

Consumers Metrics for smart grid devices & programs

e-Radio USA
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Why Consumer metrics

- Inspiration from car magazines to evaluate new cars w/ objective & subjective metrics
- Don't reinvent the wheel but leverage existing works
- Objective metrics:
 - EPA rating (Energy Star: nominal estimate of energy use and cost/year)
 - Consumer use models (eg. NIST, account for various market difference)
 - Features (eg. responsive to RT pricing, GHG signals)
 - Load affected (kW & kWh)
 - Environment impact (kg/kWh)
 - Financial (monthly savings)(LZ comments)
 - Reliability (MTBF)(LZ comments)
 - Privacy & security (LZ comments)

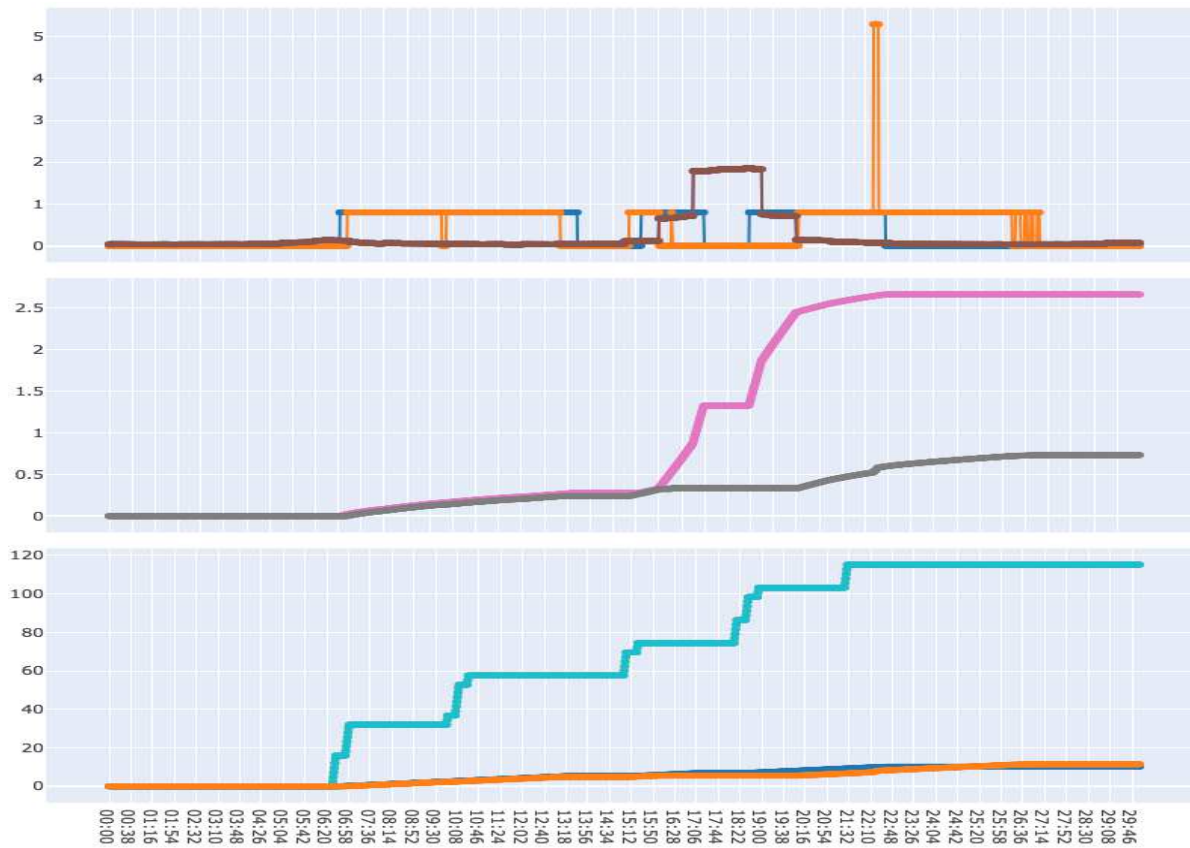
Why Consumer metrics continued

- Subjective metrics:
 - Value for money (opinion of tester)
 - Ease of installation and use
 - Effectiveness on stated performance goals of product/services
 - Overall rating & impressions
 - Other



Sample HPWH response from RT pricing

Analysis for RAda995 on 2021-03-01 vs 2021-03-04



The path forward

- Greater penetration, adoption, and optimal use of smart grid systems will reduce carbon and other emissions, provide value to utilities and end use customers, increase energy resilience and reliability, and improve customer comfort and convenience.
- In order to achieve these goals and fulfill the promises of the smart connected grid, consumers, grid operators, regulatory agencies, and vendors need established and well-vetted metrics to evaluate and report on the performance of smart grid systems.

Next steps

- Continue and expand upon previously published blog
 - Work with CGE committee & IREC staff on content and format
 - Potentially Invite & track public comments via IREC site
 - Work towards an interactive tool (may require sponsorship)