

Department of Public Utilities Electric Production Division

Business Planning for Foxtail Flats

February 5, 2025

Current Generation Resources

- Laramie River Station (coal)
- Abiquiu, El Vado and federal (WAPA) hydropower
- Combustion Gas Turbine Generator (CGTG)
- Distributed generation (rooftop solar)
- Landfill PV
- 40 MW PPA (Mercuria)

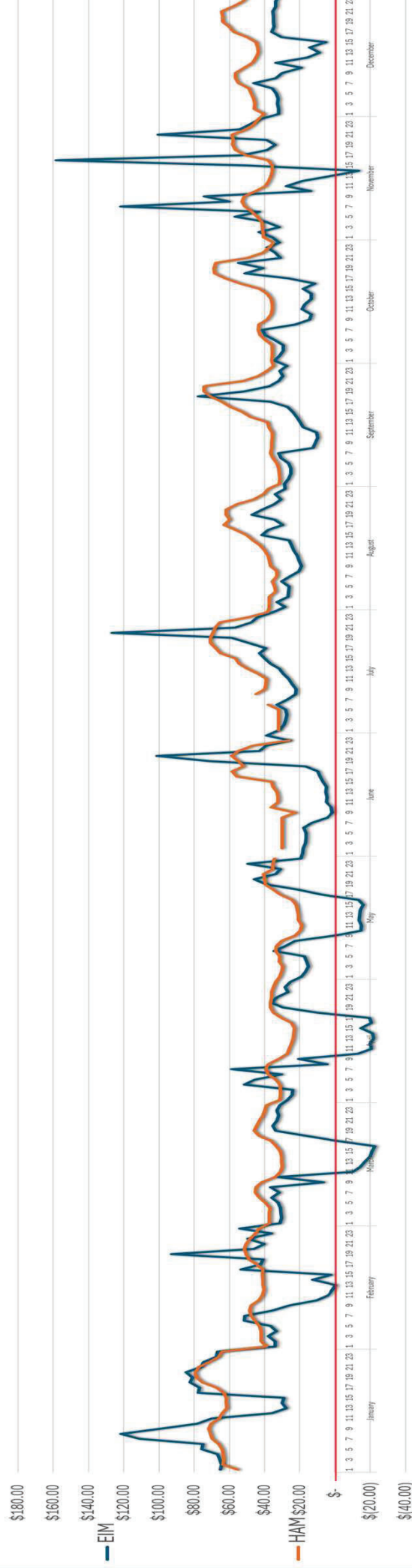
Possible Future Resources

- Cove Fort 2 and Rodatherm geothermal
- San Ildefonso PV + storage
- Long duration storage
- Kit Carson Electric COOP hydrogen
- Market power purchase
- Wind
- Extended Day Ahead Market (EDAM)

Current Load to Generation Facts

- Foxtail Flats (FTF) brings challenges
 - Excess solar during the day
 - No generation at night
- LAPP Average Annual load 2022-2024 was approximately 490,000 MWh/year
 - Note: This excludes LANSCE load and running of the CGTG
- LAPP total Gen including FTF is approximately 570,000 MWh/year
- Excess energy during the day: 160,000 MWh/year
- Energy shortfall at night: 83,000 MWh/year

EIM vs HAM



Markets & Variability

Types of Markets

- PPA / Term Power: \$20-\$180
- Day Ahead: \$20-\$40
- Real Time / HAM: [See Graph](#)
- EIM: [See Graph](#)

Dealing with Excess Generation

- Curtail it / Turn it off
 - To be avoided. Will pay for curtailed energy plus tax production credit: $\$38 + \30 (estimated) = $\$68$
- Sell to market
- Purchase additional storage - allows excess to be stored
- Load growth - projected to grow 66% over next 10 years with a 49% increase coming in 2031 due to supercomputing. This should eat up a bunch of the excess daytime generation and require the county to find more around the clock resources

Dealing with Generation Shortfall

Most shortfalls are due to lack of solar at night but can also come from weather events blocking the sun

- How do we deal with shortfalls
 - Buy in the Markets
 - Purchase Storage
 - Purchase Generation Around The Clock or Peaking

Resource Adequacy Three Options for 2026

1

Market Sales & Purchases Only

- Buy 83,000MWh - night
- Sell 160,000 MWh - day
- \$44-55 million
- PPAs for Nighttime blocks
- Wait for Load Growth to catch up with Foxtail Flats Production
- Find Around the Clock Resources as needed

2

Add 200 MWh Long Duration Storage

- Buy 10,000 MWh - day
- Sell 90,000 MWh - night
- \$47-50 million
- Wait for Load Growth to catch up with Foxtail Flats Production
- Find Around the Clock Resources as needed

3

Add Peaking units 40 MW capacity

- Buy minimally
- Sell 160,000 MWh - day
- \$54-65 million
- Wait for Load Growth to catch up with Foxtail Flats Production
- Find Around the Clock Resources as needed

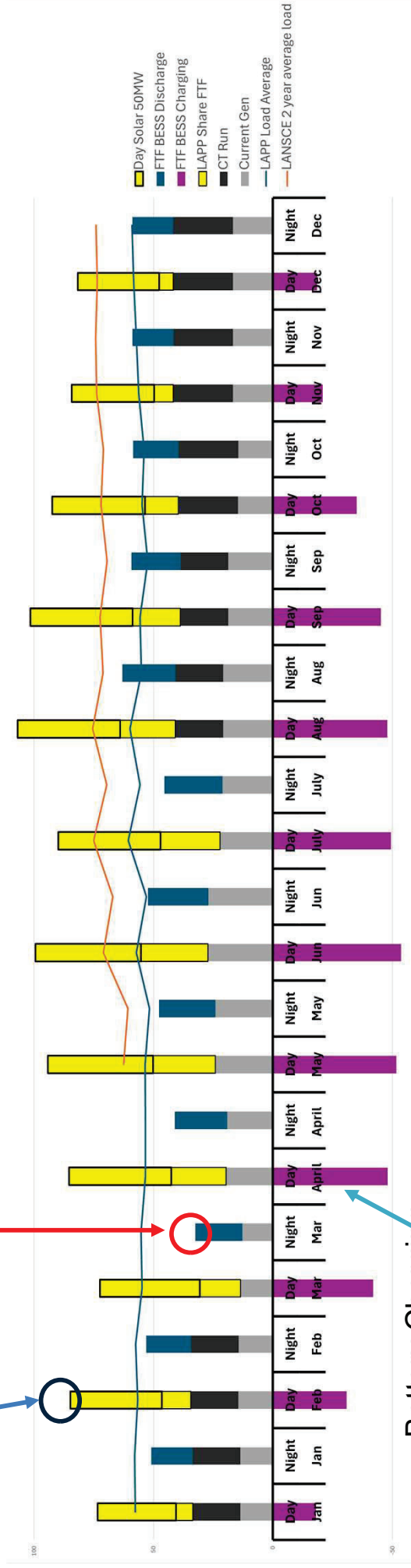
Option 1: Loads and Resources 2026

- Monthly averages for daytime and nighttime load and generation

- Solar and BESS net of KAFB/SNL share

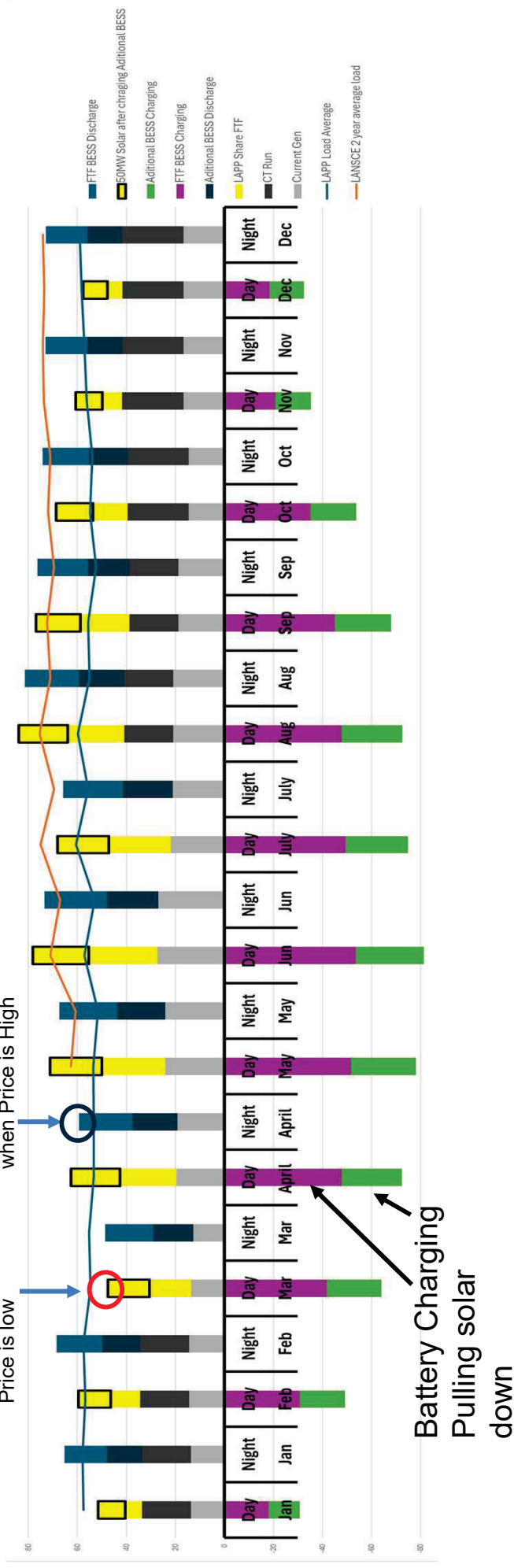
Excess during Day
time
When Price is Low

Short @ Night
When Price is Higher



Add 200MWh BESS of Long Duration Storage

- Lowers night purchases
- Increases day solar use, lowers day solar sales
- Lowers marketing risk exposure



Three Options for the Future

1
**Market Sales &
Purchases Only**

Cost: \$44-55 million

Risk: High
market exposure

Resilience: Low
Low diversity, off-site

Carbon-neutral: 80%

2
**Add 200 MWh Long
Duration Storage**

Cost: \$47-50 million

Risk: Medium
Emerging tech, 10-
hour duration

Resilience: Medium
Some diversity,
potentially on-site

Carbon-neutral: 100%

3
**Add Peaking units
40 MW capacity**

Cost: \$54-65 million

Risk: Low
Dispatchable,
extended duration

Resilience: High
Diversity, on-site

Carbon-neutral: 80%

Recommended Next Steps

- Manage Foxtail Flats development, schedule and risk
- Seek 5-year solar sales agreements
- Pursue long duration storage