MINUTES OF 32ND STEERING COMMITTEE MEETING OF SAFIR

Venue: Manesar, Haryana (India)

Date / Day: 31st August, 2026 (Monday)

Time: 10:30 AM (IST)

LIST OF PARTICIPANTS: Appendix I

1. Chairperson, CERC, Mr. Jishnu Barua, welcomed the members to the 32nd Steering Committee Meeting of SAFIR and expressed his gratitude to Power Grid Corporation of India Limited (PGCIL) for assisting the SAFIR Secretariat in organising the meeting. He also welcomed the Electricity Regulatory Commission (ERC) of Nepal as a full member of SAFIR. He also expressed his deep condolences over the loss of lives due to the natural calamity in Nepal and conveyed solidarity and support to the people of Nepal.

2. Mr. Barua highlighted the evolving power sector landscape in South Asia, referring to the growing adoption of green energy in the form of electric vehicles, rooftop solar, solar PVs and setting up of ambitious RE adoption targets in the region. He also highlighted SAFIR's role as a regional platform for regulatory cooperation, knowledge exchange and capacity building, through initiatives like Core Course on Infrastructure Regulation. He concluded by highlighting the emerging challenges posed by technological disruption, energy transition and digital transformation, underscoring the importance of collective efforts and continued cooperation among SAFIR members in addressing these challenges.

3. CEO, ERA Bhutan, Ms. Deki Choden in her address highlighted the unprecedented changes taking place in the electricity sector and emphasised the growing responsibilities of regulators in addressing emerging challenges. Ms. Deki also underscored the need for regulators to remain agile, engage actively with stakeholders, adapt to evolving developments and establish appropriate regulatory frameworks that facilitate innovation while ensuring responsible growth. She observed that many of the challenges faced by regulators were common across the region and highlighted the importance of SAFIR as a platform for sharing experiences, exchanging knowledge and collaboratively developing solutions. She

emphasised that the collective expertise and institutional experience of SAFIR members presented a valuable opportunity to co create a more efficient, sustainable and resilient energy future for South Asia.

4. Chairman, ERC Nepal, Dr. Ram Prasad Dhital expressed his pleasure at re-joining SAFIR. He thanked the Chairperson, CERC, for showing solidarity to Nepal in these difficult times. He informed the members that the recent tragedy in Nepal had caused extensive devastation. He emphasised that, such disasters have cross border implications for grid stability and regional energy security and felt that there is need for regional cooperation in building disaster resilient infrastructure, establishing appropriate technical and regulatory standards, strengthening emergency preparedness and business continuity plans, and incorporating disaster risks into investment planning and tariff frameworks.

5. Dr. Dhital highlighted the need to explore alternative financing mechanisms, including dedicated disaster relief and restoration funds with government support. He emphasised the importance of clear regulatory mechanisms for emergency restoration, damage assessment, prioritisation of critical infrastructure and recovery of restoration costs. He further underlined SAFIR's role in facilitating regional knowledge sharing and capacity building, and expressed Nepal's willingness to host the forthcoming meeting in Kathmandu. He concluded by stressing the need to draw lessons from Nepal's recent disaster to strengthen regulatory frameworks, disaster preparedness and resilience of electricity systems across South Asia.

6. Chairperson, BERC, Bangladesh, Mr. Jalal Ahmed extended his appreciation for convening the 32nd Steering Committee Meeting. He highlighted SAFIR's role as an important platform for regulatory cooperation, institutional capacity building and knowledge exchange across South Asia. Sharing the prevailing energy scenario in Bangladesh, he highlighted the challenges arising from an unfavourable energy mix and the country's dependence on imported crude oil and natural gas. Mr. Ahmed noted that the current Government dispensation had

placed significant emphasis on renewable energy, particularly solar power and had introduced fiscal incentives, including tax exemptions. He reiterated Bangladesh's target of achieving 20% renewable energy in its installed capacity by 2030, compared to the current level of less than 3%. He further highlighted the growing adoption of rooftop solar, with industrial rooftop solar capacity of around 700 MW, which is expected to increase to 4,000 MW by 2030. Mr. Ahmed highlighted the region's progress in renewable energy as a useful experience for Bangladesh's energy transition. He stressed the importance of expediting the pending Cross Border Transmission Study. He reaffirmed BERC's commitment to SAFIR and emphasised its role in strengthening regulatory capacity, knowledge sharing, regional energy markets and the transition towards a sustainable and interconnected South Asian energy sector.

7. Chairperson PUCSL / SAFIR, Prof. K P Lalith Chandralal, welcomed everyone to the 32nd Steering Committee Meeting of SAFIR. He noted that this was his first Steering Committee Meeting as Chair of SAFIR and welcomed Nepal as a full member of the Forum. He also conveyed his solidarity to the people of Nepal in the wake of the recent natural calamity and suggested exploring avenues for extending assistance, including the possibility of constituting a Working Group under the Chairmanship of ERC Nepal to tackle the losses incurred due to the natural disaster. Moving forward, he reflected upon the key developments in Sri Lanka's power sector, such as the unbundling of the Ceylon Electricity Board (CEB), amendments to the Electricity Act, and emphasis on greater private sector participation. He further highlighted Sri Lanka's target of achieving 70% renewable energy by 2030 and carbon neutrality by 2050.

8. Prof. Lalith observed that encouraging investment and innovation while ensuring affordability, reliability and consumer protection remained a common challenge for regulators across the region. In this regard, he emphasised the need for SAFIR to move beyond information exchange and strengthen its role in capacity building and the development of practical solutions to shared regulatory challenges. He

expressed his hope that Sri Lanka would have the opportunity to host the SAFIR Steering Committee Meeting during his tenure as Chair.

AGENDA ITEM 1: CONFIRMATION OF MINUTES OF THE 31ST STEERING COMMITTEE MEETING HELD ON 23RD OCTOBER, 2025

9. Joint Chief (RA), CERC apprised the Steering Committee regarding the action taken points and compliance with the Steering Committee meeting minutes held on 23rd October 2025.

10. Members were informed that, that CIRC (CUTS Institute for Regulation and Competition) and TRAI cited financial constraints and other reasons for not being able to re-join SAFIR at present. The SAFIR Secretariat had received recommendations for around 15 prospective members from Sri Lanka and has already communicated with the identified organisations. SAFIR Secretariat would follow up with the prospective members, highlighting the benefits and advantages of SAFIR membership.

11. Prof. Naveen Sirohi, Director, IICA provided an update on the activities undertaken by IICA during the last FY for SAFIR. IICA had submitted one consolidated newsletter covering a period of twelve months, instead of the usual quarterly newsletters, owing to restructuring within IICA and consequent operational challenges. No webinars could be conducted during the previous financial year. For the current financial year, newsletter for the first quarter had already been submitted and was under review; four webinar topics, along with the proposed speakers, had been finalised in consultation with the SAFIR Secretariat.

After discussion, the SC confirmed the minutes.

AGENDA ITEM 2: UNESCAP ACTIVITIES – UPDATE – DISCUSSION & AGENDA ITEM 5: REFERENCE FROM INDIAN INSTITUTE OF CORPORATE AFFAIRS (IICA) – UPDATE

A. DETAILED PROJECT REPORT (DPR) ON SOUTH ASIA SCHOOL OF ENERGY REGULATIONS (SASER) – PRESENTATION

12. UNESCAP is the main regional development arm of the United Nations for the Asia Pacific region. Its key focus areas include macroeconomic policy, trade and innovation, environment and energy, among others. The Detailed Project Report (DPR) was prepared by the UNESCAP – Energy Division, at the request of SAFIR, to support the establishment of the proposed SAFIR School. The DPR is based on a program of country scoping missions conducted between February and June 2026 in SAFIR member countries, as well as desk research and comparative analysis drawing on established regional schools around the world.

13. The presentation **(Annexure – I)** provided an overview of the proposed South Asia School of Energy Regulations (SASER) and its rationale, institutional design and proposed implementation framework. It also touched upon global examples such as the FSR – Florence, ASR – Africa, NARUC – USA, ASEAN School, to name a few. The presentation outlined a two-tier participant model, comprising SAFIR member regulators as primary beneficiaries and wider sectoral stakeholders through demand driven programmes. This will further be supported by a common core curriculum covering topics like fundamentals, grid codes, consumer protection, etc. It also discussed the proposed governance structure, hub and spoke delivery model, lean institutional framework, and a diversified financing approach involving course fees, demand driven fees, member contributions, and donor support. It outlined a four-phase financing pathway for SASER, gradually transitioning towards financial sustainability. Drawing upon the experience of forthcoming ASEAN School of Regulation, for which Malaysia is the anchor sponsor, it was suggested that India could similarly take on the role of an anchor sponsor for the proposed initiative. The presentation also identified

key institutional safeguards and proposed phased next steps to take SASER forward, including incubation, donor outreach, constitution of the Governing Board, and piloting of the proposed model.

B. SAFIR SUPPORTED CENTRE FOR REGULATORY GOVERNANCE – PRESENTATION

14. IICA, a member of SAFIR has proposed to setup a South Asian Centre of Regulatory Governance (SACRG) as a dedicated, standing knowledge and capacity building partner to SAFIR.

15. In his presentation **(Annexure – II),** Prof. Naveen Sirohi, Director, IICA, highlighted the need for a distinct Centre of the Institute, serving as the permanent knowledge, research, capacity building and institutional support partner to SAFIR – covering both regulatory bodies and regulated entities in the South Asia region. The Centre can fulfil many use cases such as providing professional education for Chairpersons, Members and Officers; conducting applied research, comparative studies and policy analysis; creating a regional regulatory knowledge repository and databanks, among others. The presentation also outlined the proposed activity portfolio, phased operationalisation over 36 months with full scale operation planned between months 19 – 36; funding architecture comprising foundational grant support, recurring institutional contributions, earned and programme linked revenue; and governance framework. It also drew upon IICA's experience through the Forum of Indian Regulators (FOIR) Centre and its existing national and international partnerships. IICA highlighted their unique structure and expertise and also showcased some of their existing Schools and Centres. They showcased some of the international experts available in their panel and also assured the members that they have the freedom to hire more relevant international experts, if needed. The proposed way forward envisages in principle concurrence of SAFIR, approval by the IICA Board of Governors, and execution of an MoU establishing the Centre and its governance arrangements.

Discussion:

16. The discussion focused on the need to clearly define the differentiated roles of the proposed institution and the existing Centres of Excellences. Members highlighted the need to assess the extent to which the existing CoEs could be utilised for meeting the training and capacity-building requirements of SAFIR. In response, it was clarified that the existing collaborations largely focus on the electricity sector, whereas SAFIR has a broader mandate encompassing multiple infrastructure sectors. Concerns were raised regarding the financial sustainability of a separate institution. It was highlighted that the need for training requirements of regulators from the SAFIR member countries could be there during the initial years, but such demand could become limited once the immediate capacity-building requirements had been met. Members emphasised the need to assess the long-term demand for training, the revenue potential and the extent to which the institution could become self-sustaining without placing an additional financial burden for the members.

17. During the discussion, members were informed that the UNESCAP proposal envisaged financial support during the initial two years, and expected in-kind support from the SAFIR Secretariat or CERC. For the subsequent five years, an estimated funding requirement of USD 2–3 million was indicated, which could potentially be mobilised through other donor agencies such as ADB, the World Bank and UNESCAP. It was clarified that the proposal did not envisage direct financial contributions from individual member regulators at this stage. However, members observed that while external assistance could support the initial establishment of the institution, the recurring expenditure would need to be met through sustainable funding sources. The members also discussed a cost-effective, scalable hybrid model combining online training with periodic physical interactions.

18. It was further clarified that the UNESCAP proposal did not envisage the creation of a separate campus or new infrastructure. Instead, the presentation by IICA could be viewed as a continuation of the earlier presentation by UNESCAP, with IICA outlining its potential role as the Hub Institution. However, some members

emphasised the need for ascertaining the institutional capacity of IICA to manage such a School, in view of the multiple Centres of Excellence already being operated by it. It had also faced operation challenges in the previous FY, which affected the timely publication of quarterly newsletters and conducting of webinars. In response, Prof. Naveen Sirohi informed that IICA followed an educator model, wherein a relatively lean core team was supported by a wider pool of adjunct and visiting experts, rather than maintaining a large full-time faculty. He clarified that the operational challenges faced during the previous year were primarily attributable to changes in leadership and organisational restructuring, rather than any shortage of manpower.

19. Further to the deliberations of the EC, SC members also expressed a clear preference for ensuring that SAFIR retained full autonomy in the governance, management and functioning of the proposed School. The identification of a suitable Hub Institution was considered a key aspect of taking the proposal forward. Members also welcomed ERA Bhutan's suggestion of exploring a few other potential institutions before arriving at a final decision. It was noted that funding could be explored from development partners and contributions from SAFIR members willing to extend financial support could also be considered.

20. Furtherance to ERA Bhutan's suggestion, members also suggested to explore the existing institutions such as the NTPC Business School, the National Power Training Institute (NPTI) and other similar institutions that may already possess the requisite infrastructure and facilities to host the proposed School. In this regard, it was informed that the School was envisaged to have a broader regional regulatory focus, extending beyond the power sector, and therefore, the suitability of such institutions would need to be assessed in the context of its wider mandate.

21. In conclusion, it was reiterated that the School should have independent ownership and adequate operational freedom and that the head of the said School / Centre (termed Director General [DG]) would report directly to the Executive Committee of SAFIR. The School could initially be housed in an existing institution (hub /

host Institution) and eventually evolve into an independent think tank with its own standing. It was agreed that India could be a suitable location for the School (potential hub in the proposed Hub & Spoke Model). The discussion underscored the need for a clear assessment of the objectives, scope, institutional linkages, funding arrangements and long-term sustainability of the proposed regional training institution before proceeding further. The members broadly welcomed the proposal and considered the deliberations a positive step towards operationalising the School / Centre. The Steering Committee endorsed, in principle, the idea of setting up an independent School / Centre of Regulation by combining the features of the two proposals. It was agreed that EOIs may be invited from some other institutions as well and the Executive Committee could finalise the selection of the hub institution and the structure, financing and governance model of the School / Centre.

C. TECHNICAL ASSISTANCE TO THE SAFIR JOINT WORKING GROUP (JWG)

22. The members were apprised of the technical assistance proposed by UNESCAP to the SAFIR Joint Working Group (JWG). It was informed that the JWG, comprising technical representatives from the member countries, was initially mandated to work on two key areas, namely, the development of a Common Minimum Grid Code and the regional electricity market design. While the development of the Common Minimum Grid Code, has been completed, the work on regional electricity market design, supported by USAID and the World Bank, had also progressed, with a draft report having been circulated.

23. It was noted that, following the discontinuation of USAID's support, UNESCAP has offered to extend technical assistance to the JWG to facilitate the continuation of all the support that USAID was providing. The members acknowledged the proposed assistance and expressed their agreement to proceed with the engagement of UNESCAP in supporting the JWG's activities.

AGENDA ITEM 3: "ENVISIONING AN INTEGRATED AND SHARED ENERGY FUTURE IN SOUTH ASIA FOR ENERGY SECURITY"

A. PRESENTATION BY MR. RAJIV RATNA PANDA, OSOWOG (ONE SUN ONE WORLD ONE GRID) CONSULTANT, INTERNATIONAL SOLAR ALLIANCE (ISA)

24. Shri Rajiv Ratna Panda, OSOWOG Consultant, International Solar Alliance (ISA), made a presentation **(Annexure – III)** on "Envisioning an Integrated and Shared Energy Future in South Asia for Energy Security", highlighting the growing importance of regional energy cooperation, cross border electricity trade (CBET) and the development of an interconnected regional power grid to enhance energy security. He observed that South Asia remained significantly dependent on imported fossil fuels, with approximately 44% of the region's energy supply being met through imports. He highlighted the increasing economic burden of energy imports, particularly in view of global supply disruptions and price volatility. He further highlighted that the net fossil fuel import burden as a share of GDP in 2024 was approximately 4.7% for Pakistan, 3.9% for India, 3.6% for Sri Lanka and 2.4% for Bangladesh. The presentation underscored the need for a transition from a "Petrostate" to an "Electrostate" through diversification of energy sources, greater utilisation of domestic renewable energy resources, electrification of end use sectors, energy efficiency and regional electricity market integration. The presentation also referred to the net zero and carbon neutrality commitments of countries in the region. Shri Panda emphasised that cross-border electricity trade could play a significant role in enhancing energy security. In this context, he also talked about key features of the Asian Development Bank's Pan Asia Power Grid Initiative, announced in May 2026 and also provided an overview of the progress of cross border electricity interconnections in South Asia.

25. The presentation outlined six guiding principles for regional energy integration, focusing on equitable sharing of costs and benefits, respect for national sovereignty, coordinated regional planning, enhanced grid resilience, domestic

grid modernization, and regulatory harmonisation without requiring uniformity. It advocated a phased approach to market integration, supported by transparent pricing, competitive procurement, balancing and ancillary services, and flexibility mechanisms, while recognising differences in the maturity of national electricity markets. Shri Panda concluded that stronger regional cooperation, coordinated planning, appropriate regulatory frameworks and investment in cross border transmission could enhance energy security and system resilience while enabling greater integration of renewable energy across South Asia.

Discussion:

26. Members appreciated the presentation made by Mr. Panda. Members highlighted the need for a comprehensive roadmap for regional electricity integration, clearly identifying the responsibilities of stakeholders and the areas where cooperation could commence. They observed that while technical challenges relating to cross border interconnections need to be addressed, the distribution of electricity and associated arrangements may also involve political considerations. Members agreed that continued dependence on oil and gas entails significant financial and diplomatic costs, whereas greater integration through electricity interconnections could help reduce vulnerabilities and manage energy dependencies more effectively. RFP issued by SAFIR for the study on Cross Border Transmission, is expected to provide a roadmap for advancing regional interconnections.

AGENDA ITEM 4: ACCOUNTS RELATED ITEMS

A. BUDGET FOR THE FY 2026-27

27. The Members were apprised of the salient features of the SAFIR's budget for the F.Y. 2026-27, including the projected income and expenditure. After discussion, the budget for FY 2026-27 was approved.

B. AUDITED ACCOUNTS OF SAFIR FOR THE FY 2025-26

28. The members were apprised of the salient features of the Audited Accounts of SAFIR for the FY 2025-26, and were also informed that the Audited Accounts have not qualified by the Auditor. Based on the discussion, the members approved and adopted the Accounts.

C. APPOINTMENT OF AUDITOR FOR THE FY 2025-26

29. Members were informed that M/s R R S A & Co., Chartered Accountants, New Delhi have been appointed as the new Auditors of SAFIR and have conducted the audit of SAFIR for the FY 2025-26. The members noted the same.

D. RE APPOINTMENT OF TAX CONSULTANT FOR THE FY 2025-26 & FY 2026-27

30. Members were informed that M/s Mittal Vaish & Co., Chartered Accountants, New Delhi have been re-appointed as the Tax Consultant of SAFIR for the F.Y. 2025-2026 (i.e. for filing the Tax Audit Report, Income Tax Return and FCRA Return) and F.Y. 2026-2027 (i.e. for filing the GST Returns and issuing Form 145 (erstwhile Form 15CA / CB).

31. Further, they were also informed that as per the current practice in SAFIR, a Tax Consultant is appointed for a maximum term of 3 years. As M/s Mittal Vaish & Co., Chartered Accountants, New Delhi will be completing their maximum term of 3 years, based on practice, fresh quotations will be called from 6-7 CA Firms (to be shortlisted from the list of empanelled Auditors on the website of C&AG of India & existing CA Firms) and a new Tax Consultant will be appointed, on L 1 basis.

    The members noted the same.

E. MEMBERSHIP IN SAFIR – UPDATE

32. Currently, there are 41 members in SAFIR – 37 members from India and 4 members from member countries. SC Members were also informed that the letter of invitation was sent to the institutions, as per the list shared by the Chairperson, PUCSL / SAFIR, based on the discussions held during the 31st SC Meeting of SAFIR.

33. It was informed that Assam Electricity Regulatory Commission (AERC) has expressed interest in joining SAFIR, which has also been approved by the EC. Along with Assam, Manipur ERC had also shown interest, however due to lack of funds they could not join this FY, but they have expressed their interest to join from the next FY. It was also suggested that Joint Electricity Regulatory Commission (JERC), Jammu & Kashmir (J&K) & Ladakh may be approached to join SAFIR as a member. Members were also informed that SAFIR Secretariat will be writing to Satluj Jal Vidyut Nigam Limited (SJVNL), inviting them to be part of SAFIR. Bangladesh, Bhutan and Nepal Regulatory bodies were requested to onboard members from their country to SAFIR, with a view to ensuring more equitable representation among the SAFIR member countries.

AGENDA ITEM 6: SAFIR LOGO RE DESIGNING – UPDATE

34. SC Members were apprised that SAFIR had decided to undertake a logo redesigning exercise. It was informed that the Terms of Reference (TOR) document, with respect to the SAFIR Logo re designing, was uploaded on both SAFIR and CERC websites. To date, one Expression of Interest (EOI) has been received from a Dhaka (Bangladesh) based company. Member countries were requested to upload the TOR on their websites as well, for wider reach. It was informed that whenever sufficient responses are received, the Secretariat will go ahead with redesigning of SAFIR logo.

AGENDA ITEM 7: SAFIR "CROSS BORDER TRANSMISSION" STUDY – UPDATE

35. SC members were informed that a Consultancy Evaluation Committee (CEC) had been constituted to examine the Terms of Reference (TOR) document of the proposed study on "Cross Border Transmission". Based on the recommendation of the CEC, the TOR was revised and was uploaded on both SAFIR and CERC websites to invite the Expression of Interest (EOI).

36. The last date of receiving the EOI is 18th September 2026, and based on the response received, SAFIR Secretariat will kickstart the activities of the proposed study. Other Member countries were requested to upload the TOR on their websites as well, for wider reach.

AGENDA ITEM 8: NEXT MEETING OF THE STEERING COMMITTEE MEETING (SCM)

37. Chairperson, PUCSL / SAFIR, Prof. K P Lalith Chandralal, offered to host the next Steering Committee Meeting (SCM), in the next financial year in Sri Lanka. It was further informed that the SAFIR Annual Conference would be held in Kathmandu, Nepal and the members of the Steering Committee would be apprised of the dates once finalised.

OTHER ITEMS:

FORMATION OF WORKING GROUP (WG) ON MITIGATION MEASURES FOR DISASTER HIT HYDRO AND RE PROJECTS

38. The SC was informed about the approval of the Executive Committee to the formation of a Working Group (WG), under the Chairmanship of the ERC Nepal (as proposed by ERC Nepal), to examine and recommend mitigation measures for disaster affected hydropower and renewable energy projects. The Working Group will have senior technical experts, from Finance and Economics; one representative from Central Electricity Authority (CEA), India [as they are already

working on it]; Regulators – Retired and one representative each from the member countries. SAFIR Secretariat would provide Secretariat services and issue the Terms of Reference (TOR).

CONCLUSION

39. Secretary SAFIR / CERC, Shri Harpreet Singh Pruthi, expressed appreciation to the Steering Committee members and SAFIR member countries for their valuable participation and guidance during the 32nd Steering Committee Meeting. He thanked UNESCAP and IICA for their proposals on establishing the SAFIR School / Centre and welcomed the initiative as an important step towards regional capacity building and knowledge exchange. He also acknowledged Shri Rajiv Ratna Panda's presentation on an integrated regional energy future and the decision to constitute a Working Group on mitigation measures for disaster-affected hydropower and renewable energy projects. He expressed confidence that the meeting's deliberations would further strengthen SAFIR as a regional platform for cooperation and capacity building, and appreciated the efforts of the SAFIR Secretariat and PGCIL in organising the meeting.

Meeting ended with vote of thanks to the Chair.

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Appendix I

LIST OF PARTICIPANTS

32ND STEERING COMMITTEE MEETING (SCM) OF "SAFIR"

HELD ON 31ST AUGUST, 2026 AT MANESAR, HARYANA [INDIA]

S. NO.	NAME	ORGANIZATION
01.	Prof. K.P. Lalith Chandralal Chairperson, PUCSL & SAFIR	Public Utilities Commission of Sri Lanka (Sri Lanka)
02.	Mr. Jishnu Barua Chairperson, CERC & SAFIR	Central Electricity Regulatory Commission (India)
03.	Mr. Jalal Ahmed Chairperson, BERC	Bangladesh Energy Regulatory Commission (Bangladesh)
04.	Dr. Ram Prasad Dhital Chairman, ERC	Electricity Regulatory Commission (Nepal)
05.	Ms. Deki Choden Chief Executive Officer	Electricity Regulatory Authority (Bhutan)
06.	Mr. P. Ravi Kumar Chairperson	Karnataka ERC (India)
07.	Dr. M.V. Rao Chairperson	West Bengal ERC (India)
08.	Mr. Alok Tandon Chairperson	JERC for State of Goa & UTs (India)
09.	Mr. Arvind Kumar Chairperson	Uttar Pradesh ERC (India)
10.	Mr. Chandan Kumar Mondol Chairperson	Meghalaya SERC (India)
11.	Mr. Madan Lal Prasad Chairperson	Uttarakhand ERC (India)
12.	Mr. (Justice) Navneet Kumar Chairperson	Jharkhand SERC (India)
13.	Dr. (Justice) Devaraju Nagarjun Chairperson	Telangana SERC (India)
14.	Mr. Shashi Kant Joshi Chairperson I/c.	Himachal Pradesh ERC (India)
15.	Mr. Biswajit Mohanty Chairperson I/c.	Odisha ERC (India)

16.	Mr. B. Pradeep Member	Kerala SERC (India)
17.	Mr. Ajay Kumar Singh Member	Chhattisgarh SERC (India)
18.	Mr. Ravinder Singh Saini Member	Punjab SERC (India)
19.	Ms. Puspita Chakraborty Member	Tripura ERC (India)
20.	Mr. Hiren Shah Member	Gujarat ERC (India)
21.	Mr. Manoj Kumar Member	Bihar ERC (India)
22.	Mr. Praveen Saxena Managing Director	ONGC TPC (India)
23.	Ms. S. Usha Director (MO)	Grid India (India)
24.	Ms. Manju Gupta Executive Director (Com. & Reg. Cell)	Power Grid Corporation of India Ltd., India
25.	Mr. Amitabh Jha Executive Director (Com.)	NHPC Ltd. (India)
26.	Mr. Ripun Joy Bhuyal I/c. Executive Director (Com.)	NEEPCO Ltd. (India)
27.	Mr. Harish Saran MD	HPX (India)
28.	Mr. Rohit Bajaj JMD	IEX (India)
29.	Mr. C.M. Verma Vice President	PTC India Ltd. (India)
30.	Prof. Naveen Sirohi Director	IICA, Ministry of Corporate Affairs, New Delhi (India)
31.	Mr. Harpreet Singh Pruthi Secretary, CERC	Central Electricity Regulatory Commission (India)
32.	Dr. Sushanta K. Chatterjee Chief (Regulatory Affairs), CERC	Central Electricity Regulatory Commission (India)
SPECIAL INVITEES		
33.	Mr. Ramesh Babu Veeravalli Member	Central Electricity Regulatory Commission (India)

34.	Mr. Harish Dudani Member	Central Electricity Regulatory Commission (India)
35.	Mr. Ravinder Singh Dhillon Member	Central Electricity Regulatory Commission (India)
36.	Mr. Balaji, M.K. Resource Management Specialist	UNESCAP Energy Division, Bangkok, Thailand
37.	Mr. Joseoph George Senior Research Associate	ESCAP South & South West Asia Office, New Delhi (India)
38.	Mr. Rajiv Ratna Panda OSOWOG (One Sun One World One Grid) Consultant	International Solar Alliance (ISA) New Delhi (India)
SAFIR SECRETARIAT		
39.	Ms. Rashmi Somasekharan Nair Jt. Chief (Regulatory Affairs)	Central Electricity Regulatory Commission (India)
40.	Mr. Debasish Roy Asst. Chief (RA) / Asst. Secretary	CERC, New Delhi (India)
41.	Mr. Nilesh Diwan Accounts Officer	SAFIR Secretariat, New Delhi (India)
42.	Mr. Sushil Kumar Arora Senior Administrative Officer	SAFIR Secretariat, New Delhi (India)
OTHERS		
43.	Mr. Aditya P. Das	Grid India (India)

South Asia School of Energy Regulations (SASER)

SAFIR Meeting — August 2026 |

Detailed Project Report Overview

31st August, 2026

Presented by Balaji MK, Resource Management Consultant



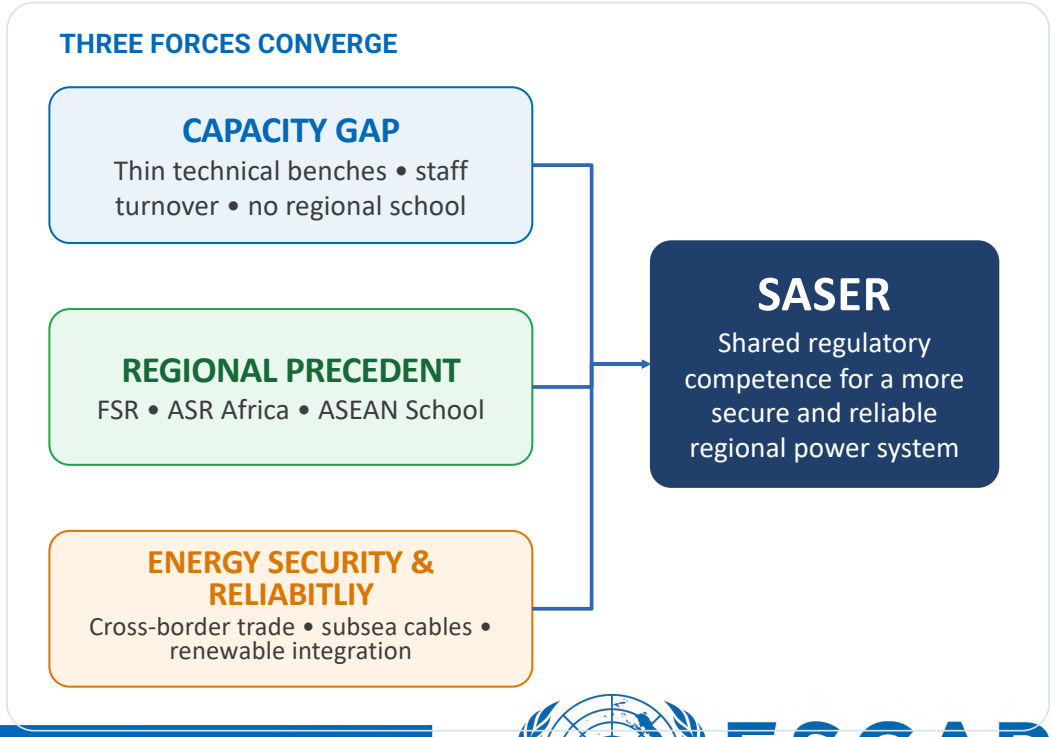
ESCAP
Economic and Social Commission for Asia and the Pacific

Why South Asia needs a dedicated regulatory school

Capacity gap: Bangladesh, Bhutan, Nepal and Sri Lanka face staff turnover, thin technical benches and no dedicated regional school.

Regional precedent: FSR, ASR Africa and the ASEAN School show that hosted academies accelerate regulatory maturity.

Energy security & reliability: Cross-border trade, subsea cables and renewable integration demand harmonized competence.



ESCAP
Economic and Social Commission for Asia and the Pacific

Global benchmark: Seven Institutions

FSR · Florence

University-hosted · structural subsidy

ASR · Africa

Three-phase incubation · donor-funded

ASEAN School

Ministerial-endorsed · hosted model

NARUC · USA

Association-run · cooperative grants

IPU / CPU · USA

University-hosted · utility fee income

ARIAE-EIR / CAMPUT

Association models · member dues

OLADE · LAC

Regional hub-and-spoke · grants plus dues

ESCAP
Economic and Social Commission for Asia and the Pacific

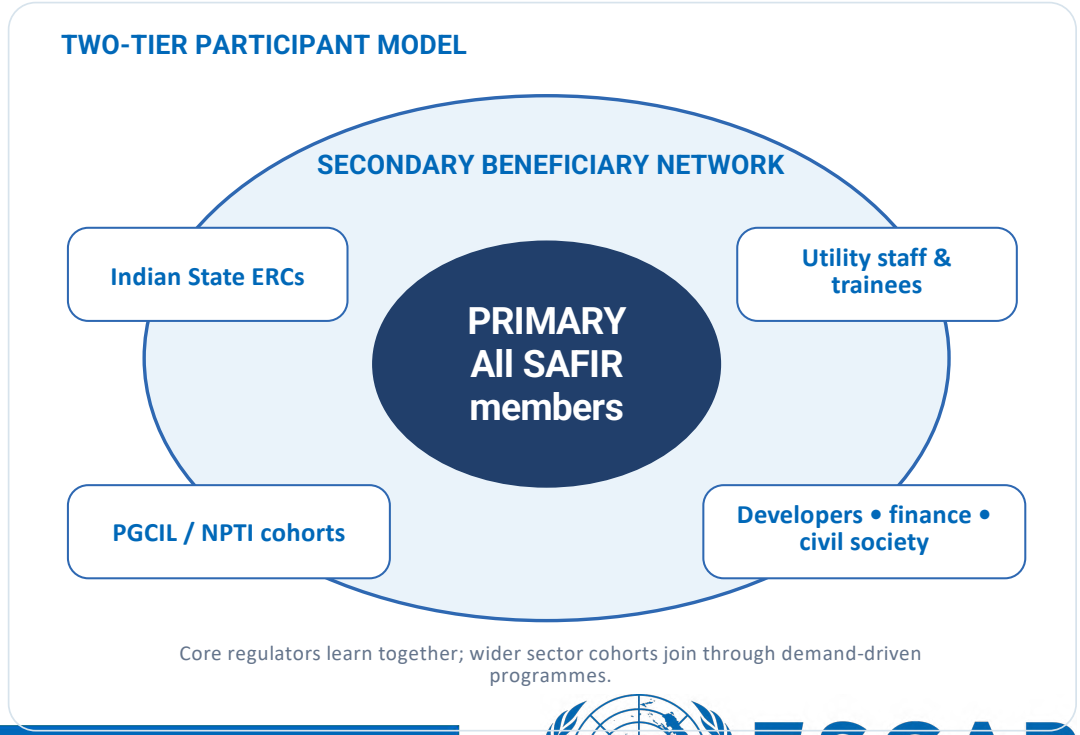
SASER's target participants

Primary beneficiaries

All Members of SAFIR

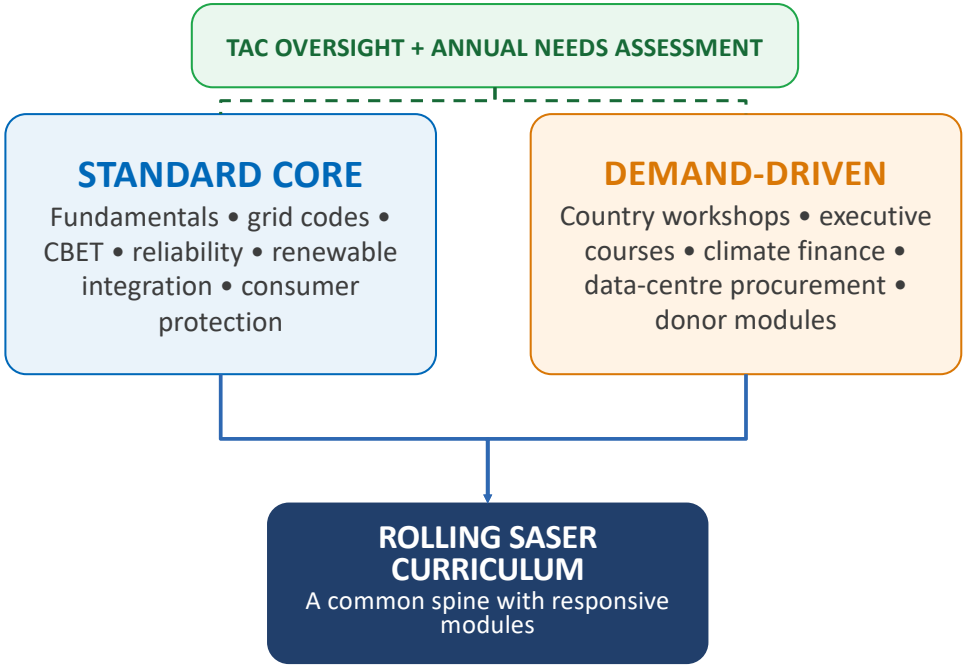
Secondary beneficiaries

- Indian State ERCs
- Utility staff
- PGCIL/NPTI trainees
- for demand-driven programs
  - private developers, financiers, and civil society.



ESCAP
Economic and Social Commission for Asia and the Pacific

Standard core plus demand-driven modules

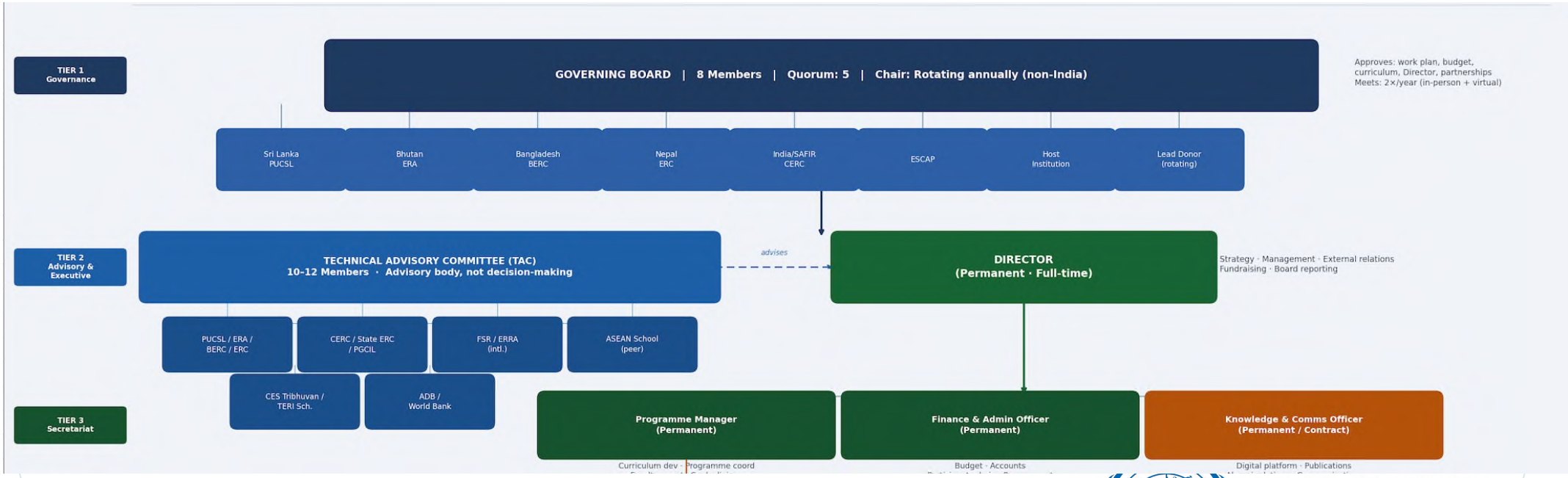


ESCAP
Economic and Social Commission for Asia and the Pacific

Two-tier governance: Board plus Technical Advisory Committee

1.Governing Board (8): Country regulators, CERC/SAFIR, ESCAP, host and rotating lead donor; rotating chair; quorum 5.

2.Technical Advisory Committee (10–12): SAFIR members plus regulatory practitioners, institutions, academia and development partners; advisory only.

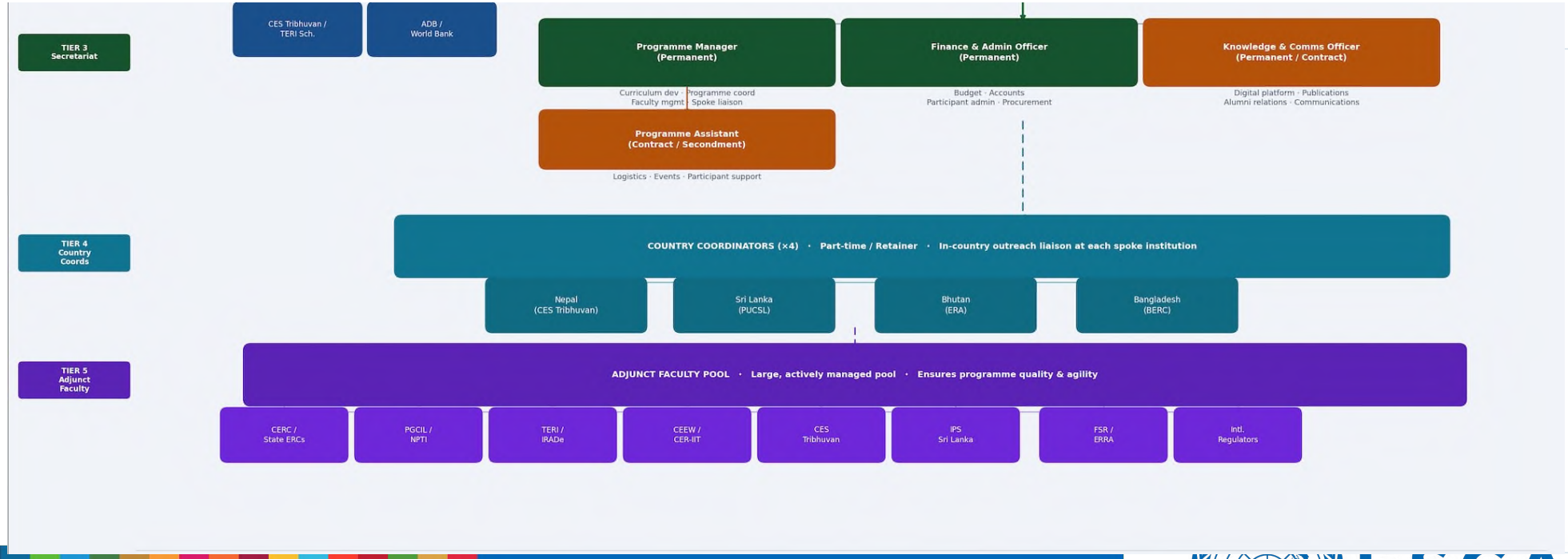


ESCAP
Economic and Social Commission for Asia and the Pacific

Lean permanent core, deep adjunct bench

Lean core: Director, Program Manager and Finance & Admin Officer, supported by country coordinators.

Flexible bench: Program/communications support and an actively managed adjunct faculty pool scale with delivery.



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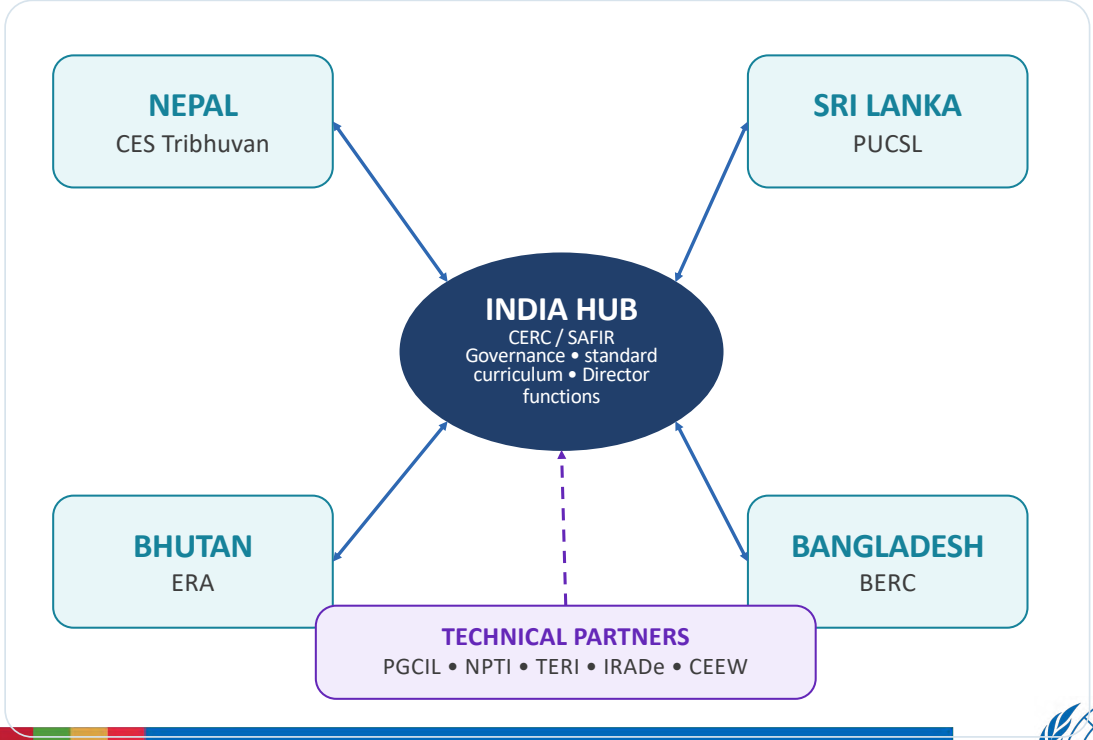
Economic and Social Commission for Asia and the Pacific

Hub-and-spoke, not single-site delivery –

Distributed delivery avoids single-site concentration risk.



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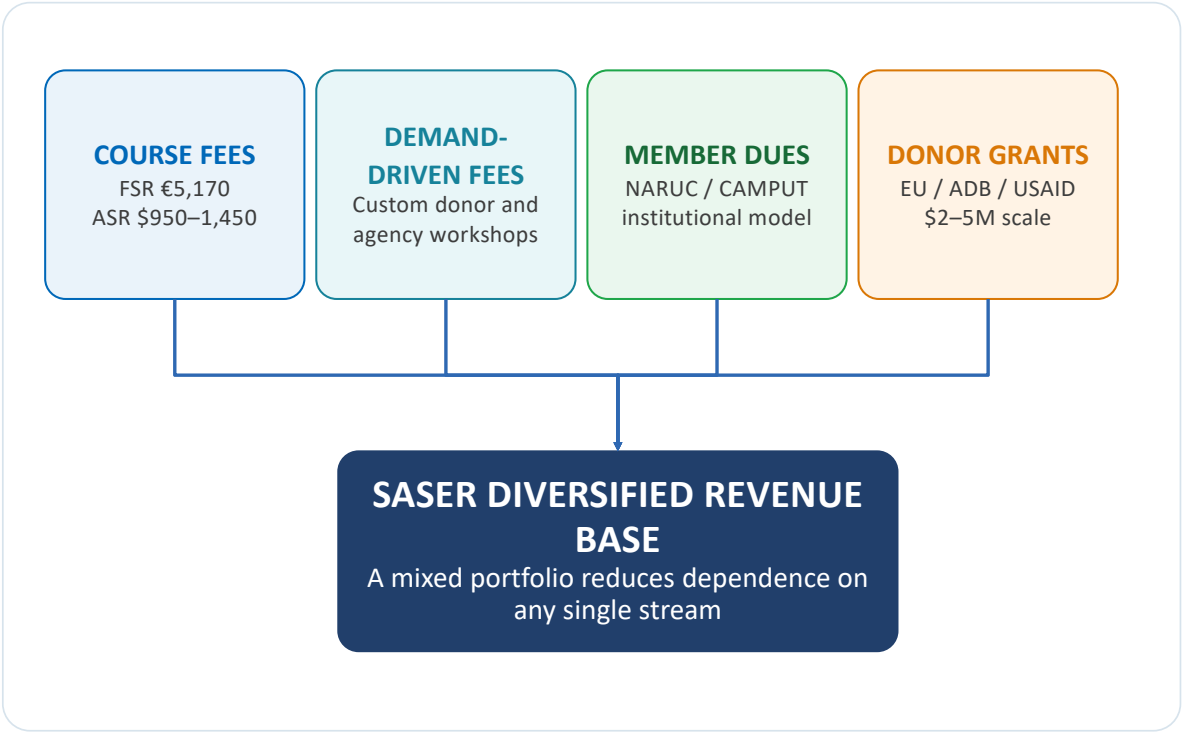
Four revenue streams, benchmarked against peers



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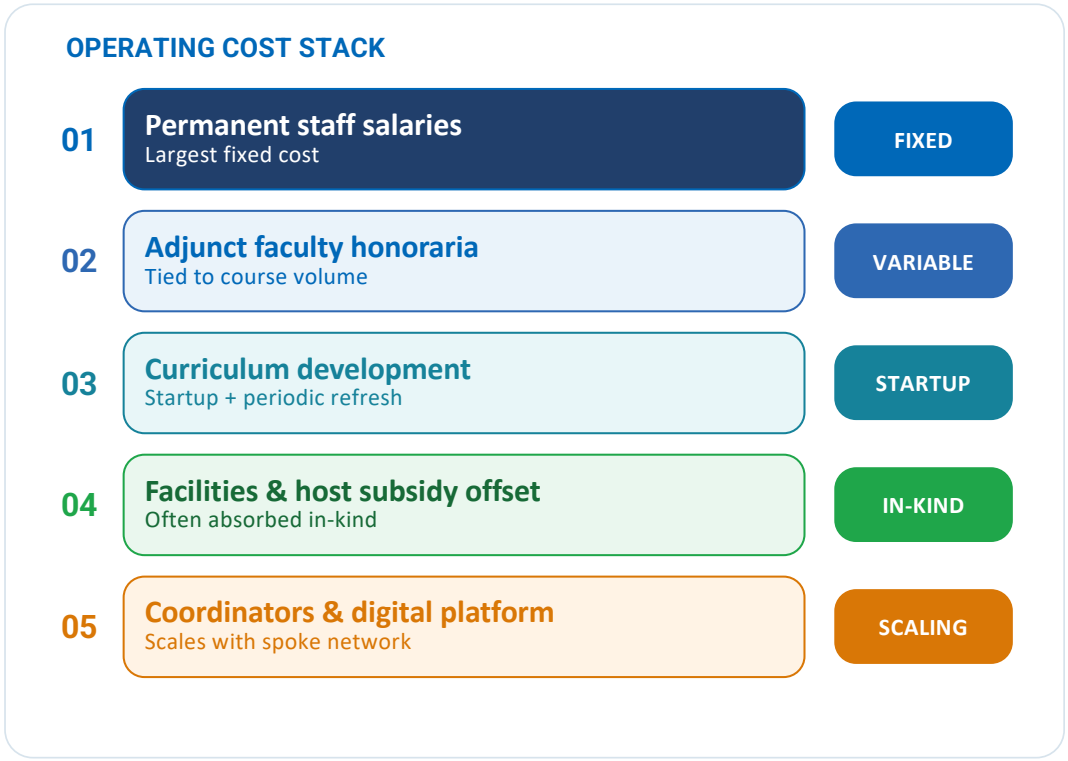
Five major cost categories



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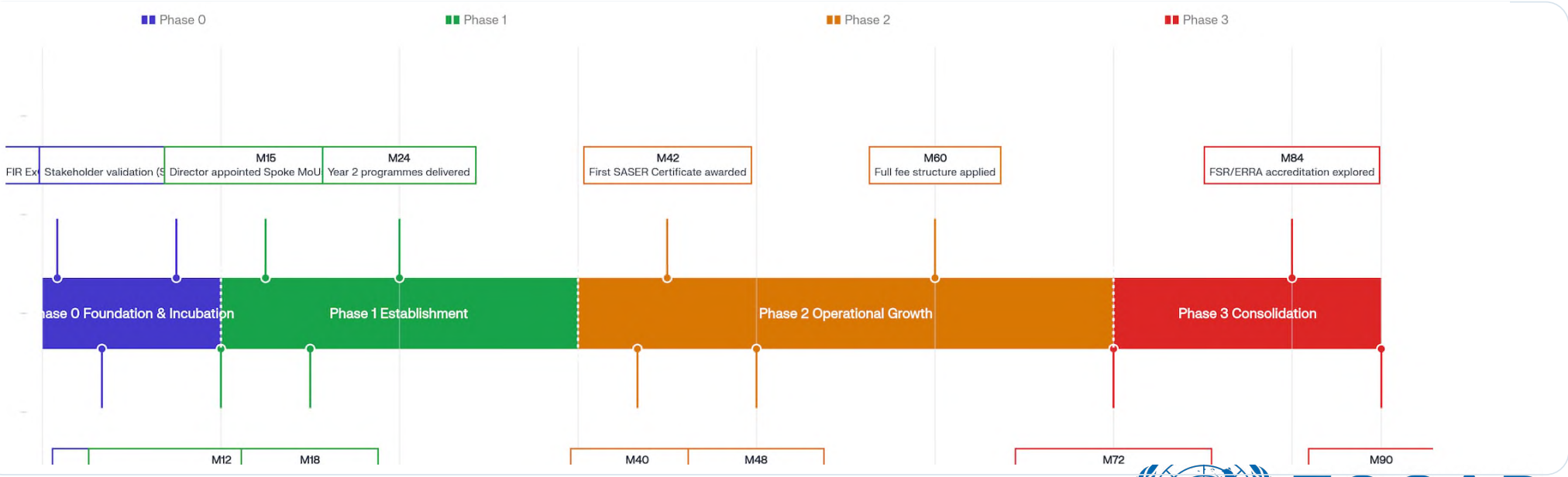
Four-phase startup financing pathway, mirroring ASR Africa

Phase 0 · Months 0–12: ESCAP/SAFIR incubation (about $0.2–0.3M).
Phase 1 · Months 12–36: $2–3M lead grant.
Phase 2 · Months 36–72: Fees and dues grow; donor share tapers.
Phase 3 · Year 6+: Target mix: 40% fees, 30% members/host, 30% donors.



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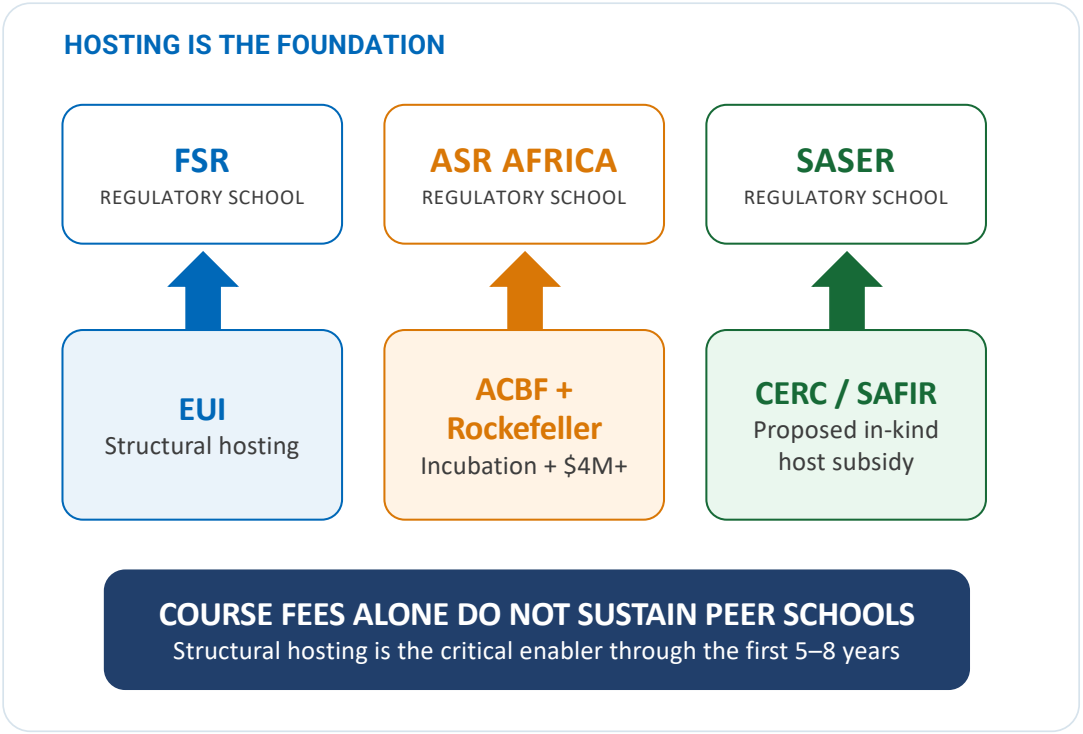
Every peer school relies on a hosting subsidy



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Challenges faced by peers — and how they were overcome

Peer experience points to four practical safeguards for SASER's institutional design.

PEER CHALLENGE		SASER DESIGN RESPONSE
SINGLE-DONOR DEPENDENCE NARUC's 2025 USAID disruption	→	**Diversify revenue from Phase 1 onward** Blend fees, member/host contributions and donor grants
FRAGMENTATION ACROSS BRANCHES ARIAE-EIR dual-branch split	→	**Keep one Secretariat** Use clear country-spoke reporting lines
PERCEIVED HOST-COUNTRY BIAS Neutrality concerns in regional schools	→	**Rotate the Board chair** Pair rotation with shared ministerial ownership
SLOW CURRICULUM UPTAKE Long faculty-network build-up at IPU-MSU	→	**Invest in the TAC and adjunct network** Maintain sustained practitioner relationships

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ASEAN School of Regulation: A Practical Regional Benchmark

What ASEAN has established

Element	ASEAN School of Regulation (ASR) model
Purpose	A dedicated regional platform for sustained capacity building, peer learning, and regulatory excellence supporting the energy transition and ASEAN Power Grid integration.
Ownership	Endorsed by the ASEAN Energy Regulators Network (AERN); subsequently noted by ASEAN Energy Ministers as a platform for regulatory frameworks, legal aspects, and market reforms.
Host model	Physical school hosted in Malaysia following an offer by Malaysia's Energy Commission; the host supplies administrative, HR, IT, finance, and event-management systems.
Programme	One-week flagship summer schools plus demand-driven national or regional trainings; initial focus on foundational regulation, power systems, and cross-border power trade.
Operating approach	A small core team, structured curriculum, practical knowledge products, and an emphasis on gender, youth, and broad participation across member states.
Financing lesson	Seed funding supports establishment, while long-term sustainability requires diversified donor support, member contributions, and paid or bespoke training.

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Proposed next steps for SAFIR endorsement

Five decisions move SASER from endorsement to a validated regional pilot.



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Economic and Social Commission for Asia and the Pacific

Thank you

A PROPOSAL BY THE INDIAN INSTITUTE OF CORPORATE AFFAIRS

South Asian Centre of Regulatory Governance

(SACRG)

A standing knowledge, capacity-building and institutional support partner to the South Asia Forum for Infrastructure Regulation (SAFIR)

SERVING INFRASTRUCTURE REGULATORS ACROSS SAFIR MEMBER COUNTRIES

- India
- Bangladesh
- Sri Lanka
- Nepal
- Bhutan

Membership as recorded by SAFIR (established May 1999)

I. THE CASE

An infrastructure expansion of unprecedented scale — mediated, at every step, by regulatory decisions

USD 26 tn

Required by developing Asia over 2016–2030 to sustain growth, eradicate poverty and respond to climate change

Asian Development Bank

USD 1.7 tn

Required per annum across the region — each unit of it public, private or blended capital

Asian Development Bank

8.8% of GDP

South Asia's annual requirement — the second highest among the sub-regions of Asia

Asian Development Bank

- Tariff orders, licensing decisions, market design and dispute resolution mediate every unit of investment, whether public, private or blended.
- South Asia's requirement as a share of GDP is exceeded only by one other Asian sub-region — the regulatory load per unit of output is correspondingly high.
- The region's infrastructure outcomes are therefore only as strong as the institutions that regulate them.

> *"The quality of infrastructure outcomes in the region is contingent upon the quality of its regulation."*
>
> SACRG Proposal, para 1.1

I. THE CASE

Capital is not the binding constraint — the capacity to absorb it is

- **Finance is available; absorption is not.** Assessments of the Asia-Pacific infrastructure gap find that capital for quality projects exists in significant measure — the material challenge is attracting it into particular markets and deploying it efficiently, a function of regulatory credibility, predictability and institutional capability.
- **The region trails on regulatory quality.** The World Bank's Worldwide Governance Indicators and Global Indicators of Regulatory Governance consistently place South Asian economies below global medians; forward regulatory plans, structured consultation and regulatory impact assessment remain thinly institutionalised.
- **There is no standing institution for the profession.** The OECD identifies professional capability — skilled personnel, structured induction, continuous development — as a defining attribute of effective regulators. No South Asian jurisdiction has a dedicated institution for cross-sectoral regulators; capacity building remains episodic and largely donor-dependent.

40%

of Asia's infrastructure gap could be bridged through governance and regulatory reforms

Asian Development Bank estimate

THINLY INSTITUTIONALISED IN THE REGION

- Forward regulatory plans
- Structured public consultation
- Regulatory impact assessment

A convergent diagnosis across every SAFIR member jurisdiction

India

APEX-LEVEL DIAGNOSIS

Economic Survey 2025-26 recognises regulation as among the most consequential State–economy interfaces, stresses that regulators require experts and recommends a "School of Regulatory Studies" — stand-alone or within an existing institution. The NITI Aayog panel (Shri Rajiv Gauba) and EAC-PM prescribe a trust-based regulatory framework. NIPFP (2018): many regulators created, outcomes often sub-optimal; organisational design is the pathway to State capacity.

Economic Survey 2025-26 · NITI Aayog / EAC-PM · NIPFP, Roy et al. (2018)

Bangladesh

REGULATOR RESTORED

The 2022 amendment moved tariff-setting from BERC to the executive; the Ordinance of 27 August 2024 repealed it, returning price determination to the Commission through public hearings. The Government's Task Force on Re-strategising the Economy (January 2025) proposes a Regulatory Reform Commission and a strengthened BERC.

BERC (Amendment) Ordinance, 2024 · Task Force on Re-strategising the Economy (2025)

Sri Lanka

STATUTE REWRITTEN

The Electricity Act, No. 36 of 2024 repeals the 1969 CEB Act, unbundles the utility and designates PUCSL as sector regulator — amended within fourteen months (Act No. 14 of 2025). The IMF Governance Diagnostic (September 2023), the first in Asia, found a disorganised regulatory process with insufficient review and engagement.

Sri Lanka Electricity Act, No. 36 of 2024 · IMF Country Report No. 23/340 (2023)

Nepal

TRUST-BASED REGULATION

The High-Level Economic Reforms Recommendation Commission (April 2025) prescribes a shift from control-based to trust-based regulation and an end to unnecessary regulatory interference; the Council of Ministers approved an implementation plan within five weeks. The Electricity Regulatory Commission itself dates only from May 2019 — after a two-year gap in tariff-setting.

HLERRC (2025), Chair: Rameshore P. Khanal · Electricity Regulatory Commission Act, 2074 (2017)

Bhutan

PLAN-LEVEL DIAGNOSIS

The Thirteenth Five Year Plan (2024–29) records cumbersome licensing, layered permissions and policy uncertainty that slows regulatory reform. The Civil Service Reform Act 2022 reorganised the regulatory apparatus — the Bhutan Electricity Authority was reconstituted as the Electricity Regulatory Authority under the Ministry of Energy and Natural Resources.

Royal Government of Bhutan, 13th FYP 2024–2029 · Civil Service Reform Act of Bhutan 2022

Across the region, regulatory institutions have expanded faster than the professional ecosystem needed to staff them. Between 2023–2025 every SAFIR jurisdiction produced a statute, ordinance or apex-level report on regulatory governance — and none has a standing institution to supply the trained personnel these reforms presuppose.

SAFIR: an enduring regional mandate without a standing delivery partner

- **Established May 1999** to build regulatory decision-making and response capacity in South Asia; membership spans India, Bangladesh, Sri Lanka, Nepal and Bhutan.
- **A recognised regional network** of regulators and utilities across countries and sectors, sustained for over twenty-five years, with objectives spanning capacity building, research, knowledge exchange and global best practice.
- **No permanent institutional mechanism** to translate the Forum's convening role into a continuous programme of executive education, applied research, regulatory databanks and secretariat-level analytical support. The mandate endures; the delivery partner was never institutionalised.

WHAT SAFIR HAS	WHAT SAFIR LACKS
✓ Convening authority over the region's infrastructure regulators	✗ A permanent knowledge and capacity-building institution
✓ A network spanning five countries and multiple sectors	✗ Continuous executive education and induction programmes
✓ Twenty-five years of institutional standing	✗ Applied research and regional regulatory databanks
✓ An established core course and publication practice	✗ Secretariat-level analytical and documentation support

Why IICA: charter, precedent and a model already validated at the national level

Charter

The **Cabinet Note** (2008), para 3.1, conceived IICA as "a top level nationally/internationally networked think tank" for convergence of Government, regulators and corporates. The Memorandum of Association makes advice on regulation, and international networking, integral to the Institute's objects.

Precedent

The IICA Society Rules vest general superintendence in the **Board of Governors,** which has approved dedicated centres of excellence and revamped existing centres and schools to broaden their mandates like:

- Centre for Independent Directors
- Centre for Insolvency and Bankruptcy
- Forum of Indian Regulators (FOIR) Centre
- Centre for Business & Human Rights
- Centre of Excellence in ADR

A validated model

The **FOIR Centre** shows that a forum of regulators — convening authority, limited executive apparatus — is best served by a dedicated centre within an institution possessing faculty, research infrastructure, executive-education delivery and the confidence of Government.

FOIR CENTRE · NATIONAL
Standing partner to the Forum of Indian Regulators since 2019

→

SACRG · REGIONAL
The same institutional model, replicated for SAFIR

LEADERSHIP



Smt Nirmala Sitharaman
Hon'ble Corporate Affairs Minister
President, Board of Governors IICA



Shri Harsh Malhotra
Hon'ble Minister of State for Corporate Affairs

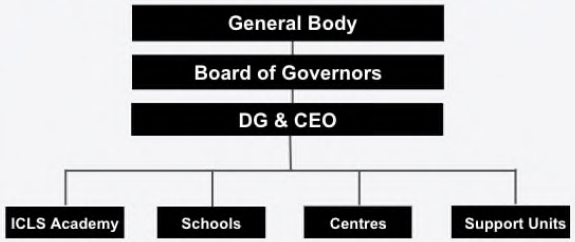


Dr. Pallavi Jain Govil
Secretary, Ministry of Corporate Affairs,
Chairperson, Board of Governors IICA



Shri Gyaneshwar Kumar Singh
Director General & CEO, IICA

ORGANISATIONAL STRUCTURE



IICA Unique Structure and Expertise

1. School of Competition Law and Market Regulation
2. School of Corporate Law
3. School of Corporate Governance & Public Policy
4. School of Finance & Management
5. School of Business Environment

6. Research Chairs by RBI, IBBI, IEPFA

7. Centre for Independent Directors
8. Centre for Insolvency & Bankruptcy
9. Centre for Micro, Small and Medium Enterprises
10. Centre for Business and Human Rights
11. Forum of Indian Regulators (FOIR) Centre
12. Centre of Regulatory Governance
13. Centre of Excellence in Alternative DIspute Resolution
14. Centre of Excellence in CSR & Corporate Citizenship
15. Centre of Board Leadership & Excellence
16. Centre for Responsible Business Advisory
17. Centre for Institutional Partnerships & Corporate Communication

International Expert Connect



Stephen Gibson · 1st
Director of SLG Economics, Chair of the Regulatory Policy Committee, Research Fellow at Harvard Kennedy School, Research Fellow at LSE and member of the Bank of England Cost-Benefit Panel



Mr Kevin Nash
Director General
London Court of International Arbitration



Ms Anna Grishchenkova
Former Vice Chair
ICC Russia Arbitration Commission



Prof Olga Boltenko
Professor of Law,
Arbitrator and Barrister, Prince Chambers



Mark Zyla
MD, Zyla Valuation Advisors LLC Atlanta, USA



Nick Talbot
CEO, International Valuation Standards Council (IVSC)



Anton Lezhja
VP ASA EU Chapter and Director of Valuation, Deloitte, Europe



Andrew Miller KC
Barrister (KC), Mediator & Arbitrator, 2TG (2 Temple Gardens)



Jeff Kichaven
Principal Mediator, Jeff Kichaven Commercial Mediation



Christine Maksoud
Founding Member and Executive Director, The Mediation Hub, MENA, UAE



Laura Grisolano
President and CEO, Bridge Mediation & Leadership Solutions



Jeremy Lack
Director & General Counsel, InnovADR



Nicholas Sadhu
Mediator and Lawyer
Australia

A proven contribution in regulatory governance at national level through FOIR Centre and services already extended to SAFIR

38 FOIR members across 9 sectors - Electricity, Telecom, Airport, Competition, Insolvency, Food Safety, PNGRB, Real Estate etc. served since 2019 –

7 batches of the **4-month Regulatory Governance Course**

4 editions of the Annual FOIR Conference, with 50+ serving and former chairpersons and members

4 editions of the Annual Colloquium of Central Sector Chairpersons

12+ Know Your Regulator sessions with chairpersons of regulatory organisations

4 editions of the **3-day in-person Capacity Building Programme** on Regulatory Governance

10+ webinars, alongside the quarterly newsletter "Regulatory Digest"

4 FOIR-funded research projects — performance evaluation (completed); RIA capacity, landmark judgements and power-market flexibility (in process)

SAFIR-funded research (2023)

"Regulatory Practices for Innovation: Cross Learnings from Infrastructure Sectors for SAFIR" — a study already commissioned by the Forum from IICA.

Centre of Regulatory Governance (CRG), est. 13 September 2023

Created at the 43rd Board of Governors meeting for India and the Global South. Conducted a 2024 international study tour of 20+ chairpersons; already provides newsletters and webinars to SAFIR.








FDIR ANNUAL CONFERENCE 2026
Panel 1: Role of AI in Regulation
Panel 2: Smart Deregulation: Reducing Burden Without Reducing Oversight





International connect and alignment with national policy on regional capacity building

EXISTING GLOBAL PARTNERSHIPS

International Finance Corporation
World Bank Group — corporate governance

UN Women
Gender equality and responsible business conduct

International Labour Organisation
Responsible business and sustainability governance

UNICEF
Institutional partnership

George Washington University, School of Law
Corporate regulation and governance

GIZ
German Agency for International Collaboration

Institute of Directors (UK)
Board and director development

Ministry of External Affairs — ITEC
Exploratory: capacity building and research for partner nations

ALIGNMENT WITH NATIONAL POLICY

Neighbourhood First

India's South Asia policy prioritises strengthening regional partners through training, infrastructure and technical expertise.

South-South cooperation

Sharing capacity building, development experience and governance models with the Global South, anchored in Vasudhaiva Kutumbakam — with regulation and governance as identified areas of focus.

Institutional effect

A dedicated centre positions India, through an autonomous body under the Ministry of Corporate Affairs, as the region's knowledge anchor for regulatory governance.

A neutral, professionally administered regional platform — one that no member regulator could individually sustain.

The proposal: a dedicated centre at IICA as SAFIR's standing knowledge and capacity-building partner

A distinct centre of the Institute, serving as the permanent knowledge, research, capacity-building and institutional support partner to SAFIR — covering both regulatory bodies and regulated entities in the South Asian region.

- **Nomenclature:** "South Asian Centre of Regulatory Governance (SACRG)" or "Centre of Regulatory Governance – SAFIR", to be settled in consultation with the Forum.
- **Distinct identity** within IICA, reflecting the international mandate, multi-country stakeholders and a dedicated interface with SAFIR.
- **Future extension** to regulators across the Global South only upon defined maturity markers and with SAFIR's concurrence — not proposed at this stage.



Activity portfolio: five delivery streams for regulators and regulated entities

Capacity building and executive education

- Flagship annual Core Training Programme on Infrastructure Regulation, augmenting SAFIR's core course
- Induction programmes for newly appointed members and officers
- Thematic short courses: tariff design, competition, quality of service, consumer protection, RIA, energy transition, digital infrastructure
- Customised in-country programmes on request

Research and knowledge products

- Annual State of Infrastructure Regulation in South Asia report
- Occasional papers and policy briefs
- Comparative benchmarking across member jurisdictions
- Periodical regional regulatory newsletter

Institutional support to SAFIR

- Analytical and documentation support to the Steering and Executive Committees
- Technical support to working groups
- Organisation of the annual conference, workshops and events
- Institutional records, website and knowledge repository, as entrusted

Regional and international networking

- Partnerships with multilateral development institutions
- International and regional regulatory networks
- Reputed academic and training institutions
- Joint programmes, faculty exchange and research collaboration

Advisory support

- Technical assistance to individual regulatory authorities
- Institutional development, regulatory processes and organisational capability
- Subject to the concurrence of SAFIR and the member regulator concerned

Synergies within IICA: co-location with the FOIR Centre yields shared faculty and knowledge resources, cross-learning between Indian and regional regulators and economies in delivery — with distinct governance and financial arrangements for each centre.

Phased operationalisation over thirty-six months

PHASE I · Months 1 – 6
Foundation

- In-principle concurrence of competent authorities at SAFIR & IICA Board of Governors
- Execution of the Memorandum of Understanding
- Designation of Centre Director and core team

PHASE II · Months 7 – 18
Launch of delivery

- Commencement of the flagship Core Training Programme and first thematic programmes
- Launch of the regional newsletter and knowledge repository
- Assumption of agreed institutional support functions
- Initiation of partnerships with multilateral institutions

PHASE III · Months 19 – 36
Full-scale operation

- Annual State of Infrastructure Regulation in South Asia report
- In-country and customised programmes; advisory engagements
- Joint review of the Centre's functioning with SAFIR
- Consolidation and expansion of the mandate, as agreed

Month 1 · Month 6 · Month 18 · Month 36

Funding architecture: three streams, shifting progressively towards self-sustainability

A

Foundational grant support · Years 1–3

IICA seed support, largely in kind (premises, faculty time, administration at Manesar); time-bound programme grants from World Bank/PPIAF, ADB and bilateral partners against defined outputs; philanthropic seed funding on the African School of Regulation precedent.

B

Recurring institutional contributions

Nominal, tiered annual contributions from SAFIR member regulators — to establish ownership, not to fund the budget; sponsorships and endowed chairs (e.g. a "SAFIR Chair on Infrastructure Regulation") from **Indian regulators, public financial institutions and PSUs**; **ITEC empanelment** for Government-funded participation.

C

Earned and programme-linked revenue

Fees from the flagship, thematic and certified programmes, with differential structures for member nominees, non-members, utilities and regulated entities; sponsored research and advisory on cost-plus terms; conference sponsorship, publications and databank subscriptions at maturity.

INDICATIVE SUSTAINABILITY TRAJECTORY

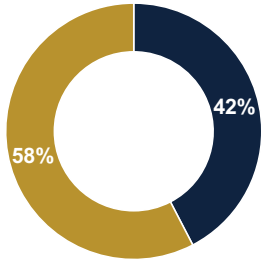


Schematic, per para 5.8 of the proposal. A dedicated Corpus Fund would underwrite core costs at maturity. Precedents: Florence School of Regulation (EUI, with CEER and the European Commission); African School of Regulation (2023, incubated by ACBF, seeded by The Rockefeller Foundation).

Indicative three-year incubation budget: ₹2.83 crore per annum

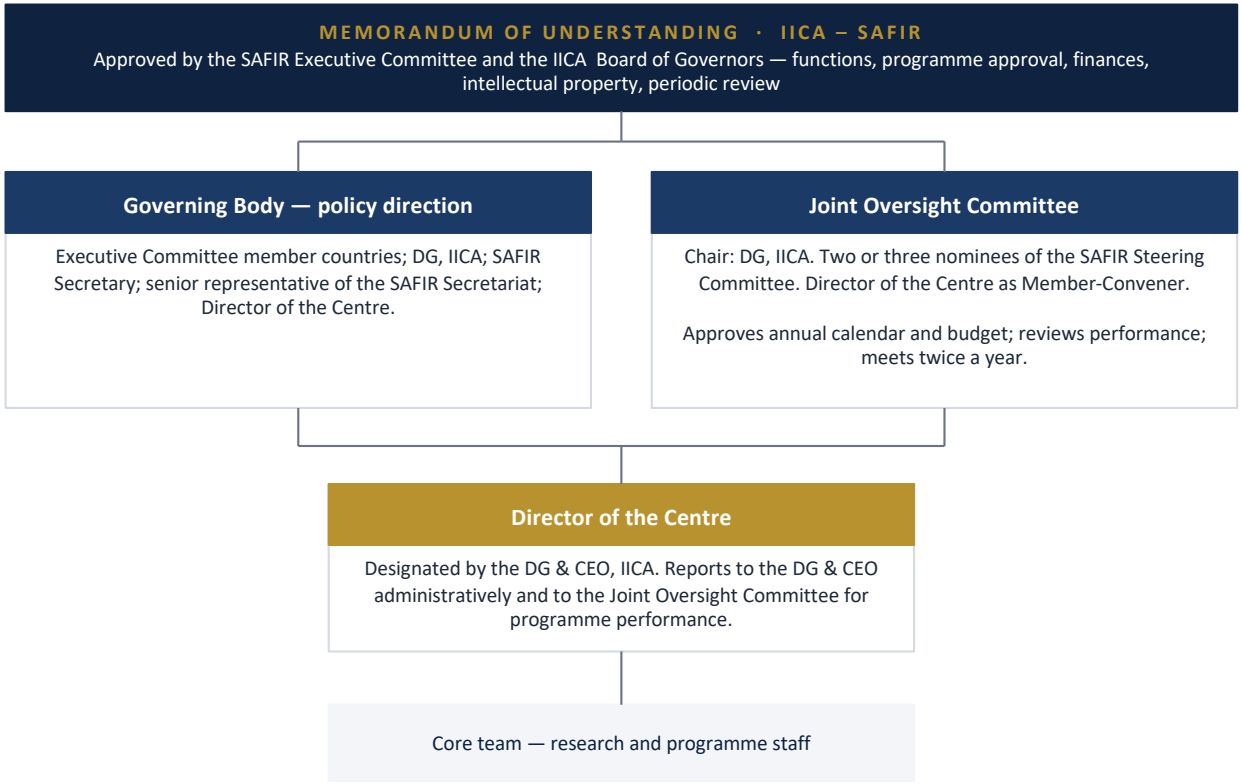
Particulars	Per year (₹)	Three-year total (₹)
IICA Support (A)	**1,19,83,000**	**3,59,49,000**
Dedicated office space (1,000 sq ft)	70,00,000	2,10,00,000
Manpower — one Director (50% of salary)	19,20,000	57,60,000
Electricity, IT infrastructure etc.	12,00,000	36,00,000
Travel — coordination and business development	3,00,000	9,00,000
Miscellaneous and IICA overheads (@15%)	15,63,000	46,89,000
SAFIR Programme Support (B)	**1,63,00,000**	**4,89,00,000**
Manpower — 1 Senior Research Associate + 2 Research Associates	24,00,000	72,00,000
Core Course	58,00,000	1,74,00,000
Annual Conference	64,00,000	1,92,00,000
Annual Research	15,00,000	45,00,000
Newsletter and Webinars	2,00,000	6,00,000
Total initial incubation support (A + B)	**2,82,83,000**	**8,48,49,000**

COMPOSITION OF ANNUAL SUPPORT



SAFIR programme support is funding against defined annual deliverables — core course, conference, research and publications — and is distinct from the nominal member contributions under Stream B. Participation fees and sponsorships from the Core Training Programme and Annual Conference accrue to the Centre and progressively offset the net support required from Year 2 onwards.

Governance framework: a partner and service institution to SAFIR, with the Forum's policy authority unaffected



REPORTING AND SAFEGUARDS

- Annual report of activities, accounts and outcomes to SAFIR and to the Board of Governors of IICA.
- The Centre is a partner and service institution to SAFIR; the policy-making authority of the SAFIR Steering Committee remains unaffected.
- Governance framework is indicative and to be settled in consultation with SAFIR, with IICA as host institution.
- Distinct centre of the Institute with a distinct budget head and separate books of account.

V. THE WAY FORWARD

Financial safeguards and the Way Forward

FINANCIAL SAFEGUARDS

- A distinct budget head with separate books of account, audited under the Institute's financial rules and the General Financial Rules.
- Contributions from foreign regulators, governments and international institutions structured in conformity with the Foreign Contribution (Regulation) Act, 2010, or routed through arrangements approved by the competent Ministries.
- No funding arrangement confers on any contributor a role in the regulatory determinations of any member authority, or in the academic independence of the Centre.
- Industry sponsorship governed by a conflict-of-interest framework approved by the Centre's oversight body.

Way Forward

1. **In-principle concurrence of SAFIR** to the establishment of the Centre at IICA as the Forum's standing knowledge and capacity-building partner.
2. **Approval of the proposal by the Board of Governors at IICA**, including the three-year incubation support.
3. Signing of Memorandum of Understanding with the governance framework and the designation of a Centre Director and core team (Phase I).

Thank You



Indian Institute of Corporate Affairs

Partners in Knowledge. Governance. Transformation.

Ministry of Corporate Affairs
Government of India

Presentation

on

Envisioning an Integrated and Shared Energy Future in South Asia for Energy Security

32nd South Asia Forum of Infrastructure Regulation (SAFIR) Steering Committee Meeting (SCM)

11:30 hrs. to 12:00 hrs , 31st August 2026 at Hotel ITC Grand Bharat, Manesar, Haryana (India)

Presented by

Rajiv Ratna Panda

OSOWOG (One Sun One World One Grid) Consultant, International Solar Alliance (ISA)

Content

01 Current State of Play in Energy Security

{State of Energy Security–Global and South Asia (SA) Scenario}

02 De-risking Energy Insecurity, Moving from Petrostate to Electrostate

{Multidimensional Opportunities for Electrify Now, Electrify Everything, Electrify Across Border and Integrate Now}

03 South Asia Energy Integration 1.0

{Current Scenario, Future Outlook for CBET, X Border Trans. Capacity, Expansion Potential}

04 South Asia Energy Integration 2.0

{Integrated and Shared Energy Future in South Asia-Six Guiding Framework Principles}

05 Way Forward-South Asia Regulatory Cooperation Architecture

{Six South Asia Regulatory Cooperation Task Engagements (SA-RCTE} for X Border Energy Integration

01

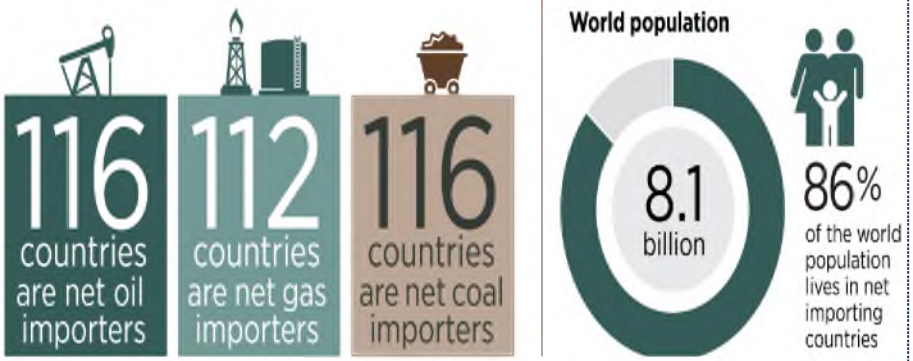
Current State of Play in Energy Security

{State of Energy Security-Global and South Asia (SA) Scenario}

01.1 Current State of Play in Global Energy Security, Energy World We Live In

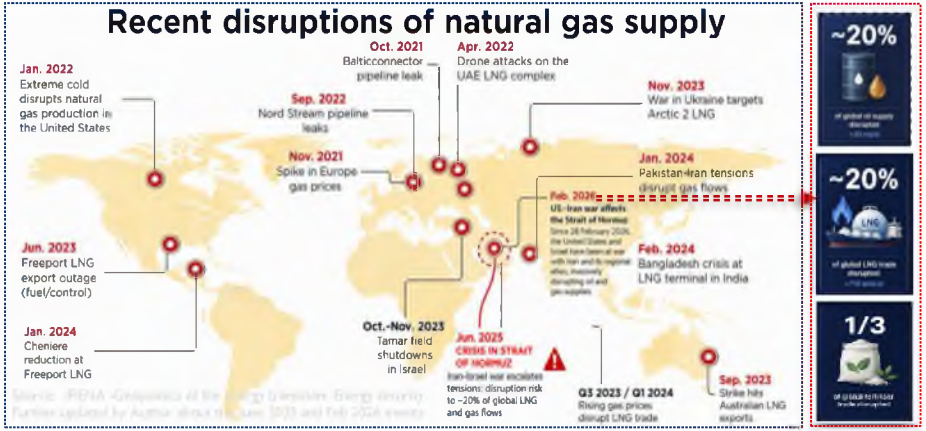
{*Import Dependency* , *Supply Disruptions*, *Price Volatility in Energy Fossil Fuels*}

Share of countries & global population dependent on net imports of fossil fuels



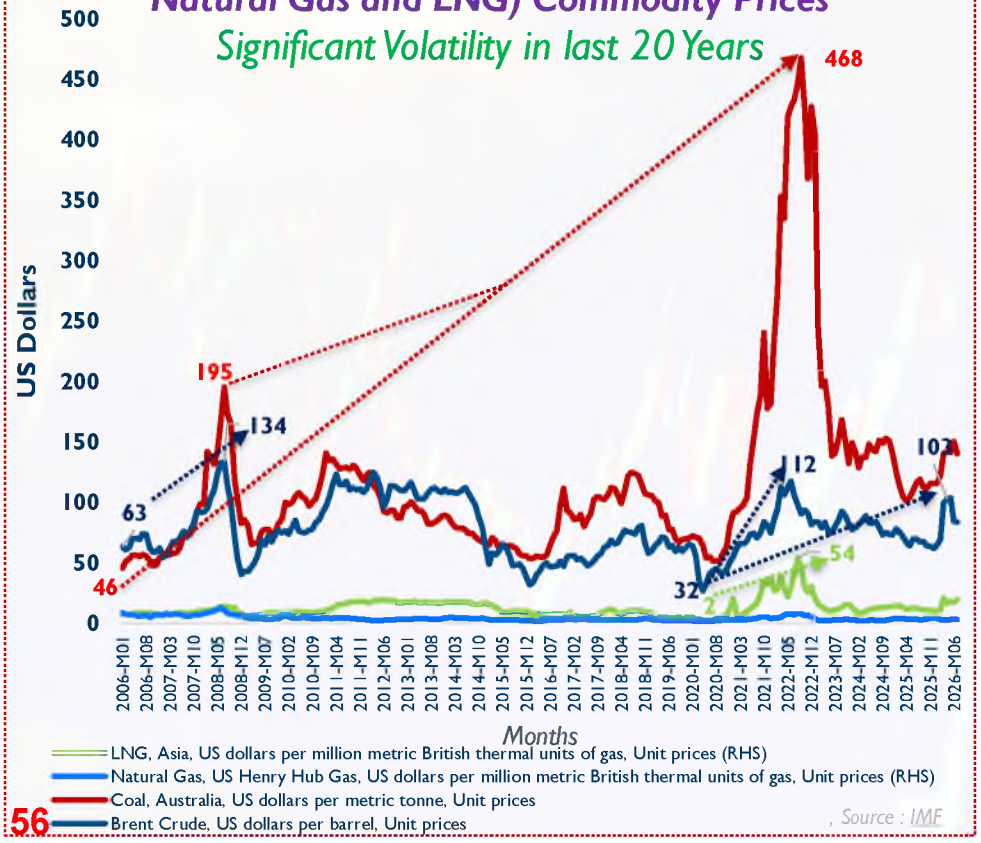
40% of all products transported by global shipping are fossil fuels or derivatives

Recent disruptions of natural gas supply



Long Term Overview of Energy (Oil, Coal, Natural Gas and LNG) Commodity Prices

Significant Volatility in last 20 Years

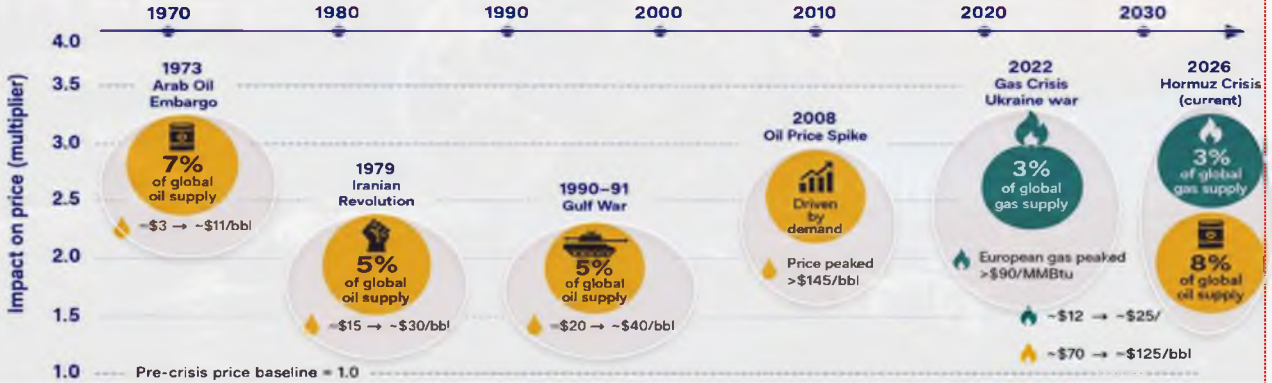


, Source : IMF

01.2 Current State of Play in Global Energy Security

{Global Impact of Energy Shocks, Massive Economic Impact- $11 Trillion Loss, Asia-Most Exposed Region}

Global Impact of Current and Past Energy Crisis & Shocks



Massive Economic Impact *(Estimated)*

1973–74 Arab Oil Embargo
Global recession; inflation ~10%; 4 OPEC; US GDP −2.5%

1979 Iranian Revolution
Contributed to early 1980s stagflation; inflation >13% in US

1990–91 Gulf War
Short-lived GDP slowdown; limited global effect

2008 Oil Price Spike
Global GDP slowdown preceding financial crisis; emerging markets hit by energy inflation

2022 Gas Crisis Ukraine war
~€230 billion annual cost in Europe (~1–2% of GDP); industrial slowdown

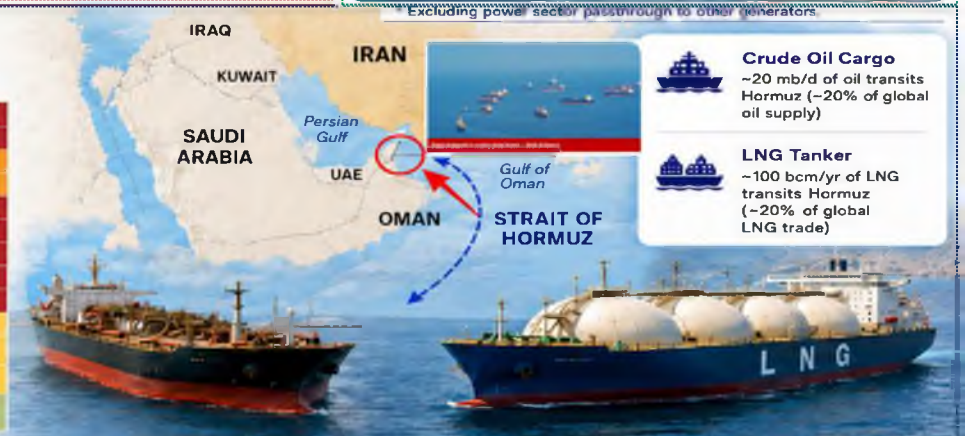
2026 Hormuz Crisis (current)
If elevated prices are sustained:
~$11 trillion/yr loss from oil
~$500–800bn/year from LNG impacts

ASIA IS THE MOST EXPOSED REGION TO HORMUZ DISRUPTION

Oil and gas import dependence by selected region[42]

Region	Oil imported %	LNG imported %	Imports via Hormuz % oil	LNG via Hormuz % LNG	Strategic reserves days[43]	Exposure
Japan	100%	95%	77%	10–15%	208	Very High
Republic of Korea	100%	95%	62%	20%	200	Very High
China	70%	40%	40%	20%	100	High
India	90%	50%	40%	20%	74	High
Bangladesh	100%	60%	100%	50–60%	60	Very High
Pakistan	85%	35%	80%	30–40%	20	Very High
Sri Lanka	100%	—	100%	0	50–60	Very High
Nepal	100%	—	0	—	7–10	Very High
Bhutan	100%	—	0	—	3–5	Very High
Europe	95%	40–50%	6–8%	5–10%	90	Moderate
Australia	85–90%	0%	Via indirect exposure via Asian refining	—	49	Moderate
Brazil	10–25%	<5%	Low direct exposure	—	45	Moderate
USA	Net self-sufficient	No direct import dependence		—	125	Low

* Excluding power sector passthrough to other generators



[41] IEA (2025), *World Energy Outlook*

[42] *US Department of Energy (2025), Energy Department Initiates Strategic Petroleum Reserve Emergency Withdrawals to Address Market Conditions. Source: ETC Report on Lessons on Energy Security after the Hormuz Crisis*

[43] IEA (2025), *World Energy Outlook*; IEA (2025), *Gas Market Report*; EMBER (2025), *Overcoming fossil lock-in: all path to a fairer global clean energy shock*

01.3 Current State of Play in South Asia Energy Security- De Facto Petrostate

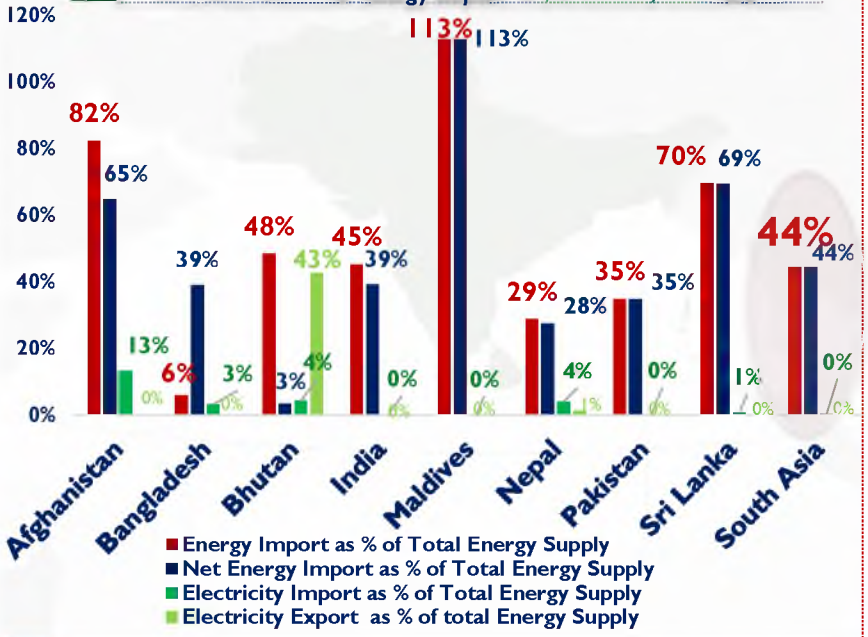
{44% Total Energy Supply is Imported, Ranks as Significantly Energy Insecure and Vulnerable}

Energy Import Profile of South Asian Countries

FY 25 - India (Oil +LNG) Import =175 (161+14 Billion US $)
Net Import-131*, FY 26 – Projected to cross 200 Billion US$

FY 25-26: Bangladesh Energy Import= $10 Billion, 100% increase

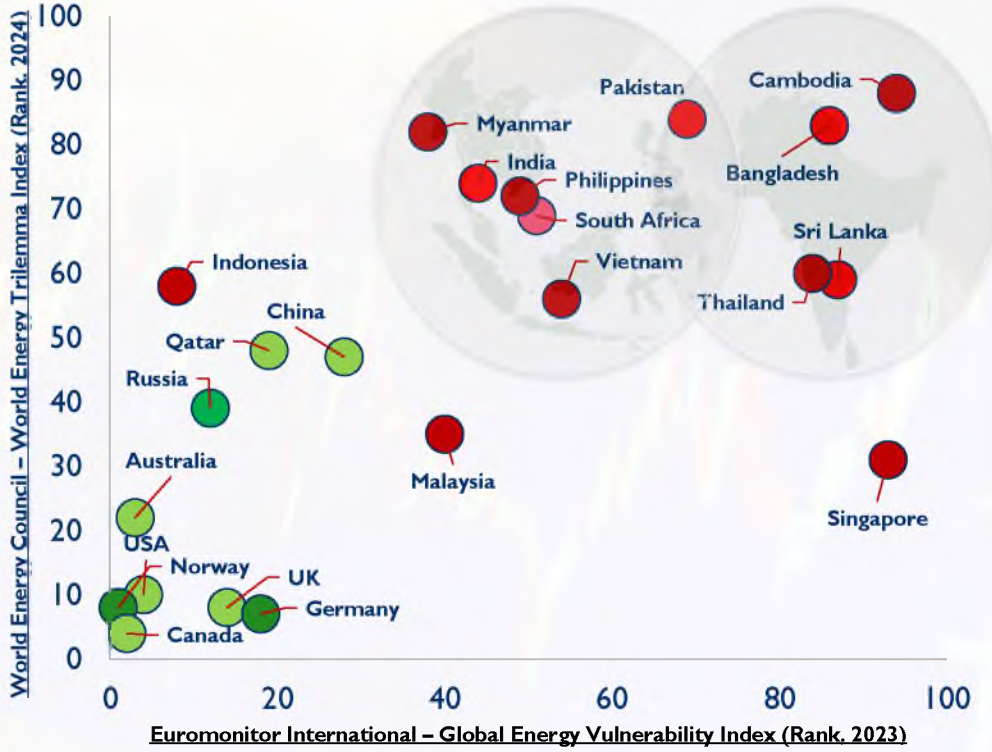
FY 25-26: Pakistan Energy Import = $16 Billion, 6% increase



India-Crude oil import bill surged **56.5 %** to $ 63.4 bn April-July 2026, from $40.5 billion**

*Source: UN Energy Data Balances 2023 . In case of Maldives, imports are > 100% due to storage in marine/aviation bunkers, 2021, * Net oil and gas import bill -crude oil plus petroleum product plus LNG import bill minus exports , **PPAC . Energy Watch . Dhaka Tribune . ^BD/PK Fiscal Year-July1-June30 . BD-FY-24-25-$5.14 billion, PBS*

Scatter Plot of Country Rankings Considering Two Indices Related to Energy Security



Euromonitor International – Global Energy Vulnerability Index (Rank, 2023) I Mix of Energy self-sufficiency (30%), Alternative to Fossil Fuels (35%), Energy Reserves (10%), Energy Accessibility (5%), Energy Efficiency (10%) and Economic Resilience (10%) I World Energy Council – World Energy Trilemma Index (Rank, 2024) I Energy Security (30%), Energy Equity (30%), Environmental Sustainability (30%) and Country Context (10%) –Source: EMI & WEC

01.4 Current State of Play in South Asia (SA) Energy Security- De Facto Petrostate

{Massive Imports are Mostly Fossil, SA Countries Scores low in Energy Security, Equity & Environmental Sustainability}

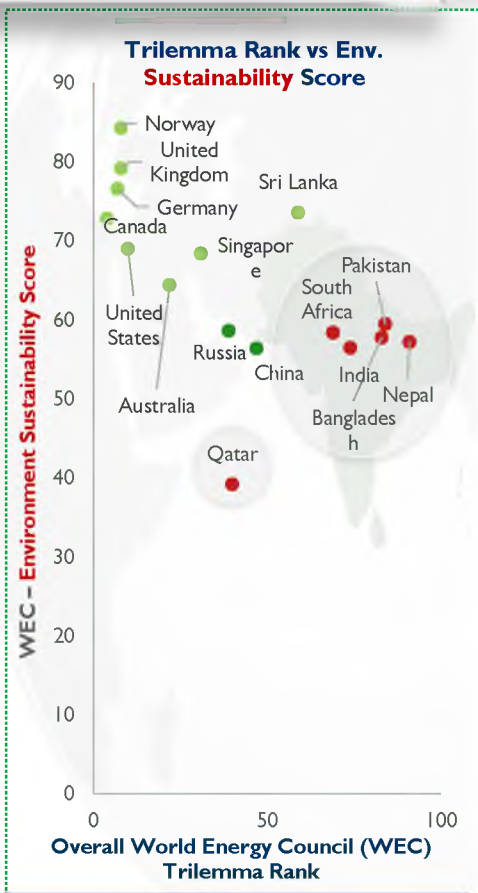
Massive Fossil Fuel Imports Dependency in South Asia, Highly Unsustainable

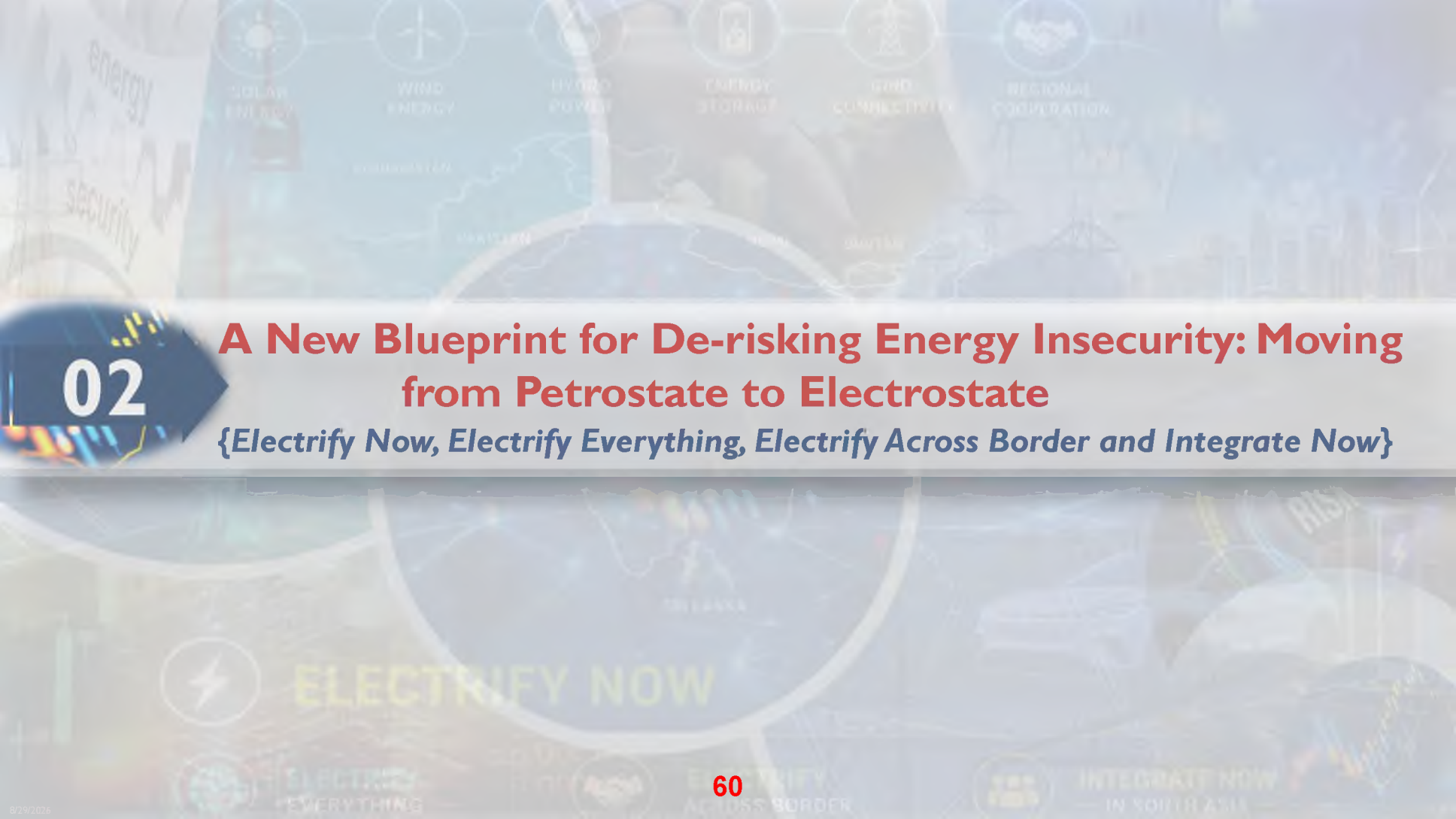
	SOUTH ASIA AVG*	INDIA	PAKISTAN	BANGLADESH	SRI LANKA	NEPAL
Crude Oil	93.1%	88.6%	77.1%	100.0%	100.0%	N/A
LPG	90.4%	60.0%	71.3%	98.0%	94.0%	100.0%
Natural Gas / LNG	24.4%	50.0%	18.5%	28.9%	0.0%	N/A
Fertiliser	74.1%	34.5%	8.8%	75.3%	100.0%	100.0%
Coal	58.2%	19.2%	66.7%	94.5%	100.0%	99.8%

Crude Oil | LPG | Natural Gas / LNG | Fertiliser | Coal

* South Asia Avg is a simple average across available country values, covering the data of Bhutan, Afghanistan, Maldi

Source: Compiled from official and authoritative sources.




02
A New Blueprint for De-risking Energy Insecurity: Moving from Petrostate to Electrostate
{Electrify Now, Electrify Everything, Electrify Across Border and Integrate Now}
ELECTRIFY NOW

02.1 A New Blueprint for De-risking Energy Insecurity: Moving from Petrostate to Electrostate

{ Electrify Now, Electrify Everything, Electrify Across Border and Integrate Now }

A Framework for Managing Energy Insecurity



Strategy-1

Immediate Intervention to Prevent a Major Supply Disruption



Strategy-2

Energy Supply Source and Supply Chain Diversification



Strategy-3

Use of Strategic Energy Reserves (Domestic & International)



Strategy-4

Increase in use of Domestic Energy Reserves & Resources, Accelerate Exploration

Electrify Now, Electrify Everything, Electrify Across Border and Integrate Now

Electrify Now, Electrify Everything



Strategy-5

Maximized Renewable Energy Based Electrification

Electrify Across Border



Strategy-6

Power Grid Interconnection, Cross (X) Border Energy Trade, X Border Energy Integration

Integrate Now



Strategy-7

Internal Electricity Market & Electricity Markets Integration



Strategy-8

Moderating Energy Demand, Fuel Substitution, Internal Energy Efficiency

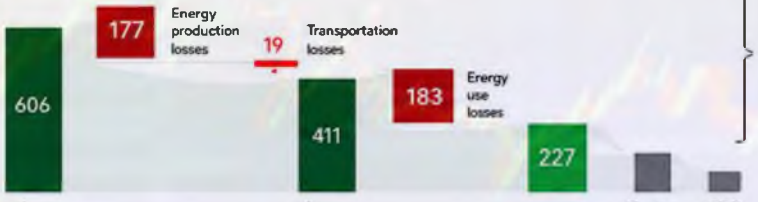
02.2 De-risking Energy Insecurity and Creating Electrostate Imperative

{Petrostate :Fossil energy system is incredibly inefficient-2/3rd of the energy (4.6 Trillion USD) is lost, **Electrostate : is 3-4 time more efficient, few an Electrostate builder}**

1 The current fossil energy system is incredibly inefficient

We lose some two thirds of the energy we put into the system

Global energy flows and waste, EJ per year, 2019



Source: EMBER Electric Asia

Petrostate

Total energy lost **380 EJ**

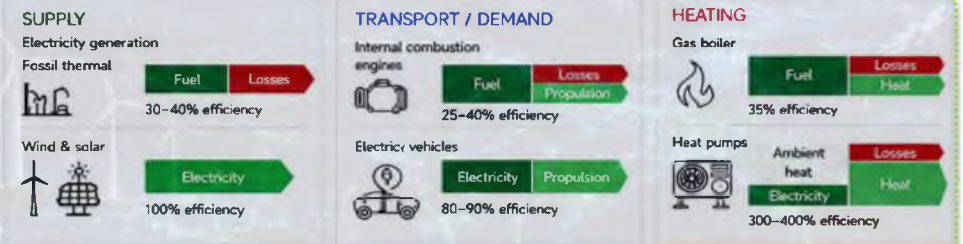
Value of lost energy **$4.6 trillion**

About two thirds (63%) of input energy is lost.

2 Electrification is far more efficient across the economy.

It offers a leap in energy efficiency.

Electrostate



2–3x as efficient

2–4x as efficient

3–4x as efficient

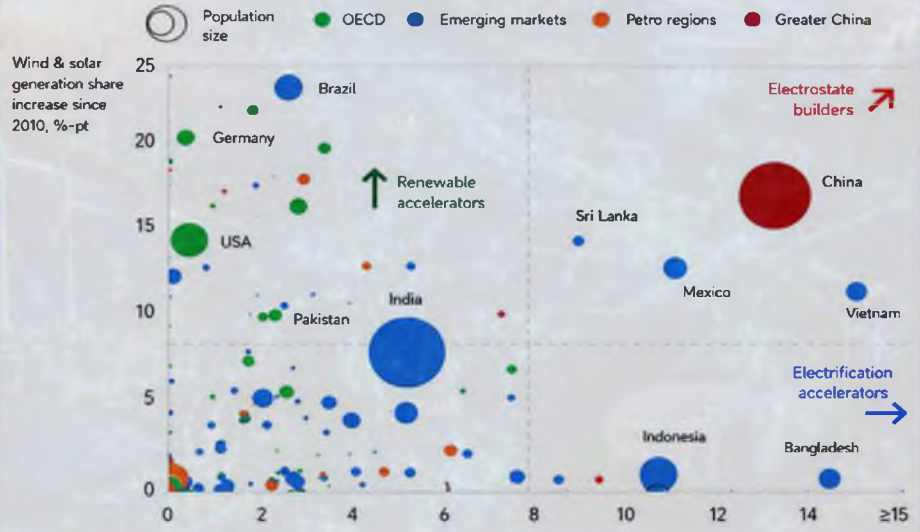
Electrification is both a strategic transition race and a major efficiency opportunity.

Do both to save resources, cut costs, and accelerate sustainable economic growth.

Source: EMBER Electric Asia

3 Many countries are building renewables; few are an electrostate

Change since 2010



Source: EMBER Electric Asia

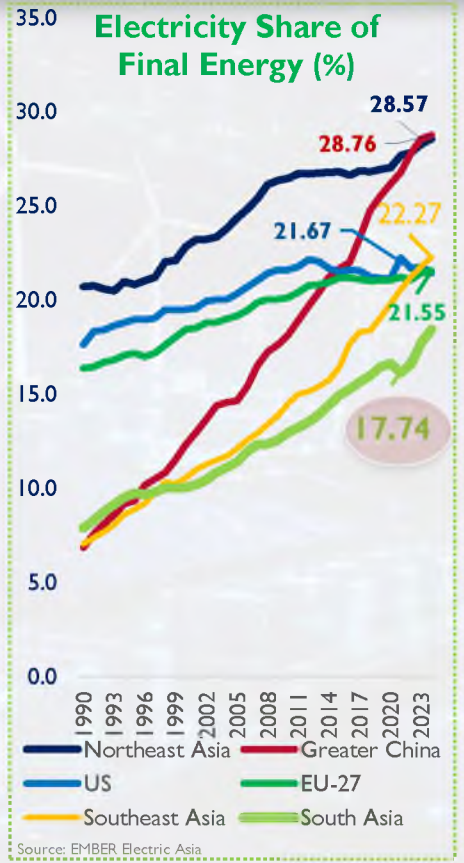
More renewables
Cleaner future

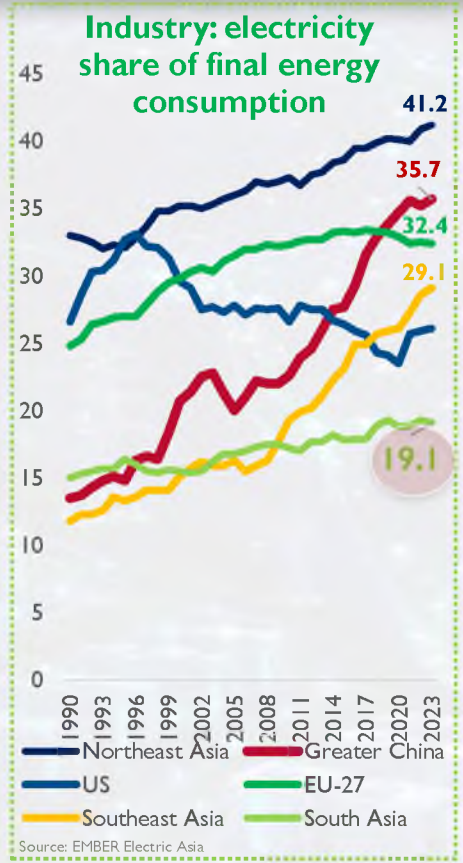
More electrification
Higher efficiency

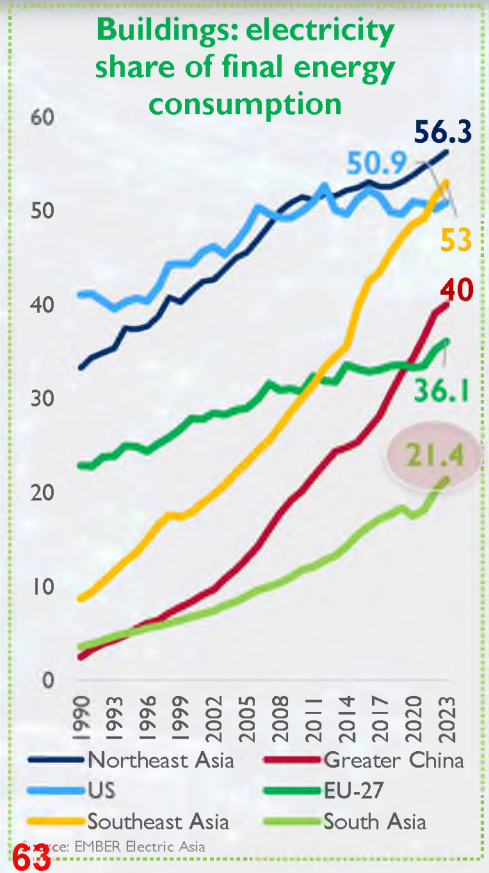
Less waste
Lower costs

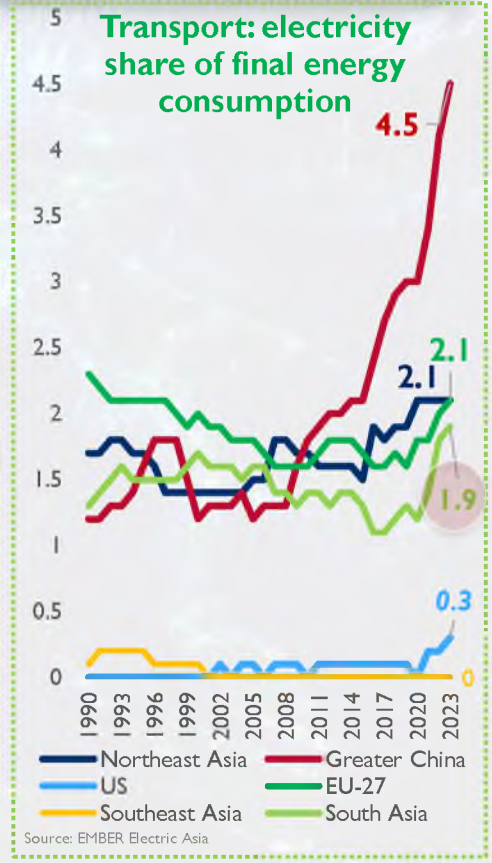
02.3 De-risking Energy Insecurity and Creating Electrostate

{South Asia's Electricity share in Final Energy is only around 18% , Northeast Asia -29% In industry 19 % for SA, 41% for Northeast ASIA}







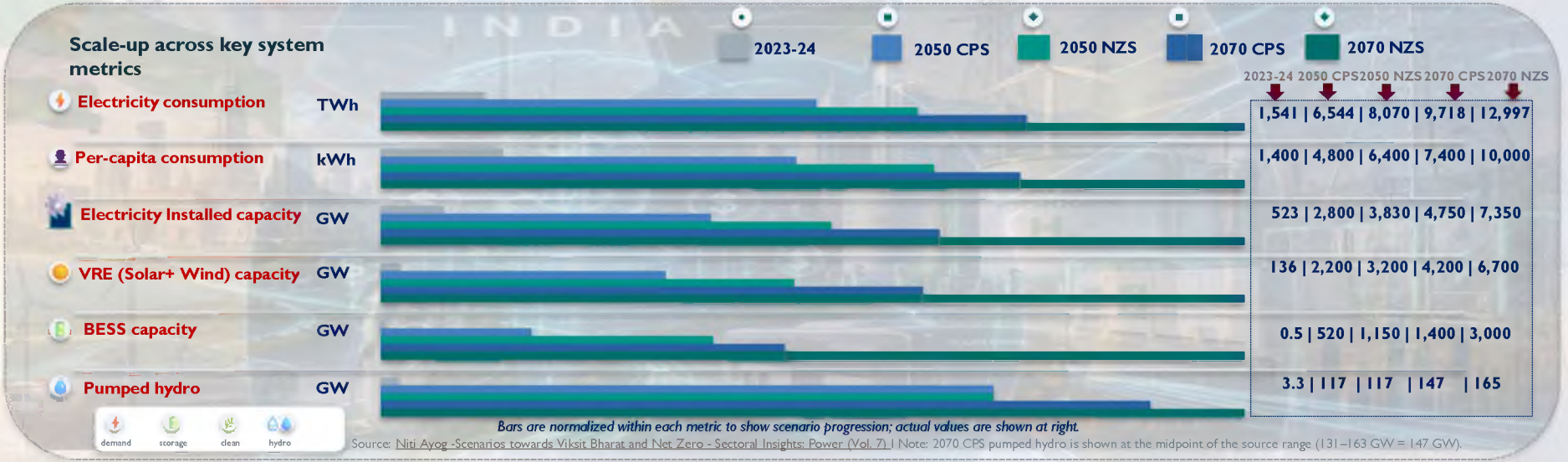


02.4 How an Electrostate Looks Like !

{India-Titanic Scale-up and Decarbonization Pathways needed for Rapid electrification and Net Zero}

2050 NZS

Electricity Consumption	Installed Capacity	Solar & Wind Capacity	Non-Fossil Capa. Share	Energy Storage Capacity	Investment Required
5.2×	7.3×	23.5×	89%	2300× BESS 0.5 → 1150 GW; 35× PHES 3.3 → 117 GW	$3.5tn → $5.2tn
1,541 → 8070 TWh	523 → 3,830 GW	136 → 3200 GW	40% → 89%		2050 CPS → 2050 NZS



Bars are normalized within each metric to show scenario progression; actual values are shown at right.

Source: Niti Ayog -Scenarios towards Viksit Bharat and Net Zero - Sectoral Insights: Power (Vol. 7) | Note: 2070 CPS pumped hydro is shown at the midpoint of the source range (131–163 GW = 147 GW).

2070 NZS

Electricity Consumption	Installed Capacity	Solar & Wind Capacity	Non-fossil capacity share	Energy Storage Capacity	Investment required
8.4×	14×	49×	98%	6000× BESS 0.5 → 3000 GW; 50× PHES 3.3 → 165 GW	$5.2tn → $9tn
1,541 → 12,997 TWh	523 → 7,350 GW	136 → 6700 GW	40% → 98%		2070 CPS → 2070 NZS

Electricity share of final energy shall reach 60% in 2070 from 21% in 2025; share of non-fossil generation increases from 23% to 80-85%

02.5 Electrify Now, Electrify Everything, Electrify Across Border and Integrate Now in South Asia

{Greening the Economy and Electrifying Way of Life}



Rapid De-carbonising Power Sector



Cleaner and Efficient Public Transport



Renewable Energy



Electric Vehicle & Charging Infrastructure



Modernising Grid, Smart Grid, Energy Efficiency, Green Building



X Border Hydro & Power Transmission, Regional Electricity Market



Green Manufacturing, AI Data Centre, Chip Factory



Green Hydrogen Economy and Energy Storage

National Efforts for Energy Security may not be Sufficient, and efforts needs to be Regional in South Asia

Energy System is Undergoing Transformation: Electrifying and Greening the Way of Life

Energy Security now Related deeply with Human Security

02.6 De-risking Energy Insecurity and Creating Electrostate: Role of X border Integration of Power Grids & Markets

{Cross-Border Electricity Trade dependency provides relatively better Energy Security as compared to Fossil Fuel import Dependencies}

{Cross Border Grid Integration as the New Architecture of Global Energy Security and antidoted to global energy crisis on Global South}

❖ International Renewable Energy Agency (IRENA) ***Indicates Cross-Border Electricity Trade Dependency*** provides relatively ***better energy security as compared Fossil Fuel Import*** Dependencies.

❖ **While cross-border electricity trade creates dependencies, these differ from the dependencies of the fossil fuel world.**

❖ **Since electrons can flow both ways, it is best to think about electricity trade as co-dependency, rather than the asymmetrical dependency of oil and gas relationships.**

❖ **The fact remains that the *effects of a cross-border electricity disruption are different from those of an oil or gas disruption*.**

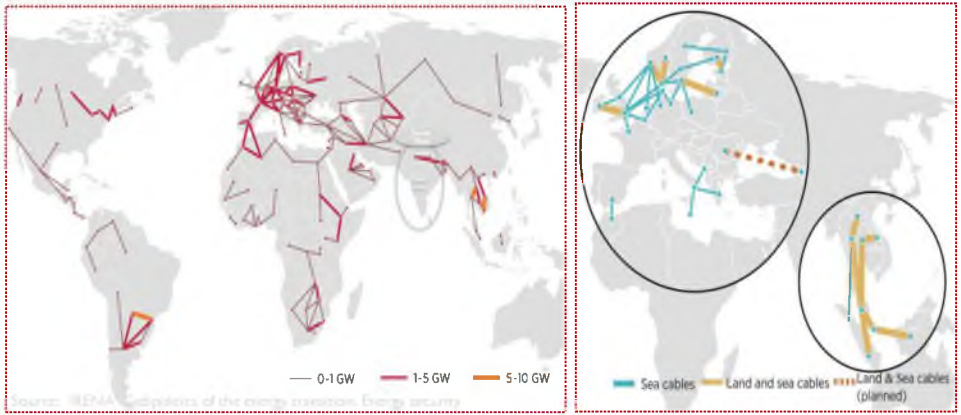


❖ First, because electricity imports are grid-bound, their loss can be made up only to the extent the existing grid allows. (Conversely, the exporter's capacity to reroute electricity exports to another country depends on infrastructure availability.)

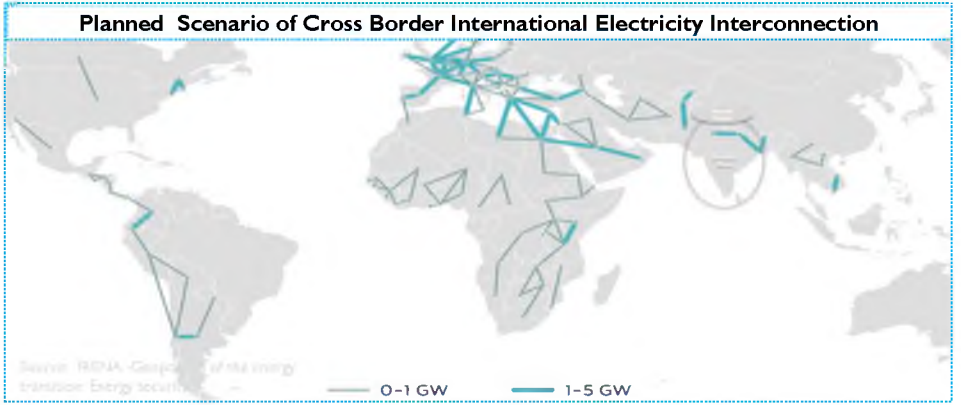
❖ Second, as of now, electricity is difficult to store in significant volumes and for long time periods. Therefore, non-delivered amounts of electricity would probably require the curtailment of energy-generating capacities.

❖ Third, since electricity has to be sold and consumed the instant it is produced, the effects of an export boycott would be immediate and could have significant economic and social effects.

Current Scenario of Cross Border International Electricity Interconnection



Planned Scenario of Cross Border International Electricity Interconnection



X Border/Regional Power Grid & Markets Provides Reduced Exporter Dominance : During 2023, none of the 27 member countries was an exporter all the time (ACER, 2024).

02.7 Amidst Energy Insecurity, Renewed Interest in X border Integration of Power Grids & Markets in Global South

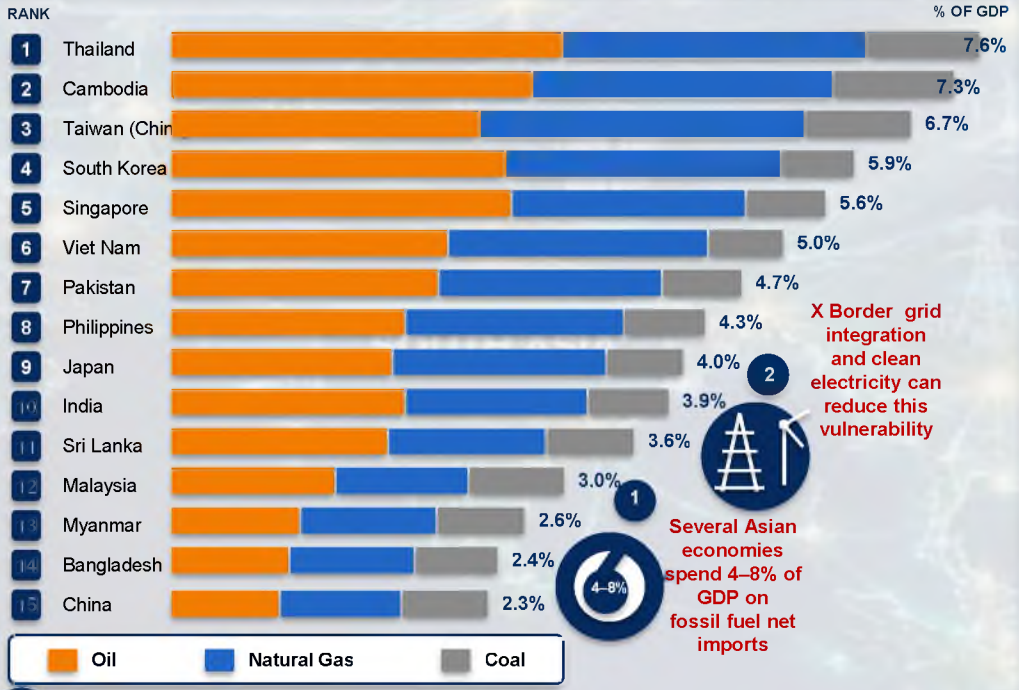
{50 Billion USD The Pan Asia Power Grid Initiative, 20 GW X Border Interconnection}

Asia Energy imports is **$1 trillion/year**, Huge cost to Economic Resilience

Extra import cost (Billion USD from March to August 2026)

Global-330 I South Asia -26.6 I South East Asia- 33 I East Asia-67

Fossil fuel net import cost by fuel, as share of GDP — Asian net importers (2024)



Sources: CERA based on UN Comtrade, World Bank **Note:** most recent data used when 2024 data is not available CREA compared what importing countries actually paid for seaborne fossil fuels against the prices futures markets expected before the war. Several realised cost components are excluded from the analysis, resulting in conservative estimates. These include pipeline gas, coal, fuel oil and naphtha costs, freight rates, and any other components of consumer prices added on top of the wholesale price

3 May 2026 I ADB PAN-ASIA POWER GRID INITIATIVE

Connecting national and subregional power systems so clean electricity can move across borders at scale





03

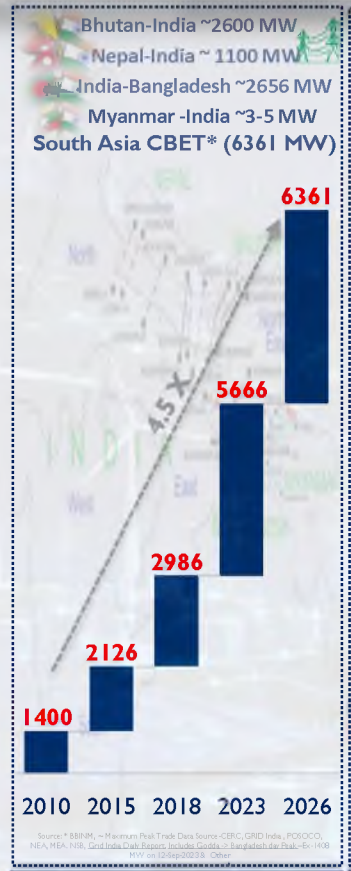
South Asia Energy Integration 1.0

{Current Scenario, Future Outlook for CBET, X Border Trans. Capacity, Expansion Potential}



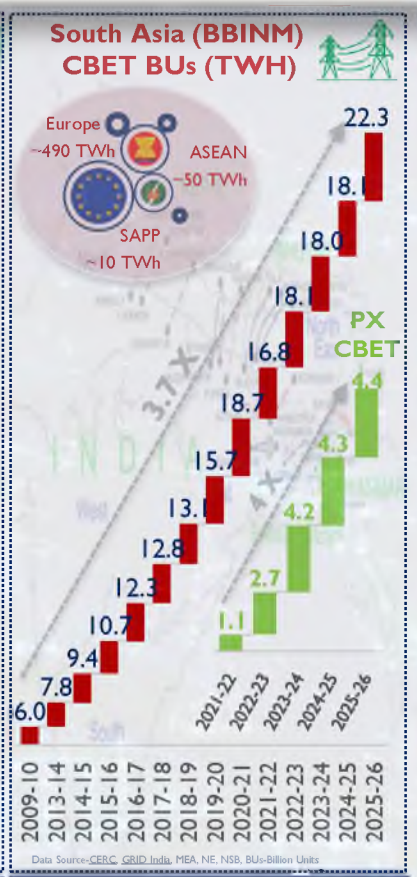
03.1 South Asia Energy Integration 1.0

{Current Scenario, Future Outlook for CBET, X Border Trans. Capacity, Expansion Potential}



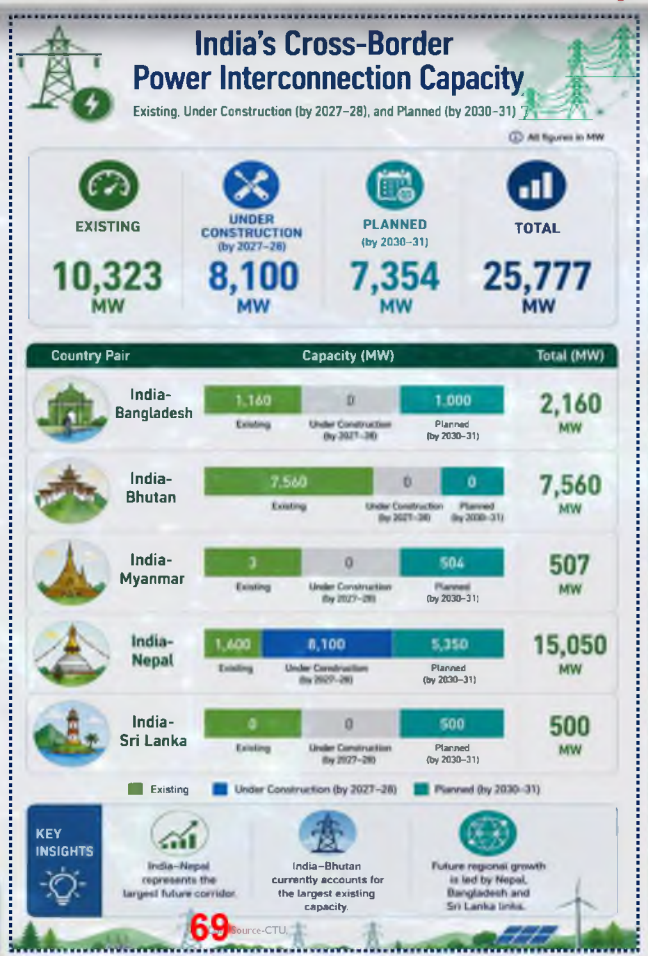
Source:* BBINM, ~ Maximum Peak Trade Data Source-CERC, GRID India, POSOCO, NEA, MEA, NSB, Grid India Daily Report, Includes Godda -> Bangladesh day Peak:~Ex-1408 MW on 12-Sep-2023 & Other

CBET Quadrupled



Data Source-CERC, GRID India, MEA, NE, NSB, BUs-Billion Units

PX Based CBET Quadrupled



Source-CTU.



South Asia Energy Integration 2.0

04

{Integrated and Shared Energy Future in South Asia, OSOWOG, Six Guiding Framework Principles}

04.1

South Asia Energy Integration 2.0 @2050

{ 2050 Outlook for CBET, Interconnected and Integrated South Asia-61 GW by 2050 }

VISION

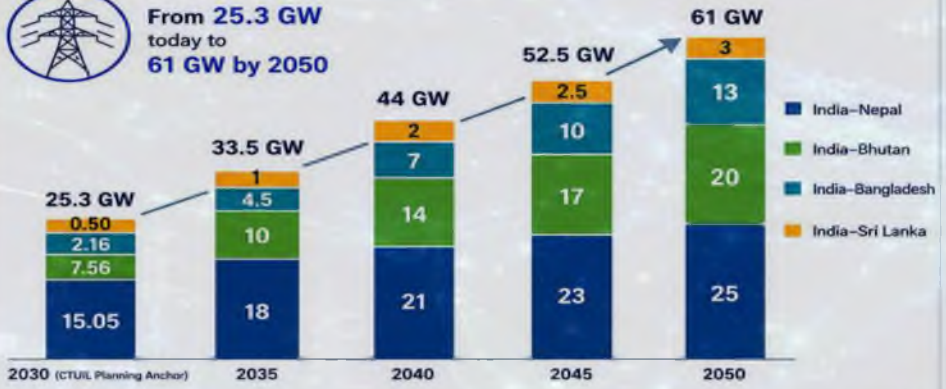
A connected South Asia power system enabling energy security, affordability, clean energy transition and shared prosperity.

WHY SOUTH ASIA ENERGY INTEGRATION 2.0?

- Unlock complementary resources
- Strengthen energy security & resilience
- Lower system cost & enhance affordability
- Accelerate clean energy transition
- Drive regional cooperation & shared growth

CUMULATIVE CROSS-BORDER POWER TRANSFER CAPACITY (GW)

From 25.3 GW today to 61 GW by 2050

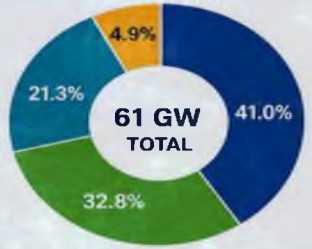


25.3 GW → 33.5 GW → 44 GW → 52.5 GW → 61 GW

2030 → 2035 → 2040 → 2045 → 2050

Source: Strategic Ambition for South Asia Energy Integration 2.0 Analysis by Author

2050 CAPACITY BREAK-UP



- India–Nepal **25 GW** (41.0%)
- India–Bhutan **20 GW** (32.8%)
- India–Bangladesh **13 GW** (21.3%)
- India–Sri Lanka **3 GW** (4.9%)

KEY ENABLERS

- Policy Alignment & Regional Cooperation
- Market Development & Regulatory Support
- Integrated Planning & System Studies
- Financing & Risk Mitigation
- Grid Strengthening & Modernization
- Technology Innovation & Digitalization
- Storage, Balancing, Flexibility, Peak Trading & Ancillary Service Framework at South Asia Level
- Integrated Cross-Border Power Trade Across South Asia and Coupled National Electricity Markets

CORRIDOR HIGHLIGHTS – 2050



INDIA–NEPAL
25 GW
- Hydropower-rich cooperation
- Long-term clean energy security
- Firm and flexible power supply



INDIA–BHUTAN
20 GW
- Reliable hydropower partner
- Firm and Flexible Clean Energy Export
- Strengthening bilateral ties



INDIA–BANGLADESH
13 GW
- Meeting growing demand by accessing cheaper cross-border electricity
- Supporting economic growth
- Enhancing regional connectivity



INDIA–SRI LANKA
3 GW
- Subsea connection corridor
- Supporting clean energy transition
- Enabling island energy security

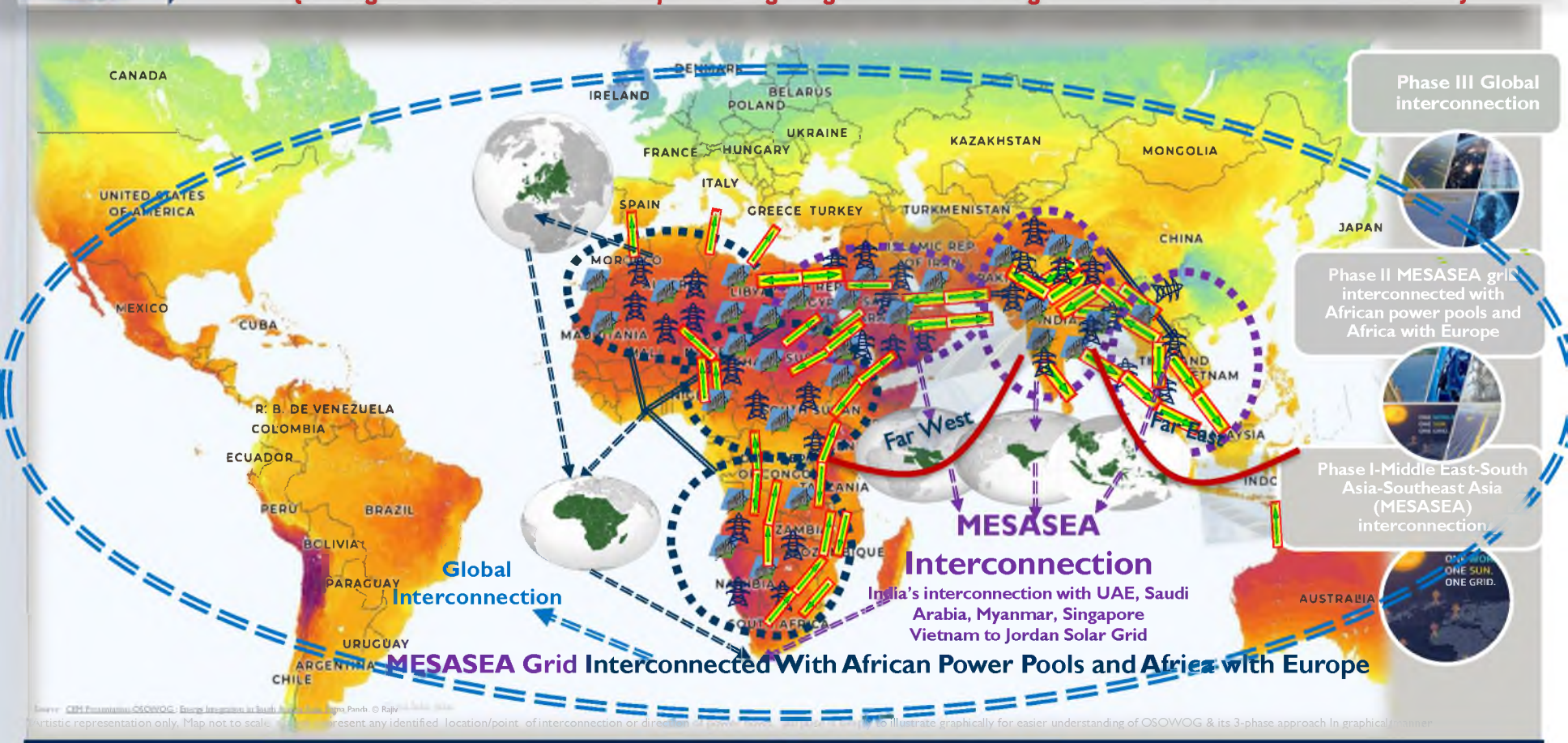
A CONNECTED SOUTH ASIA IS A STRONGER, CLEANER & PROSPEROUS SOUTH ASIA

~61 GW BY 2050

Strategic Ambition for South Asia Energy Integration 2.0

04.2 One Sun One World One Grid, Trans-Regional Grid Integration

{ Background : Vision and Concept I linking Regional Grids through a Common Grid I Sun Never Sets }

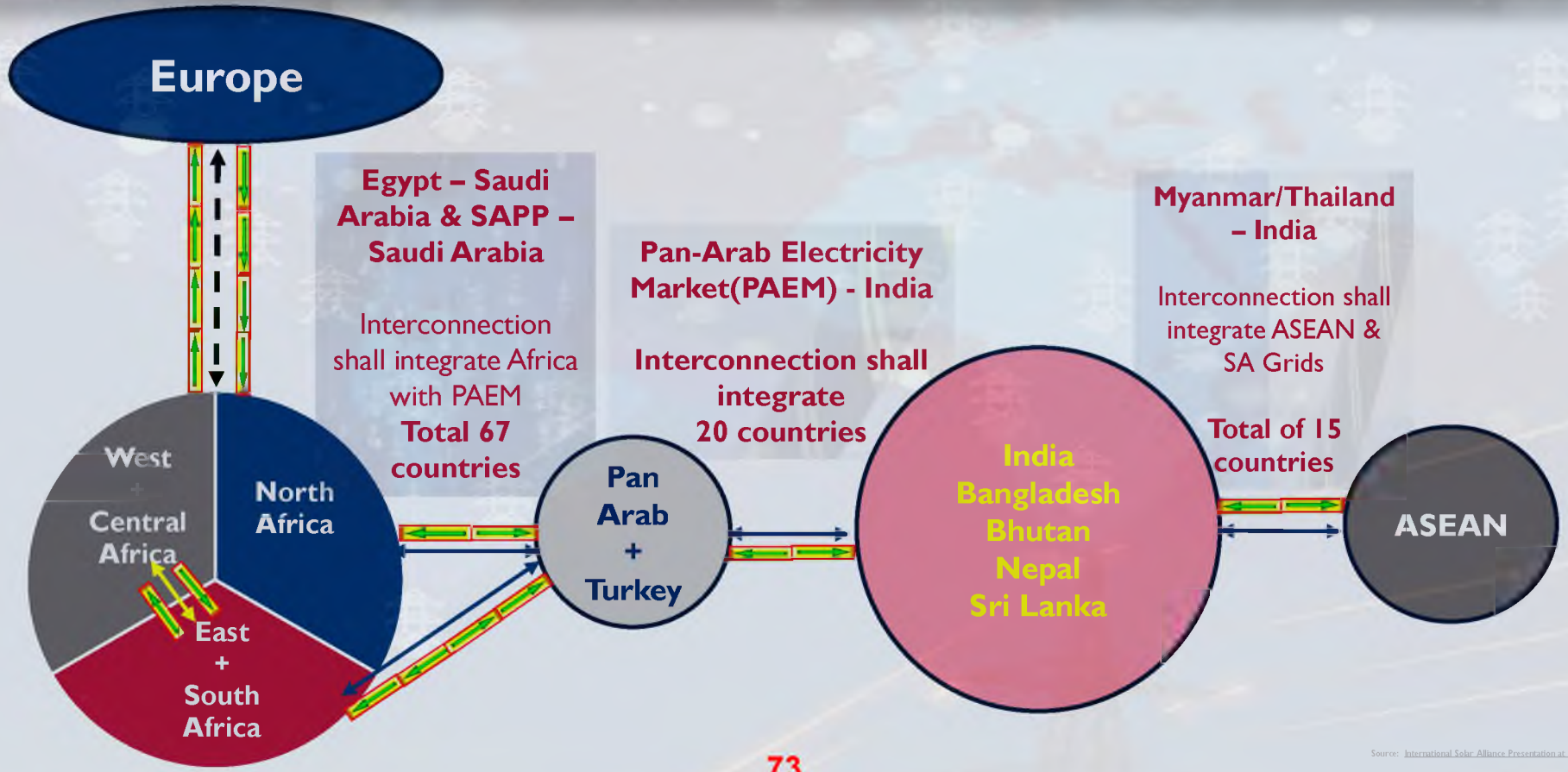


Artistic representation only. Map not to scale. Does not represent any identified location/point of interconnection or direction of power flow. Purpose is only to illustrate graphically for easier understanding of OSOWOG & its 3-phase approach in graphical manner

Building Regional, Sub-Regional, Continental and Global Consensus on Interconnections will be the key

04.3 One Sun One World One Grid, Trans-Regional Grid Integration

{Trans-Regional Grid Interconnections Corridor Design with Pilot Interconnections}



Source: International Solar Alliance Presentation at COP 29

04.4

South Asia Energy Integration 2.0 @2050

{Six Guiding Framework Principles for Integrated and Shared Energy Future in South Asia}

Six Guiding Framework Principles

Reliability • Affordability • Resilience | Power Grid Integration • Cross-Border Electricity Trade • National & Regional Electricity Markets

Connected Grids • Fair Trade • Modern National Markets • Integrated Electricity Market for South Asia Region



Envisioning an Integrated and Shared Energy Future in South Asia for Energy Security

South Asia Energy Integration 2.0 @2050

{Guiding Framework Principles 1–4, Fairness, Sovereignty, Planning & Resilience}

1 Share the Benefits —Share the Burden of X Border Integration

FAIRNESS

GUIDING PRINCIPLE Equitable Sharing of Benefits, Costs, Risks and Responsibilities

APPLICATION Costs, benefits, risks and responsibilities arising from cross-border transmission, generation investment and electricity trade should be ***allocated equitably and proportionally*** among participating, ***transit and host countries***.



2 Sovereignty with Mutual Benefit

SOVEREIGNTY

GUIDING PRINCIPLE Sovereign Equality, Reciprocity, Policy Autonomy and Mutual Benefit

APPLICATION Regional cooperation should ***respect national sovereignty*** and legitimate ***national interests*** while ensuring reciprocal opportunities. Regional integration should ***complement—not override***—national energy policies and security priorities.



3 Plan Regionally — Implement Nationally — Operate Cooperatively

PLANNING

GUIDING PRINCIPLE Coordinated Regional Planning and Cooperative System Operation

APPLICATION Transmission expansion, resource adequacy and cross-border corridors should be ***planned regionally***, implemented ***through national institutions*** and ***operated through*** progressively ***stronger coordination*** among system operators.



4 Connect for Reliability & Resilience — Not Just for Trade

RESILIENCE

GUIDING PRINCIPLE Reliability, Resilience and Mutual System Support

APPLICATION Cross-border grid integration should improve system ***reliability*** through coordinated reserves, balancing, ***resource adequacy***, emergency assistance, restoration, cybersecurity cooperation, ***climate resilience*** and compatible operating practices.



04.6

South Asia Energy Integration 2.0 @2050

{Guiding Framework Principles 5–6, Market Modernisation & Integration, Interoperability}

5 Modernize Domestically — Integrate Regionally

NEM FOUNDATION

Build Market Ecosystem and National Electricity Markets (NEMs)

- ***Foster*** *Market Philosophy,* create ecosystem, Transparent pricing & competitive procurement
- ***Open access*** to domestic and cross-border networks

  Predictable *capacity allocation, congestion management, transmission pricing & settlement*
- Phased rolling of ***Wholesale markets, trading platforms,*** *short-term markets, balancing, ancillary services &* ***flexibility markets***

NEM 2.0

Modernise for future-Ready Markets for High-Renewable Power Systems (Market Redesign)

- *Value* ***flexibility as a distinct strategic resource***
- ***Re-Design*** *with* ***balanced trade-offs*** *across* ***reliability, affordability & resilience***
- Create an **Integrated Resource Adequacy & Reliability Market** which **values energy, capacity, flexibility, reserves, storage and demand response consistently** and without double payment
- Dynamic Pricing, Storage Incentives, Capacity & Ancillary Market, DR, Peak, Flexibility Contract

ELECTRICITY MARKET FOR SOUTH ASIA

Integrate NEMs for a South Electricity Market for South Asia

- Make **national markets interoperable** across borders
- R-DAM, EMOSA
- Couple market interfaces progressively
- Move from ***interoperable NEMs and coupled market interfaces*** toward deeper integration
- **Long-term** objective: a ***fully integrated electricity market for South Asia Region***

NATIONAL REFORM → HIGH-RE MARKET DESIGN → INTEROPERABILITY → MARKET COUPLING → SOUTH ASIA MARKET

6 Harmonize for Interoperability — Not Uniformity

Progressive Regulatory, Technical & Market Harmonisation and Convergence

Countries need not adopt identical power-sector structures. These frameworks should instead become sufficiently compatible to enable efficient cross-border trade and deeper market integration.

1. TRANSMISSION & RESOURCE ADEQUACY PLANNING
2. MARKETS, TRADING, TARIFF & SETTLEMENT
3. COMMON MINIMUM GRID CODE & SYSTEM OPERATIONS
4. RE, STORAGE, FLEXIBILITY & BALANCING
5. COST–BENEFIT, FINANCE & RISK ALLOCATION
6. EMERGING SPECIALIZED INTERCONNECTIONS — TRANS-REGIONAL HVDC & SUBSEA — REGULATORY FRAMEWORK & STANDARDS

Common ***minimum rules & compatible interfaces — not identical national structures.*** National adoption remains sovereign; convergence is phased, reciprocal and transparent.

05 Way forward -South Asia Regulatory Cooperation Architecture *2.0*

{Six South Asia Regulatory Cooperation Task Engagements (SA-RCTE) for accelerated Cross Border Energy Integration }

05.1 Way forward -South Asia Regulatory Cooperation Architecture *2.0*

{Six South Asia Regulatory Cooperation Task Engagements (SA-RCTE) for accelerated Cross Border Energy Integration }

The fundamental principle should be : *Harmonisation where necessary — interoperability where possible — national sovereignty throughout*

SA-RCTE-1

Transmission & Grid Planning

Reliability • Resilience • Resource Adequacy

Regional planning, adequacy, corridor priorities

SA-RCTE-2

Markets, Trading & Tariff

Design • Access • Pricing • Trading • Settlement

Market access, tariffs, settlement, market coupling

SA-RCTE-3

Grid Codes & System Operations

Interoperability • Reliability • Coordination

Grid-code compatibility, data exchange, reliability

SA-RCTE-4

RE Integration & Storage

Balancing • Flexibility • Peak • Ancillary

Storage, balancing, reserves, ancillary services

SA-RCTE-5

Investment, Finance & Risk

Bankability • Cost Allocation • Risk Sharing

Cost recovery, risk allocation, PPPs, guarantees

SA-RCTE-6

HVDC, Subsea & Trans-Regional

Standards • Licensing • Access • Risk

Licensing, standards, access, multi-jurisdiction risk

Appropriate Working Group/Task Force may be created under SAFIR as per applicable structure for Structured Long-Term Cooperation

PLAN REGIONALLY → IMPLEMENT NATIONALLY → OPERATE COOPERATIVELY → REGULATE COLLABORATIVELY

Thank You





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