



Plugging In

Transparency and Standardization in Interconnection

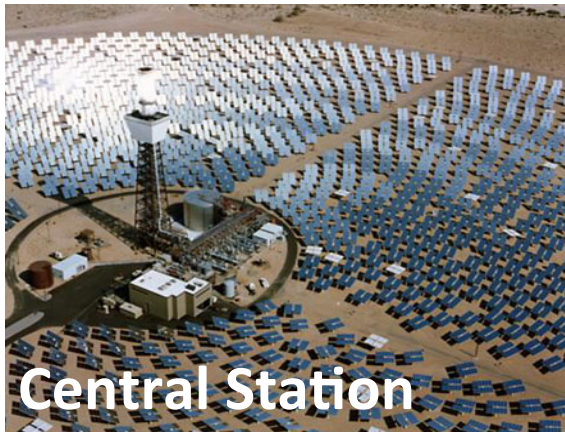
Ted Ko

Associate Executive Director

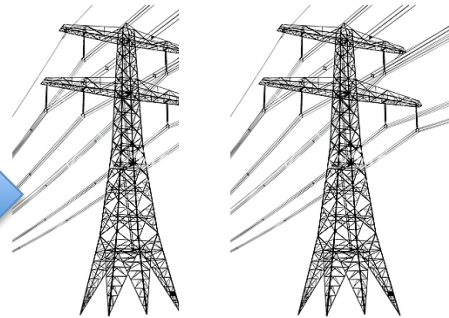
Clean Coalition

ted@clean-coalition.org

Energy Generation Market Segments



Transmission Grid



Distribution Grid



Wholesale DG



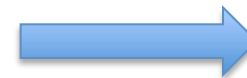
Energy is sold to the local utility



Retail DG



Energy is mostly used on-site



California Interconnection Tariffs



Type	Utility	Regulator	Grid	Tariff	Status
Retail	IOU	CPUC	Distribution	Rule 21	Generally working well. 90,000+ interconnections in California
Retail	POU	None	Distribution	Versions of Rule 21	Non-standard. Success unknown
Wholesale	IOU	CPUC	Distribution	New Rule 21	Jurisdiction murky. Old Rule 21 did not work. New Rule 21 to be adopted Summer 2012
Wholesale	IOU	FERC	Distribution	Wholesale Distributed Access Tariff (WDAT)	Modified Early 2011. Statistics not encouraging.
Wholesale	POU	None	Distribution	Versions of Rule 21	Non-standard. Success unknown

Tariffs vs. Business Practices



	Tariff	Business Practices
Processes	<ul style="list-style-type: none"> • Rules and task specifications • Timelines • “Engineering judgment” 	<ul style="list-style-type: none"> • Roles, responsibilities, certifications, organization • Number of steps, service levels, consequences • “Rules of thumb”
Controls	<ul style="list-style-type: none"> • Reporting to regulators • Rules for process modifications • Dispute resolution paths 	<ul style="list-style-type: none"> • Internal reporting and reporting to generators • Change management • Complaint tracking, actual resolution processes, ombudsman
Interfaces	<ul style="list-style-type: none"> • Transactions, Forms requirements 	<ul style="list-style-type: none"> • Online interfaces, digital signatures, e-mail vs paper
Costs	<ul style="list-style-type: none"> • Types of fees and standard amounts • Study and allocation of cost estimates 	<ul style="list-style-type: none"> • Actual fees • Actual costs and costs charged to generator
Coordination	<ul style="list-style-type: none"> • Rules regarding dependencies on departments, agencies or other entities 	<ul style="list-style-type: none"> • Communication between utility and jurisdiction (e.g. inspection, permitting) • Communication between utility departments

“The BPMs developed...are intended to contain implementation detail, consistent with... the Tariff, including: instructions, rules, procedures, examples, and guidelines for the administration, operation, planning, and accounting requirements” – CAISO Interconnection BPM

- Clean Coalition is a member of a Bay Area team that won a grant from the DOE Sunshot Initiative
- Investigate a “best practices” BPM for rooftop solar PV (i.e. retail DG)
- Get commitments from utilities to standardize on the eventual IX BPM
- Standardizing and streamlining will reduce “soft costs” of clean energy