Calculating Scarcity Rents

EPFSTF

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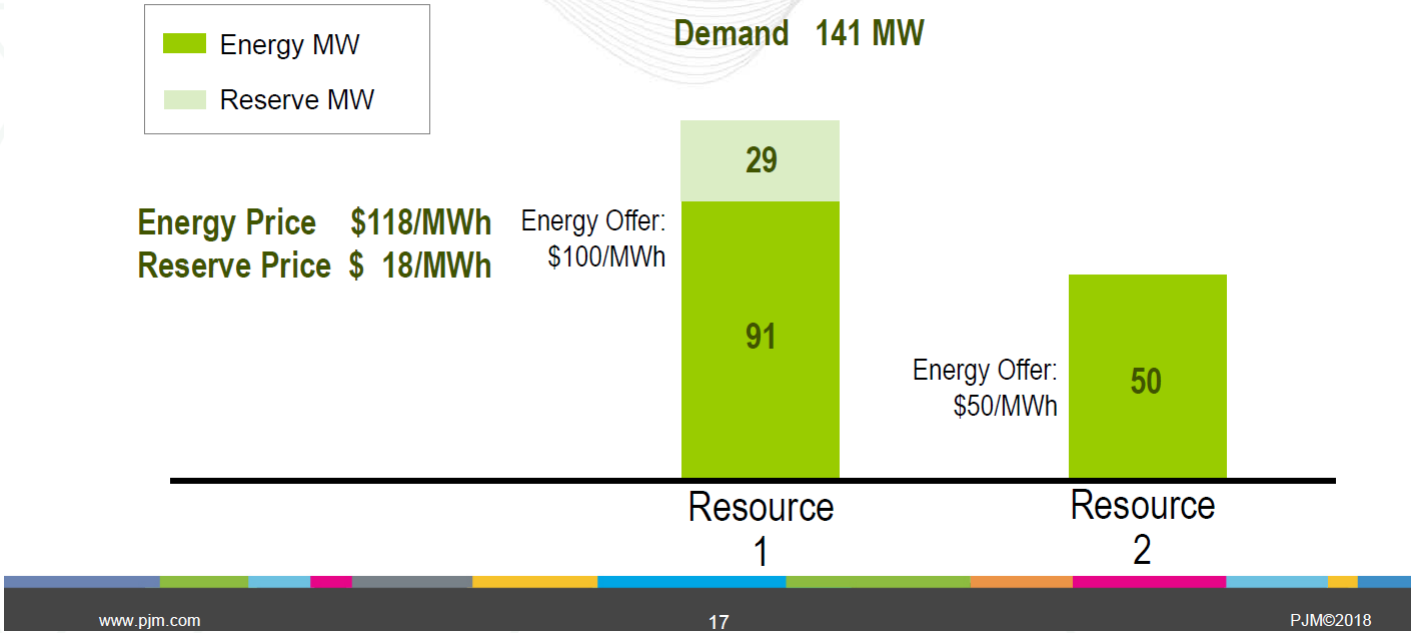
Monitoring Analytics

Calculation of Energy Market Scarcity Rents

- **Scarcity rents in energy and reserve markets are the portion of revenues directly attributable to the scarcity price adder to LMP.**
- **The scarcity adder to LMP is the difference between the LMP and the marginal cost of the marginal unit.**
- **The scarcity adder to the reserve price is the amount of the LMP scarcity when it enters the reserve price through the lost opportunity cost of the marginal reserve resource.**

Example #1: Results



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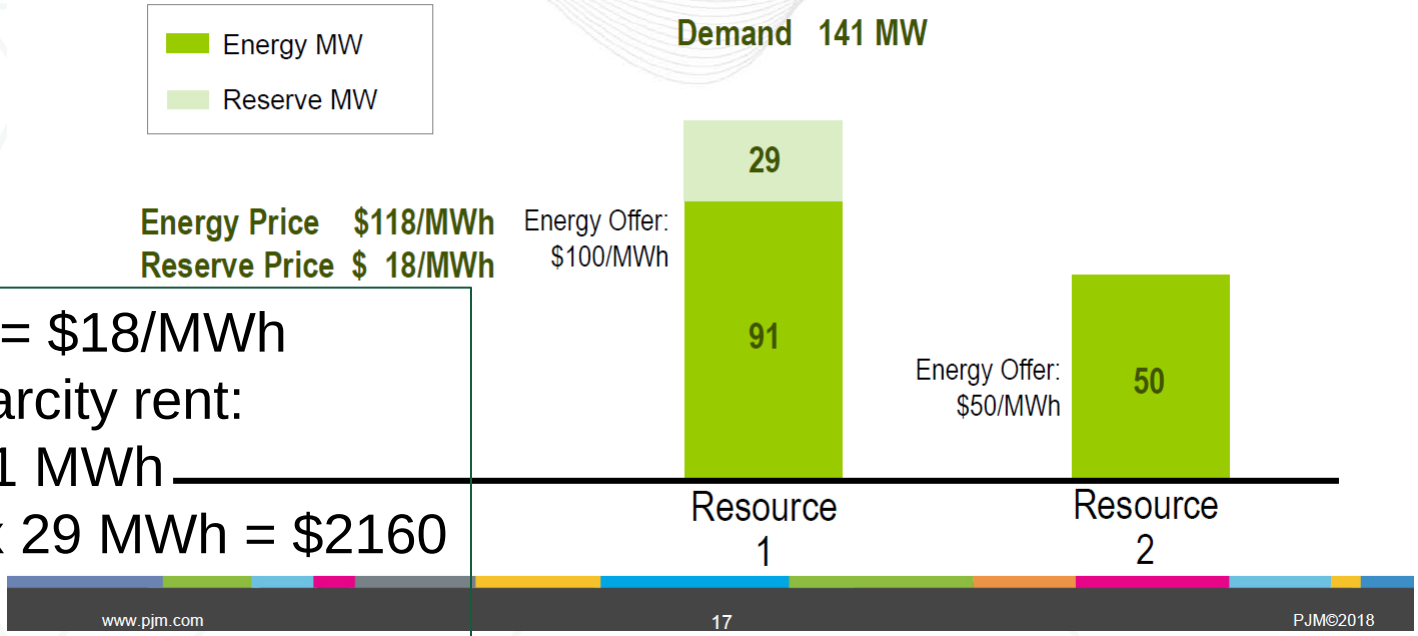
Example #1: Results



Scarcity adder = $18/MWh

Resource 1 scarcity rent:

$18/MWh x 91 MWh

+ $18/MWh x 29 MWh = $2160

Resource 2 scarcity rent:

$18/MWh x 50 MWh = $900

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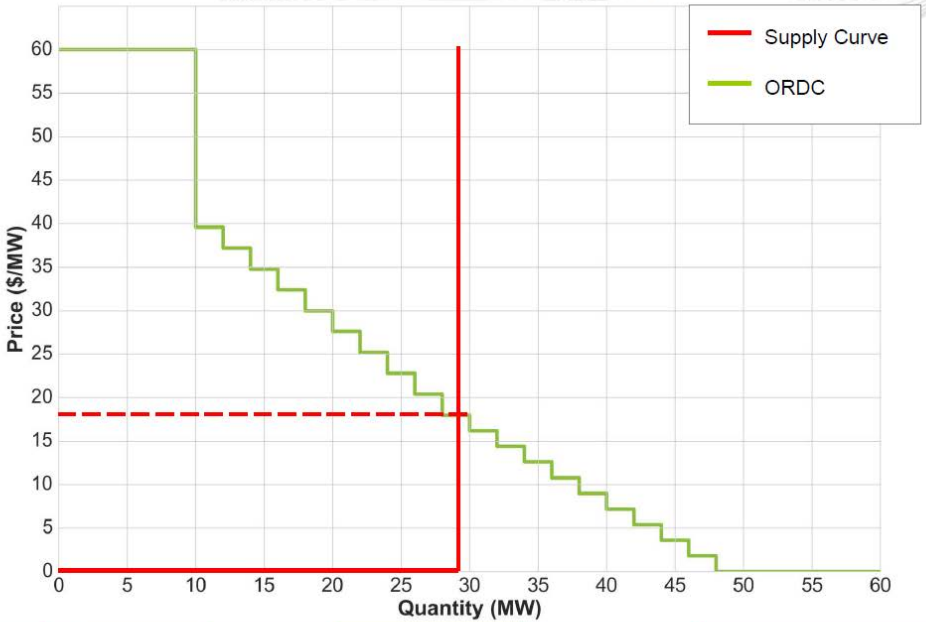
Example #1: Results - ORDC



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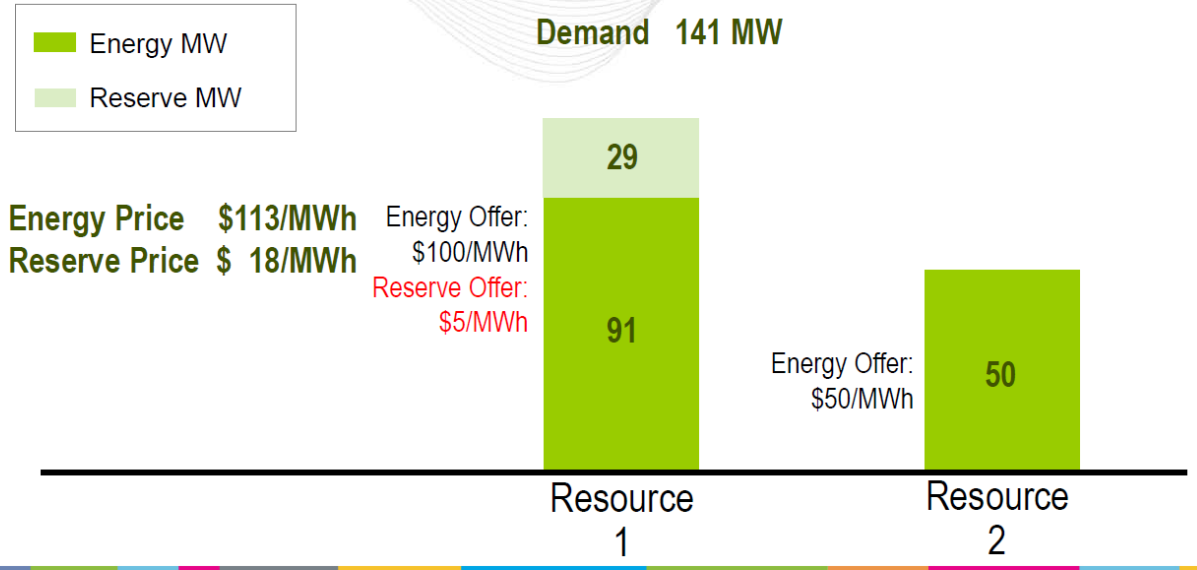
Example #2: Results



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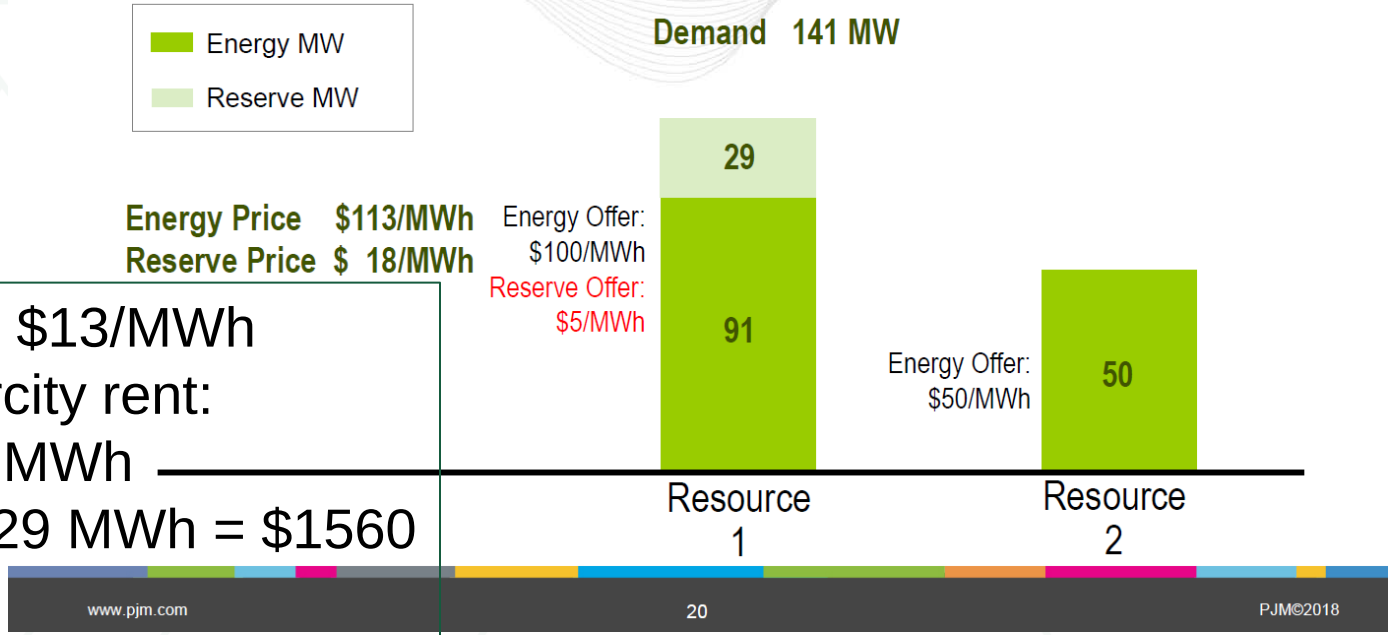
Example #2: Results



Scarcity adder = $13/MWh

Resource 1 scarcity rent:

$13/MWh x 91 MWh

+ $13/MWh x 29 MWh = $1560

Resource 2 scarcity rent:

$13/MWh x 50 MWh = $650

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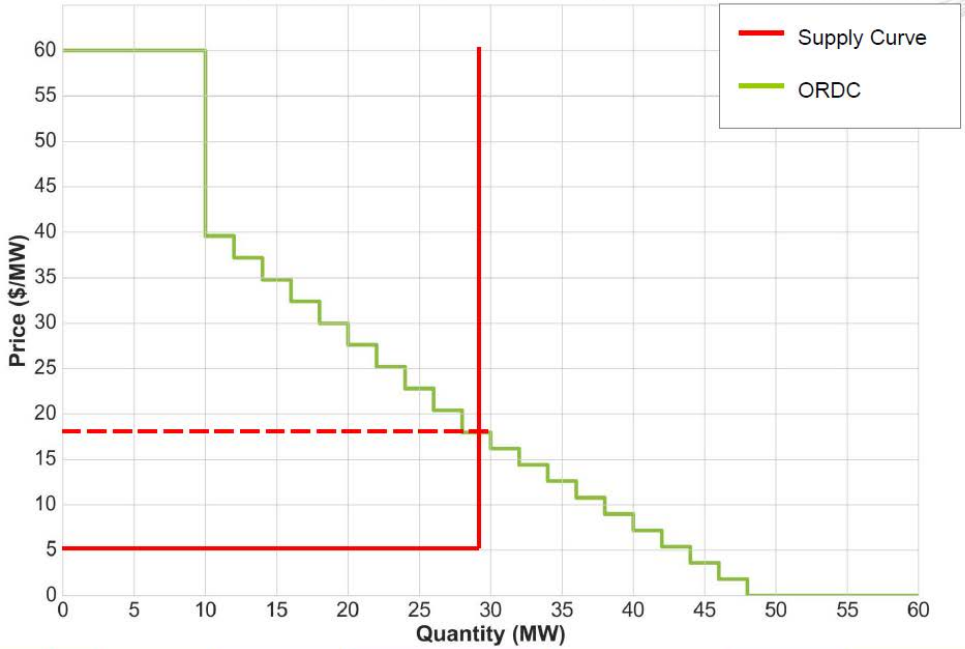
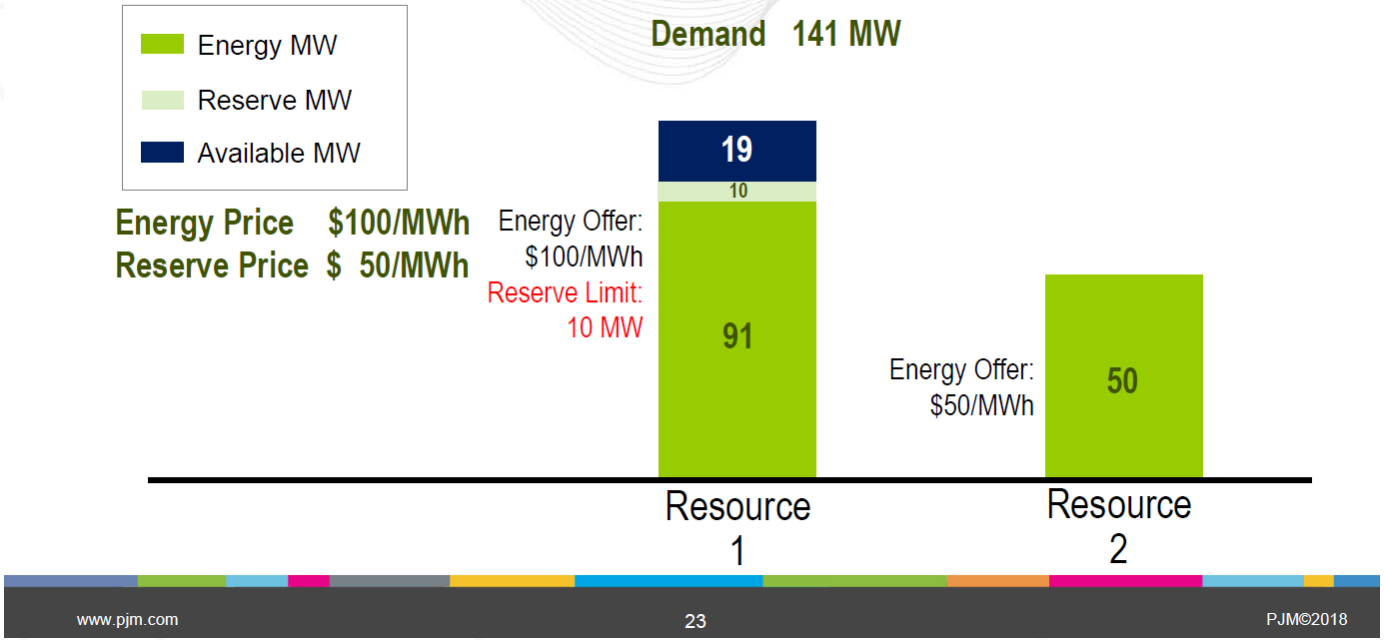
Example #2: Results - ORDC



Example #3: Results



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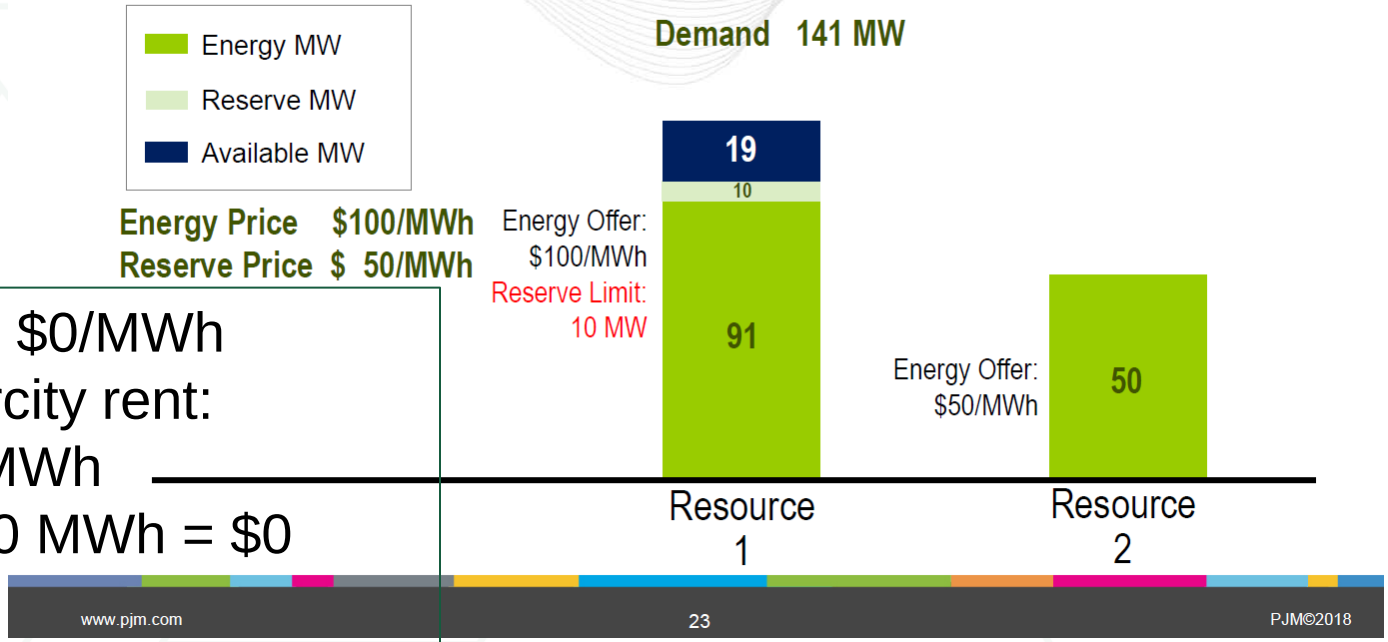
Example #3: Results



Scarcity adder = $0/MWh

Resource 1 scarcity rent:

$0/MWh x 91 MWh

+ $0/MWh x 10 MWh = $0

Resource 2 scarcity rent:

$0/MWh x 50 MWh = $0

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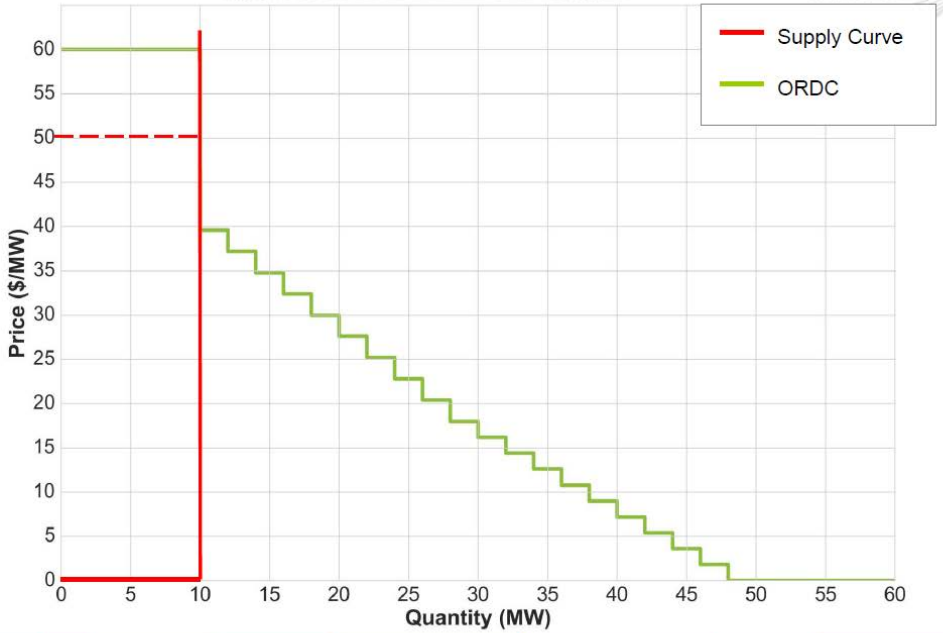
Example #3: Results - ORDC



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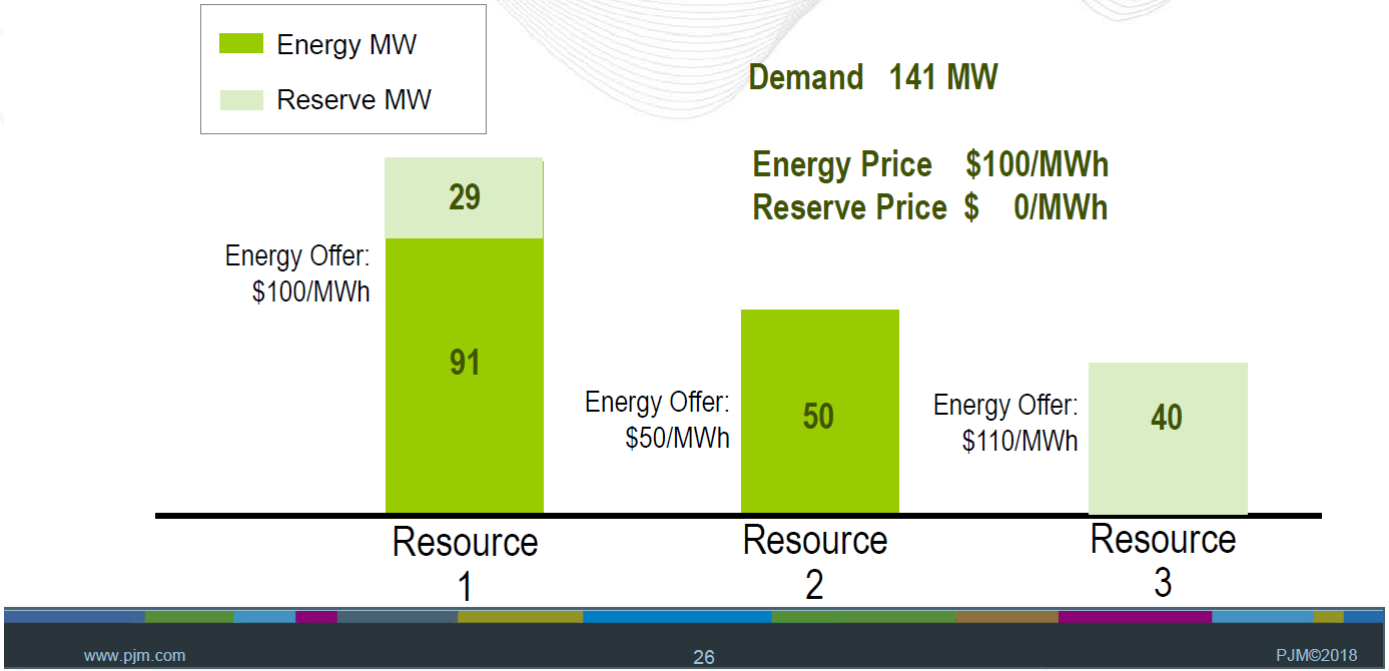
Example #4: Results



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Example #4: Results

Scarcity adder = $0/MWh

Resource 1 scarcity rent:

$0/MWh x 91 MWh

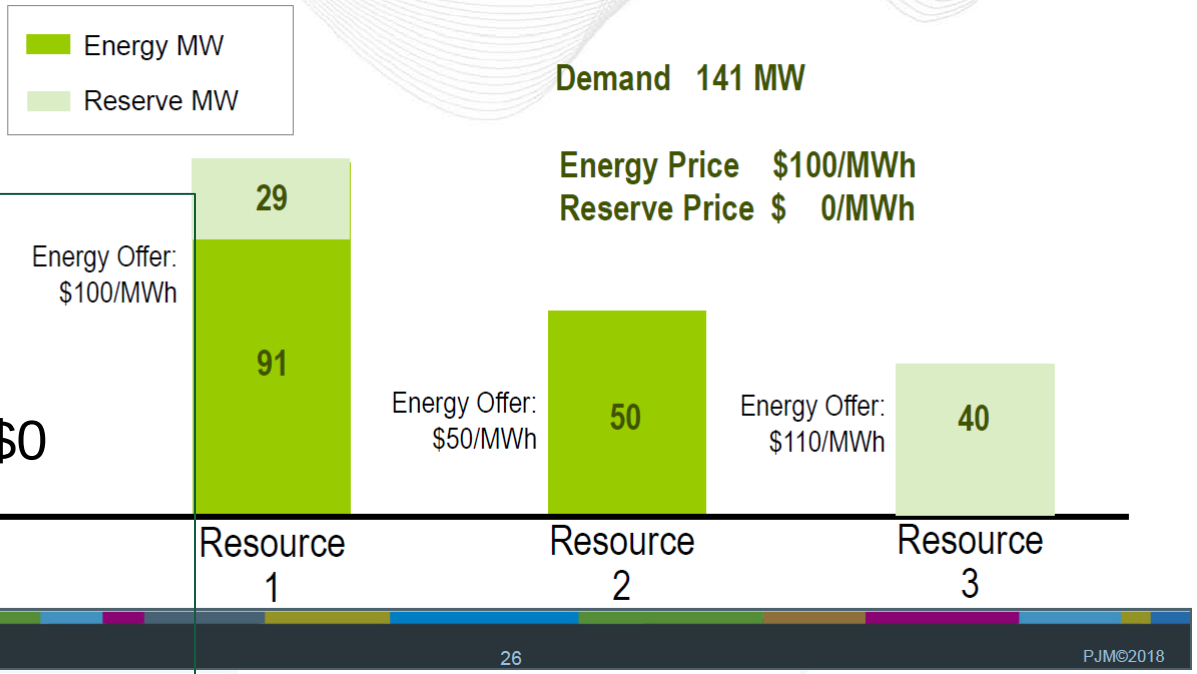
+ $0/MWh x 29 MWh = $0

Resource 2 scarcity rent:

$0/MWh x 50 MWh = $0

Resource 3 scarcity rent:

$0/MWh x 40 MWh = $0



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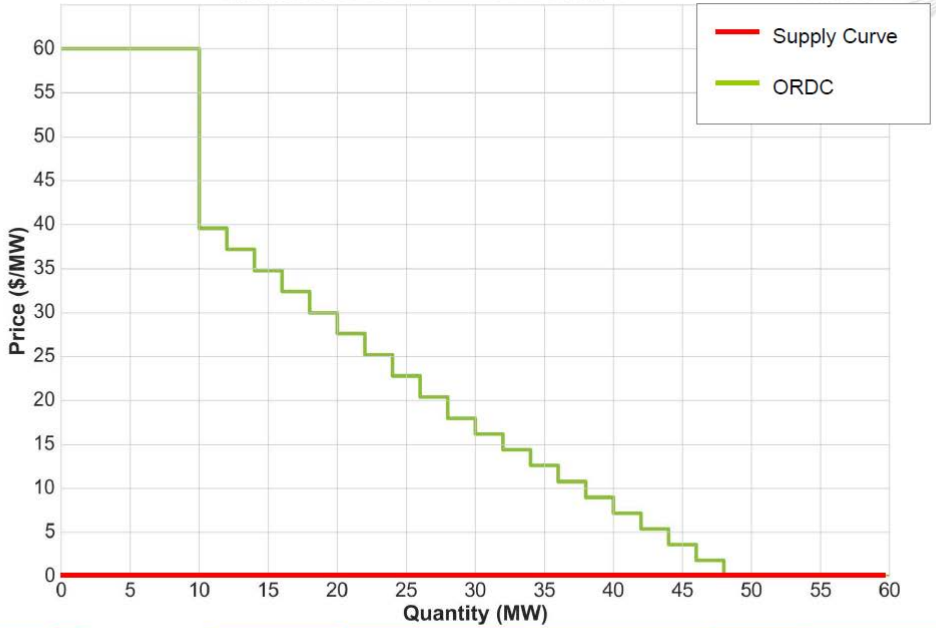
Example #4: Results - ORDC



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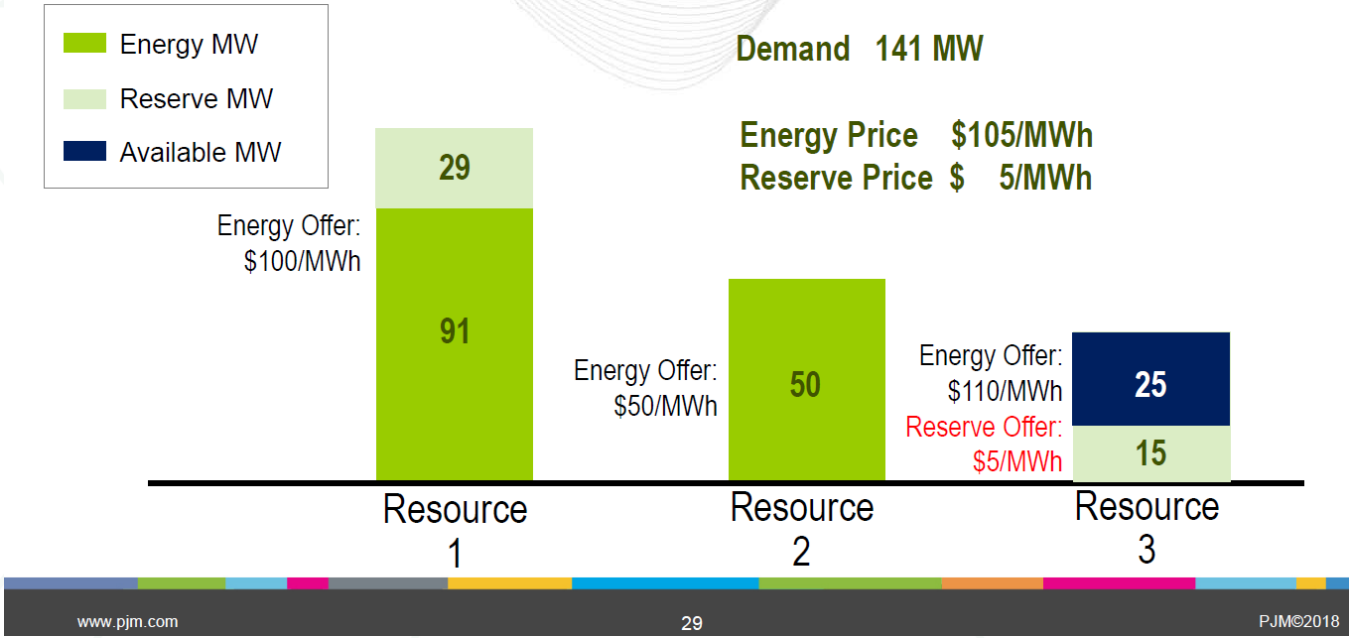
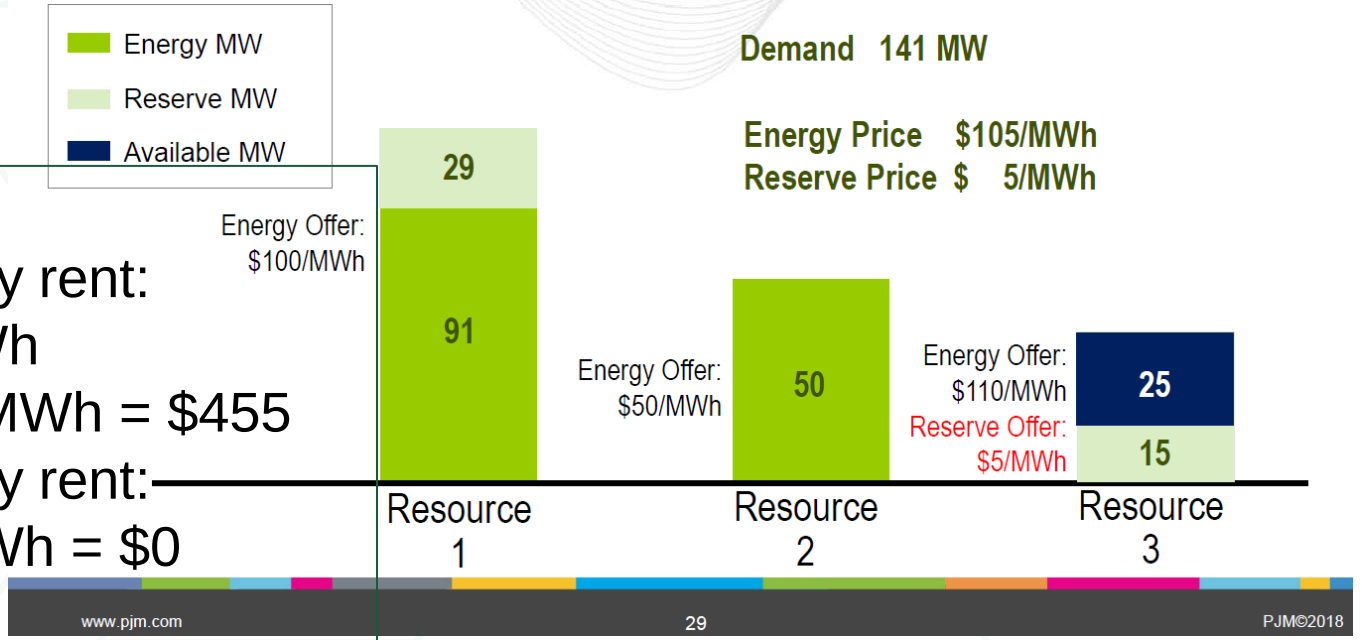
Example #5: Results



Example #5: Results

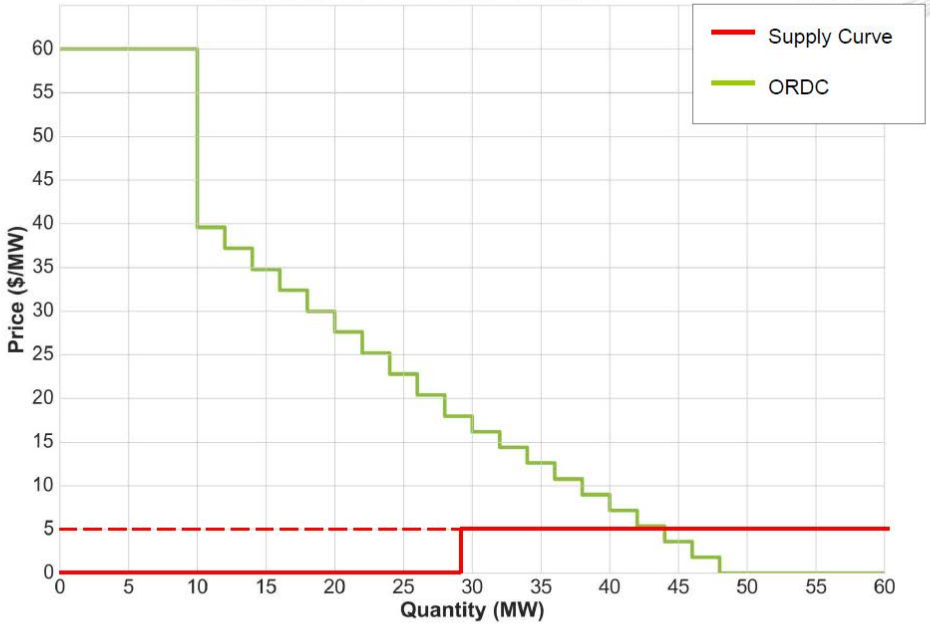


Resource 1 scarcity rent:
$5/MWh x 91 MWh
+ $0/MWh x 29 MWh = $455

Resource 2 scarcity rent:
$5/MWh x 50 MWh = $0

Resource 3 scarcity rent:
$0/MWh x 15 MWh = $0

Example #5: Results - ORDC



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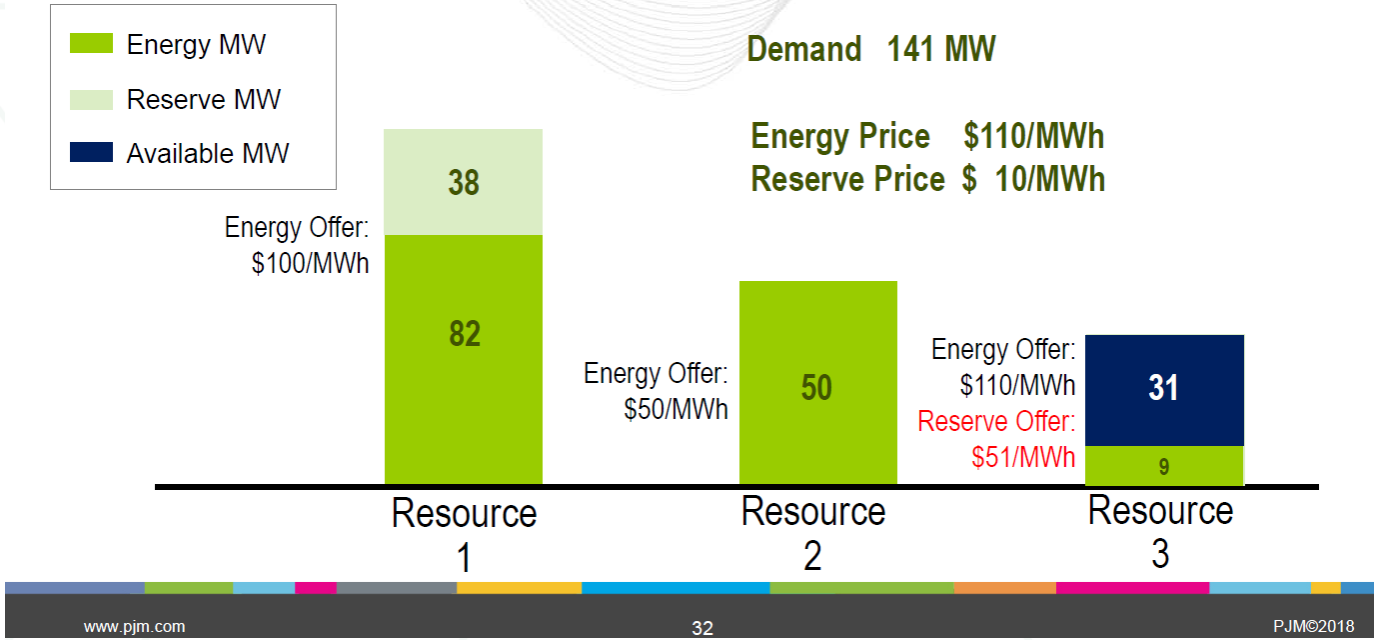
Example #6: Results



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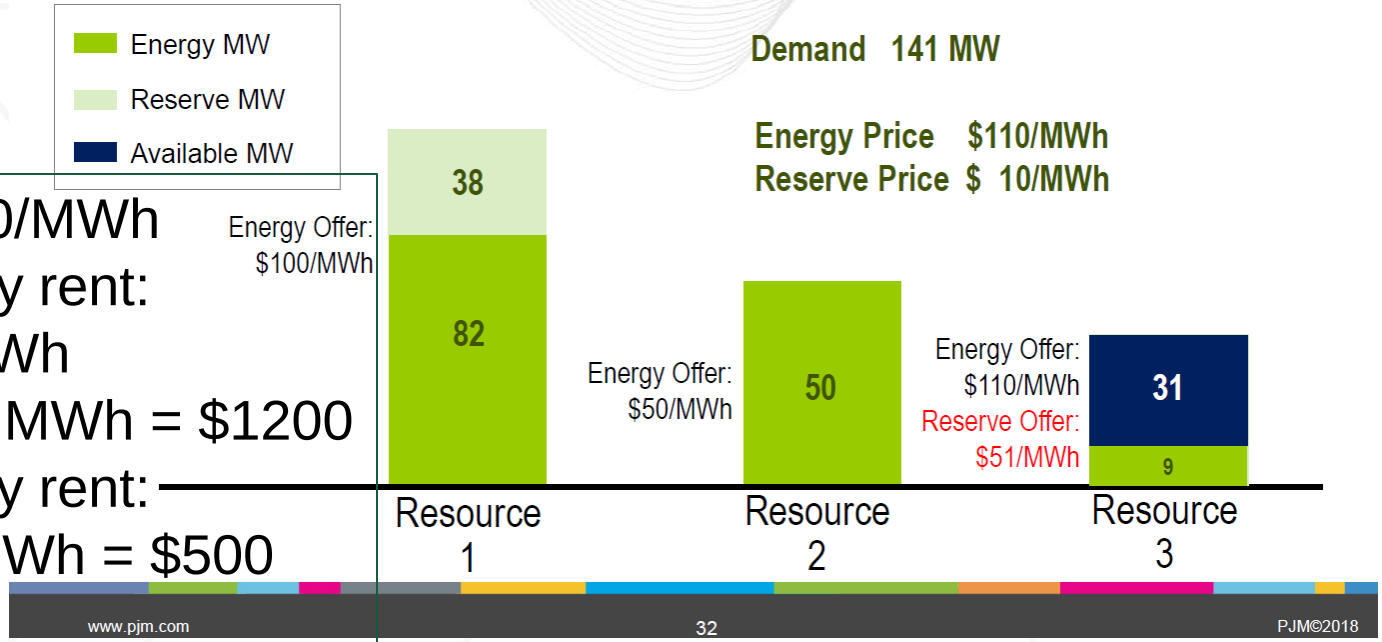
Example #6: Results



Scarcity adder: $10/MWh

Resource 1 scarcity rent:

$10/MWh x 82 MWh

+ $10/MWh x 38 MWh = $1200

Resource 2 scarcity rent:

$10/MWh x 50 MWh = $500

Resource 3 scarcity rent:

$10/MWh x 9 MWh = $90

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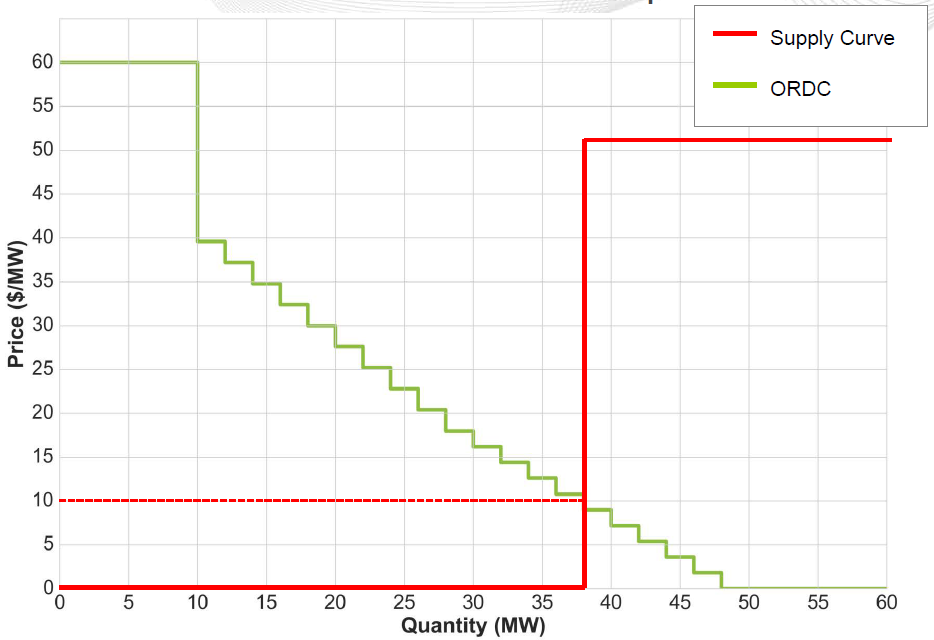
Example #6: Results - ORDC



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