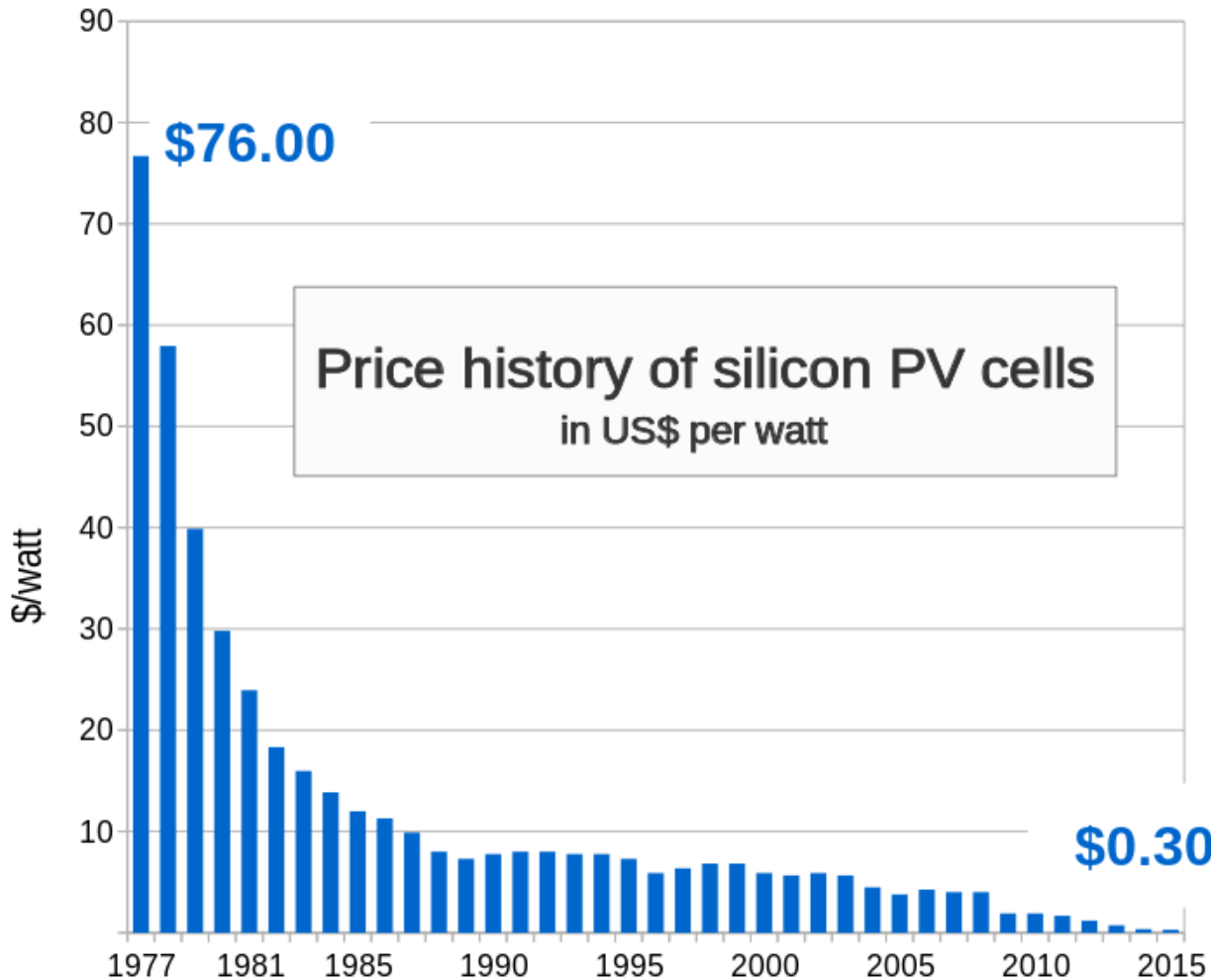
550 MW Topaz Solar Farm, CA



9.5 Sq. Miles

Map from Google

Solar PV Cheap?



550 MW x \$0.30/W =
\$165 million

550 MW x \$0.23/W =
\$127 million

If Solar so cheap why
is Topaz so expensive?

Obviously the major
cost of solar is not
in the PV cells

550 MW Topaz Solar Farm, CA



By Pacific Southwest Region from Sacramento, US (Work at Topaz Solar 3) [CC BY 2.0 (<https://creativecommons.org/licenses/by/2.0>) or Public domain], via Wikimedia Commons

Calculating the Cost of the Grisham 80% Renewables Power Plan METHOD 1

Step 1: How much average power is used per household?

Step 2: Multiply power by the German 35 cents per kWh minus the 10 cents per kWh rate currently paid by NM users.

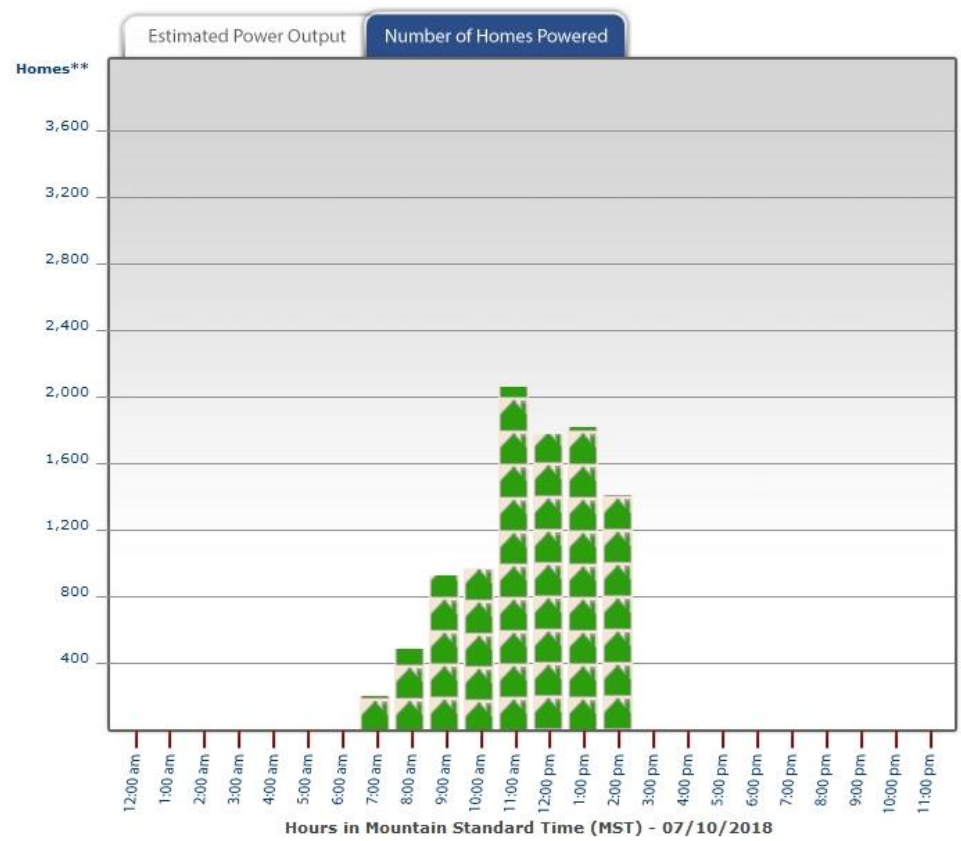
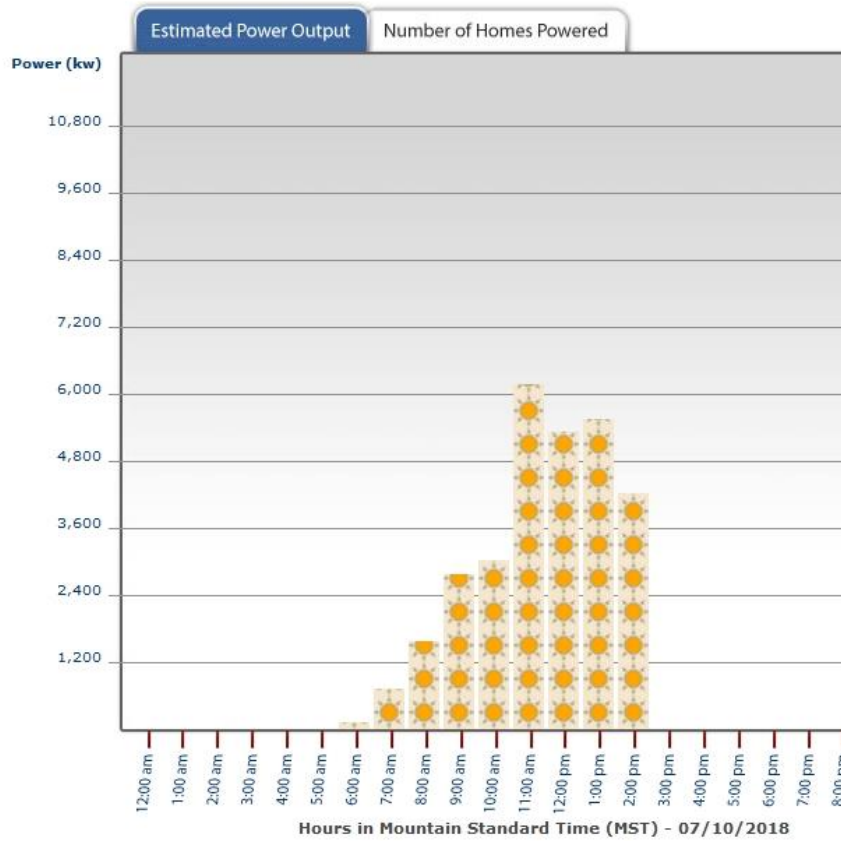
That is, Multiply power by 25 cents per kWh.

$3 \text{ kWh/hr} \times 24 \text{ hrs/day} \times 30 \text{ days/month} = (\text{approx}) 2000 \text{ kWh}$

Net: \$500 extra per month = \$6,000/yr.

Las Cruces Centennial Solar Plant: Nameplate Power 12 MW

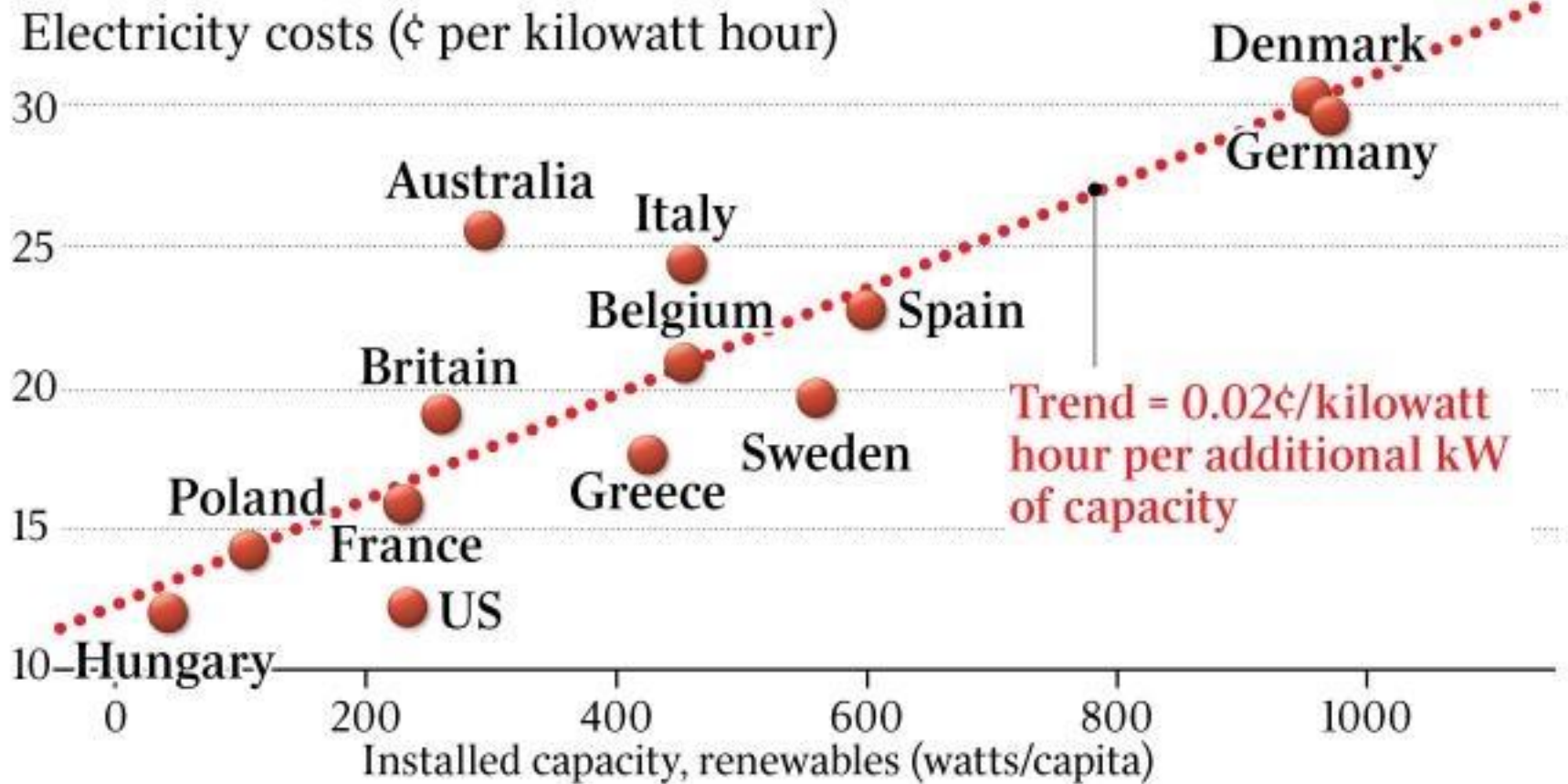
3 kW / Home



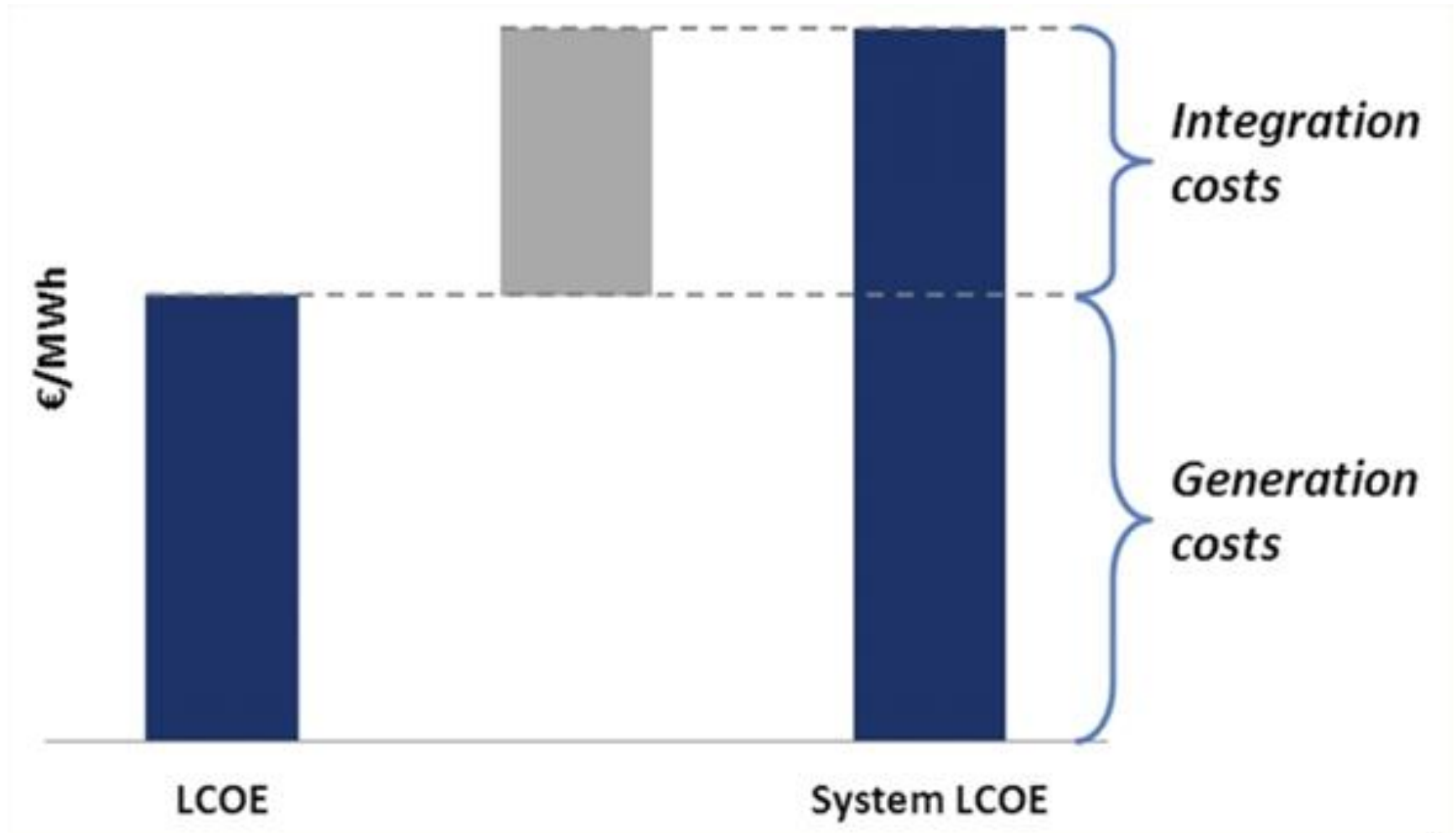
* Number of homes powered for the year based on average home yearly energy consumption.

Power Costs by Country

OUT OF LINE ON RENEWABLES



Levelized Costs of Energy vs. Integrated System Costs



Problems with METHOD 1

- [El Paso Electric Estimate](#): 500 kWh/user/month, not 2000.
- German Electric Rate based on ~1,000 W installed power.
- Question: How much installed power needed in New Mexico?

[Average electricity use per capita](#) in New Mexico is 11,052 kWh
The state's total retail sales are around 23.1 billion kWh annually.

23.1 million MWh \rightarrow 2,636 MW average power usage.

80% of 2,636 MW = 2,109 MW for Grisham Plan.

Calculating the Cost of the Grisham 80% Renewables Power Plan METHOD 2

Step 1: How much total power is needed by New Mexico to satisfy Grisham Plan? Answer: 2,109 MW.

Step 2: How many Topaz-sized Farms are needed to supply it?

Step 3: Multiply to find Installation Cost.

Step 4: Guess for Integration Costs.

Method 2 Estimate of Grisham Power Plan

Step 2: How many Topaz-sized Farms are needed to supply it?

Simple Answer: $2,109 \text{ MW} / 550 \text{ MW per Topaz} = 4$.

This only works when Topaz style plant is operating at peak capacity.

Sunlight on Panels = $2/3^{\text{rd}}$ of day.

Cloud Cover reduction = $3/4^{\text{th}}$ of day.

Net Capacity due to Angle and Clouds = $1/2$.

Minimum needed for Daytime only: 8 Topaz Farms.

Method 2 Estimate of Grisham Power Plan

At Night, AT LEAST TWICE as many Topaz-sized Farms would be needed as for Day.

Battery Storage involves energy conversion to stored form.

Energy Lost when converting stored Battery Power back to DC.

More energy lost in converting from DC to AC.

Estimate 16 more Topaz Farms needed JUST FOR NIGHT.

Maybe more if conversions are not 100% efficient.

Step 3: $8 + 16$ Topaz Farms \times \$2.5 billion per Farm = \$60 billion.

Step 4: Integration costs. ???

Method 2 Estimate per Household of Grisham Power Plan

Just \$60 B over 1 Million rate payers over 20 years = \$3,000 per household per year. Or \$250 per month above their current electric rates of around \$50.

This amount does not account for the cost of additional distribution systems necessary to use the power generated, or the cost of storage batteries needed to save the power for use at night, or the additional cooling necessary to keep the battery banks from overheating.

So the total could be MUCH higher than a mere \$3,000/yr.

Calculating the Cost of the Grisham 80% Renewables Power Plan METHOD 3: Use the European Rates

Step 1: Figure out how much power must be “installed” per New Mexican.

Step 2: Multiply Installed Watts by 0.02 cents per Watt and add to base rate.

Step 3: Multiply adjusted Base Rate by 500 kWh/month minus base rate (10 cents / kWh) = Extra per month.

(The European Curve already accounts for Integration Costs.)

Method 3 Estimate per Household of Grisham Power Plan: Step 1.A

Step 1: Figure out how much power must be “installed” per person.

A. First part of Answer: How much power is USED per Capita?

Answer A.: $11,052 \text{ kWh/yr} / 365 \text{ days} / 24 \text{ hrs}$
 $= 1,262 \text{ Watts USED per Capita.}$

Let's assume the 80% plan is reached by **supplying** 100% of daytime usage (1,262 W 50% of the time) and 60% of nighttime usage (757 W 50% of the time).

Method 3 Estimate per Household of Grisham Power Plan

Step 1: Figure out how much power must be “installed” per rate payer.

B. For a total Solar solution we would need to **supply** 1,262 W plus 2×757 W (for battery storage and reuse at night) = 2,776 Watts per person (at a minimum).

C. But we’re still not through because this supplied power needs to also account for the $\frac{2}{3} \times \frac{3}{4} = \frac{1}{2}$ capacity factor of daytime solar. So we need to have at least two times as much or $2 \times 2,776 = 5,552$ Watts of installed power to supply the needed power.

Step 2: 5,552 Watts installed \times 0.02 cents per kWh/Watt = 111 cents surcharge per kWh.

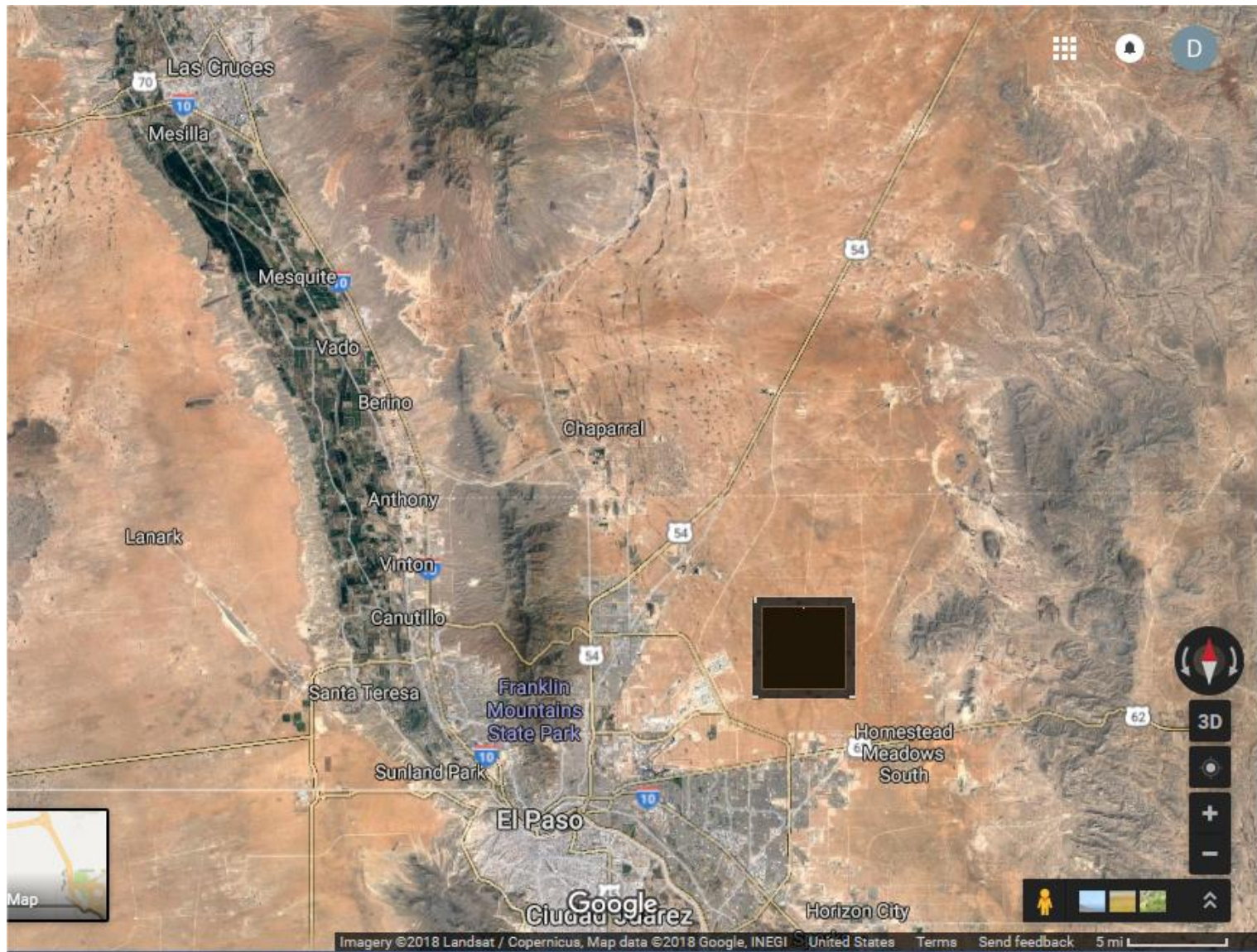
Method 3 Estimate per Household of Grisham Power Plan

Step 3: Cost extra per month: $500 \text{ kWh/month} \times \$1.11/\text{kWh} = \$550$ extra per month or \$6,600 extra per year!

This result suggests integration costs are, in fact, significantly higher for a complete system, and in fact are more in line with the experiences of Europeans, for while the costs of the renewables are relatively moderate, and especially given the degree of integration (only 30% for both the Germans and Danes), they are nevertheless seeing costs skyrocket.

One reason the Germans and Danes may be seeing such high costs is because they do not have the easy access to hydropower sources. This is the New Mexico experience as well.

Projected 25 Sq. Mi. Newman Solar Array



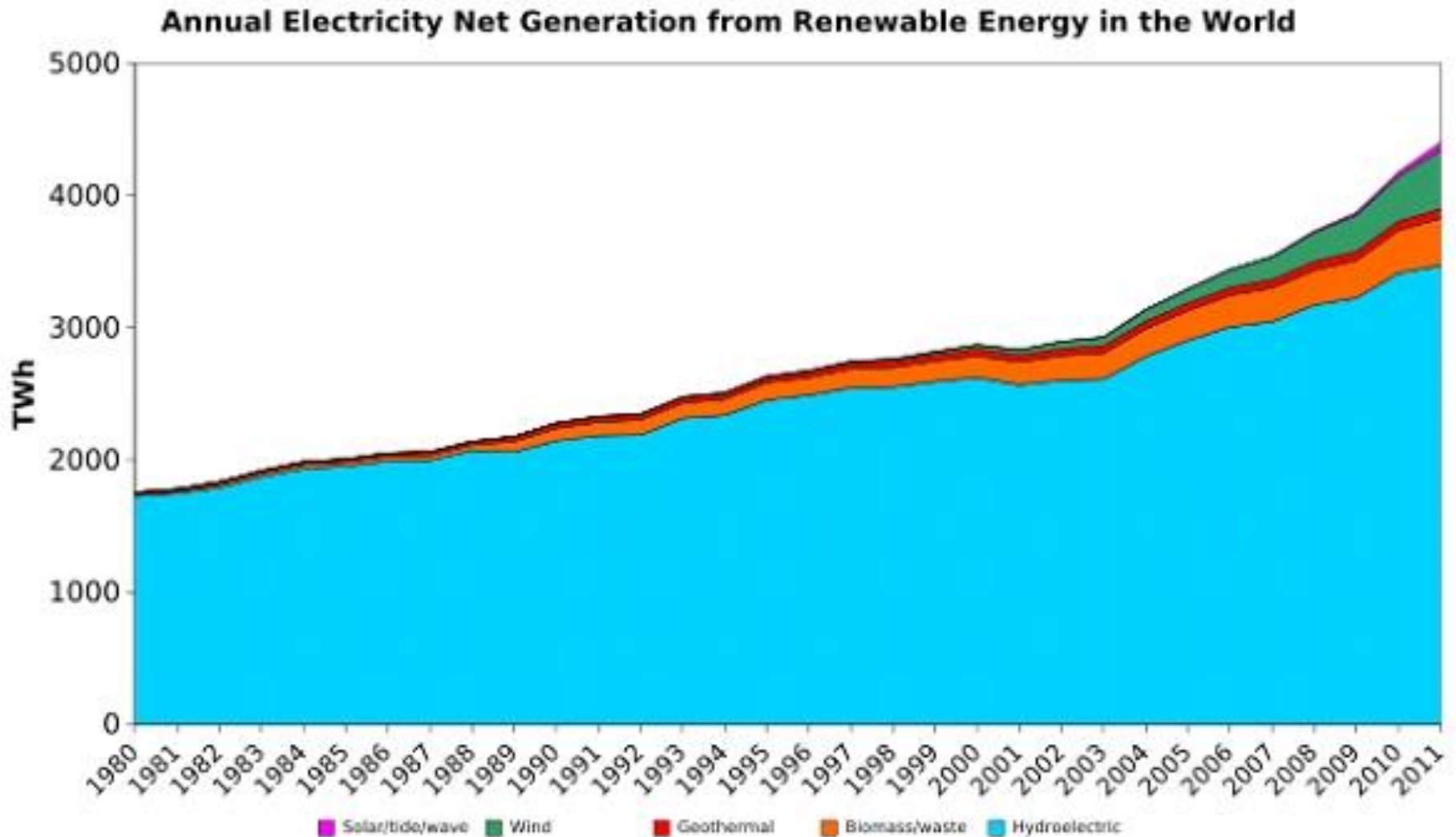
Original Map from Google

Projected 225 Sq. Mi. Newman Solar Array



Original Map from Google

Why California Plan Might Work: Hydro-Electric Power



California Hydro-Electric Power



**CALIFORNIA
ENERGY COMMISSION**

[CA.gov](#) | [Contact](#) | [Newsroom](#) | [Quick Links](#)

[Home](#) | [About Us](#) | [Analysis & Stats](#) | [Efficiency](#) | [Funding](#) | [Power Plants](#) | [Renewables](#) | [Research](#) | [Transportation](#)

Small Hydroelectricity Production

Go to a Different Year

Year	Company Name	EIA Plant ID	CEC Plant ID	Plant Name	State	Capacity (MW)	Gross MWh	Net MWh
2017	Calaveras County Water District		H0073	Hogan	CA	3.0	13,455	13,455
2017	California Department of Water Resources		H0058	Alamo	CA	19.7	104,609	104,073
2017	Yolo County Flood Control & Water Conservation District		H0576	Clear Lake	CA	2.5	0	0
2017	Yuba County Water Agency		H0053	Fish Power (NPCap = 0.15MW - No Reporting RQD)	CA	0.2	1,192	1,168
Total						1,746.6	6,443,715	6,407,432

Large Hydroelectricity Production

Year	Company Name	EIA Plant ID	CEC Plant ID	Plant Name	State	Capacity (MW)	Gross MWh	Net MWh
2017	California Department of Water Resources	436	H0137	Devil Canyon	CA	276.4	1,499,952	1,496,897
2017	Yuba County Water Agency	454	H0352	Colgate	CA	315.0	1,702,437	1,699,955
2017	Yuba County Water Agency	455	H0354	Narrows 2	CA	46.8	308,422	308,152
Total						12,255.1	38,950,976	36,926,043

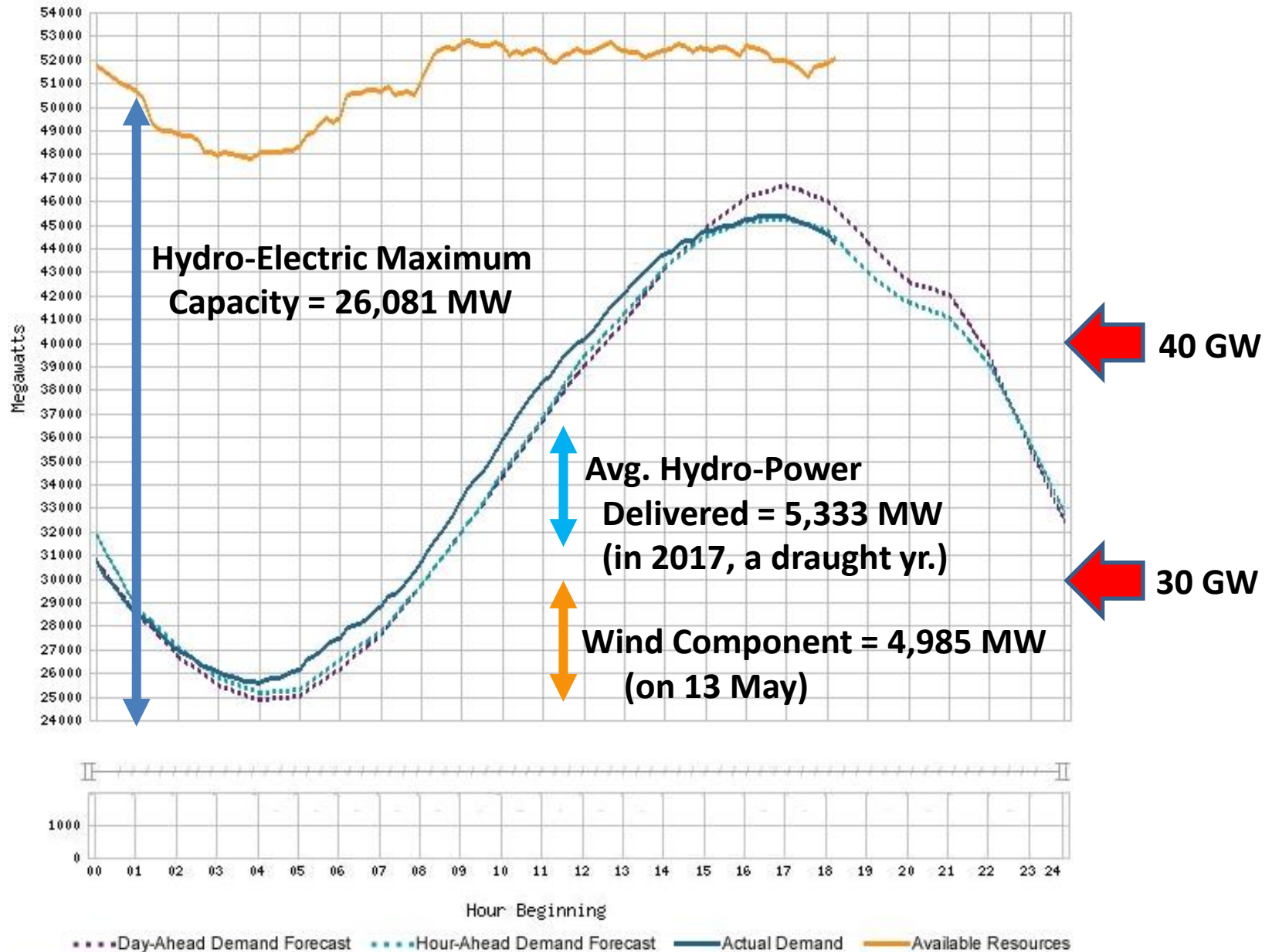
Hydroelectricity Production Not in California (Imported)

Year	Company Name	EIA Plant ID	CEC Plant ID	Plant Name	State	Capacity (MW)	Gross MWh	Net MWh
2017	United States Bureau of Reclamation	8902	H0242	Hoover Dam (NV)	NV	2,080.0	3,406,700	3,392,140
Total						2,080.0	3,406,700	3,392,140

Supply and Demand

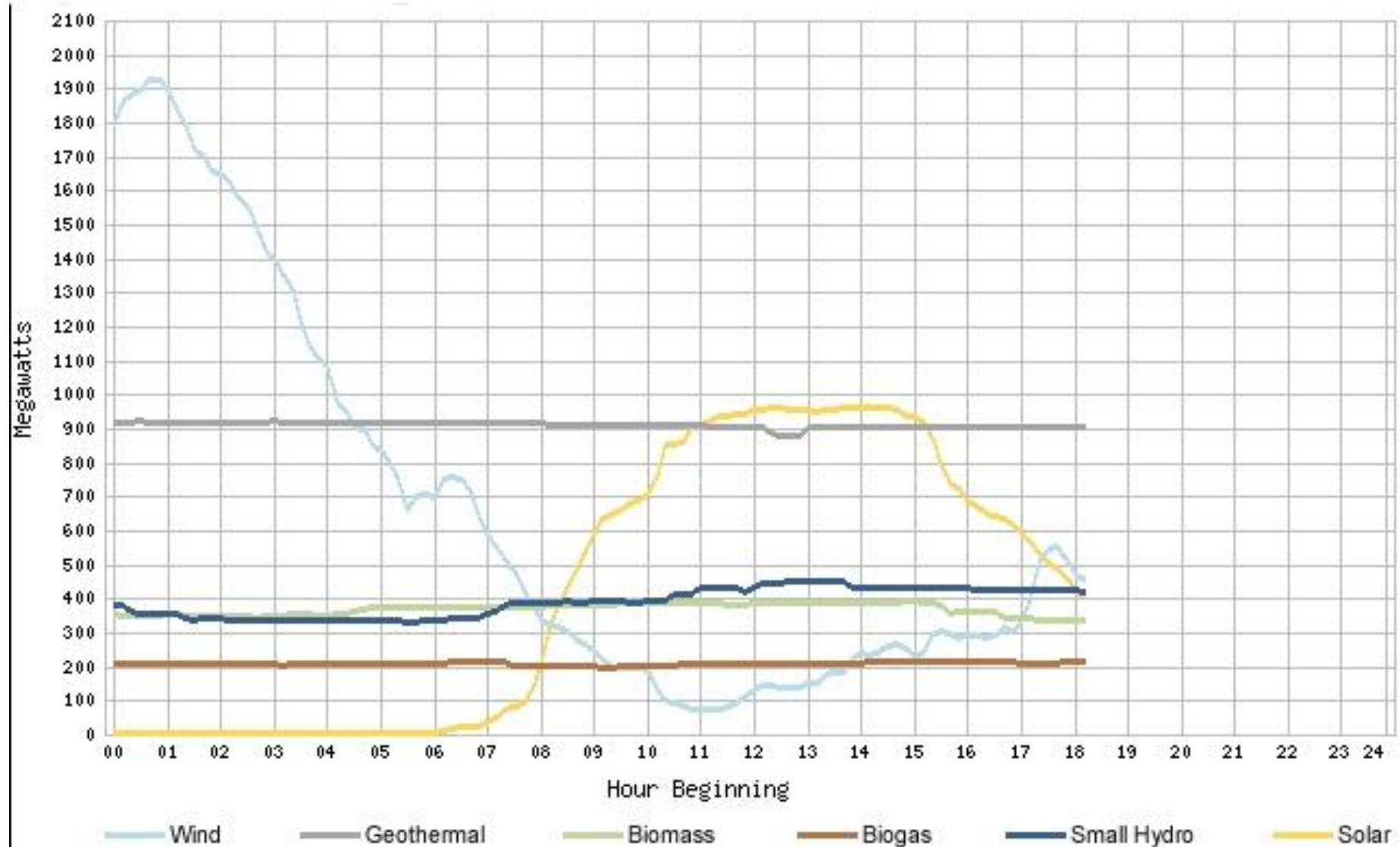
Graph displays system demand plotted against forecast demand and available resources.

California Demand Curve



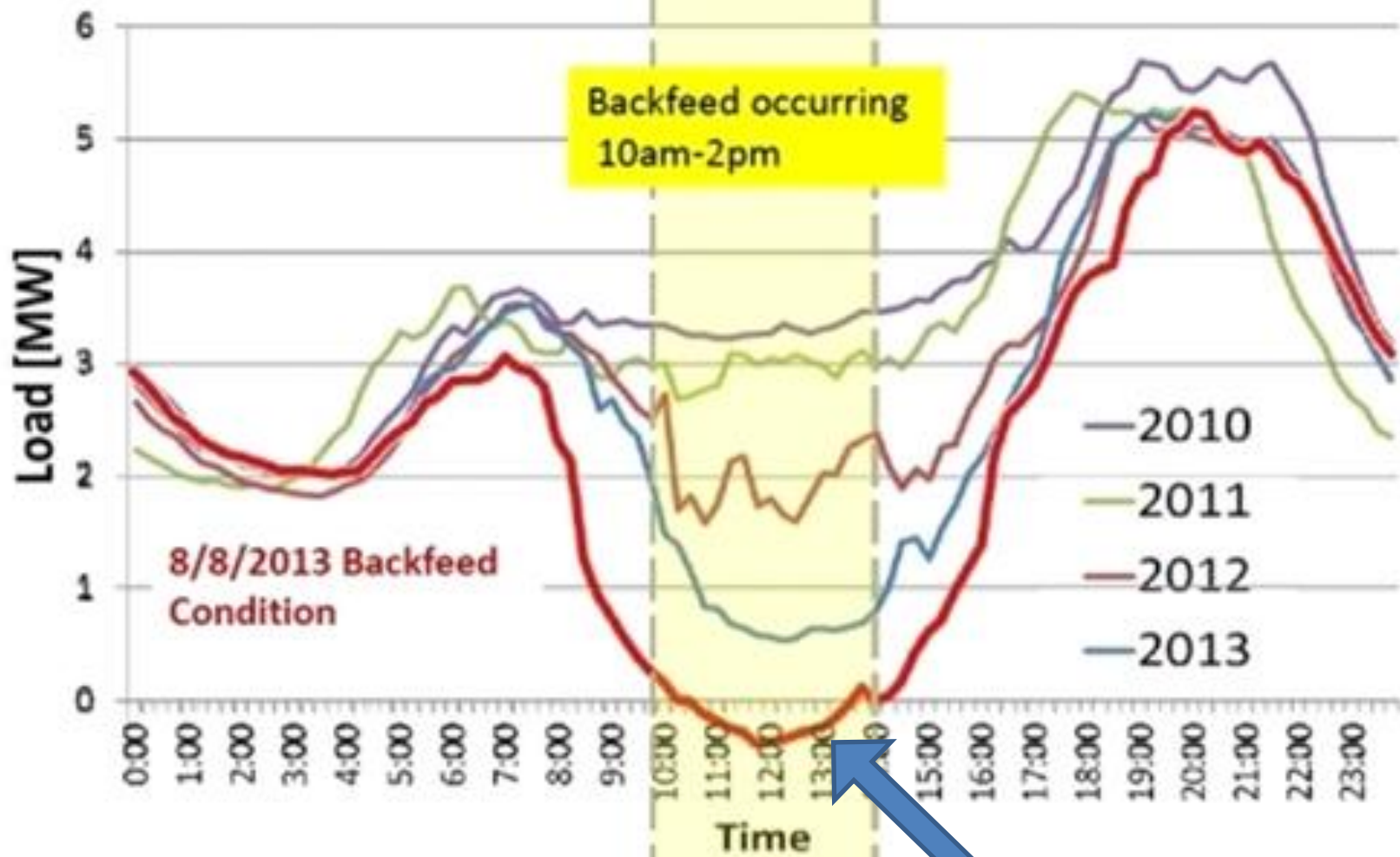
Renewables

Graph shows aggregated output from renewables connected to the ISO grid.



Tracking Change – 46kV Level

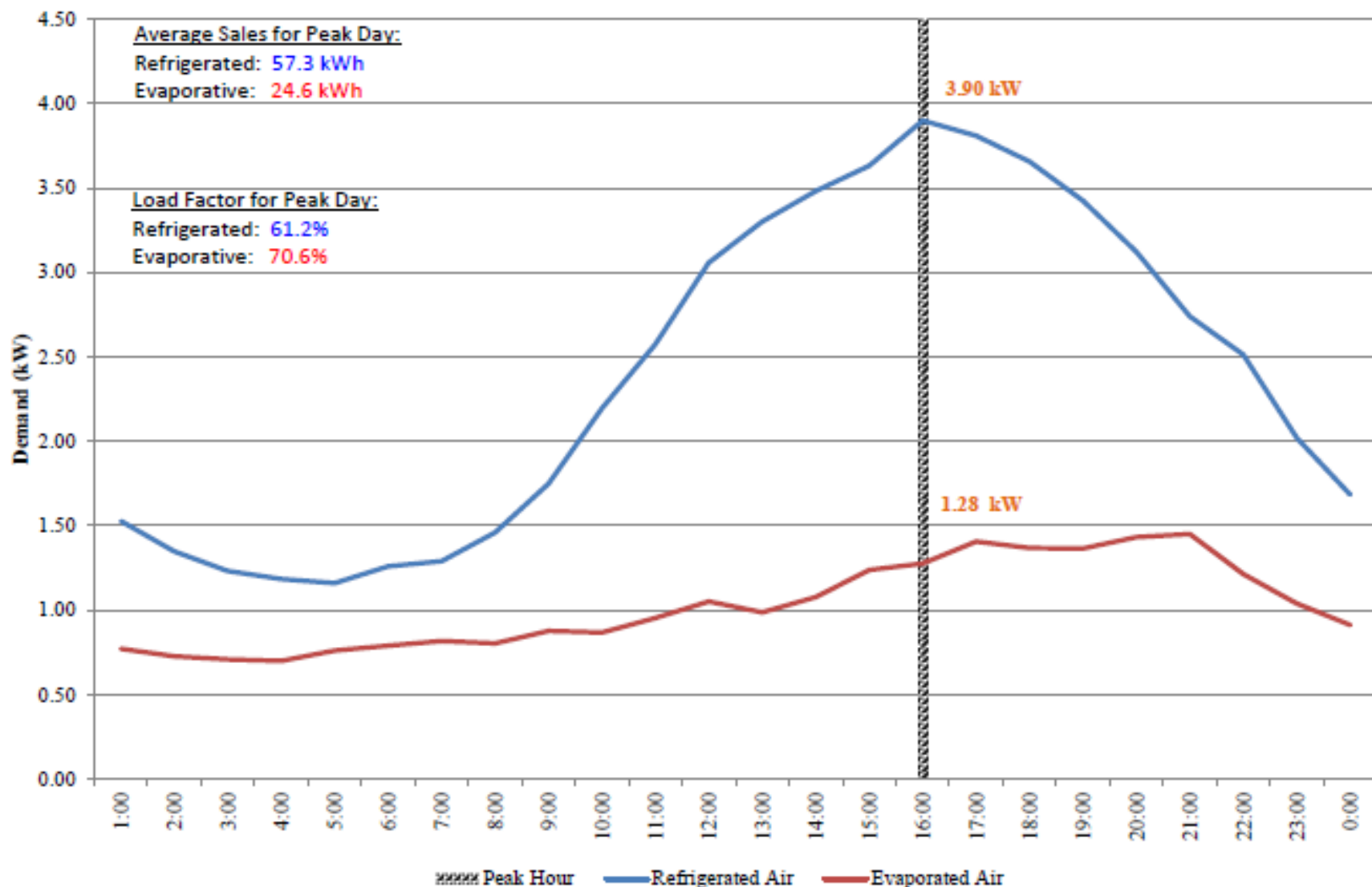
Average Transformer Load (MW) - December



Hawaiian Electric
Maui Electric
Hawai'i Electric Light

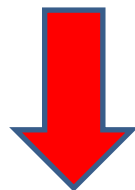
[Negative Pricing](#)

Coincident Demand: Refrigerated Air vs Evaporative Air



Steve Fischmann on Electric Rates

DISPATCHABLE



COMMENTARY: Ignore all the noise you hear about renewable energy being expensive. The most efficient new natural gas power plant costs 7.5 cents a kWh **over its lifetime**. Solar power generators routinely offer **long term purchase power agreements** at 4 cents per kWh and falling. Wind **power contracts** are approaching 3 cents per kWh.



Non-DISPATCHABLE

California Electric Rates

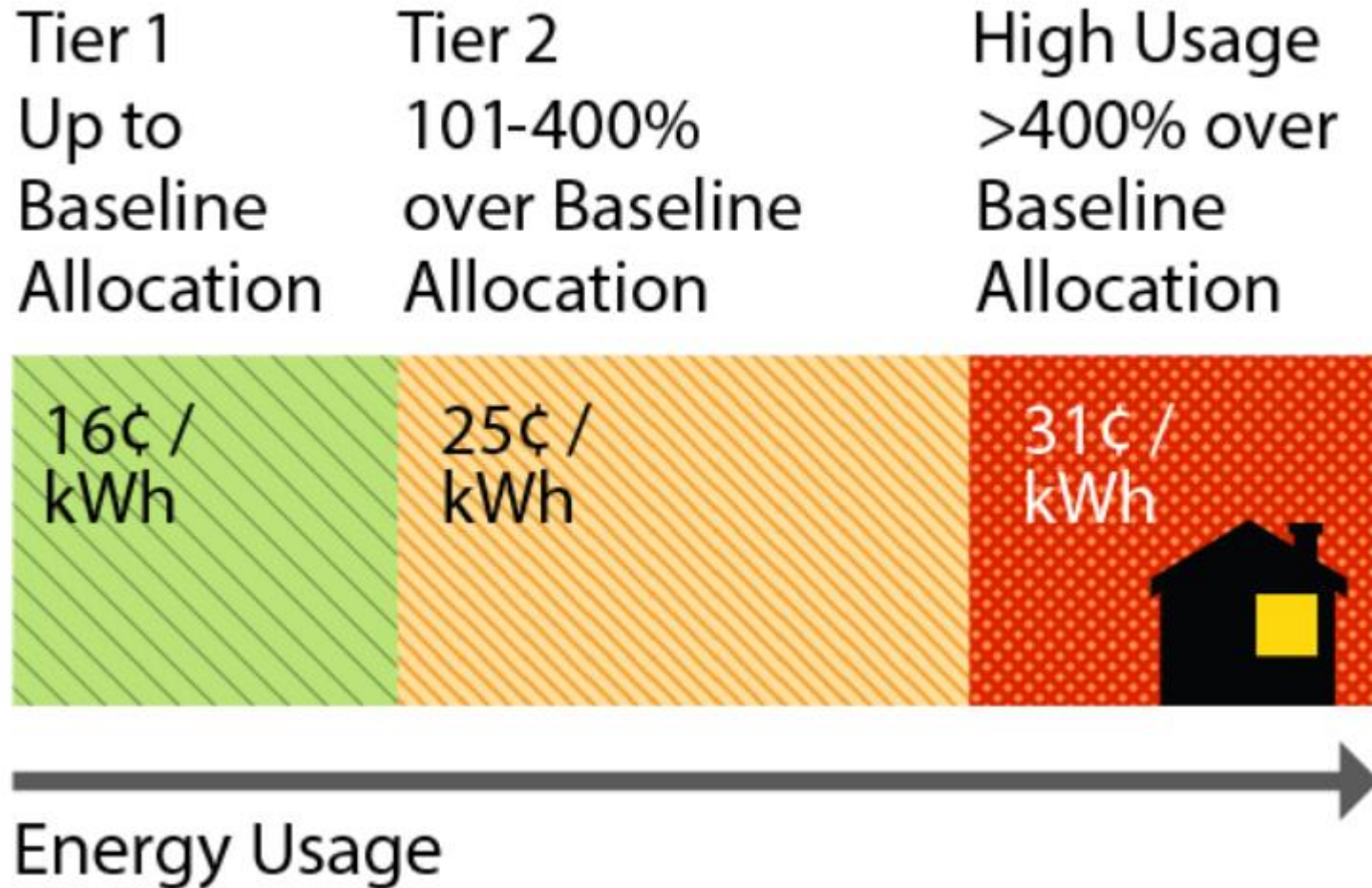
Get Ready For 2018 California Electric Rates Increase

Sunlux / January 12, 2018

More than 500,000 Southern California Edison customers are getting ready to transition from tiered residential rates to new "Time-of-Use" (TOU) rate plans scheduled to take effect in 2018. Time-of-Use rates are designed to help customers better manage their energy usage.

Currently utility companies use fixed rate tiers, based on the total amount of energy used by a residential customer. So the total amount of power you use is the main thing that determines how much you pay. With the shift to Time of Use, customers will pay a different price for electricity based on what time of day they use electricity.

California Electric Rates



California Electric Rates

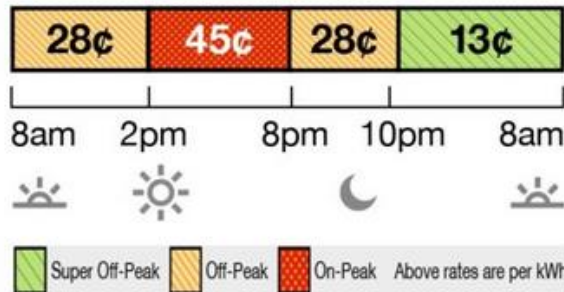
Highest rates: Weekdays 2-8 p.m.

Daily Basic Charge: \$.03 per day

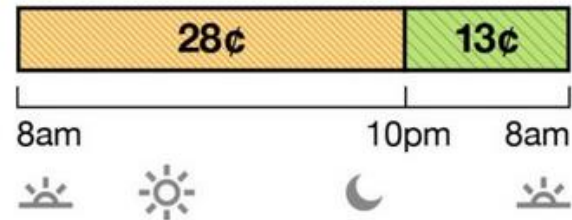
Minimum Daily Charge: \$.33

June to September (4 Months)

Weekdays

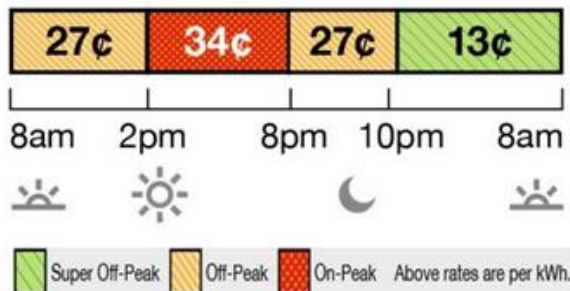


Weekends

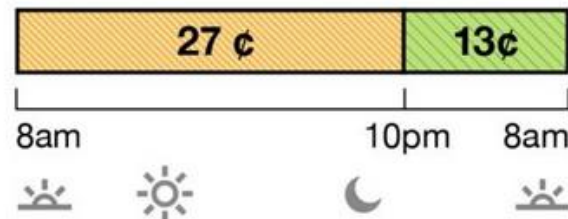


October to May (8 Months)

Weekdays



Weekends



El Paso Electric Newman Plant V

Combined Cycle Natural Gas Generator

The Turbines

Combined Cycle: 2 Gas Turbines and 1 Steam Turbine

Two General Electric Frame 7EA Gas Turbine – Generators

Megawatt (MW) Output: 70 MW each, total 140 MW

Commercial Operation Date: May 2009

One Fuji Steam Turbine – Generator

Megawatt (MW) Output: 148 MW

Commercial Operation Date: April 2011

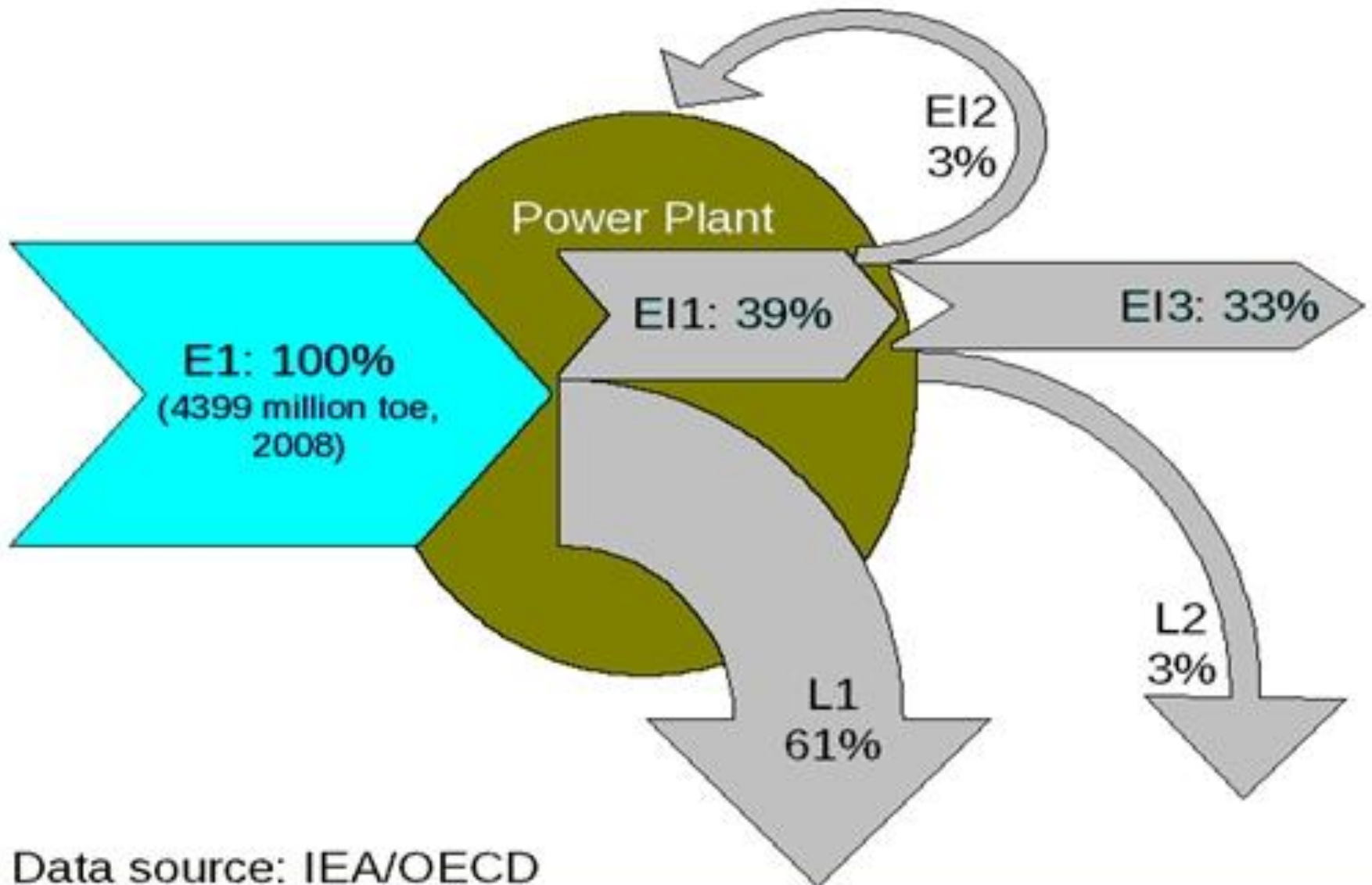
Total Newman 5 Output: 288 MW

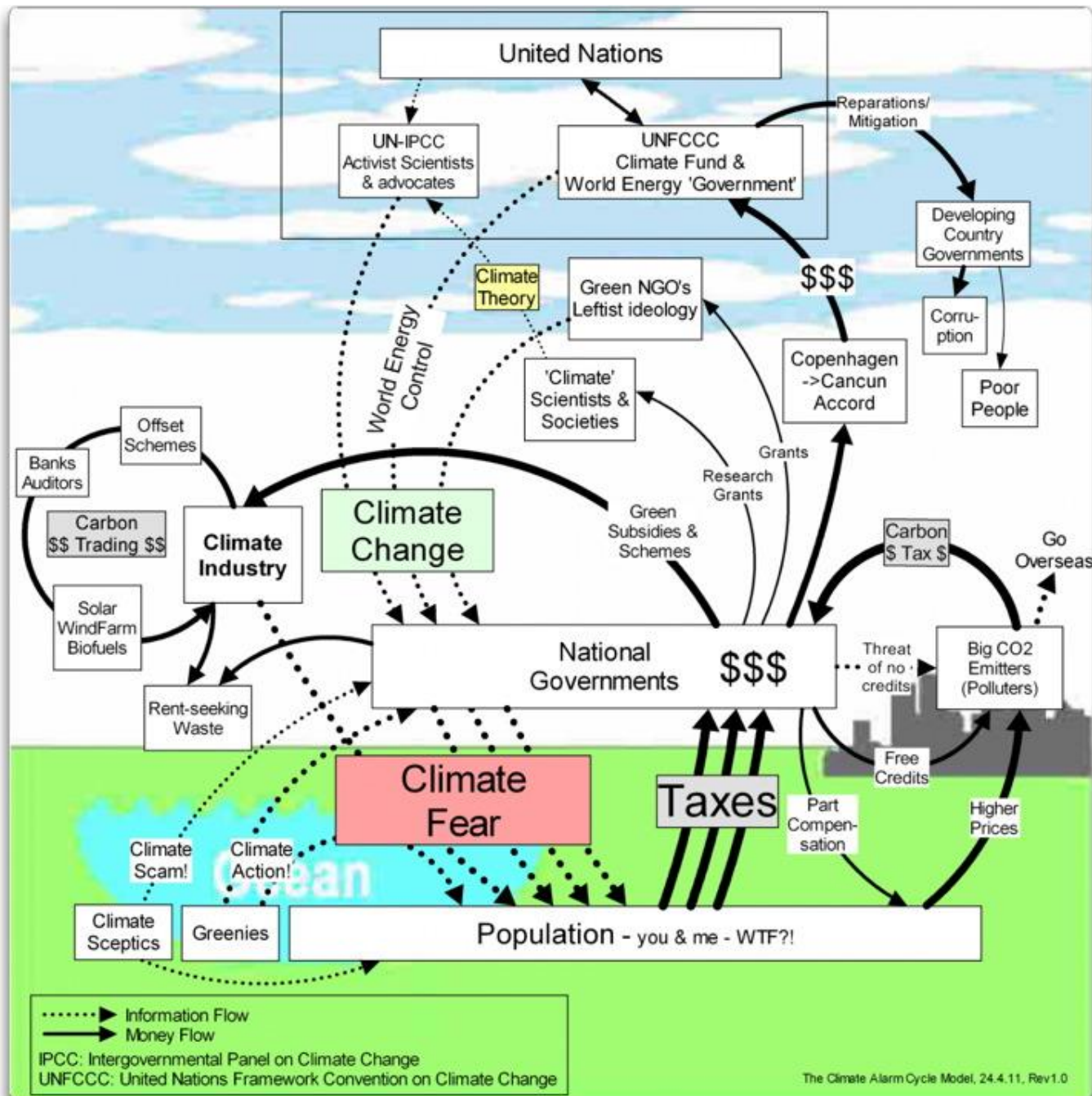
Newman 5 Cost: \$234 Million



The heated exhaust gases from the two gas turbines go to the Heat Recovery System Generator to make steam that will drive the steam turbine generator for the combined cycle mode. The new technology used in the Newman 5 unit will make it 35 percent more fuel efficient than existing units.

Power Plant Losses





Conclusions

- The Grisham/Small/Stewart energy plan would cause a major disruption to New Mexico's economy.
- Increased Electric Rates costing \$1500 - \$6000 extra per year.
- Grisham Plan: Nonexistent on details.
- Fischmann PRC candidate: Unrealistic beliefs about solar/wind
- LCOE (Levelized Cost of Energy) does not accurately account for added costs of integration of energy into system.
 - Added lines, transformers, adjustments to base-load eq.
- California experience indicates up to 4-times Electric costs in heavily renewable "dreamland."
- Feeds globalist AGW mythology.