EUROCHAM CAMBODIA

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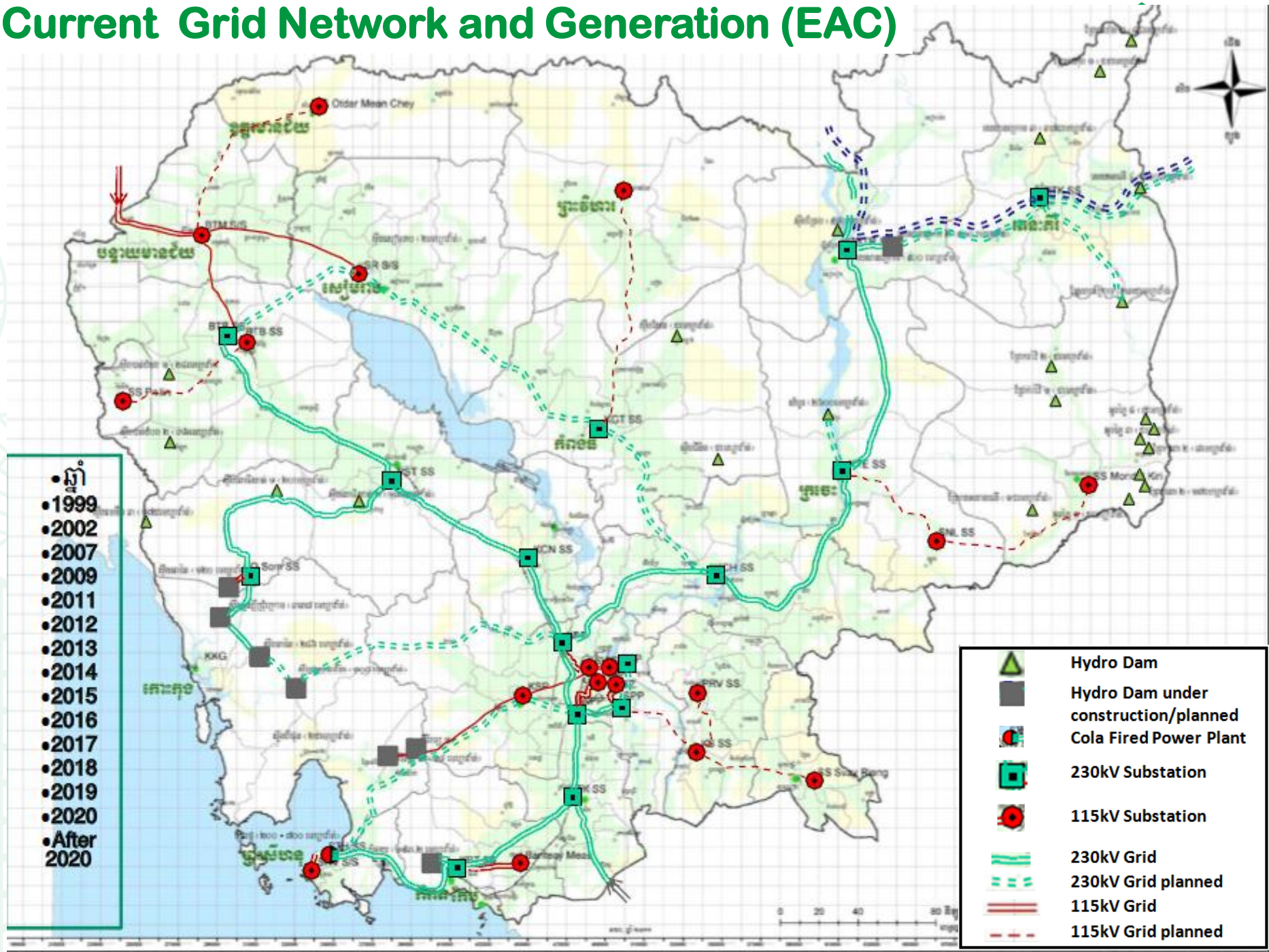
Net-metering:

My Solar –My Electricity

APRIL 23RD
RAFFLES HOTEL
PHNOM PENH

Current Grid Network and Generation (EAC)



Need for Decentralized Supply (EAC)

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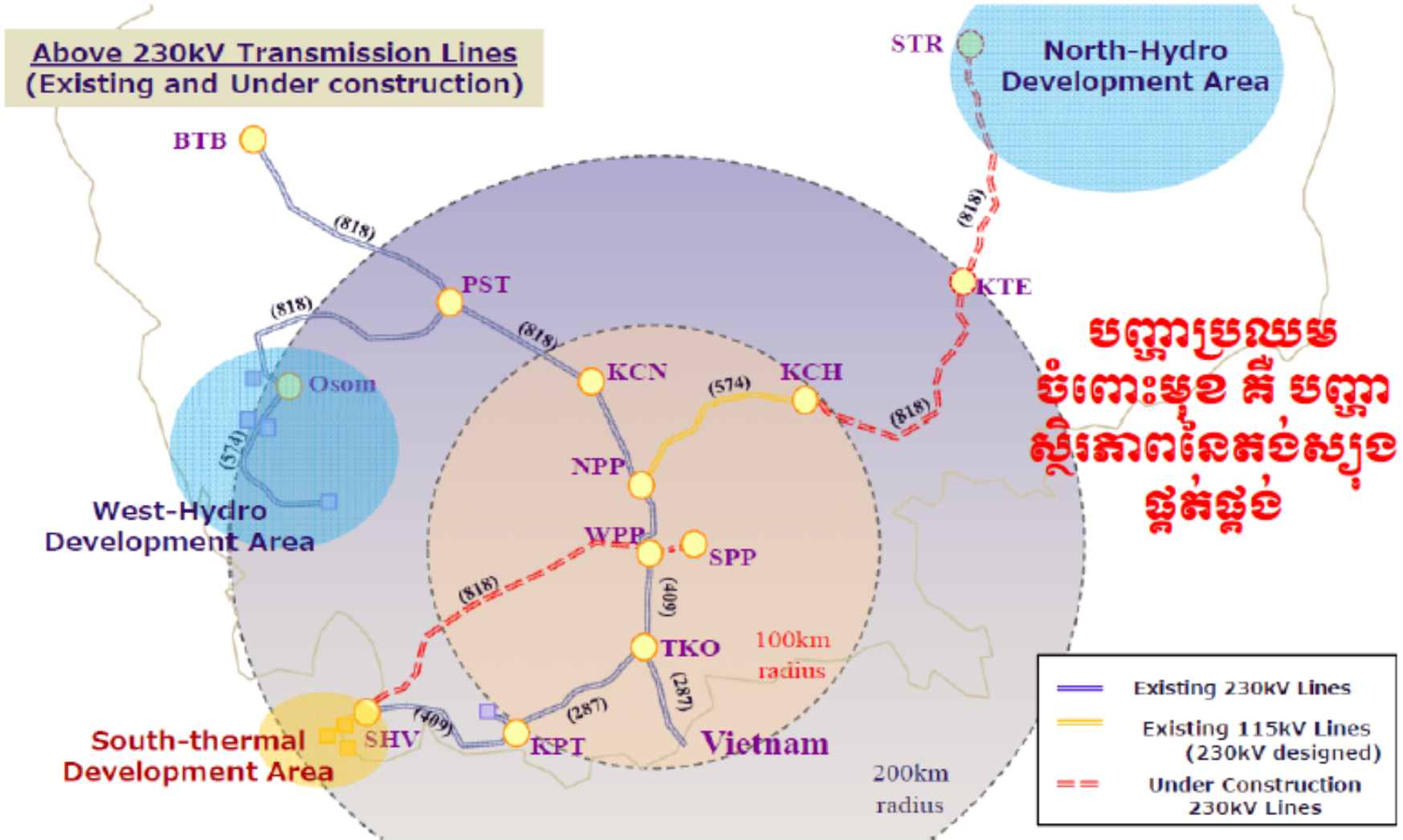
Since each power development area is more than 200km away from demand center of Phnom Penh, system stability is the dominant constraint in the grids.



Current Supply Situation

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Electricity Supply in Cambodia	2013			2014			2015		
	MW	million kWh	%	MW	million kWh	%	MW	million kWh	%
1 Generation									
Coal	110	168	4.2	110	754	15.5	380	1,815	30
Hydro	344	1,015	25.1	682	1,760	36.1	682	2,306	38
Diesel/HFO	275	487	12	177	318	6.5	140	186	3
Biomass	15	6	0.1	15	3	1.5	16	3	0.1
Industry	23	75	0.9	23	73	0.3	15	12	1.3
Total Generation	**767**	**1,751**	**43**	**1,007**	**2,908**	**60**	**1,234**	**4,322**	**73**
2. Imported									
Thailand	96	579	14.3	136	579	11.9	136	533	8.9
Vietnam	196	1,691	41.8	196	1,358	27.8	226	1,018	17
Laos	2	11	0.3	2	13	0.3	2	20	0.3
Total Imported	**293**	**2,281**	**56**	**3,334**	**1,952**	**20**	**364**	**1,572**	**26**
Total Generation + Import	**1,087**	**4,050**	**100**	**1,358**	**4,873**	**100**	**1,620**	**5,971**	**100**

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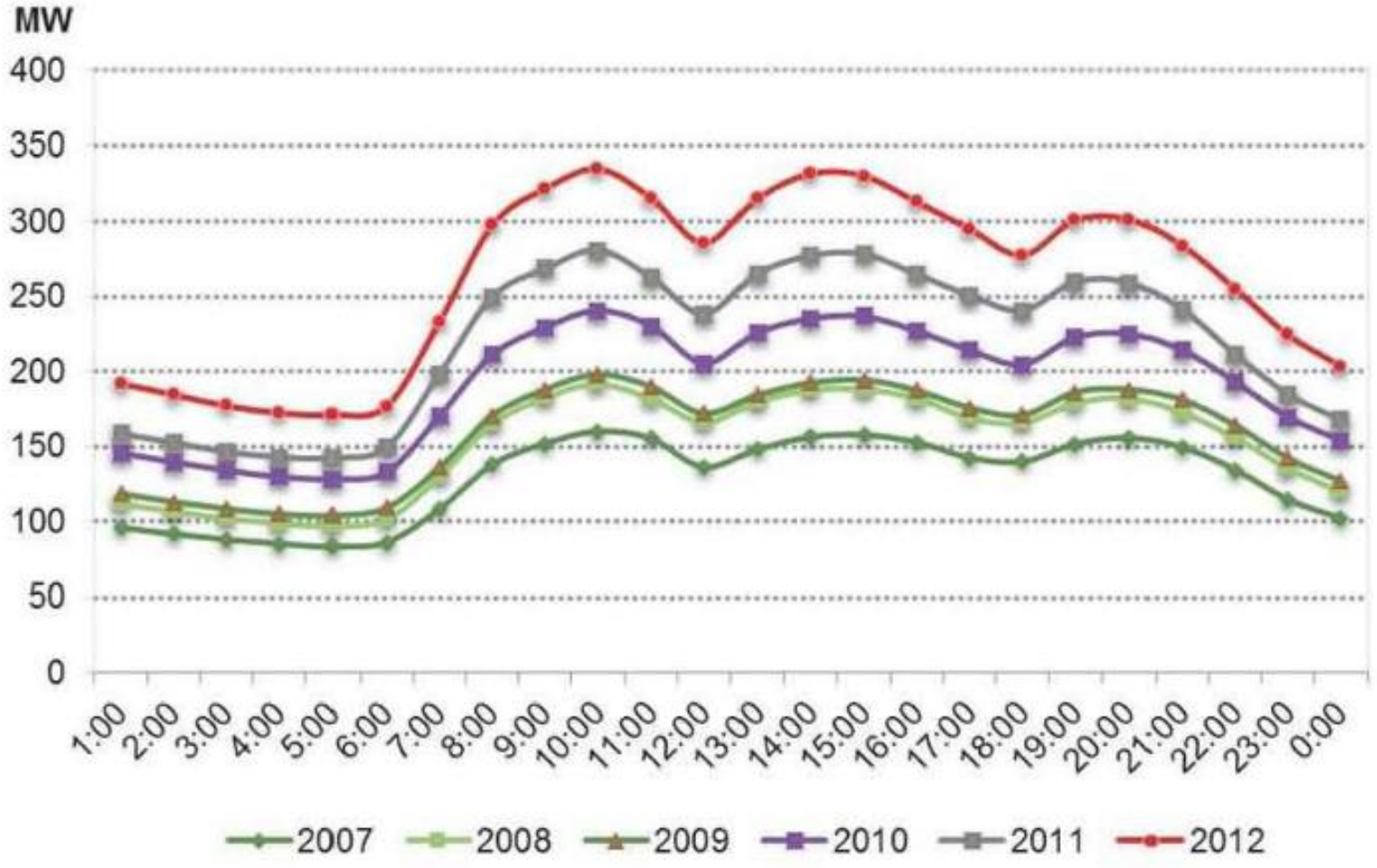
Peak Demand Phnom Penh (EDC)



Supply Challenge

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Issues with Hydro

- Limited hydro in dry season
- Hydro far away from load
- Expensive transport
- Protests against hydro
- Big climate impact (hydro generate methane emissions)

Issues with Coal

- Big climate impact: local and global
- Huge environmental impact
- Need to import coal, not sustainable

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Supply Challenge

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Issues with imported electricity

- Long costly transmission distances
- Vietnam faces huge supply issues
- Dependent on neighbors
- Money flows outside the country

Result current grid:

- Many blackout
- Costly transport ($0.129 +per kWh after substation)
- Huge voltage drops
- Limited supply in dry season
- Causing production damage, many run diesel engines

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The Solution
“My Solar” - “ My Electricity”

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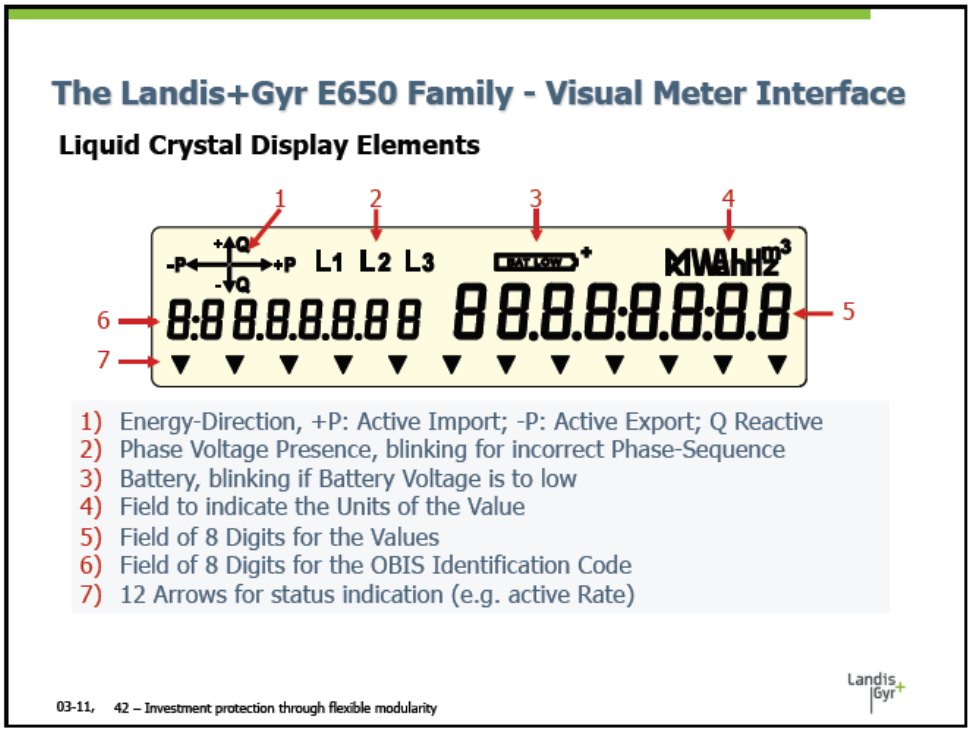
Electricity Generation by Cambodians for Cambodians at the location where it is used:

- **Grid Connected Solar with Net-metering:**



Contribution by Solar Partners Asia

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Large Grid connected systems in areas of need with kWh below grid price:

- **5 MW Solar Farm in Bavet with Tai Seng SEZ, +5MW**
- **5 MW with other SEZ in Bavet, +5MW**
- **10 MW SEZ near Phnom Penh**
- **2 MW in Kampong Cham**
- **Other projects in development**

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MIME/EAC/EDC

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Request Government to solve challenges:

- **Grid connected systems for industry to stabilize load and voltage at load locations:**
- **Pilot with 100 grid connected HH systems in PP:**
- **Formulation Prakas for net-metering:**

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THANK YOU

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