

ENERGY & INFRASTRUCTURE

Data Centres, Grid Priority and *Local Externalities*

Who Bears the Cost of India's Compute Build-Out?

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Introduction

India's data centre capacity is expanding rapidly. A hyperscale facility is an unusually large, continuous and inflexible load, with little tolerance for the cross-subsidised, administratively priced power a licensee supplies under bundled tariff. Increasingly, it procures power through open access or captive generation instead, often supported by State concessions.

A consumer leaving bundled supply through open access pays a cross-subsidy surcharge under Section 42(2) of the Electricity Act, 2003. It may also pay an additional surcharge under Section 42(4) for the licensee's stranded fixed costs.

Three constituencies absorb the resulting cost: the licensee's remaining consumers, the State exchequer and host localities. The question is how the legal framework allocates each of these costs, and where it fails to do so. The answer depends largely on the supply route and the host State.

Three Routes to Power, Three Cost Profiles

A data centre may draw power through bundled supply from the distribution licensee, open access or captive generation.

Bundled supply carries no separate connectivity or wheeling charge, but bears in full the licensee's

cross-subsidising tariff. Section 61(g) guides the Commission towards a tariff that “progressively reflects the cost of supply of electricity” and “reduces cross-subsidies”. Until that gradual correction is complete, a large consumer continues to bear the cross-subsidy.

Open access and captive generation both require connectivity. Under Regulation 17.1(iii) of the CERC (Connectivity and General Network Access to the ISTS) Regulations, 2022, a “Bulk consumer” with a load of 50 MW and above, connecting directly to the inter-State transmission system, is eligible for General Network Access. It pays a ₹5 lakh application fee (Regulation 3.3), a one-time GNA charge of ₹1 lakh per MW (Regulation 22.2(d)) and monthly transmission charges (proviso to Regulation 22.2(d)).

Wheeling charges apply in addition, as does the Section 42(2) surcharge for open access, though not for captive use.

Open Access and Its Statutory Price

Section 42(2) requires every State Commission to introduce open access in phases, but it is not a bare permission. Its first proviso conditions open access on “a surcharge in addition to the charges for wheeling”. The second ties that surcharge to the requirements of “current level of cross subsidy within the area of supply”, and the third requires both to be “progressively reduced”. The fourth exempts captive generation for own use. The surcharge exists because a large consumer’s exit erodes the pool subsidising smaller consumers.

The fifth proviso, inserted by the Electricity (Amendment) Act, 2003, required open access within five years for consumers above one megawatt. This is a minimum obligation, not a bar on lower thresholds.

The Green Energy Open Access Rules, 2022 dilute this position. The proviso to Rule 5(2) extends Green Energy Open Access to consumers of 100 kW and above, and Rule 8 permits monthly banking. Under Rule 9(2), the cross-subsidy surcharge for a “Green Energy Open Access Consumer” cannot rise by more than fifty per cent over twelve years, and the additional surcharge does not apply if the consumer pays fixed charges. The Section 42(2) correction is thus diluted for green open access by subordinate legislation aimed at a different goal.

The Additional Surcharge and the Unresolved Stranded-Cost Question

Under Section 42(4), a consumer permitted to receive supply from someone other than its area licensee is liable to an “additional surcharge...to meet the fixed cost of such distribution licensee arising out of his obligation to supply”. It is meant to stop a departing load from stranding capacity built to serve it, though its efficacy turns on how rigorously the Commission quantifies it.

In *Maharashtra State Electricity Distribution Co. Ltd. v. JSW Steel Ltd.*, (2022) 2 SCC 742, the Supreme Court held that captive consumers “form a separate class by themselves” and are “not liable to pay the additional surcharge under Section 42(4)”. Section 42(4) applies only where the Commission grants permission, whereas Section 9 permits captive generation by operation of law.

JSW Steel therefore establishes that a captive-routed data centre escapes the additional surcharge entirely. Being also exempt from the cross-subsidy surcharge, it is exposed largely to connectivity, transmission and wheeling charges.

State Incentive Regimes: Shifting Cost to the Exchequer and Other Consumers

Where the Act seeks to recover cost from the departing consumer, State data centre policies do the opposite. The Uttar Pradesh Data Center Policy, 2021 (First Amendment, 2022) illustrates the pattern.

Clauses 7.1(d) and 7.2(d) exempt 50% of wheeling and transmission charges on intra-State sale of power for twenty-five years, and intra-State transmission charges on imported energy for five years. Clause 7.2(d) also exempts data centre units from electricity duty for ten years, and Clause 8.4 reduces their cross-subsidy surcharge to 20% of its opening level over five years.

The policy further offers land subsidy of 25% to 50%, capped at 7.5% of project cost or ₹75 crore, whichever is less, stamp duty exemption and a 7% capital subsidy of up to ₹20 crore (Clauses 7.1(b)-(c) and 7.2(a)-(c)). It is valid for five years (Clause 3(i)).

The fiscal concessions fall on general revenue, but the electricity concessions are less clear-cut. The cross-subsidy surcharge is determined by the State Commission, and a State policy cannot by itself alter it. Under Section 65, a State Government requiring a subsidy in a tariff determined by the Commission must pay the amount in advance. Absent such payment, the cost may be recovered from

the licensee's other consumers, the very outcome Section 42 seeks to prevent.

The Absence of a Central Framework

No central data centre policy has been notified. MeitY's Data Centre Policy, 2020 remains marked "draft for discussion".

Its proposal of "Infrastructure status" for the sector (paragraph 5.1.1.1) has since been implemented separately. By notification dated 11 October 2022, the Department of Economic Affairs added data centres of at least 5 MW IT load to the Harmonised Master List of Infrastructure.

On electricity, the draft speaks of "long term availability of electricity at reasonable rates" and an "effective open access system" (paragraphs 5.2.1.3 and 5.2.1.4), but not of who bears augmentation or stranded cost. These questions are therefore settled between developer, licensee and State, with no floor or ceiling at the Union level.

Local Externalities and the Environmental Clearance Gap

A data centre's principal local externalities are land use, groundwater draw for cooling and emissions from backup diesel generators. These largely escape project-specific environmental scrutiny.

Under the EIA Notification, 2006 (S.O. 1533(E)), a building or construction project requires prior clearance under Item 8(a) only if its built-up area is 20,000 sq. m or more. Item 8(b) covers townships and area development projects of 50 hectares or more, or with a built-up area of 1,50,000 sq. m or more.

The threshold does not turn on purpose. In *Vanashakti v. Union of India*, (2025) 11 SCC 284, the Supreme Court upheld the notification of 29 January 2025 (S.O. 523(E)) but quashed Note 1 to Entry 8(a), which had exempted industrial sheds and educational buildings. The Court observed that construction "for an area of more than 20,000 sq m... will naturally have an effect on the environment and ecology", even for industrial or educational buildings.

It follows that a standalone data centre below the threshold falls outside Item 8 like any building of that size. Its water withdrawal and diesel emissions are left to general consents under the Water Act, 1974 and the Air Act, 1981, and to groundwater permissions, none of which entails site-specific assessment. The externality is real, but no instrument presently prices it.

Conclusion

No single provision governs who ultimately pays for India's data centre expansion.

The licensee's remaining consumers bear it through a surcharge regime that Section 42 applies only imperfectly, that JSW Steel excludes for captive load, and that the Green Energy Open Access Rules dilute.

The State exchequer bears it through time-bound fiscal concessions such as those in the Uttar Pradesh policy. Where these extend to electricity charges without compensation, part of the cost may return to other consumers.

Host localities bear it through a clearance framework that, after Vanashakti, turns on size rather than purpose, leaving smaller standalone facilities without project-specific assessment.

Until a central policy is notified and State Commissions apply Section 42(4) to this load with ordinary rigour, allocation will turn on which State and licensee offer the best concession, not on settled principle.

The question is also becoming harder to defer. Wood Mackenzie estimates India's operational data centre capacity at 2.2 GW in 2025, rising to roughly 12 GW by 2030, with AI-dedicated capacity growing from 275 MW to about 6.5 GW. For developers, the supply route and host State remain principal determinants of cost, to be assessed at the planning stage.

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