

»» Financing Green Energy Corridors

Renewable Energy Expo India 2015

Indo German Energy Forum

Ramya Parijat

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Bank aus Verantwortung

KFW

»» Renewable Energy Targets: Govt. of India

State	Existing Capacity end of 11 th plan (MW)		Addition in 12 th Plan (MW)		Total capacity (MW)	
	Wind	Solar	Wind	Solar	Wind	Solar
Tamil Nadu	6370	7	4339	3014	10709	3021
Karnataka	1783	6	3619	253	5402	259
A.P	230	22	3150	1677	3380	1699
Gujarat	2600	600	3368	1361	5968	1961
Maharashtra	2460	17	3763	300	6223	317
Rajasthan	2100	200	2181	3513	4281	3713
J&K	-	2	12	102	12	104
Total	15543	854	20432	10220	35975	11074
Total	16397		30652		47049	

During the beginning of 12th Plan period

Target of renewable energy capacity revised to 175 GW till 2022, comprising 100 GW Solar, 60 GW Wind, 10 GW Biomass and 5000 MW Small Hydro

Revised GoI targets (as per Budget 2015)

»» RE potential in few States



»» Green Energy Corridors: Timeline



2012 “Green Energy Corridor” Report by POWERGRID

2013 Joint Declaration of Intent:

“to foster the grid integration of renewable energies in India”

- *Financial Contribution via KfW upto 1 billion EURO over the next years*
- *Technical Assistance offered via GiZ e.g. for forecasting and market design.*

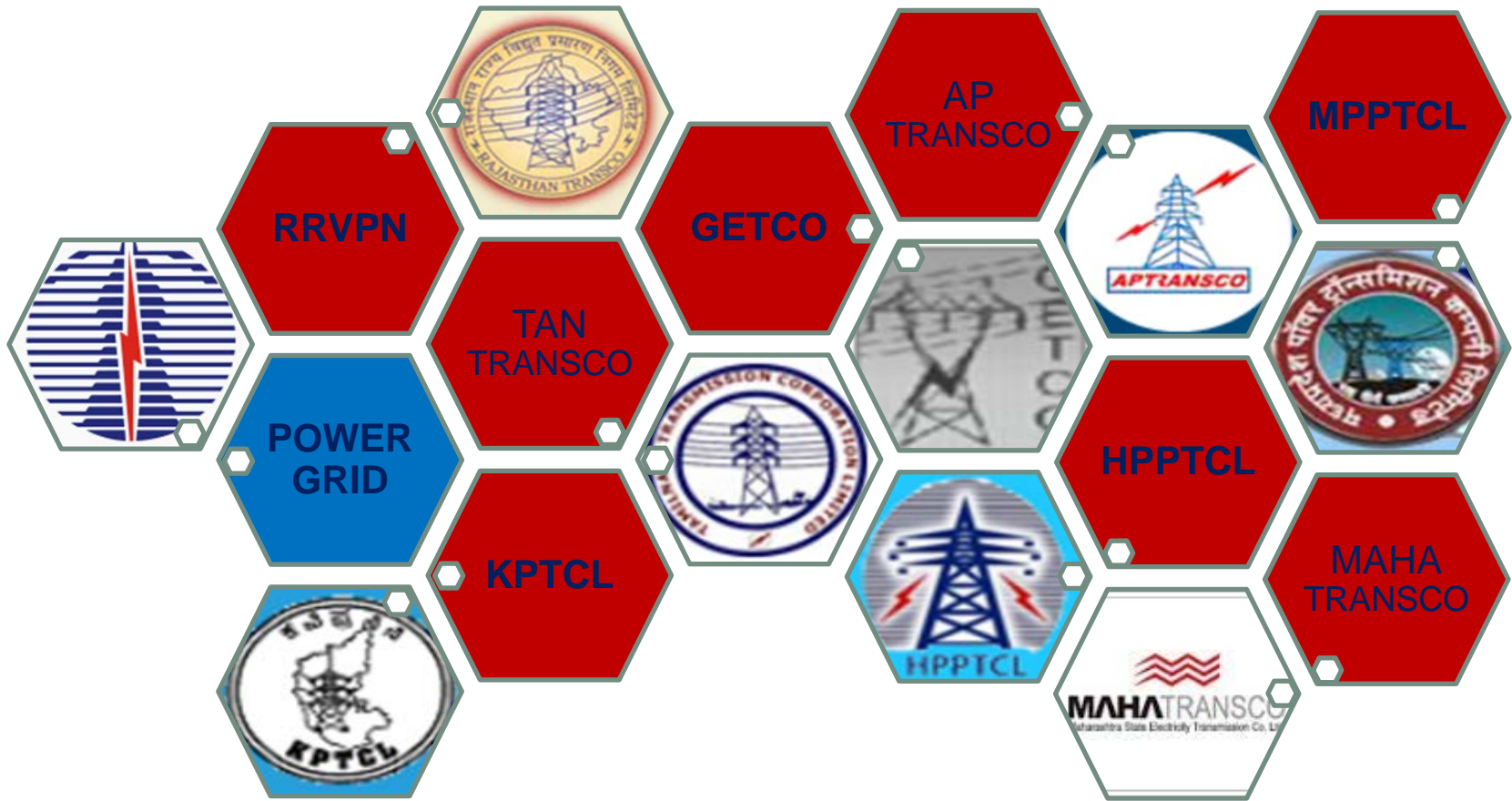
BMZ Commitment of 250 Mio. EUR

2014 **Project Starts..**

- Monthly Status Review Meetings by MoP, MNRE, CEA , POWERGRID and all STUs
- Trouble shooting meetings by MNRE
- Half yearly High Level meetings between KfW and all Stakeholders
- Appraisal missions of 750 Mio. EUR by KfW
- Prefinancing allowed: tendering begins before loan signing..

BMZ Commitment of 500 Mio. EUR and verbal note of exchange

»» One Project: Nine Implementing Agencies



»» Progress so far...

17 December 2014

KfW inks loan agreement worth EU 625 mln for financing GEC in India



India and Germany have taken a steps closer towards strengthening their relations as the German Government's Development Bank KfW on behalf of the Federal Ministry for Economic Cooperation and Development (BMZ) inked three loan agreements totaling 625 Million Euros for financing the Green Energy Corridors (GEC) in India.

In this regard, a Note of Exchange, signed by German Ambassador Michael Steiner, was presented to Rajiv Mehrishi, Finance Secretary.

»» Signed Loan Agreements

Inter State/ POWERGRID	Equity (30%) (Rs Cr)	Debt (70%) (Rs Cr)	Total (Rs Cr)	Total (EUR Mio.)	KfW Loan (EUR Mio.)
Tranche I+II+III	2239	5224	7463	1066	500

**Loan
signed for
complete
Inter State
part of
GEC**

Intra State	Equity (20%) (Rs Cr)	Grant (NCEF) (40%) (Rs Cr)	Debt (40%) (Rs Cr)	KfW Loan (EUR Mio.)	Total (Rs Cr)	Total (EUR Mio.)
Tamil Nadu	319	637	637	76	1593	228
Rajasthan	204	407	407	49	1018	145
Sub Total	522	1044	1044	125	2611	373

»» GEC Planning: Tranche II

Intra State	Equity (20%) (Rs Cr)	Grant (NCEF) (40%) (Rs Cr)	Debt (40%) (Rs Cr)	Debt (EUR Mio.)	Total (Rs Cr)
Andhra Pradesh	258	516	516	67	1290
Gujarat	393	785	785	112	1963
Himachal Prd.	186	372	372	52	910
Madhya Pradesh	220	440	440	58	2100
Sub total	1037	2073	2073	357	5163

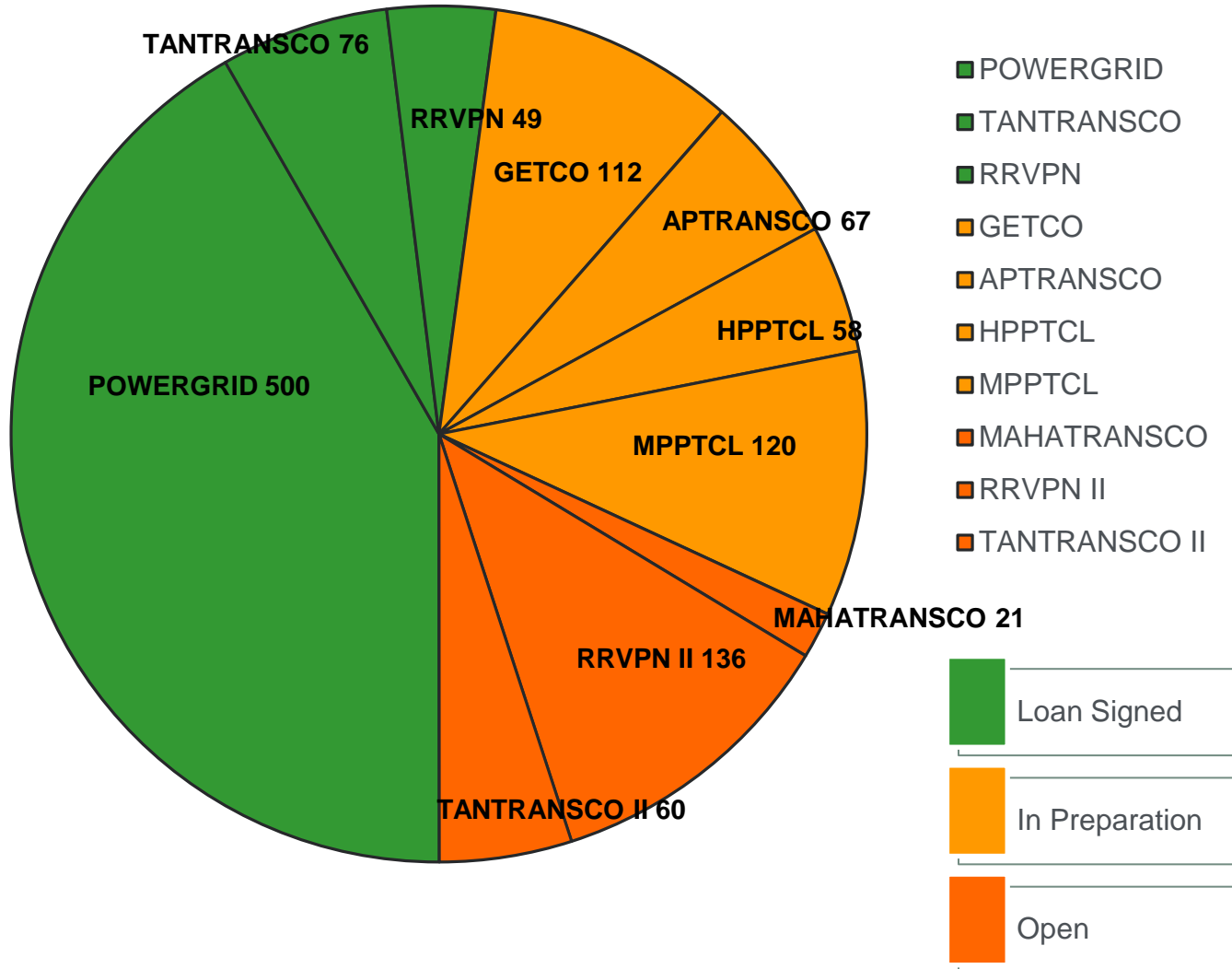
»» GEC Planning: Tranche III

Intra State	Equity (20%) (Rs Cr)	Grant (NCEF) (40%) (Rs Cr)	Debt (40%) (Rs Cr)	Debt	Total	Total (EUR Mio.)
				(EUR Mio.)	(Rs Cr)	
<i>Maharashtra*</i>	72	144	144	21	361	131
<i>Rajasthan* II</i>	476	952	952	136	2381	340
<i>Tamil Nadu* II</i>	210	420	420	60	1050	103
Sub total	758	1517	1517	217	5917	845

* DPR awaited, project cost yet to be confirmed

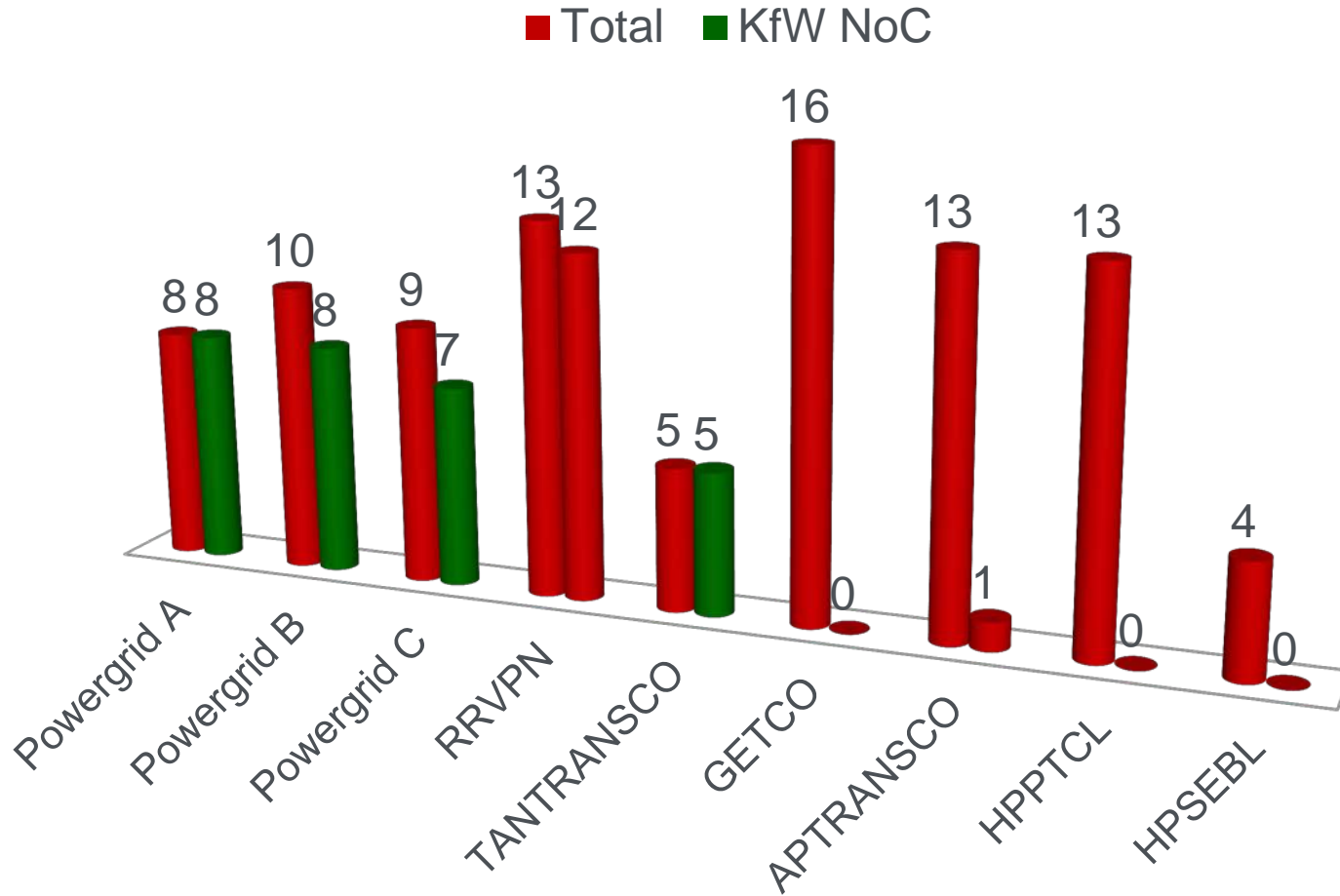
»» Debt Requirement : EUR 1199 Mio.

In Mio. Euro



»» Implementation

Status of tenders under KfW Financing





Components Financed under Signed Loan Agreements

PGCIL DPR-A

- P-A.1: 57 km 400 kV Ajmer New – Ajmer (RVPN) – TW01
- P-A.2: 25 km 400 kV Chittorgarh New – Chittorgarh (RVPN) – TW01
- P-A.3: Substation Chittorgarh 765/400 kV (SS01)
- P-A.4: Substation Ajmer 765/400 kV (SS02)

PGCIL DPR-B

- P-B.1: 199 km 756 kV Chittorgarh New – Ajmer New (TW01-TW03-765kV)
- P-B.2: 285 km 765 kV Banaskanta - Chittorgarh New (TW04-TW07)
- P-B.3: Extens. Substation Chittorgarh 765/400 kV (SS01)
- P-A.4: Substation Banaskanta 765/400 kV (SS02)

RVPN DPR-A

- R-A.1: 130 km 400 kV Jaisalmer 2 – Barmer
- R-A.2: 140 km 400 kV at Jaisalmer 2- Bhinmal
- R-A.3: 50 km 400 kV at Jaisalmer2-Akal
- R-A.4: 70 km 220 kV Undoo – Pokaran
- R-A.5: 15 km 220 kV Kolayat- Gajner + 10km -132 kV LILO Kolayat –Bajju
- Grid Substation JAISALMER2 400/220kV
- Grid Substation UNDOO 220/132 kV
- Grid Substation KOLAYAT 220/132 kV
- Grid Substation CHHATRIL 220/132 kV
- Grid Substation BAJJU 220/312 kV



Gujarat

PGCIL DPR-B

P-B.5: 100 km 400 kV
Banaskanta – Sankhari

PGCIL DPR-C

P-C.1: 310 km 765 kV
Bhuj Pool –
Banaskanta (TW01-
TW05)



PGCIL DPR-A

P-A.5: 54 km 400 kV Tirunelveli – Tuticorin;

Line 1

P-A.6: 56 km 400 kV Tirunelveli – Tuticorin;

Line 2

TANTR DPR-A

Thennampatty 400/230-110 kV GSS

T-A.1: 56 km 400 kV Thenampatty - Kayathar

T-A.3: 37 km 400 kV Kayathar - Kovilpatti

T-A.5: 180 km 400kV Rasipalayam - Singarapet

T-A.6.1: 55 km 230 kV Kayathar – Tuticorin

T-A.6.2: 55 km 230 kV Veeranam - Tirunelveli

T-A.6.3: 25km 230 kV Veeranam - Kodikurichi

T-A.6.4: 65 km 230 kV Ingur - Arasur

T-A.6.5: 95 km 230 kV Arasur - (PGCIL) Gobi

T-A.6.6: 180 km 230 kV Cuddalore - Neyveli

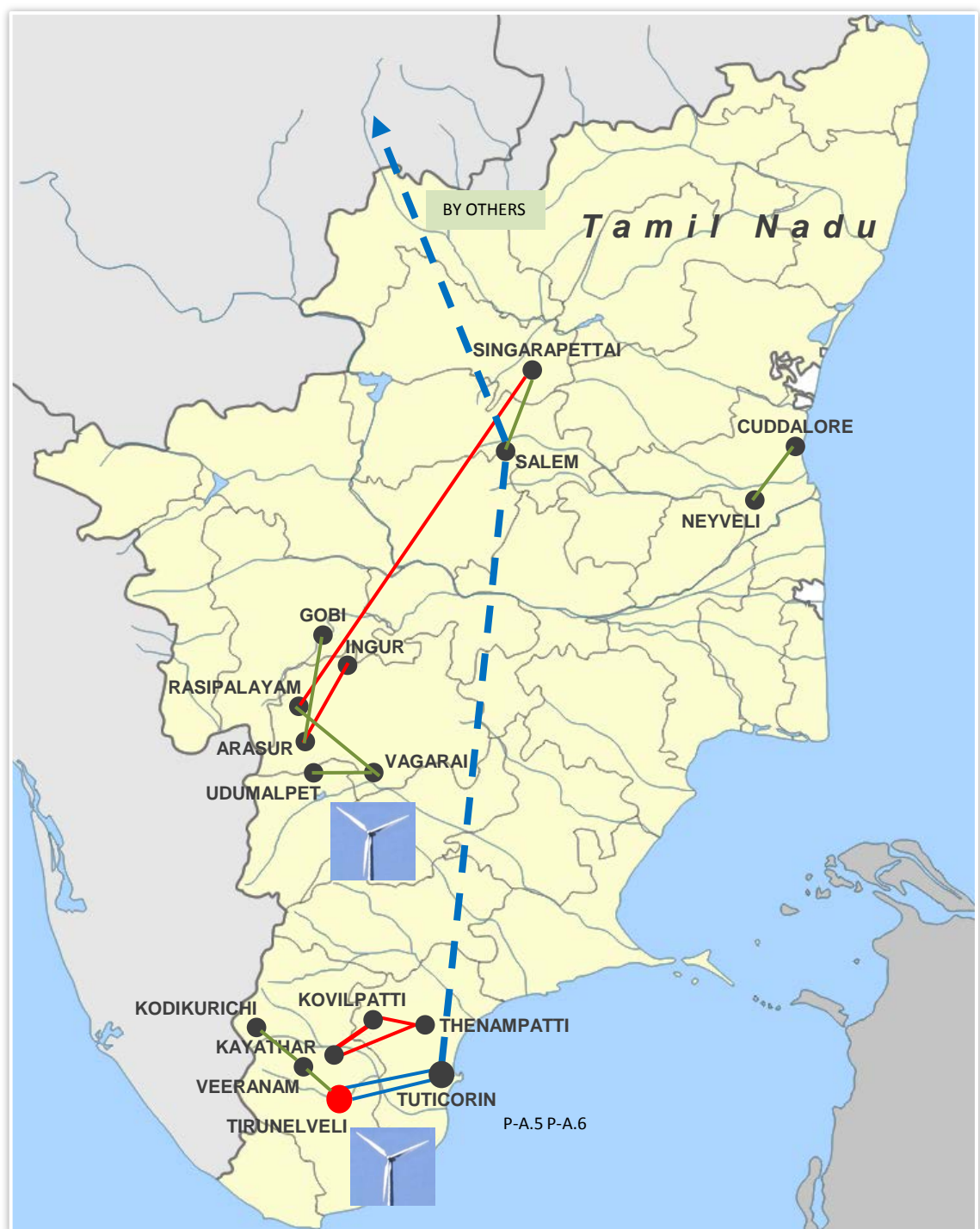
Various Bay extensions & augmentation of Transfo capacity

TANTR DPR-B

T-B.2.1: 100 km 400 kV Vagarai - Rasipalayam

T-B.2.2: 40 km 400 kV Vagarai - Udumalpet (PGCIL)

T-B.2.3: 90 km 400 kV Salem - Singarapet





»» Next Steps/ Open Issues

- › Implementation of Renewable Energy projects
- › Operational
 - › Tendering Challenges: Packaging of components (lines, insulators, conductors..) from nine implementing agencies
 - › National Clean Energy Fund Disbursements
 - › Cost Escalations
 - › Environmental & Social Standards for Project Implementation
- › Future Projects:
 - › Detailed Project Reports for future projects (Tamil Nadu- II, Rajasthan II)
 - › Financing REMCs?
 - › Financing evacuation of Solar parks

»» Green Energy Corridors

Thank You

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