

## **APERC Coal Report 2025**

The year 2024 marks a pivotal point in global energy history, characterized by a "Great Coal Paradox." Despite the growing momentum of international climate commitments and renewable energy adoption, the Asia-Pacific Economic Cooperation (APEC) region has seen a resurgence in coal activity.

Total coal consumption in the region exceeded 125 exajoules (EJ), surpassing the previous peak set in 2014. More significantly, production hit an all-time high of 146 EJ, a 0.6% year-on-year increase. This revival questions the straightforward narrative of the global energy transition, showing that for the world's rapidly expanding economies, coal remains the foundation of energy security and economic stability.

### **Production and Supply:**

The record-breaking production levels in 2024 were not accidental but the result of strategic policies prioritizing domestic energy sovereignty. The center of gravity for global coal has decisively shifted to Asia.

- **China's Dominance:** As the undisputed leader in the sector, China made up 65% of APEC's total output. Production increased by 1.2% to 94.5 EJ. China's strategy has evolved to view coal as a "stabilizer" - a necessary buffer to support its massive industrial base against energy volatility.
- **Indonesia's Export Surge:** Indonesia recorded a remarkable 7.9% production jump. Beyond meeting domestic needs, it expanded thermal coal exports by 36 million tonnes (Mt), solidifying its position as a critical supplier to China and India.

### **Consumption:**

Consumption trends reveal a deep divide between emerging and mature economies. The aggregate 1.3% rise in APEC-wide consumption masks two opposing realities.

In developing economies, the demand for coal is fueled by industrial growth:

- **Viet Nam (+9.6%):** Posted the region's highest growth rate. This surge was a direct response to climate instability; extreme heatwaves spiked cooling demand while simultaneously crippling hydropower output, forcing the grid to rely on thermal power.
- **Indonesia (+9.3%):** Demand was propelled by the nickel processing industry. This creates a complex irony where coal is fueling the production of materials essential for the global electric vehicle (EV) supply chain, effectively using carbon to build the green transition.

Conversely, mature economies are successfully decoupling growth from coal. Consumption fell in the United States (-3.5%) and Japan (-0.1%), driven by policy mandates and the retirement of aging fleets.

### **Decarbonizing Technologies:**

A critical finding of the 2025 coal report is the industry's pivot toward High-Efficiency, Low-Emission (HELE) technologies. The "Transition Group" of economies is betting on innovation rather than elimination.

1. Efficiency Benchmarks: China's Pingshan Phase II plant has set a new world record with a net efficiency of 49.4%. Compared to the global subcritical average of 33%, this technology drastically reduces the carbon intensity per unit of electricity generated.
2. Ammonia Co-firing: Japan is leading the retrofitting charge, successfully demonstrating 20% ammonia co-firing at the Hekinan plant. This offers a pathway to reduce emissions by 20% in existing assets without total decommissioning. Viet Nam has adopted this model, targeting 100% ammonia firing by 2045.
3. CCUS Scaling: The region now hosts 17 coal-related CCUS projects with a capacity of 43 Mtpa. While only seven are operational, the pipeline suggests a serious intent to scale carbon capture to trap emissions at the source.

### **Environmental Realities and Market Stability:**

Despite technological gains, the environmental footprint remains staggering. APEC economies emitted 11.9 gigatonnes of CO<sub>2</sub> from coal combustion in 2024, comprising 75.4% of the global total. Additionally, the region is responsible for 70% of global coal mine methane (CMM) emissions, with China alone accounting for 66% of this figure. Addressing methane leakage remains the most immediate "low-hanging fruit" for climate mitigation.

On the market front, 2024 brought a welcome return to stability. After the chaotic pricing of 2022 (peaking at USD 450/t), Newcastle thermal coal spot prices settled between USD 100 and USD 150 per tonne. This range sustains producer profitability while avoiding the demand destruction seen during the crisis years.

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