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Bruhat Bengaluru Mahanagara Palike

Office of the Special Commissioner, Forests, Environment, Climate Change Management

Proceedings of meeting held on 28-03-2025 under the Chairpersonship of Special Commissioner (Forest, Environment, Climate Change Management) regarding the Implementation of Bengaluru Climate Action and Resilience Plan (BCAP)

Date: 28.03.2025 Time: 3:00 PM – 4:00 PM Venue: BBMP head office

Participants:

1. Smt. Preeti Gehlot, IAS, Special Commissioner (Forest, Environment, Climate Change Management) BBMP
2. Mr. B K Pavithra, Director of KTCDA
3. Mr. D G Venkataramanna, ATS – KTCDA
4. Mr. M Ashok Hendagar, Assistant general manager, KREDL
5. Mr. M Mahadev, EE, BBMP Lakes
6. Mr. Chikkegowda P D, EE, BESCOM
7. Mr. Balaji M T, EE MPED, BBMP
8. Mr. V Anand, SE Electrical, BBMP
9. Mr. Sapthak Ghosh, Sector head, Cstep
10. Mr. Suhas Sathyakiran, Analyst, Cstep
11. B-CAC Fellow - Mr. Suraj

Agenda

- FPV Potential in Bengaluru
- Lakes Proposed as Pilot Projects
- Strategic Planning for FPV Deployment
- Potential Risks & Mitigation Strategies
- Regulatory and Compliance Considerations
- Business Models for FPV Deployment
- FPV Cost Economics and Stakeholder Roles
- Overall Project Roadmap
- Discussion and Key Decisions

Key discussions and next steps:

1. FPV Potential in Bengaluru

- Research studies suggest that up to 10% of water bodies can be used for FPV without harming aquatic life and the ecosystem.
- CSTEP conducted a potential assessment using India's water bodies' GIS data.
- Key considerations for site selection:
    - Water bodies where at least 10% of the area is ≥ 0.015 sq.km (enough for 1 MW capacity).
    - Focus on lakes with year-round water availability.
- The total potential FPV capacity within BBMP jurisdiction is estimated at 20.85 MW, covering an area of 1.26 sq.km.

2. Lakes Proposed as Pilot Projects

- Yelahanka Lake:
    - Total area: 0.9 sq.km
    - Considered area for FPV: 0.05 sq.km
    - Total FPV capacity: 3 MW
    - Nearest substation: Yelahanka (66/11 kV)
- Rachenahalli Lake:
    - Total area: 0.3 sq.km
    - Considered area for FPV: 0.03 sq.km
    - Total FPV capacity: 2 MW
    - Nearest substation: Manyata (220/66 kV)

3. Strategic Planning for FPV Deployment

- FPV systems face unique challenges based on site-specific conditions, requiring a lake-by-lake evaluation approach.
- Key assessment factors include:
    - Climate & Atmospheric Conditions: Solar irradiation, wind speed, shading.
    - Lake Accessibility & Features: Shape, depth, seasonal water variations.
    - Environmental & Ecological Impact: ESIA studies, biodiversity impact.

- Social Considerations: Local economic value, recreational activities, cultural importance.

4. Potential Risks & Mitigation Strategies

- Environmental Risks: Conduct thorough environmental impact assessments before installation.
- Extreme Weather Risks: Implement robust anchoring systems and resilient design.
- Structural & Mechanical Risks: Use high-quality, corrosion-resistant materials.
- Financial & Regulatory Risks: Secure appropriate business models, engage with regulators early.
- Social Risks: Conduct social impact assessments, involve local communities.

5. Regulatory and Compliance Considerations

- Environmental and ecological clearances required.
- Approvals from KERC (Karnataka Electricity Regulatory Commission) and KREDL (Karnataka Renewable Energy Development Limited).
- Permissions from local governing bodies for water body usage.
- Multi-stakeholder coordination with BBMP, KREDL, BESCOM, KERC, KTDCA, and developers.

6. Business Models for FPV Deployment

- BBMP Self-Investment Model
- Renewable Energy Service Company (RESCO) Model
- BBMP Group Captive Model

7. FPV Cost Economics and Stakeholder Roles

- A discussion was held regarding cost economics, financial feasibility, and potential stakeholder involvement.

8. Overall Project Roadmap

- Project Initiation & Planning
- Site Selection & Potential Assessment
- Studies, Regulatory Approvals & Compliance
- Detailed Feasibility Study & ESIA
- Clearances & Permits

- Exploration of Financing & Business Models
- Call for Tender & Project Implementation

9. Discussion and Key Decisions

- KTCDA has approved the proposal and noted that minor and major irrigation departments are also working on similar projects.
- Special Commissioner suggested engaging with local MLAs before conducting feasibility studies.
- Representatives from CSTEP and Lakes Department will engage with local MLAs to seek support and approvals before proceeding.

Preeti Gehlot 02/04

Special Commissioner
(Forest, Environment, Climate Change Management)
Bruhat Bengaluru Mahanagara palike

Copy submitted to: -

1. Hon'ble Administrator, Bruhat Bengaluru Mahanagara Palike for kind information.
2. Chief Commissioner, Bruhat Bengaluru Mahanagara Palike for kind information.

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