

ALASKA ENERGY AUTHORITY

AEA POWER COST EQUALIZATION AND RURAL PROGRAMS

Curtis W. Thayer, Executive Director
Tim Sandstrom, Chief Operating Officer

House Community and
Regional Affairs Committee
April 24, 2025



About AEA

The AEA's mission is to reduce the cost of energy in Alaska. To achieve this mission, AEA strives to diversify Alaska's energy portfolio – enhancing reliability, resiliency, and redundancy.



Railbelt Energy (Owned Assets)

- Bradley Lake Hydroelectric Project
- Alaska Intertie
- Sterling to Quartz Creek Transmission Line
- High-Voltage Direct Current Transmission Line

Power Cost Equalization

- \$48 Million Program
- 188 Rural Communities
- 82 Electric Utilities
- 82,000+ Alaskans

Rural Energy

- Bulk Fuel Upgrades
- Rural Power System Upgrades
- Circuit Rider Program
- Electrical Emergency Assistance

Renewable Energy and Energy Efficiency

- Renewable projects: biomass, electric vehicles, hydroelectric, solar, and wind
- Federal programs: National Electric Vehicle Infrastructure, Solar for All, and Home Energy and High Efficiency Rebate Allocations

Grants and Loans

- Renewable Energy Fund
- Power Project Fund

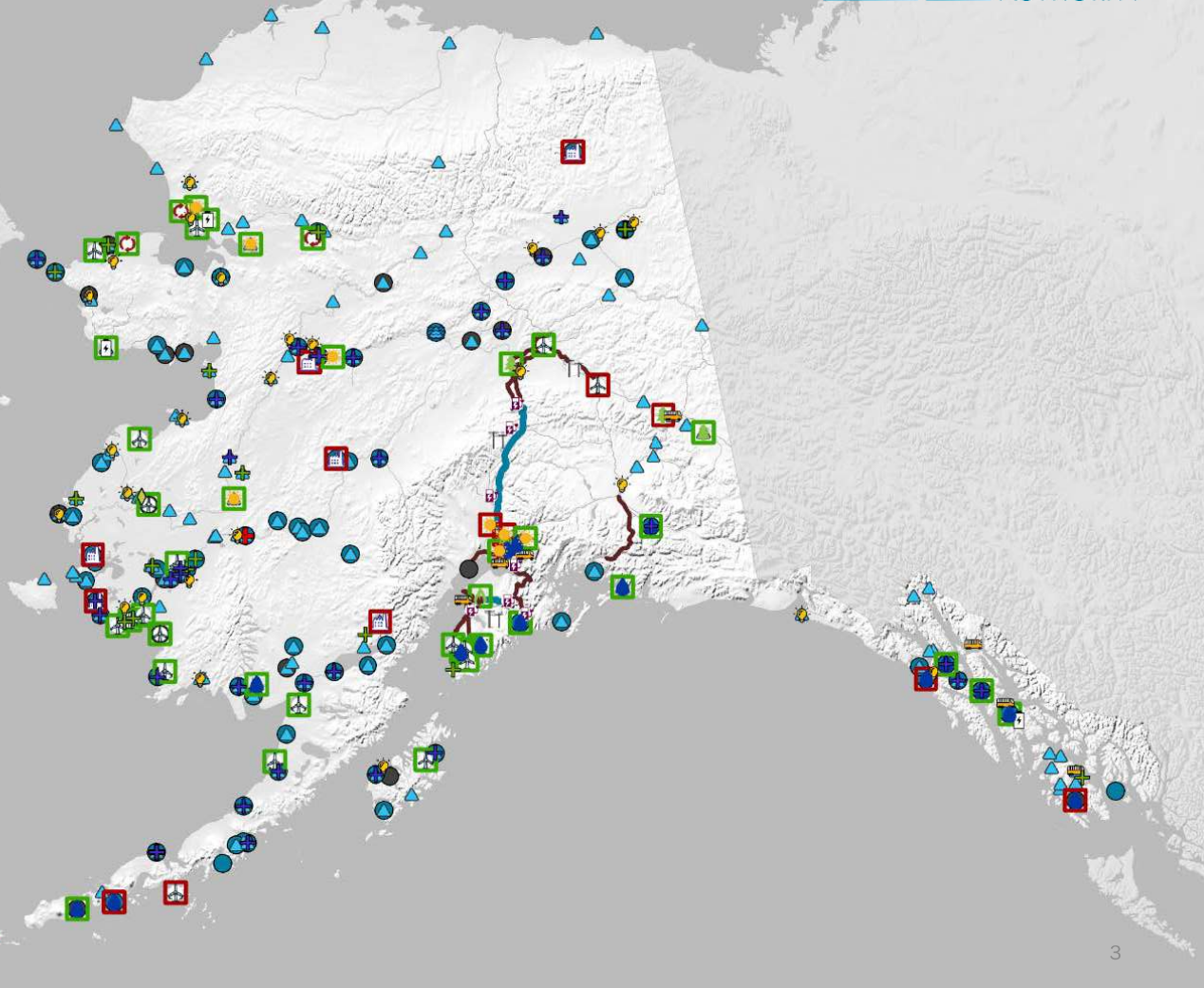
Energy Planning

- Alaska Energy Security Task Force
- State Energy Security Profile
- Electronic Library
- Energy Data Resources
- 40101(d) Grid Resilience Program

Railbelt Transmission Organization

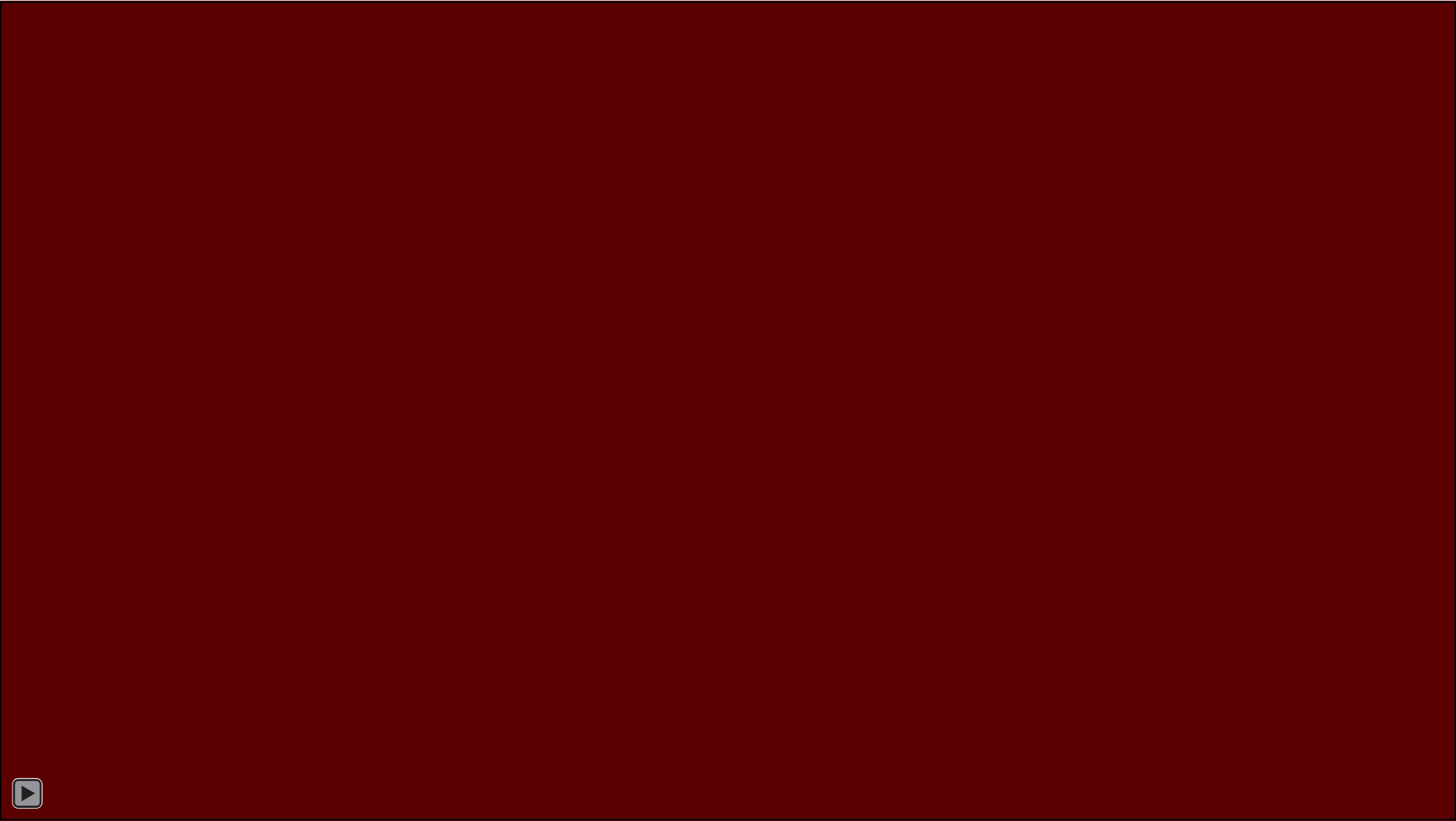
AEA Active Projects and Services

- ▲ Biogas (1)
- ▲ Biomass (4)
- ✚ Bulk Fuel Upgrades (25)
- 🏠 Diesel (6)
- 🚗 Electric Vehicles (9)
- 💠 Emerging Energy Technology Fund (1)
- 🔥 Heat Recovery (3)
- 💧 Hydroelectric (18)
- 🌊 Hydrokinetic (1)
- ⚡ Rural Power System Upgrades (33)
- ☀️ Solar (8)
- 📦 Storage (3)
- 🏠 Transmission (3)
- 💡 Village Energy Efficiency Program (27)
- 🚐 Volkswagen Diesel Settlement Grants (7)
- ✈️ Wind (21)
- 👤 Circuit Rider Assistance (93)
- 🛠️ Emergency Assistance (3)
- ▲ PCE Communities (193)
- 🏠 Power Project Fund
- 🌱 Renewable Energy Fund
- Transmission Line owned by AEA
- Other Transmission Line
- Utility Training (81)

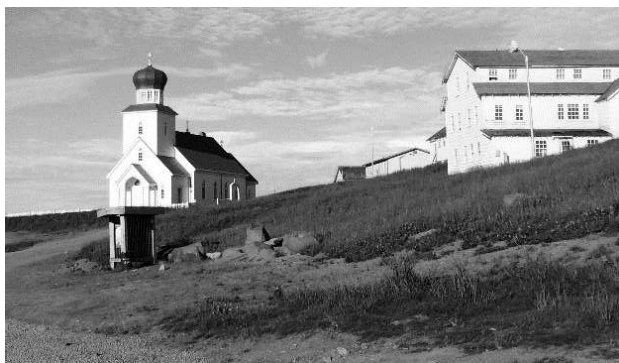


A scenic view of a rural town with a church and a large mountain in the background. The church has a white facade and a green dome. The mountain is green and has a prominent peak. The sky is blue with some clouds. The foreground shows a river and some greenery.

RURAL ENERGY



Urban and Rural Energy Solutions



1960

In the 1960s, some villages had local utilities, and the Alaska Village Electric Cooperative was formed in 1968. Isolated rural communities, reliant on costly diesel power, lacked the benefits of urban investments. Rising oil prices and limited infrastructure in the late 1970s worsened the financial burden, prompting a 1978 "lifeline rate" proposal and a 1979 report on reducing electricity costs.



1980

In the 1980s, Alaska used oil revenue to develop energy infrastructure, focusing initially on the Railbelt region, to reduce reliance on costly diesel power by investing in large-scale hydroelectric projects and transmission interties.



1984

In 1984, the State established the Power Cost Equalization (PCE) program to align rural electricity rates with urban centers like Anchorage, Fairbanks, and Juneau by subsidizing costs for eligible rural utilities, promoting energy equity.

Legislative Evolution of the PCE Program



Backed by new oil revenues, the State launched the **Power Production Cost Assistance (PPCA) Program** to help offset utility generation costs. Despite concerns over inefficiency, it was enacted into law.

The **Power Cost Equalization (PCE) Program** was officially established, subsidizing 95% of eligible costs above a base rate — bringing rural rates closer to those in Anchorage, Fairbanks, and Juneau. The PCE Program focused on small, diesel-dependent utilities and later adopted usage caps and funding priorities to ensure long-term viability.

The PCE Endowment Fund was created under Alaska Statute 42.45.070, initially funded by the Four Dam Pool Project and the Constitutional Budget Reserve, with additional contributions in FY2007 and FY2012. In 2023, fiduciary responsibility was transferred to the **Alaska Permanent Fund Corporation**.

FY1981

FY1984-1985

FY2001

FY1982

FY1994

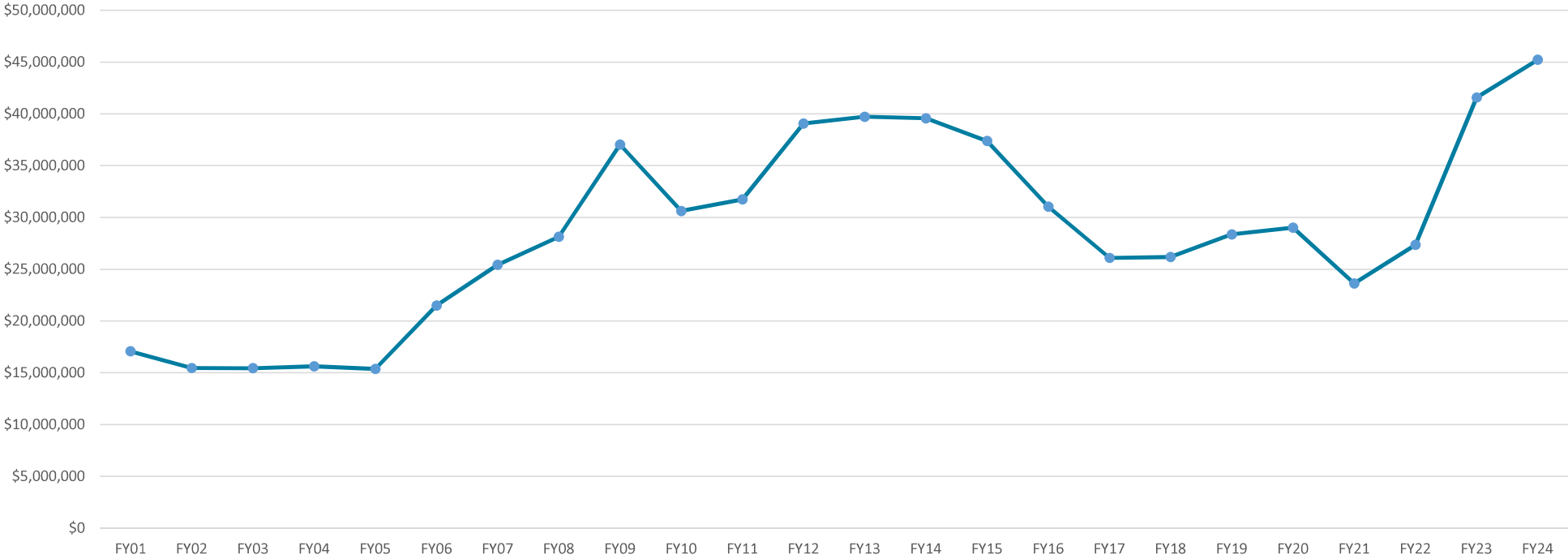
Reforms were introduced to improve equity and restrict the program's growth, leading to its renaming as the **Power Cost Assistance (PCA) Program**.

The Legislature formally established the **PCE Program** and the **Rural Electric Capitalization Fund**, funded through the Railbelt Energy Fund. The Regulatory Commission of Alaska sets rates and determines eligibility, while AEA manages Utility Monthly Reports and disburses payments.

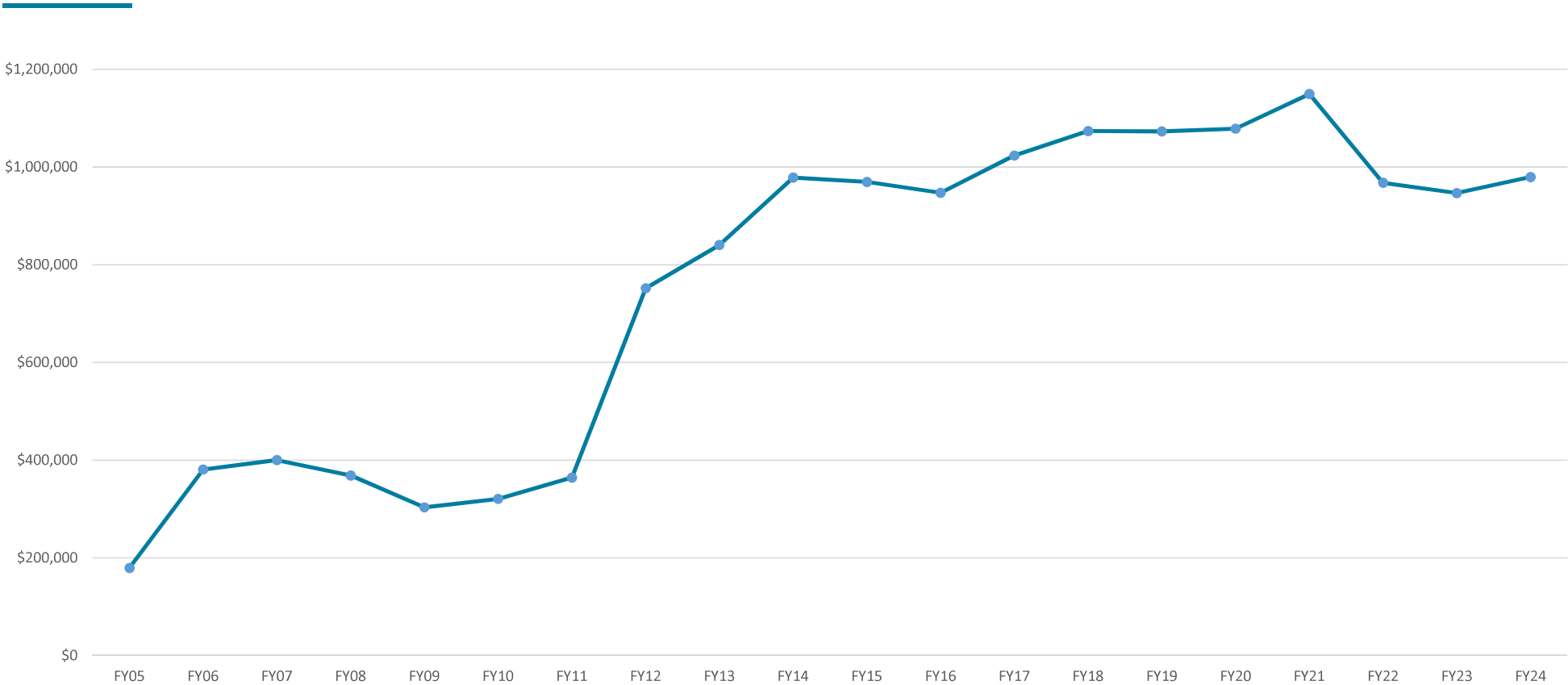
PCE Disbursements (Millions)



AS 42.45.085 provides that 5% of the PCE Endowment Fund 3-year average market value may be appropriated to the program.



PCE Endowment Value (Thousands)



Who is Eligible to Participate in PCE?



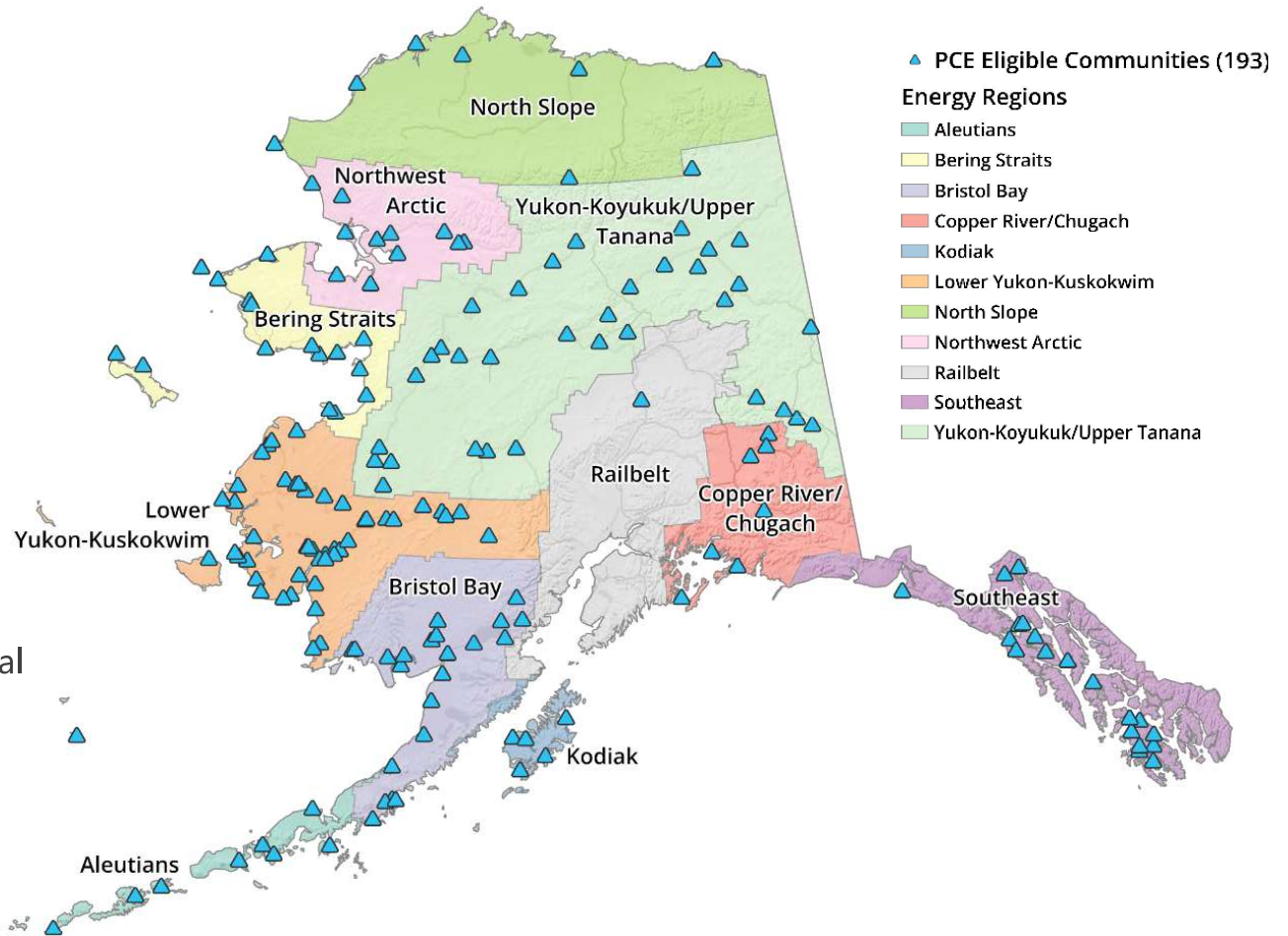
The PCE eligibility is determined by the Regulatory Commission of Alaska in accordance with Alaska Statute 42.45.100-170.

Eligible customers include:

- Residential and community facilities (water, sewer, public lighting, and clinics, etc.)

Non-eligible customers include:

- State and federal facilities and commercial customers
- Any community with rates lower than the urban average (the PCE floor)



Today's PCE Program

The PCE program is a critical component of Alaska's energy policy, helping rural residents access affordable electricity despite geographic isolation and costly infrastructure.



188

RURAL COMMUNITIES



82

ELECTRIC UTILITIES



82,000

ALASKANS

The cost of electricity for Alaska's rural residents is notably higher than for urban residents. The PCE lowers the cost of electric service paid by rural residents. Ultimately ensuring the viability of rural utilities and the availability of reliable, centralized power.



750 kWh

RESIDENTIAL

Residential customers are eligible for PCE credit up to 750 kWhs per month.

70 kWh

PUBLIC FACILITIES

Community facilities can receive PCE credit for up to 70 kWhs per month multiplied by the number of residents in a community.

\$48M

FUNDS BUDGETED

In Fiscal Year 2024, AEA disbursed \$48 million to rural electric utilities for the benefit of our rural communities.

Capital Request – \$2.5 Million
Federal Receipt Authority – \$2.5 Million

Rural Power System Upgrades



Before



After

- The AEA's **Rural Power Systems Upgrade program** improves power generation in Alaska villages with less than 2,000 people.
- Approximately **170 communities** are eligible for the program, which replaces outdated, inefficient mechanical systems with new electronically controlled generator sets.
- Due to declining funds, rural **power systems are not upgraded timely**, and communities are left with aging systems at risk of failure.
- The AEA evaluates **several factors** when prioritizing projects for funding — at this time, **deferred maintenance is estimated at \$300 million.**

Rural Power System Upgrade Prioritization List



Of the more than **170 communities** eligible for the power system program, AEA has upgraded more than **one-third** of them over the years. The list of communities below is **limited to 25**, as AEA only has the financial and technical resources to manage a half dozen new projects each year. AEA estimates each power system upgrade to cost between **\$5-7 million**. To complete all 25 on the list below, the total is estimated to be **\$175 million**.

- | | | |
|------------------|--------------------|-----------------|
| 1. Red Devil | 10. Kokhanok | 19. Elfin Cove |
| 2. Nelson Lagoon | 11. Newtok | 20. Karluk |
| 3. Chalkyitsik | 12. Saint Paul | 21. Pedro Bay |
| 4. False Pass | 13. Chignik Bay | 22. Diomede |
| 5. Manokotak | 14. Levelock | 23. Mertarvik |
| 6. Tuluksak | 15. Galena | 24. Ruby |
| 7. Atka | 16. Saint George | 25. Stony River |
| 8. Birch Creek | 17. Chignik Lagoon | |
| 9. Hughes | 18. Chuathbaluk | |

- The AEA designs and builds modern, code-compliant bulk fuel facilities through our **Bulk Fuel Upgrade program**.
- In Alaska, there are over **400 bulk fuel facilities** — each sized to support the village.
- Most of the facilities are older than 40 years, **with many exceeding 50 years**, and they average **100,000 gallons** in size.
- However, **aging infrastructure poses several safety risks for rural communities**, e.g., corrosion, erosion, and environmental.
- The AEA maintains an inventory and assessment priority need-based list — so far, **deferred maintenance is estimated at \$1 billion**.



Before

Russian Mission, Alaska



After

Nunapitchuk, Alaska

Capital Request – \$2 Million
Federal Receipt Authority – \$2 Million

Bulk Fuel Upgrades

Bulk Fuel Upgrade Prioritization List



Of the State's **400 bulk fuel facilities**, **60%** have been assessed by AEA. Initial data collection to establish a baseline will be completed by December 2024. This active list can be re-ranked according to specific area of concern, e.g., **environmental, dispenser, tank health**. As AEA gathers additional data, the list is re-ranked accordingly. The AEA estimates each bulk fuel upgrade to cost between **\$10-12 million**. To complete all 25 on the list below, the total is estimated to be **\$300 million**.

- | | | |
|---------------|------------------|-------------------|
| 1. Shageluk* | 10. Wales* | 19. Goodnews Bay |
| 2. Newtok | 11. Allakaket* | 20. Shungnak* |
| 3. Eek* | 12. Kasaan* | 21. Kwigillingok* |
| 4. Kivalina | 13. Coffman Cove | 22. Tuluksak* |
| 5. Kobuk | 14. Naukati Bay | 23. Teller |
| 6. Chefornak* | 15. Nulato | 24. Galena |
| 7. Metlakatla | 16. Huslia | 25. Kongiganak |
| 8. Whale Pass | 17. Ambler* | |
| 9. Noatak | 18. Manokotak | |

*AEA active projects or projects in development. Several of these projects were identified in previous inventories and assessments.

Circuit Rider Program

PCE Endowment Fund – \$710.0



Electrical Emergency Assistance

- Akiak
- Chignik

Circuit Rider and Bulk Fuel Itinerant Onsite


Number after entity indicates more than one occurrence. 45 Total Onsite Visits

- | | | | | | |
|--------------------|--------------------|---------------|-----------------|-------------------|-------------------|
| ▪ Akhiok | ▪ Chignik Lagoon | ▪ Galena | ▪ Manokotak | ▪ Pedro Bay (2) | ▪ Russian Mission |
| ▪ Akiak (2) | ▪ Chignik Lake (2) | ▪ Golovin (2) | ▪ Mertarvik | ▪ Perryville (2) | ▪ Scammon Bay (2) |
| ▪ Beaver (2) | ▪ Chitina (2) | ▪ Hughes | ▪ Napaskiak (4) | ▪ Pilot Point (2) | ▪ Teller |
| ▪ AVTEC Seward (5) | ▪ Circle (2) | ▪ Igiugig | ▪ New Stuyahok | ▪ Pilot Station | ▪ Tenakee Springs |
| ▪ Chalkyitsik | ▪ Cold Bay | ▪ Kipnuk (4) | ▪ Nikolai | ▪ Port Heiden | ▪ Tuluksak (2) |
| ▪ Chignik Bay (2) | ▪ False Pass | ▪ Levelock | ▪ Nunam Iqua | ▪ Rampart (2) | ▪ Venetie (2) |

Circuit Rider Real-Time Remote Assistance

Number after entity indicates more than one occurrence. 311 Total Responses

- | | | | | | | |
|----------------------|----------------------|------------------|--------------------|---------------------|-----------------------|---------------|
| ▪ Akhiok (5) | ▪ Chignik Bay (6) | ▪ Elfin Cove (8) | ▪ Kongiganak (2) | ▪ Nelson Lagoon (3) | ▪ Red Devil | ▪ Venetie (9) |
| ▪ Akiachak (8) | ▪ Chignik Lagoon (3) | ▪ False Pass (2) | ▪ Koyuk (2) | ▪ Newhalen | ▪ Ruby (2) | ▪ Wainwright |
| ▪ Akiak (8) | ▪ Chignik Lake (2) | ▪ Fort Yukon | ▪ Koyukuk (5) | ▪ Nikolai (7) | ▪ Saint George | |
| ▪ Aniak | ▪ Chitina (7) | ▪ Galena | ▪ Kwethluk (9) | ▪ Nikolski | ▪ Sleetmute (2) | |
| ▪ Arctic Village (3) | ▪ Chuathbaluk | ▪ Hoonah (2) | ▪ Kwigillingok (4) | ▪ Nunam Iqua (14) | ▪ Stevens Village | |
| ▪ Atka | ▪ Circle (7) | ▪ Hughes (3) | ▪ Levelock (8) | ▪ Ouzinkie (4) | ▪ Stony River | |
| ▪ Atmautluak | ▪ Clarks Point | ▪ Igiugig | ▪ Manokotak | ▪ Pedro Bay (3) | ▪ Takotna | |
| ▪ Beaver (2) | ▪ Cold Bay | ▪ Karluk (4) | ▪ McGrath | ▪ Pelican | ▪ Tatitlek (5) | |
| ▪ Buckland (2) | ▪ Crooked Creek | ▪ Kipnuk (11) | ▪ Mertarvik (6) | ▪ Perryville (2) | ▪ Tenakee Springs (4) | |
| ▪ Central | ▪ Diomedede (5) | ▪ Kokhanok (3) | ▪ Napakiak | ▪ Pilot Point (4) | ▪ Tuluksak (5) | |
| ▪ Chalkyitsik (2) | ▪ Egegik (4) | ▪ Koliganek | ▪ Napaskiak (6) | ▪ Port Heiden (14) | ▪ Unalakleet | |

A photograph of several white wind turbines in a field with green trees in the foreground. The sky is blue with scattered white clouds. The text 'RENEWABLE ENERGY FUND' is overlaid in the center in a bold, blue, sans-serif font.

RENEWABLE ENERGY FUND

Capital Request - \$6.3 Million

Renewable Energy Fund (REF) Grant Program

Established in 2008, REF provides grant funding (subject to Legislative approval) incentivizing the development of qualifying and competitively selected renewable energy projects. The program is designed to produce cost-effective renewable energy for heat and power to benefit Alaskans statewide.



ROUND 17: 18 REFAC*-Recommended Projects Totaling \$21.2 Million



STATEWIDE INVESTMENT

294 Grants Awarded
Totaling \$327 Million



ACTIVE PROJECTS

100+ Projects in Operation
56 in Development



ROUND 15 AWARDS

18 Projects Awarded
\$17 Million Appropriated



ROUND 16 AWARDS

5 Projects Awarded
\$10.5 Million Appropriated

*Note: REFAC is the Renewable Energy Fund Advisory Committee

REF Round 17 Recommended Projects to Legislature



AEA Rank	Community	Project Name	Applicant Name	Technology	Recommended Funding	Energy Region	Senate District	House District
1	Pelican	Pelican Hydro Relicensing Project, Restoration, Repair	City of Pelican, Pelican Utilities	Hydroelectric	\$ 650,474	Southeast	A	2
2	Naknek	Naknek Solar PV on Cape Suwarof	Naknek Electric Association, Inc.	Solar	\$ 3,137,848	Bristol Bay	S	37
3	Skagway	Goat Lake Hydro Storage Expansion Study	Goat Lake Hydro, Inc.	Hydroelectric	\$ 121,250	Southeast	B	3
4	Kwethluk	Nuvista Kwethluk Wind and Battery Project Completion	Nuvista Light and Electric Cooperative, Inc.	Wind	\$ 738,979	Lower Yukon Kuskokwim	S	38
5	Quinhagak	Quinhagak Battery Energy Storage System Project	Alaska Village Electric Cooperative, Inc.	Storage	\$ 443,956	Lower Yukon Kuskokwim	S	38
6	Nenana	Nenana Biomass District Heat System, Final Phase	City of Nenana	Biomass	\$ 1,223,000	Railbelt	R	36
7	Kongiganak	Kongiganak 100 kW Solar Energy Project	Puvumaq Power Company	Solar	\$ 720,453	Lower Yukon Kuskokwim	S	38
8	Railbelt	Railbelt Wind Diversification Alaska Renewables	Alaska Renewables LLC	Wind	\$ 2,000,000	Railbelt	Various	Various
9	Homer	Homer Energy Recovery Project	City of Homer	Hydroelectric	\$ 280,000	Railbelt	C	6
10	Atmautluak	Atmautluak ETS Installation, Integration and Commissioning	Atmautluak Tribal Utilities	Storage	\$ 286,227	Lower Yukon Kuskokwim	S	38
11	Ketchikan, Petersburg, Wrangell	Southeast Alaska Grid Resiliency (SEAGR)	Southeast Alaska Power Agency (SEAPA)	Hydroelectric	\$ 4,000,000	Southeast	A	1 & 2
12	Chevak	Chevak Battery Energy Storage System Project	Alaska Village Electric Cooperative, Inc.	Storage	\$ 968,644	Lower Yukon Kuskokwim	S	38
13	Pedro Bay	Knutson Creek Hydro Project Construction	Pedro Bay Village Council	Hydroelectric	\$ 400,000	Bristol Bay	S	37
14	Akiachak	Akiachak Native Community 200 kW Solar Energy Project	Akiachak, Ltd	Solar	\$ 67,833	Lower Yukon Kuskokwim	S	38
15	Nome	NJUS Solar Nome Banner Ridge Solar Farm	Nome Joint Utility System	Solar	\$ 4,000,000	Bering Straits	T	39
16	MEA Service Area	Hunter Creek Hydroelectric Feasibility Study Project	Matanuska Electric Association	Hydroelectric	\$ 1,280,500	Railbelt	M	25
17	Chignik	Chignik Hydroelectric Power System	City of Chignik	Hydroelectric	\$ 883,012	Bristol Bay	S	37
18	Sterling	Sterling Solar Project	Utopian Power LLC	Solar	\$ 12,500	Railbelt	D	8
Total					\$ 21,214,676			

"*If appropriated by the Legislature and approved by the Governor, this funding would become effective July 1, 2025, for inclusion in the budget for fiscal year 2026.

**Projects highlighted in blue are those projects to be funded under the REF allocation in the Governor's fiscal year 2026 proposed capital budget

Federal Funding – Awards and Pending Applications



#	Awarded and Conditional Awards	Alaska Grant \$	Match \$
1	Grid Resilience and Innovation Partnerships Topic 3 Phase 1	\$ 206,500,000	\$ 206,500,000
2	Preventing Outages and Enhancing the Resilience of the Electric Grid (40101d)	\$ 64,022,556	\$ 9,603,383
3	Solar For All Competition	\$ 62,450,000	\$ -
4	Home Efficiency Rebates Program	\$ 37,368,480	\$ -
5	Home Electrification and Appliance Rebates Program	\$ 37,150,940	\$ -
6	Defense Community Infrastructure Pilot - Black Rapids Training Site	\$ 15,602,648	\$ -
7	Energy Efficiency Revolving Loan Capitalization	\$ 4,782,480	\$ -
8	State Energy Program Funding	\$ 3,661,930	\$ -
9	High Energy Cost Grants (Manokotak) – USDA Rural Utilities Service	\$ 2,000,000	\$ -
10	Vehicle Technology Office Competition Federal Fiscal Year 2022 (ARED)	\$ 1,670,000	\$ 417,500
11	Energy Efficiency and Conservation Block Grant	\$ 1,627,450	\$ -
12	Training for Residential Energy Contractors (TREC)	\$ 1,293,870	\$ -
13	Energy Future Grant	\$ 496,725	\$ -
Total Awards = \$655,147,962		\$ 438,627,079	\$ 216,520,883

#	Application Submitted - Status Pending	Alaska Grant \$	Match \$
1	WaterSMART Grants: Water and Energy Efficiency Grants – Dixon Diversion	\$ 5,000,000	\$ 5,000,000
2	High Energy Cost Grants (Kipnuk) – USDA Rural Utilities Service	\$ 3,000,000	\$ 2,421,306
3	Transmission Acceleration Grants	\$ 2,731,311	\$ -
4	USFS Community Wood Energy and Wood Innovation Program FY 2025	\$ 500,000	\$ 500,000
5	USFS Wood Innovation Grant FY 2025	\$ 150,000	\$ 150,000
6	Energy Improvements in Rural Areas (4 Concept Papers Submitted by AEA)	NA	NA
Total Pending = \$19,452,617		\$ 11,381,311	\$ 8,071,306



Thank You

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AEA PCE and Rural Programs | House Community and Regional Affairs Committee | April 24, 2025