

# Customer Demand Response the Four Not so Easy Pieces

*Presented by*

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**the Demand Exchange<sup>®</sup>**

**the Power of Customer Choice<sup>sm</sup>**

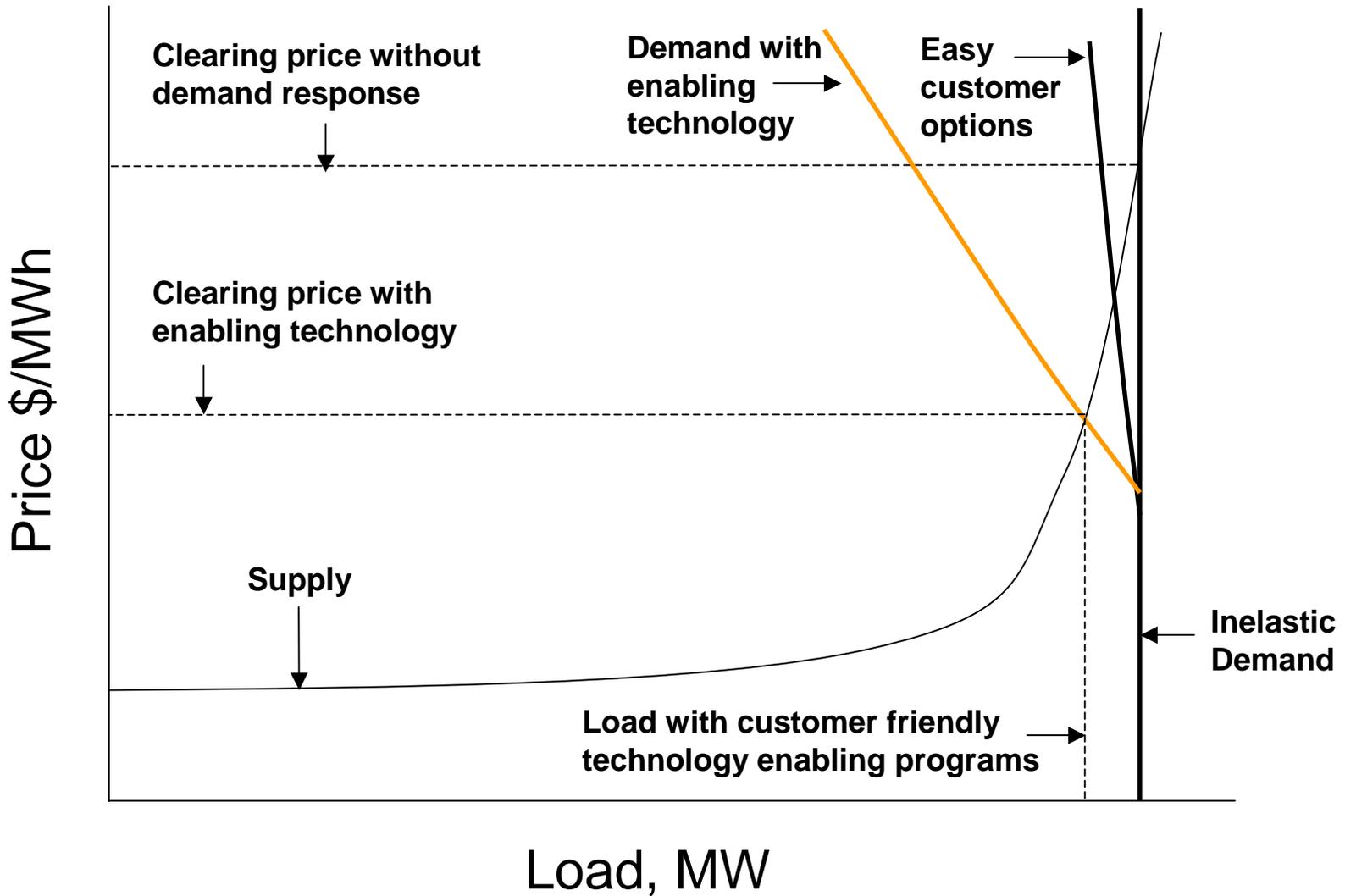


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# Four not so easy pieces for consideration

- While I am probably “preaching to the choir”
- Consider these new P’s in the marketing mix
  - Treat demand response as a **Portfolio**
  - **Price Caps** especially in the WSCC
  - **ISO Politics** of stakeholder groups
  - Uncertainty over **Prudence** and cost recovery
- Arguing about small details is very much like rearranging the deck chairs on the Titanic

# Even a little Demand Response goes a long way!



# Demand Response is a Portfolio of Options



Bilateral	Forwards	Options 5x16	Load Follow Agreements	<i>Spinning &amp; Non Spinning Frequency &amp; Voltage Transient Stability</i>
	Futures			
	4x5x16			

Strategic Efficiency	Peak Load Management	Voluntary Demand Response	<i>Interruptible &amp; Direct Load Control</i>
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 **Demand Side**       **Supply Side**



# Remember it is **Volume x Price** in spot markets!

## 1000 MW in Spot Market

MW Load		Price	Spot Mkt Tot \$	Effective Incremental \$/MWh
11,000	92%	\$50	\$0	\$55
11,100	93%	\$55	\$5,500	\$65
11,200	93%	\$60	\$12,000	\$75
11,300	94%	\$65	\$19,500	\$85
11,400	95%	\$70	\$28,000	\$120
11,500	96%	\$80	\$40,000	\$140
11,600	97%	\$90	\$54,000	\$335
11,700	98%	\$125	\$87,500	\$1,125
11,800	98%	\$250	\$200,000	\$2,500
11,900	99%	\$500	\$450,000	\$5,500
12,000	100%	\$1,000	\$1,000,000	- na -

## 500 MW in Spot Market

MW Load		Price	Spot Mkt Tot \$	Effective Incremental \$/MWh
11,500	96%	\$80	\$0	\$90
11,600	97%	\$90	\$9,000	\$160
11,700	98%	\$125	\$25,000	\$500
11,800	98%	\$250	\$75,000	\$1,250
11,900	99%	\$500	\$200,000	\$3,000
12,000	100%	\$1,000	\$500,000	- na -

## 200 MW in Spot Market

MW Load		Price	Spot Mkt Tot \$	Effective Incremental \$/MWh
11,800	98%	\$250	\$0	\$500
11,900	99%	\$500	\$50,000	\$1,500
12,000	100%	\$1,000	\$200,000	- na -



# What is the fair market price in \$/MWh?

(\$/MWh to recover \$75 per kW/year in capital amortization only)

Days/Yr	Hrs/Day of Planned Operations				
	4	6	12	16	24
1	\$18,750	\$12,500	\$6,250	\$4,688	\$3,125
2	\$9,375	\$6,250	\$3,125	\$2,344	\$1,563
5	\$3,750	\$2,500	\$1,250	\$938	\$625
10	\$1,875	\$1,250	\$625	\$469	\$313
20	\$938	\$625	\$313	\$234	\$156
50	\$375	\$250	\$125	\$94	\$63
100	\$188	\$125	\$63	\$47	\$31
200	\$94	\$63	\$31	\$23	\$16
365	\$51	\$34	\$17	\$13	\$9

# The fine Whine of Politics and Prudence

- Recognize whining for what it really is
  - ISO stakeholder groups may whine about demand response and appear entirely reasonable
  - LSEs may whine about need to file and fuel clauses taking away any net economic benefits
  - Prudence should be evaluated for what is done and what is not done with the demand response opportunity
- FERC should set standard DR market rules
- States should work *with* the FERC to implement

# Conclusions and suggested actions

- Recognize not everyone wants DR to work
- DR portfolio goes well beyond ISO purview
- Result is several “classes” of DR can be traded
- Markets always need surveillance
- Therefore market rules are never perfect
- FERC should lift price caps in WSCC NOW!
- FERC should set standard DR market rules
- State regulators should evaluate Prudence
- States should work *with* the FERC in all this