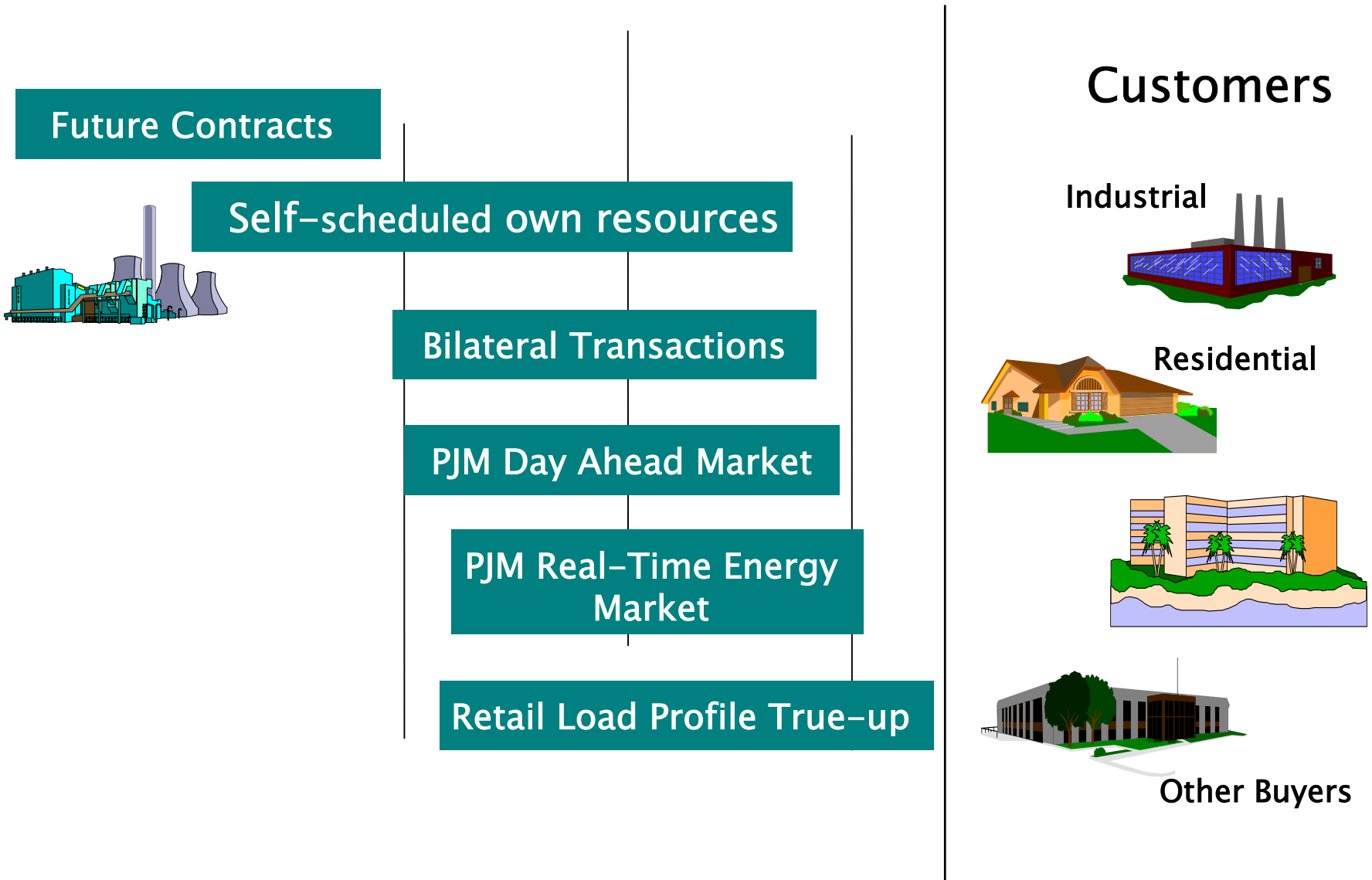


# *Harvard Electricity Policy Group*

December 5, 2002

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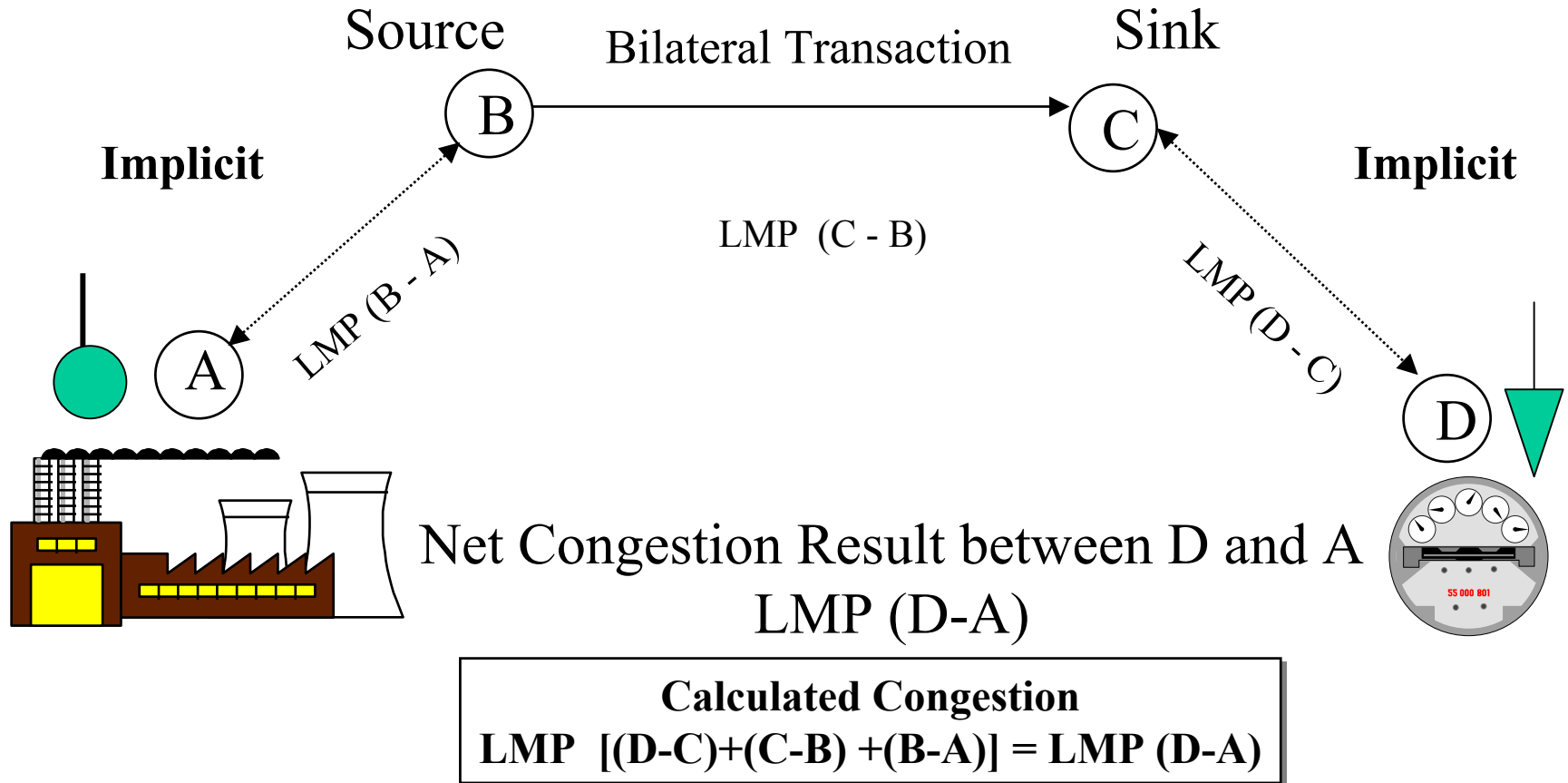


- The PJM Market supports a variety of financial contracts that are physically feasible but are separate from the physical spot market.
- The separation of these financial contracts from the physical dispatch allows the markets to support reliable power system operations.
  - Day-ahead Energy Market
    - Creates a set of financially binding schedules that are physically feasible
    - Virtual Demand Bids and Supply Offers
    - External transactions may submit separate Day-ahead financial energy profile
  - Financial Transmission Rights
  - Financial Energy Contracts

# Anatomy of a Financial Bilateral Transaction

Load and generation implicitly pay congestion by paying (receiving) LMP

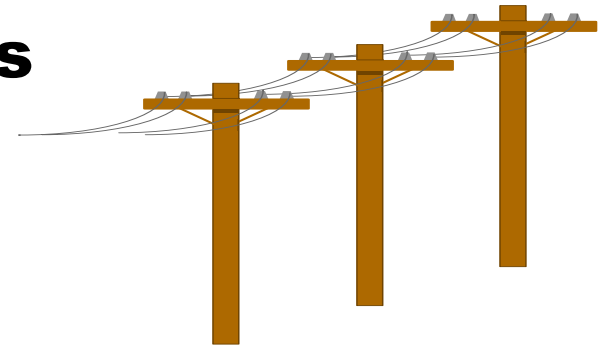
Transactions explicitly pay congestion by paying (receiving) LMP difference



Transmission system congestion occurs when available, low cost supply cannot be delivered to the demand location due to transmission limitations

## **Types of Transmission Limits**

- **Thermal Limits**
- **Voltage Limits**
- **Stability Limits**



## **System Operator Control Actions**

- **System Reconfiguration**
- **Transaction Curtailments**
- **Re-dispatch Generation/Load**

- MISO and PJM staff are developing an interregional coordination procedure.
  - Ensures smooth transition to markets by coordinating TLR procedures with LMP-based congestion management.
  - Provides interim method to ration transmission utilization between regions.
  - Stakeholder meetings December 18, 2002, and January 2003.
  - Implementation in May 2003.