# Managing risks in an uncertain world

## Unison presentation to IM Review Problem Definition Forum

# Context

- Given growing consciousness of “disruptive technologies” Unison’s Executive began a strategic discussion about how we may need to respond in an environment where consumers can exercise different choices and there is much greater uncertainty about the future
  - Started mid-March
  - Straw-person objectives, goals and initiatives completed May
  - Undertaking internal critique now
- For Unison, discussion about IMs is somewhat premature, especially as they relate to risk-sharing and alignment to commercial requirements
- Nevertheless, we have a clear view that an assumption of “enduring monopoly” is unrealistic and commercial responses will be required to better manage risks (for both Unison and consumers)

# Our interpretation of the energy landscape

- Given regulatory approach to RAB recovery – time horizon is 40+ years
- Like many lines businesses we see that the electricity networks will remain valuable to consumers
  - Solar PV will not provide energy self-sufficiency, but eventually will become very competitive with remote generation (already around grid parity)
  - Battery storage is the “game changer” in allowing for smoothing peaks and troughs
  - Consumers will want to charge their EVs, but depending on charging patterns and pricing structures their impact on profits may be immaterial or even negative
  - Gaining less attention is “home automation” and energy efficiency, but likely to be a significant factor, as well as conventional alternatives like gas and LPG

# What will it mean for our business?

- Unison located in regions with challenging outlooks
  - Ageing populations
  - Low incomes on average
  - Income disparities
  - Modest economic prospects
- With stagnant demand and growth in pockets there is minimal requirement for universal strong peak price signals to reduce capacity use
- Risks of reducing demands and therefore rising “inequities” in who pays for the network
- New technologies are not economic yet, so the business challenge is managing the transition

# The immediate challenge is to move away from flat-rate tariffs

- But how do we achieve that?
- Current IM and DPP framework makes that risky
  - WAPC approach makes tariff structural changes risky because revenue reductions associated with behavioural responses cannot be recovered
  - Commission expressly excluded tariff-based measures from DPP energy efficiency and demand-side management incentive scheme
  - Exacerbated by Low Fixed Charge Tariff Regulations, requiring high variabilisation of residential tariffs [42% of revenues]
- Unison evaluating revenue risk of not acting until 2020
  - Revenue reductions from rising solar installations (0.3% currently)

  versus
  - Revenue reductions from behaviour response (what % of demand might shift in response to TOU charges, for example?)

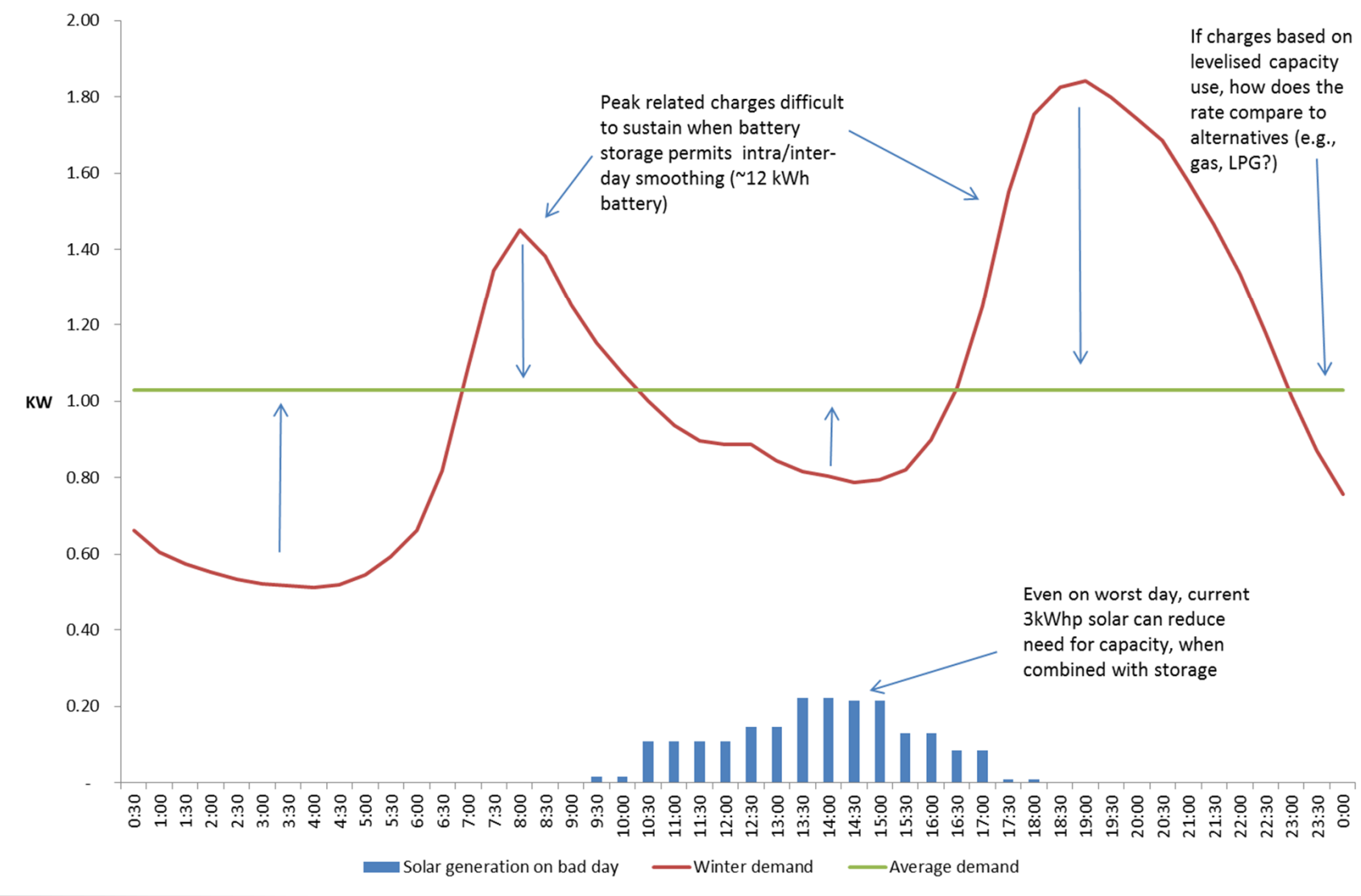
# Longer term commercial challenge

- The short term challenge is about getting price signals so that variable retail charges are closer to marginal cost of energy (10 c/kWh versus 20-30 c/kWh under current retail pricing)
- But we need confidence that we can recover full asset costs over the longer term
- Unison's key assumptions are that within the physical life-times of new assets
  - Solar and battery storage will become economically viable options for consumers to reduce their reliance on the grid (substantial R&D and global imperative to improve renewables and batteries)

# Disruptive technologies and social concerns present commercial challenges for cost recovery

- Consider pricing options
  - Fixed charges / capacity charges – unpopular with consumers and politically
  - Demand (kW charges) – consumers will be able to manage demand with storage, especially residential (currently ratio of 1.8:1, peak demand: average demand)
  - TOU charges (kWh based) – consumers will be able to self-generate (solar) and store to manage charges in summer, in winter alternatives become increasingly viable with increasing rates (gas, LPG, energy efficiency) – what would a peak charge of 40c/kWh do to demand?
- Social concerns may prevent most efficient options (e.g., higher proportions of fixed)

# Challenges illustrated (source SGF)



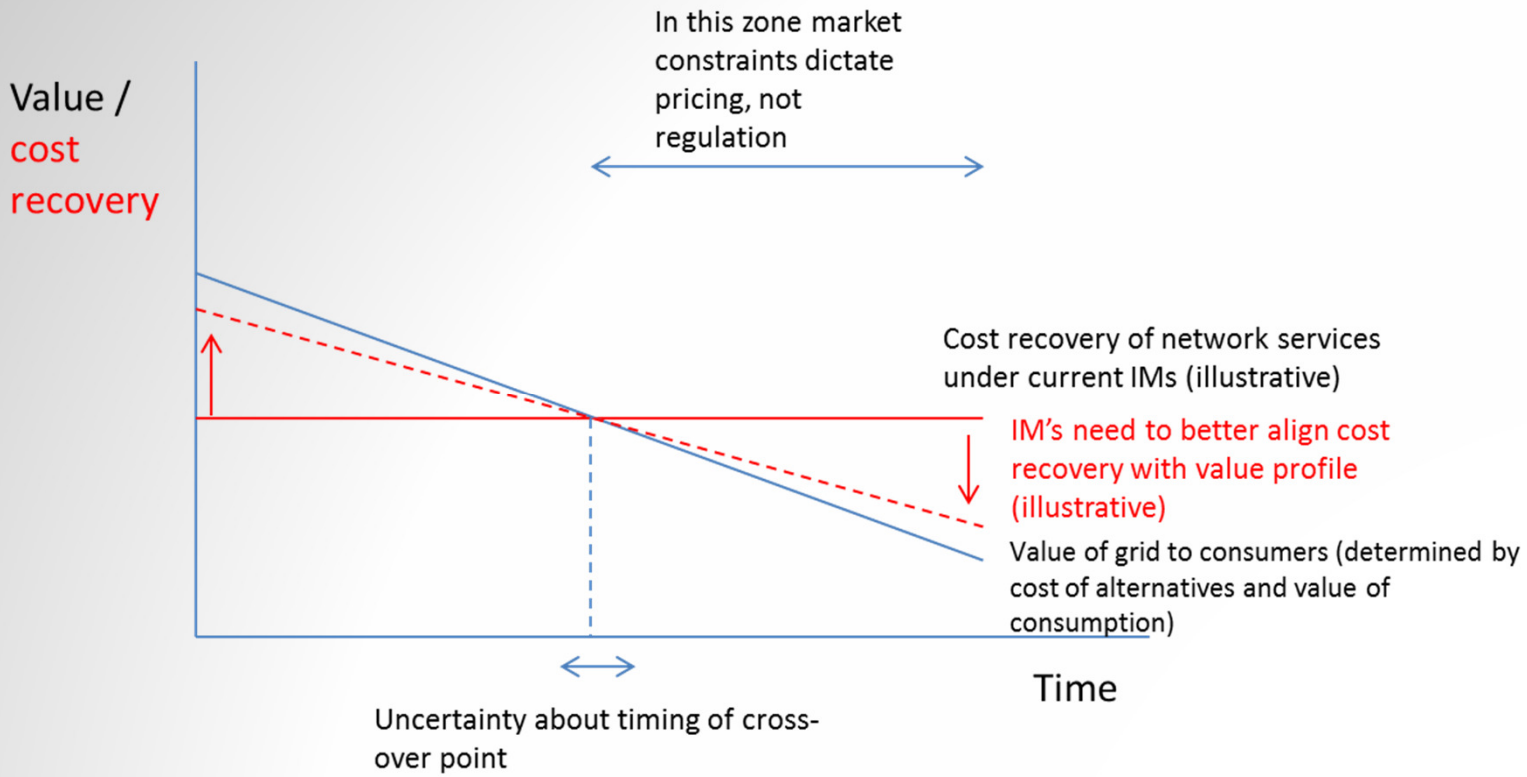
# The risks are…

- Intra-consumers – the haves (e.g., solar, storage, gas) make reduced contribution to network costs and the have-nots pay their share
- Have-nots are
  - Capital/credit constrained
  - High load-factor (e.g., commercials)
  - Renters / apartment dwellers / shaded areas
- To EDBs – regulatory/political commitment to RAB recovery
  - What risk of feed-in tariffs as part of a coalition deal?

# In terms of the IM Review

- Ramsey pricing says recover more from inelastic consumers (todays' consumers) and less from elastic consumers (tomorrow's consumers)
- Would it be better in aggregate to tilt the recovery of the RAB so that the large current pool of consumers, kW and kWh pay a bit more now and less later, when alternatives are viable?
- What are the relative risks of waiting until 2025 DPP reset to make change, if not in 2020? Which has least regrets for consumers in aggregate?
- Reasonably complex modelling challenge is to model EDBs' revenue requirements over next 40 years against realistic scenarios of grid use taking into account uptake of solar, batteries and EVs and implied impacts on unit charges

# Revenue recovery concern illustrated



# Regulatory constraints need consideration

- Low fixed charge tariff option
  - Political appetite for change is muted
  - Not on MBIE review agenda
  - Therefore requires tariffs to be variable in some way and therefore exposes businesses to customer response
- EDBs are obliged to supply all pre:1993 consumers
  - EDBs can offer alternatives
  - Recent Unison example: $166k to replace lines, $70k alternative supplies, consumer refused alternative, no obligation to contract with Unison for cost recovery of $166k – what if they change their mind?

# Other risk issues that need attention

- Catastrophic event risks associated with revenue recovery breach expected NPV=0 rule, insurance not available cost effectively for EDBs, no *ex ante* or *ex post* compensation for the downside risk
- Does IRIS work when EDBs need to be much more flexible in evaluating capex/opex tradeoffs?
- How the Commission demonstrates its commitment to the IMs and the regulatory framework – do we have an aligned view that
  - The Commission aims to truncate returns, so that regulated businesses cannot earn (much) above the WACC
    - "Much" because some inducement necessary for efficiencies
  - For companies to accept this position regulator(s) and policy makers must credibly commit to truncating the downside risks to businesses over the very long-term
  - Some key factors are
    - RAB is sacrosanct and must be seen to be sacrosanct (no muggings)
    - Credible WACC