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Asia's Cost-Plus Power Contracts Incentivize Inefficiency and Fraud

BLUF: Across Asia, utilities typically reimburse independent power producers (IPPs) for 100% of their fuel costs, a provision common under cost-plus contracting. This incentivizes IPPs to overstate the price of fuel and discourages them from improving efficiency or switching to cleaner alternatives, as demonstrated by several high-profile scandals. The result is a more expensive and polluting electricity system. To realign incentives, the cost-plus contract structure urgently needs to be revised to ensure IPPs bear the brunt of at least some of the increases in their fuel costs.

Power purchase agreements (PPAs) across many Asian economies are cost-plus, meaning any increase in input costs gets passed on entirely to the utility. In the early 1990s, at the early stages of liberalization, such provisions helped incentivise IPPs to enter risky markets. But three decades on, these markets are much more mature, and the private sector has a positive track record. Moreover, it has become apparent that such provisions severely misalign incentives.

Three Big Problems with Cost-Plus Contracting

First, it erodes the incentive to be efficient. In most sectors, it is highly unusual for private firms to avoid bearing the brunt of changes to their input costs. However, in power markets across India, Indonesia, and Pakistan, many PPAs ensure that any increase in input costs (including fuel) gets passed on entirely to the utility.[1] This eliminates the incentive for IPPs to optimize fuel efficiency, seek cheaper suppliers, or switch to cleaner alternatives. In other parts of the world, exposing IPPs to their own rising input costs drives innovation, often prompting these firms to undertake investments that use the expensive input more judiciously or find substitutes.[2] However, without the price signal, there is no reason for firms to undertake costly innovation. This is why, for example, India has one of the most inefficient thermal fleets in the world.[3]

Second, it renders carbon policy ineffective. If there is a future carbon tax, either through new domestic policy or via the European Union Carbon Border Adjustment Mechanism (which will be launched in 2026), cost-plus contracts will ensure it impacts the utility rather than the

[1] Srivastav, S et al. (2024) Contracts over economics: exiting fossil fuel power purchase agreements. Working Paper.
[2] Popp, D. (2002). Induced Innovation and Energy Prices. *American Economic Review* 92 (1): 160–180.
[3] Chan, H.S., et al. (2014). Why are power plants in India less efficient than power plants in the United States? *American Economic Review*, 104(5), 586–590.

IPP, rendering moot the "polluter pays" principle of carbon taxation. Furthermore, utilities may struggle to reduce their carbon intensity, since they are typically locked into fossil fuel PPAs for 25-30 years.

Third, it creates an incentive to engage in fraud. An unconditional reimbursement system requires strong auditing protocols, which are difficult to implement in low and middle-income nations due to capacity constraints. Without strong monitoring and enforcement, IPPs may be tempted to exploit the cost-plus system by overstating costs. For example, in India, the Adani group used cheap, low-grade coal to generate power while claiming it used expensive, high-grade coal, and pocketed the difference. This doubled Adani's reimbursement.[4] This also revealed that the Adani-operated IPP polluted far more than initially reported, as low-grade coal produces higher levels of particulate matter. Across the border, in Pakistan, a China-Pakistan Economic Corridor project was found using coal priced at USD $265 per tonne when market rates were 40% lower, showing that when a firm does not bear its fuel costs, it can select fuel suppliers based on patronage rather than value.[5] This IPP was also found to be using low-grade coal while getting reimbursed for more expensive high-grade coal.[6] With cost-plus PPAs, such fraud is not a bug but rather a feature of the incentive system.

Solutions

Strengthen auditing protocols to address fraudulent behavior. There should be a system to verify whether IPPs' fuel costs align with market values. Any significant deviations from market values should be flagged and automatically marked for examination by competent authorities. Random spot checks and third-party auditing can help ensure that bribes and bilateral relationships do not undermine the efficacy of the monitoring and enforcement process. These are fundamental governance reforms that will require investment and continual maintenance.

Revise the cost-plus provision in PPAs. IPPs should face at least a non-zero incidence of their own input costs. Whether this amounts to IPPs facing 50% of their input costs or some other percentage will likely come down to bilateral re-negotiations. What is clear is that the more exposed IPPs are to input costs, the greater the incentive to pursue efficiency improvements, innovate, and respond to any future carbon costs.

Push for PPA Transparency. Public scrutiny requires PPA disclosure, which is not common across low- and middle-income countries, despite these contracts being financed through public funds. The public should know the answer to questions such as: How prevalent is the cost-plus provision? If it is highly prevalent, as seems to be the case across major Asian jurisdictions, there needs to be more auditing and investigative reporting to uncover potential fraud. Public knowledge can create the necessary political momentum to renegotiate PPAs so that IPPs face some of their own fuel costs. For now, the public remains in the dark, feeding a crisis of accountability in the power sector.

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[4] McCrum, D. et al. (2024). Adani suspected of fraud by selling low-grade coal as high-value fuel. *Financial Times*.
[5] News Desk (2024). Inquiry called over corruption allegations in Sahiwal Power Plant coal deal. *Profit by Pakistan Today*.
[6] Bhutta, Z. (2023). Plants accused of overcharging for low quality coal. *Tribune*.

Conclusion

Without any intervention, cost-plus contracting will continue to drive up inefficiencies, delay the switch to clean energy, and incentivize continual fraud. As a result, citizens of India, Pakistan, and Indonesia pay higher prices for dirtier electricity. In the 1990s, IPPs needed a "carrot" to enter these high-risk markets. But today, it is incorrect to assume the trade-offs made in the 1990s are still fit for purpose. In fact, it seems the costs of cost-plus contracting significantly outweigh the benefits. With better monitoring and enforcement, fairer cost-sharing, and contract transparency, Asian citizens can enjoy electricity that is cheaper, cleaner, and freer from fraudulent practices.