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# Demand Response

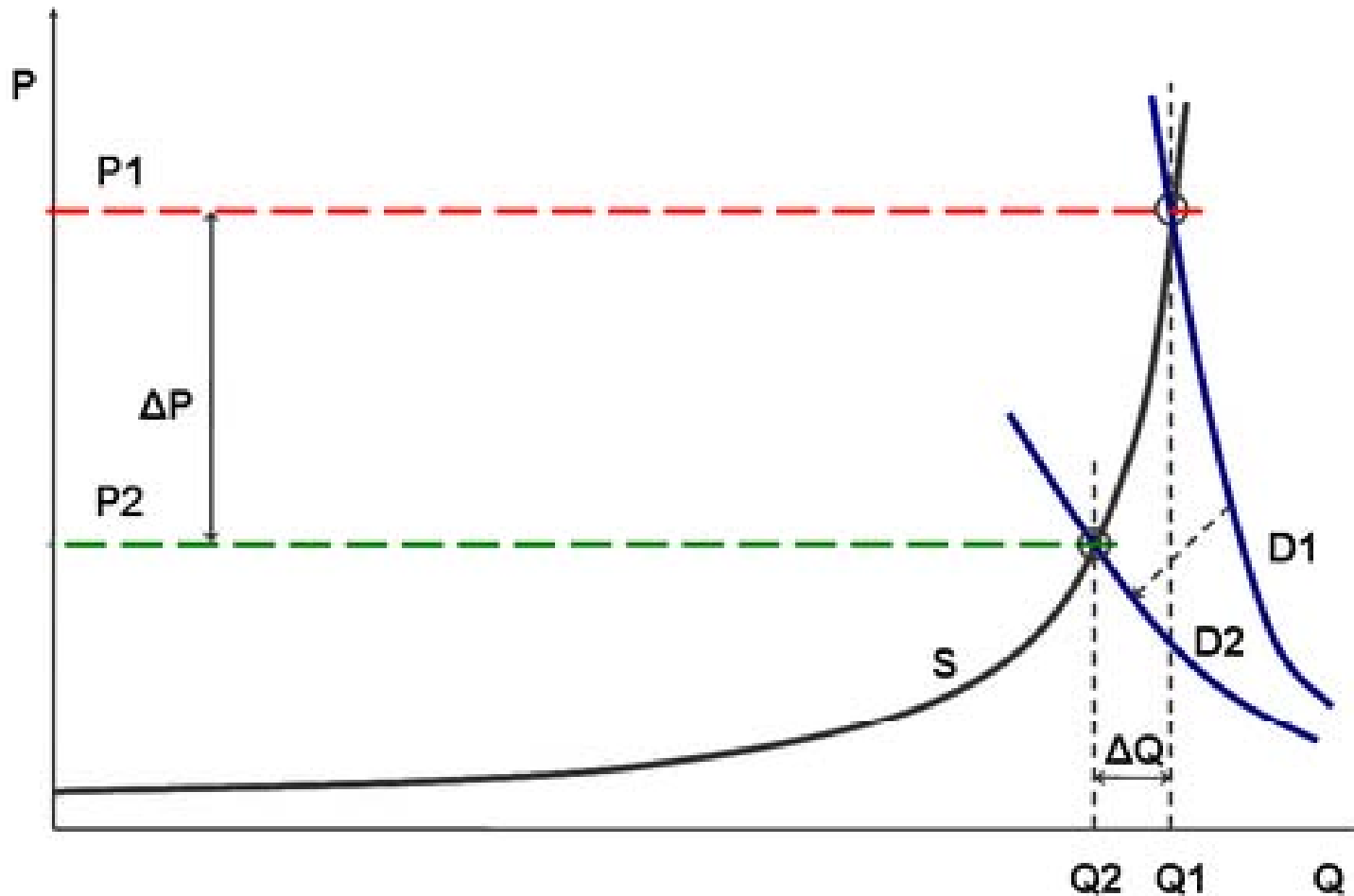
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Northwest Public Power Association  
Seventh Annual Power Supply Conference  
Portland, Oregon  
24 June 2010

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# What is Meant by “Demand Response”?

- Changes in consumption patterns in response to changes in electricity prices
    - Electricity consumption is inelastic in short time frames, as customers’ do not face the “real” production price
      - If they were to face actual prices in short periods, they would (presumably) increase and decrease their electricity use in reaction to dynamic price signals
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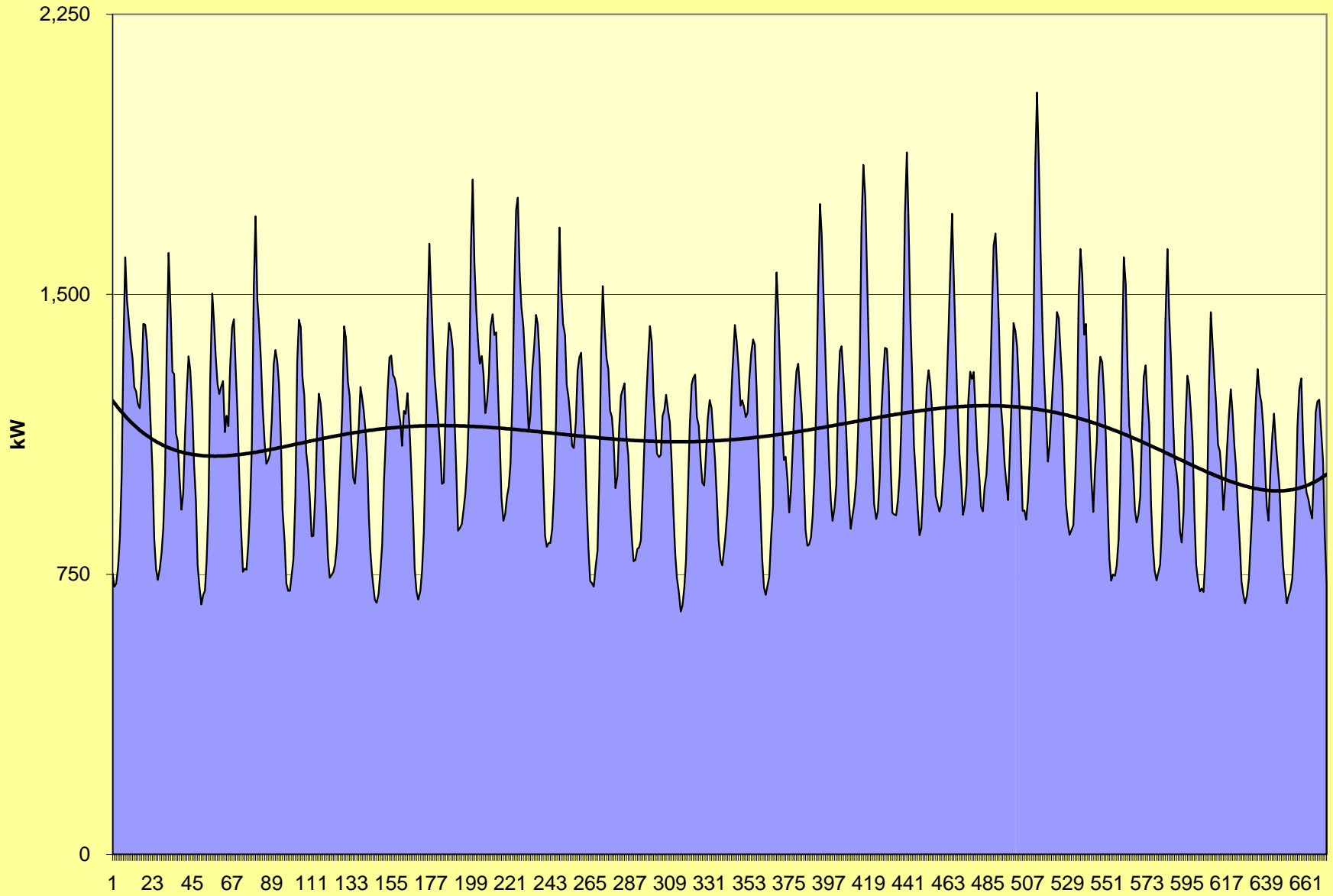


Explanation of demand response effects on a quantity (Q) - price (P) graph. Under inelastic demand (D1) extremely high price (P1) may result on a strained electricity market.

If demand response measures are employed the demand becomes more elastic (D2). A much lower price will result in the market (P2).

I Street - 1201 Feeder  
February 2010

$R^2 = 0.0509$



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# Demand Response Strategies

- There are three basic demand response strategies:
    - **Load shedding** (curtailment), simple, shuts off a device during peak events, typically fewer than 10 times/year
    - **Load shifting**, more sophisticated, moves loads away from heavy load hours and system demand peaks, sometimes by preheating or precooling, other times by delaying an activity (clothes dryers, dishwashers, etc.)
    - **Load shaping**, very sophisticated, constantly fine-tunes system consumption and demand in real time to resemble generation system load shape
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# Today's Demand Response Panel

- **Why should we be interested? What is in it for your utility?**
    - *Kevin Smit, Manager of DSM, EES Consultants*
  - **Expanded support for demand response projects**
    - *Lee Hall, Smart Grid & Demand Response Program Manager, BPA*
  - **Kootenai Electric Coop Case Study**
    - *Melissa Newcomer, Business Development Representative, Kootenai Electric Cooperative, Inc*
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