The "Human" side of Demand Response

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EcoFactor

EcoFactor analyzed 40 DR events across the country during the summer of 2011 comprising of approx. 3200 DR event location/days

Objectives:

Does advanced notification to the homeowner impact yield?

Does optimized pre-cool impact yield?

Equipment:

Two-way communicating thermostat

Service:

EcoFactor DR over IP SaaS Solution

The data was compiled for similar outdoor temperature days

We created 4 scenarios:

- No advanced notification, No optimized pre-cool
- No advanced notification, with optimized pre-cool
- With advanced notification, No optimized pre-cool
- With advanced notification, with optimized pre-cool

Advanced notification:

Twice as likely to opt out of a DR event

Opt outs are late in the DR event

Most likely discomfort induced

No notification:

Lower aggregated opts outs

Come early and heavy

Of those that opted out, when did they do it…

Not Notified

Was Notified

Time (min) into the DR event when opt out occurred

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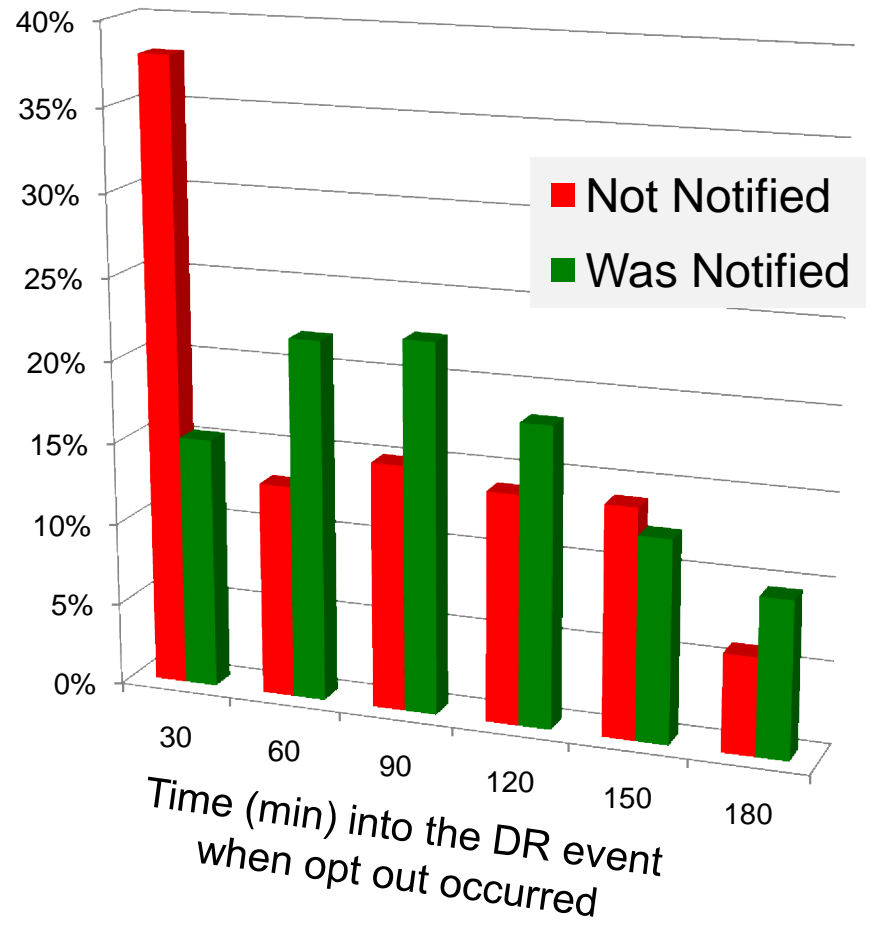
At the end of the day:
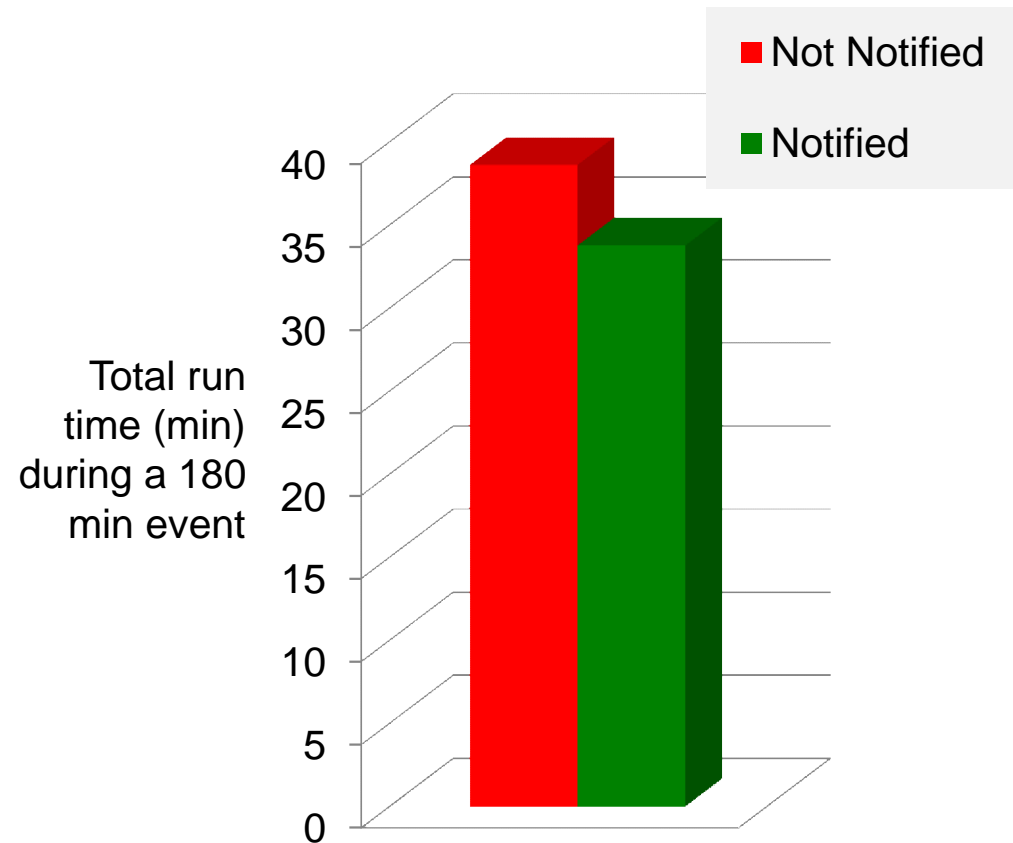
No Notification =

Early opt-outs = Lower overall yield

Notification =

Later opt-outs = Higher overall yield

Notification = a "bonus" 12.5% reduction in runtime

Total run time (min) during a 180 min event

Legend: Not Notified, Notified

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Optimized precool provides a "bonus" 26% reduction in runtime as compared to a traditional 4 degree bump
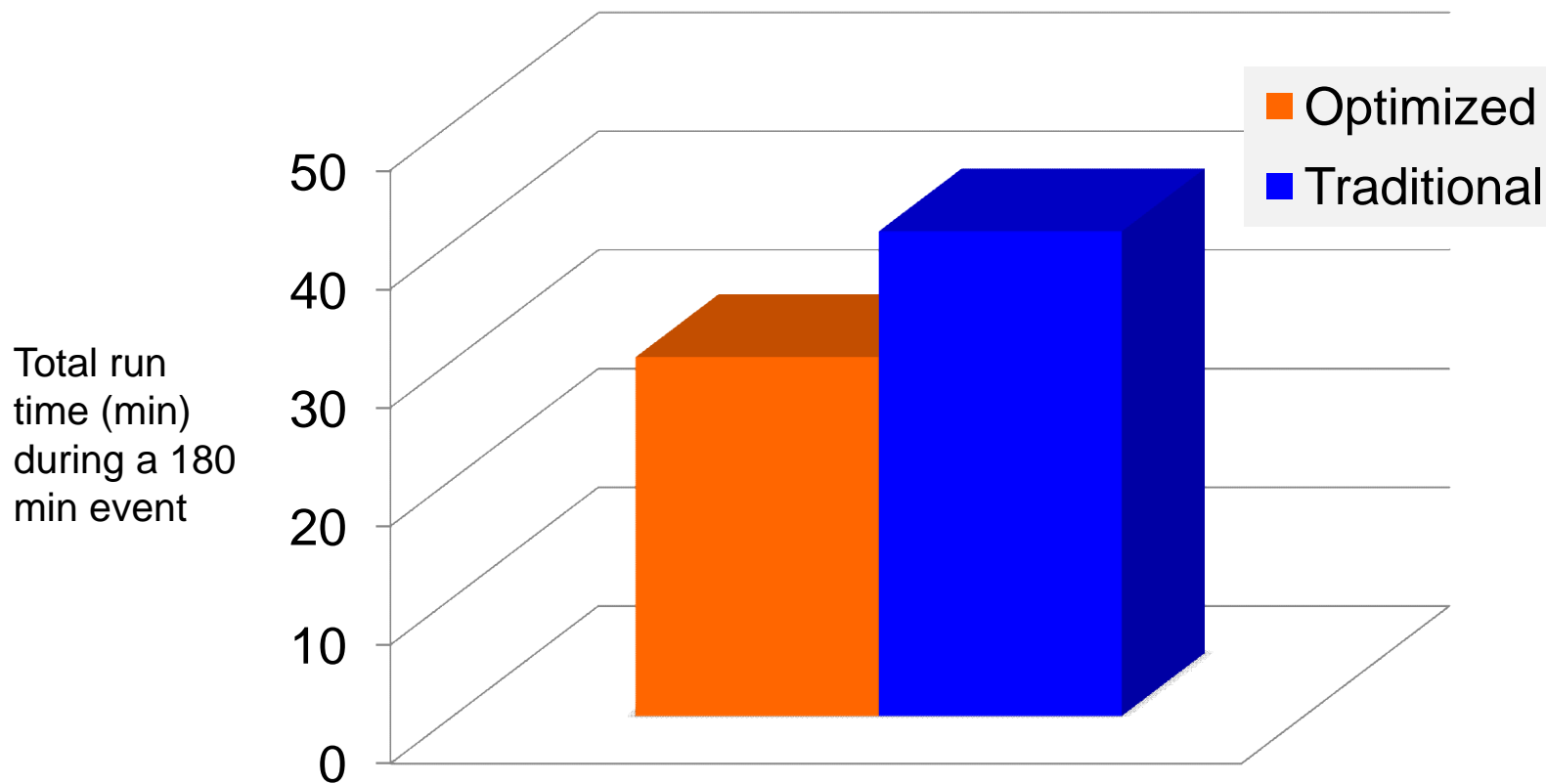
More than just Residential Energy Management

EcoFactor is:
1. A Big Data aggregator and processor
2. Business Intelligence for the load side of the Smart Grid
3. Automated analysis and optimization engine for end nodes
4. A strong value for those who want to enhance/build out a DR and/or EE offering

EcoFactor is not:
1. A thermostat company
2. Just a pretty web interface
3. One-off reporting system
4. Cost prohibitive

ECO FACTOR

Thank You

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