AKASHAY PRAKASH (Issue No: 2 of 2022)

(special issue on Union Budget FY22- 23: Impact on Power Sector)





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Thought for the day



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"The Secret to budgeting is that:

It needs to be honest;

Not what you think it should be or wish it could be;

But, what it really is"

- Lisa Conway-Hughes

FM unveils budget FY 22-23 → boosting Indian Economy

- Hon FM Nirmala Sitharaman on 01/02/22 tabled the Union Budget for FY 2022-23, which aims to attain 25 year vision of AMRUT KAAL by promoting Energy Transition & Climate Action (up to 2047) with productivity enhancement & investment for "Sun-rise" opportunities
 - During her budget speech, FM announced major allocations centered on RE, Energy Efficiency, Electric Mobility, Data Centers, Building Efficiency, Grid-connected Energy Storage, & incentives for Green bonds.
- FM laid emphasis on this vision by putting the same as <u>one</u> of the important priorities of the country for moving forward as the risk of <u>climate change is the strongest</u> negative externalities that is affecting India.
- Union Budget 2022-23 <u>has many steps which focus on reenergising India's Energy sector:</u>

Battery Swapping & Interoperability Standards

- Given the constraint of space in urban areas for setting up of EV charging stns, FM announced that <u>"EV Battery Swapping Policy"</u> will be brought out & inter-operability Standards will be formulated & resources will be provided for Battery Swapping to allow for setting up of Charging Stns. <u>Private Sector shall be encouraged to develop innovative business models</u>
 - Energy as-a-Service Model will accelerate economies of scale in, Charging infrastructure, increase adoption of EVs in public transportation & also encourage innovations to use energy more efficiently.
 - Battery Swapping will be benefitial especially for 2 WH & 3
 WH categories, since swapping aims at minimizing stop time for EV owners & promote sustainable battery management practices.
 - It would promote entrepreneurship in Battery Swapping,
 Energy Management etc. & encourage businesses in delivery
 services & Car aggregation to incorporate EVs into their fleet.

Electric Vehicles (EVs)

- FM also stated that <u>action plans for 10 sectors</u> such as <u>electronic waste</u>, <u>end-of-life vehicles</u>, <u>used oil waste</u>, <u>&</u> <u>toxic & hazardous industrial waste are ready</u>.
 - Aforesaid transition would be supported by active public policies covering <u>Regulations</u>, <u>Extended producers'</u> <u>responsibilities framework & innovation facilitation</u>
 - Notification of Motor Vehicles (Registration & Functions of Vehicle Scrapping Facility) Rules, 2021 was issued by Ministry of Road Transport & Highways on Sept 23, 2021.
- However, there is no mention of "EV Battery Recycling policy. Absence of such a framework could lead to ENV degradation, if EV batteries are disposed of without care.

IND expected more from the Budget (on EVs)

- FM announced announced a battery-swapping policy to accelerate EV adoption.
- While battery swapping as a solution to bring down EV costs for consumers, encouraging cost-competitive & consumer friendly fuelling solutions for EVs & addressing range anxiety issues & reduce charging times has found support so far in several Central & State Policies, the finer policy implementation hasn't provided it a level playing field.
- Beyond the battery-swapping announcement, the budget did not have more for EVs, as was expected.
 - A key opportunity that was a miss was on easing the financing for EVs.
 Another key area where there could have been a focus from the budget was specific support for small & medium Ind players.
 - While the Auto PLI Scheme has set the stage for <u>investments in EV supply</u> <u>chain & supply production</u>, it has excluded players that do not meet the <u>high company turnover crieteria</u>
- FM may also needs to announce some tough measures, like ICE phaseout time line, stricter taxation on ICE/ICE fuels, & supply-side mandates. These will be equally cortical to achieve higher EV penetrations.



- In Cop-26, India committed to have 500 GW installed RE capacity by 2030 & promised to meet 50% of its energy requirements from RE sources by 2030.
 - Current RE capacity is 140 GW & 11% share of Energy. RE Capacity & Gen needs to increase roughly 3/4 times by 2030.
- A report by ICRA estimates that India would need roughly <u>US\$ 450-500 Bn investments</u> including <u>investment in Trans</u> infrastructure & Storage capabilities to meet these ambitious targets.
- In this backdrop, <u>Budget presented</u> some groundwork to enable India to achieve its COP26 commitments & move towards a low carbon future.

PLI scheme to aid creation of 45 GW Solar equipment making capacity

- Production Linked Incentive (PLI) scheme for manufacturing of Solar cells & Modules will aid creation of 40-45 GW addition Solar equipment manufacturing capacity in India.
- Additional allocation under PLI scheme for domestic solar cells & module manufacturing increased by Rs 19,500 CR from existing Rs 4,500 CR. <u>This will strengthen Gol's attempts</u> to dramatically expand Solar cell & Module manufacturing in the country, which will be <u>facilitating for ambitious goal of 280</u> <u>GW Solar IC by 2030.</u>
 - Accordingly, Tata Power, L&T, Adani Enterprises, & Coal India, which plan to set up Solar PV modules are expected to benefit out from this move, to facilitate domestic manufacturing
- Increase in Import duty on <u>Solar Modules from 20% to 40%</u>
 an Solar Cells to 25% from 20% from 1st APR 2022.
 because of which, may raise tariff for Solar power projects,

What is a Production Linked Incentive (PLI) Scheme?

- PLI is a popular strategy used by Govts to boost indigenous production of goods considered necessary for job creation, social welfare & taxation. PLI schemes are essentially financial incentives for businesses to improve their output.
 - PLI scheme offers <u>turnover linked incentives</u> to approved investors, upon meeting the specified investment, <u>capacity</u>, <u>& turnover criteria</u>.

Solar PV modules:

- <u>Currently, India largely (>90%) relies on imports of Solar PV modules & cells</u>. (mainly from China).
- To combat this import, PLI scheme has drawn considerable attention from potential investors. <u>Success of this scheme would reduce import</u> <u>dependence in a strategy sector like Solar Power</u>
- PLI scheme promotes <u>local procurement</u>, thus triggering a cascading <u>impact of the incentives</u>. This will boost creation of <u>ancillary units & augment the entire Solar PV manufacturing ecosystem</u>.

It may take 2/3 years to yeild results from initiation last year, meanwhile we may have to depend on import from China. But, it is a proactive step

Proposal to issue Green Bonds for for financing Sustainable & Climate change

- Sovereign Green Bonds to be issued in FY 22-23, for mobilizing resources which aims in Servicing Global capital for sustainable & climate finance in India, which is signalling India's seriousness in pursuing climate action Plan
- GOI will finance thematic fund including climate action involving blended finance for "SUNRISE Sectors", with Govt share being limited to 20%, & the funds be managed by Private Fund managers
 - Green Bonds for mobilising Green infrastructure will be used for projects that will help reduce India's carbon intensity. Allocation for RE & Energy Storage technologies & <u>Solar modules</u>.
- Access to Green bonds will enable local Govts to costeffectively finance basic public infrastructure projects that will lead to climate co-benefits.

- India will now join a select group of countries, primarily European Union, which have issued Green Bonds
- This move will catalyse the development of domestic corporate Green Bond market.
- The proceeds will be deployed in public sector projects which help in reducing carbon intensity of economy The mention of Green bonds as part of overall market borrowings is a good Proactive step to raise funds for projects ear- marked as green infrastructure.
 - Budget seemed to acknowledge clean energy transition as a fundamental principle: because of mention of <u>clean</u> tech solutions, battery swapping policies, improving EV efficiency, finalising Rs 19,500 CR PLI scheme for Solar, as a way to move ahead on low carbon strategy.
- By referring to <u>climate action as a "Sunrise sector", Budget</u> <u>has sent an important signal to markets, financial</u> <u>institutions & workforce.</u>

Energy Storage Systems (ESS:)

- ESS including dense charging infra structure & grid scale Battery systems will be included in the <u>"Harmonised Master List of</u> Infrastructure" (HMI) & will get Infrastructure Status
 - Increased use of <u>Public Transport to be promoted in Urban Areas with</u> focus on EVs, Special Mobilty Zones <u>with zero fossil fuel policy</u>.

Energy efficiency in Commercial buildings thro' Energy Service Company (ESCO) mode:

 ESCO would facilitate <u>capacity building & awareness for energy audits</u>, <u>performance contracts</u>, <u>& common measurement and verification (M&V)</u> protocol.

Vibrant Village Programs:

- For Northen Border villages to include provisioning of Decentralized Renewable Energy (DRE) aimed at providing to enhance financial support for setting up distributed RES
 - PM-DevINE Scheme: To fund infrastructure & social development based on felt needs of the North East

- States will be allowed <u>a fiscal deficit of 4% of GSDP of which 0.5% will be linked to "Power Sector Reforms"</u>
- 4 pilot projects to be set up to test techno-commercial viabilty of <u>Coal Gasification</u> & <u>conversion of coal into</u> <u>chemicals</u>
- Proposal to infuse Rs 1,500 CR capital in <u>Indian RE</u> <u>Development Agency (IREDA) will encourage further</u> <u>lending to RE sector.</u>
- A graded rate structure will be introduced thro' <u>Custom</u>
 <u>Duty rates to facilitate Domestic manufacturing of</u>
 <u>Electronic Smart Meters</u>

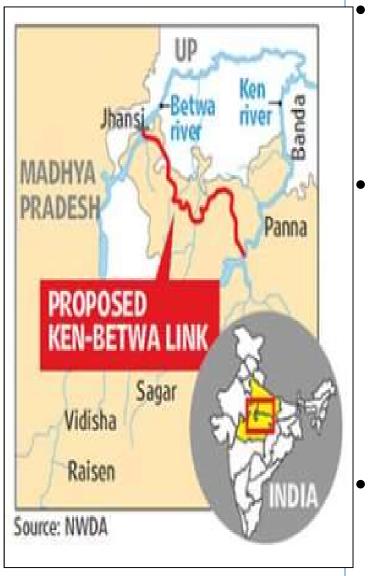
Green Mobility Zones:

 Govt will also make green mobility zones in overcrowded areas like Connaught Place or Sarojini Nagar in Delhi

4 pilot projects for Coal Gasification to be set up:

- FM announced setting up four pilot projects for <u>Coal</u> <u>Gasification</u>.
 - Gasification of Coal is a process in which coal is partially oxidized by Air, Oxygen, Steam or CO2 under controlled conditions to produce a fuel gas. for technical & financial viability
- Data centre & Energy Storage system will be given "infrastructure status" to provide easy financing to the sector.
 - Till date Private equity & venture capital investors invested
 Rs 5.5 Lakh CR in various start-ups
 - An expert committee will be set up to suggest measures to help attract more investments. Measures will also be taken to step up private capital in the infrastructure sector.

Ken-Betwa River Linking Project (KBRLP)



- KBRLP envisages transferring water from Ken river to Betwa river, both tributaries of Yamuna River. Project will be completed in eight years. (in UP & MP)
- KBRLP will be taken with <u>irrigation</u> benefits to 9 Lakh Hector farmland, 100 MW HYD & 27 MW Solar Power & provide Drinking water to 63 Lakh people for an estimated cost of Rs. 44,605 CR.
 - Allocation in FY 22-23 is Rs. 1400 CR (With this speed when will the project will complete complete?)
- Five more River Linking projects are under process of planning & implementation

Blending of Biomass pallets with Coal in TPS:

- FM announced co-firing <u>5-7% biomass pellets</u> in THM plants, resulting CO2 savings of 38 MMT annually.
 - It is intended to provide extra income to farmers & job opportunities to locals & help avoid stubble burning in AG fields.
- This announcement follows the 'Revised Policy for Biomass
 <u>Utilization for Power Gen thro' co-firing in coal based power plants'</u> issued by MOP on Oct 8, 2021.
 - Under the aforesaid policy, THM plants <u>had until 1 year</u> to mandatorily use 5% blend of biomass pellets.
- This obligation would be increased to 7% with effect from two years from the date of issuance of the aforesaid policy
 & continue thereafter. Policy also stated that minimum contract period for procurement of biomass pellets is required to be 7 years.

There is no mention about any study on negative impact of pallet burning with coal on existing age-old Boilers in THM PS

Blending of Fuel:

- India is the world's third-biggest oil importer, which is relying on foreign suppliers to meet more than 85% of its oil demand
- FM said blending of fuel is a priority of GOI. To encourage the efforts for blending of fuel, FM announced that unblended Petrol/disel shall attract an additional differential excise duty of Rs 2 per litre from 1st Oct 2022 (on fuel sold without blending it with ethanol or biodiesel) to arrange for more ethenol
- Presently, 8.5% ethanol, extracted from Sugarcane or surplus food-grain, is blended & mixed wit petrol. with a view to cutting oil import dependence & <u>provide farmers</u> with an additional source of income.
 - Ethanol-blended petrol is supplied in 75-80% of country as availability of ethanol & logistics hamper supply in remaining areas.
 - Presently, parts of NE and J&K and some far-flung areas in South as well as in RAJ do not have a supply of ethanol-blended Petrol & will pay Rs 2/Liter of Petrol more

Aiming for an eco boost

Oil industry experts have allayed fears over mixing ethanol with petrol and say it cannot damage engines

- Ethanol is a bio-fuel obtained primarily from sugarcane. Blending of ethanol with petrol reduces dependence on fossil fuel and helps the environment
- The government had set a target of 10% of ethanol per litre of petrol
- Ethanol is
 blended through
 a separate
 pumping and
 metering mechanism

 Once blended, ethanol cannot be separated from petrol

Since ethanol can absorb moisture from the atmosphere, dealers say it can cause issues with vehicle engines

- There is only an experimental blending of biodiesel, extracted from non-edible oilseeds, in Diesel & Diesel is largely sold without any blending in the country.
- It is unlikely that India will be able to build infrastructure to manufacture biodiesel to the scale needed for blending in diesel in next 8 months.
 - Govt's desires that the blending happens & it benefits the country.
 - Hence extra Rs 2/Lit is is proposed
 on unblended fuel from 1st Oct
 2022

It may be noted that Blending can have issues in Vehicle Engine, so such a step can prove to be dangerous

"PARIVESH" Portal for Environmental Clearances:

- Single window portal, <u>PARIVESH</u> (Pro-Active & Responsive facilitation by Interactive, Virtuous & ENV Single-window Hub), <u>for all Green clearances was launched in 2018, which is instrumental in reducing the time required for ENV approvals.</u>
 - FM announced that the <u>scope of PARIVESH will now be expanded</u> to provide info to the applicants.
- Based on location of units, info about specific approvals will be provided.
- This would enable application for all four approvals (ENV, Forest, Wildlife & Coastal Regulation Zone Clearances) thro' a single form, & tracking of the process will be thro' 'Centralized Processing Centre-Green. (CPC-Green)'
 - It is expected that "Modified PARIVESH portal" will be able to provide ENV clearances in a more streamlined manner.

Power Demd Growth in FY 23

- India Ratings & Research (Ind-RA) expects <u>Demd growth to come back to a normal level of 6-7% pa in FY 23</u>. & overall PLF of THM plants would reach closer to 60% in FY23 <u>due to consistent growth in Demd & continued dependence on THM Gen in absence of any major increase in capacity additions in any other sector except RES.</u>
 - Dom Coal availability to power sector improved in 9MFY22 (Apr to Dec 2021). RE capacity addition increased to 10GW in 9MFY22 from 4GW in Apr-Dec 20
- GOI assistance of Rs 3.05 L CR for improving Discom infrastructure including Smart metering & System upgradation should result in reduction in AT&C Losses.
- However, "implementation remains key"...
 - Impetus to fasten the energy Transition would require technologies such as <u>Battery Storage & Green Hydrogen, to be</u> viable for commercial scale

- PPPs are back on agenda, with Odisha completing DISCOM privatisation & DISCOMs in UTs in the pipeline. We may see more such activites in FY 23
 - So Discoms privatisation & Amendments in EA 2003 would be on agenda, though not explicitly mentioned
 - There is a focus on <u>Coal evacuation infrastructure</u> & indigenisation of capital goods in mining.
- For FY 2022-23 GOI has already introduced a scheme allowing <u>additional borrowing space for</u> <u>states by 0.5% of the gross/ net State Domestic</u> <u>Product, based on the power sector's performance.</u>
 - GOI is to promote a shift to the use of public transport in urban areas. This is to be complemented by clean tech & governance solutions, special mobility zones with zero fossil-fuel policy & EVs.

General Budget 22-23: A Vision Statement for 2047:

Mission & Vision Statements intermixed?

Just a Joke!! Don't take it Seriously!!!



If you can figure out which connection goes to which unit, you will be able to understand the Budget

- Vision statement focuses on tomorrow & what the Govt ultimately wants to become (a long term dream) It's aspirational
- A mission statement focuses on present & what Govt does to achieve Vision, step by step.
- As regards Budget 22-23 the lines got blurred between the Vision & Mission
 - One needs to have clear Mission & Vision statements for better understand this budget
- Mission statement drives the Govt to what Govt needs to do at present/ the Core of the business toady, so that finally, it reaches those objectives, in the Vision

GOALS OF AMRUT KAAL (2022-2047):

25 year plan (a very long term. One has to take care of Tech absolesens & new R&D about which, it is very difficult to predict).

Even then FM has mentioned goals for 25 years:

 Focus on growth & all inclusive welfare/ Promoting technology enabled development, energy transition & climate action/ Virtuous cycle starting from private investment,

Four Priorities for 25 years

- PM Gati-Shakti/ Inclusive Development
- Productivity Enhancement & Investment, "Sunrise" Opportunities,
 Energy Transition & Climate Action/ Financing of Investments

PM GatiShakti:

- Driven by seven engines: <u>Roads, Railways, Airports, Ports, Mass</u> <u>Transport, Waterways, & Logistics Infrastructure.</u>
- National Master Plan aimed at world class modern infrastructure & logistics synergy by 2047

(it's only a good dream which GOI wants to show with no clear path)

Major Issues in Budget FY 23:

- Formulation of Master Plan for expressways: Completing 25,000 km National Highways in FY 2022-23
- Open Source <u>Mobility Stack for seamless travel of passengers</u>
- 4 <u>Multimodal Logistics parks thro' PPP to be awarded in</u> <u>FY 2022-23</u>
- National Ropeways Development Plan as sustainable alternative to Conventional roads.
- Integration of <u>Postal & Railways Network</u> facilitating parcel movement
- One Station One Product: Extending coverage under Kavach 400 new generation Vande Bharat Trains
 - Multinodal connectivity between mass urban transport & Railway stations

- FM said <u>financial support will be provided to farmers to take up agro-forestry.</u> Natural farming will be promoted <u>along Ganga river corridor</u>
 - Promoting <u>chemical free Natural farming starting with farmers'</u>
 <u>lands close to river Ganga</u>
 - Promoting post harvest value addition, consumption & branding of millet (Bajara) products
 - Delivery of <u>Digital & Hi-Tech services to farmers in PPP mode</u>.
- Use of <u>Kisan Drones to aid farmers</u>: which can increase AG GDP by 1-1.5%
 - Market size for drones is estimated to be around Rs 20-30,000 CR.
 Out of this, even if 10-15% is adopted in AG will have a huge impact on AG sector
 - FM said use of Kisan drones will be promoted for <u>crop assessment</u>, digitization of land records, & spraying of insect pesticides
 - Launching fund with blended capital to finance AG-start ups

Record Foodgrains Production (in Million Tonnes):

2014-15: 250 MT, 2016-17: 270 MT, 2018-19: 270 MT, 2020-21: 300 MT

All inclusive welfare focus

- Har Ghar, Nal Se Jal: 3.8 CR households to be covered in FY 2022-23
- PM Aawas Yojana: 80 lakh affordable houses will be completed at Rs 44,000 CR in FY 2022-23.
- Digital Banking by Post Offices: 100% of Post Offices to come on the Core Banking System
- <u>Digital Payments</u>: Scheduled Commercial Banks to set up
 75 Digital Banking Units in 75 Districts
- Passports with biometrics will be rolled out in FY 2022-23.
 Very few countries (Germany, UK, Bangala-Desh) have them. An e-passport comes fitted with a small electronic chip containing the data.
- Two Lakh anganwadis will be upgraded for improving child health.
- A <u>National tele-mental health program</u> will also be launched for mental health counselling.

Allocation under PLI Schemes, 2022-23 BE (in Rs CR)

- Telecom & Networking Products: Rs 528 CR
- Large Scale Electronics & IT Hardware: Rs 5300 CR
- Pharmaceuticals: Rs 1629 CR

Financing of investment:

- Introduction of <u>Digital Rupee by RBI starting FY 23</u>
- Infrastructure status for <u>Data Centers & Energy Storage</u>
 <u>Systems</u>
- Measures to aid investment by Venture Capital & Private Equity Investment
- Green Bonds to mobilise resources for green infrastructure
- Blended Finance for "Sunrise sectors"

Rupee Comes from:

- 35%: Borrowings & other Liabilities
- 16% GST
- 15%: Income Tax
- 15%: Corporate Tax
- 7%: Central Excise Duty
- 5%: Non-Tax Revenue
- 5%: Customs Duty
- 2%: Non-debt Capital Receipt

Rupee Goes to:

- 20%: Interest Payments
- 17%: States' Share of Taxes & Duties
- 15%: CS Schemes
- 10%: Finance Commission& Other Transfers
- 9%: Centrally Sponsored
 Schemes
- 9%: Other Expenditure
- 8%: Defense
- 8% Subsidies
- 4%: Pension

Revenue Receipts (Rs CR):

- 2020-21(Actuals):
 16,33,920
- 2021-22(BE): 17,884,24
- 2021-22(RE): 20,78,936
- 2022-23 (BE): 22,04,422

Revenue Expenditure (Rs CR)

- 2020-21:(Actuals):
 30,83,519
- 2021-22: (BE): 29,29,000
- 2021-22: (RE): 31,67,289
- 2022-23 (BE): 31,94,663

Capital Receipts (Rs CR):

- 2020-21: (Actuals): 18,75,916
- 2021-22 (BE): 16,94,812
- 2021-22: (RE): 16,91,064
- 2022-23: (BE):17,40,487

Effective Capital Expenditure (Rs.CR)

- 2020-21: (Actuals):
 6,57,182
- 2021-22 (BE): 7,73,348
- 2021-22: (RE): 8,40, 396
- 2022-23: (BE):10,67,889

Allocation to major schemes (in Rs CR)

- National Health Mission: 2021-22 (RE): 34,947, 2022-23 (BE): 37,800 (Rise: 8%)
- Jal Jeevan Mission : 21-22 (RE): 45,011, 2022-23 (BE): 60,000 (Rise: 33%)
- National Education Mission: 21-22 (RE): 30, 796., 2022-23(BE): 39,553 (Rise: 28%)
- PM Gram Sadak Yojana : 21-22 (RE): 14,000 2022-23 (BE): 19,000 (Rise: 36%)
- PM Kisan : 21-22 (RE): 67,500 <u>2022-23 (BE): 68,000</u> (Rise: 0.7%)
- <u>Aatmanirbhar Bharat Yojana</u>: 21-22 (RE): 5000, <u>2022-23</u>
 (BE): 6400 Rise: 28%
- PM Swasthya Suraksha Yojana: 21-22 (RE): 7400, 2022-23 (BE): 10,000 (35%)

RBI to issue Central Bank Digital Currency in FY23

- RBI will roll out the <u>Central Bank Digital Currency</u> (CBDC) in FY23. CBDC will be based on <u>blockchain technology</u>. RBI is in the process of rolling out its own version of a virtual currency.
- CBDC will be a <u>digital version of fiat money</u> that will coexist with hard cash. Move on CBDC comes at a time when there has been a <u>huge shift seen towards private virtual currencies called crypto-currencies.</u>
 - FM said that Gifts of virtual digital assets will also be taxed in the hands of the recipient. <u>Any income from virtual digital assets will</u> be taxed at 30%.

Reforms announced in budget namely the <u>issuance of Digital Rupee</u>, <u>Green bonds</u>, announcement of <u>75 digital banking units are the hallmarks for a healthy financial sector that will accelerate the financing & augmenting credit flow," Indian Bank MD/ CEO Shanti Lal Jain said.</u>

International arbitration Centre to be set up at GIFT City (Gandhinagar) for faster dispute resolution:

- An International Arbitration Centre will be set up at GIFT City (Gandhinagar) to provide faster dispute resolution.
 - In addition, a world-class University should be allowed in GIFT IFSC (International Financial Services Centre) free from domestic regulation. <u>Currently, GIFT-IFSC is only International</u> Financial Services centre in India.
- Govt to renovate <u>National Skill Qualification Framework</u>, <u>launch digital ecosystem for skilling</u>, aligned with dynamic industry needs.
 - "This will empower citizens to skill, <u>reskill or upskill thro'</u> <u>online training.</u> It also provides API-based trusted skill credentials, payment & discovery that they can use to find relevant jobs & entrepreneurial opportunities," FM said.
 - In select Industrial Training Institutes (ITIs) in all states, the required courses for skilling will be started.

Conclusions

- Clean & sustainable development: Budget has focused on 3 major sectors: <u>Transport, Energy & AG</u> with an aim to reduce CO2 & Air pollution emissions: which augur well for clean air programs in short term & achieving carbon neutrality in long term.
 - However, the announcements seem to have fallen short of promoting clean energy in an accelerated manner.
- GOI adopted a holistic approach for different infrastructure sectors thro' the <u>Gati Shakti NMP</u>. Issuance of Sovereign Green Bonds & Grant of infrastructure Status to Data centres & Energy Storage Systems should result in a fillip to <u>India's climate change</u> <u>targets</u>.
 - PLI incentives for Solar modules & EVs should aid India's low carbon development strategy.
 - Introduction of surety bonds as a substitute for <u>bank</u> guarantee will help improve the financial viability of suppliers & contractors by decreasing indirect costs.
 - Key themes for infrastructure announcements appear to be synergy & increased private participation to fuel ambitious growth plans & targets.

- Special mobility zones with zero fossil fuel policy & battery swapping policy with interoperability standards will encourage investment in Cos offering Battery Swapping services for EVs & other applications & reduce carbon emissions.
- Inclusion of Energy Storage Systems including Charging infrastructure & Grid scale Battery Systems in the Harmonised List of Infrastructure (HMI) will reduce the cost of funding for these businesses, encourage private sector investment & contribute towards mitigating worsening pollution in large metros in India.
- To attract more private capital into sustainable & low carbon business activities, Budget announced proposal to issue sovereign Green Bonds & setting up of thematic funds for blended finance with 20% contribution from GOI.
 - Biomass pellets, Energy Efficient Buildings, Coal Gasification & agroforestry are just the start of the transition to a <u>carbon-neutral economy</u>. Upcoming "Green H2 mission" & circular economy action plans can initiate a <u>deep shift towards industrial decarbonization</u>.

- Actually, India needs a comprehensive action plan to fully utilize
 24 GW Gas based Gen capacity, which has been rendered unviable due to unavailability of domestically produced natural gas & high international prices.
 - Gas-based plants offer peaking capacities & are ENV friendly & may be utilized to offset RE Capcaities. GOI collects a carbon tax (in the form of clean energy/GST compensation cess) at Rs. 400/ tonne from coal supplied to THM plants.
 - Union Budget could have proposed to utilize part og GST compensation cess to provide efficiency linked Subsidy for gas purchase to operationalise gas based plants
- Conspicuously, there was no mention of Nuclear energy in this year's budget. European Commission has recently decided to treat both NUC & natural Gas plants as part of "Clean Energy" which would make them eligible to attract ESG investments.
 - Given the intermittency of RE sources, <u>India needs to expand its NUC</u>
 Gen capacity (which along with coal based Gen sources & Battery Energy Storage) would provide grid balancing solution in future.

Thanks!! Your Kind Response is awaited!!

Together we can & we will achieve the Goal !!

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