

Constraints Analysis

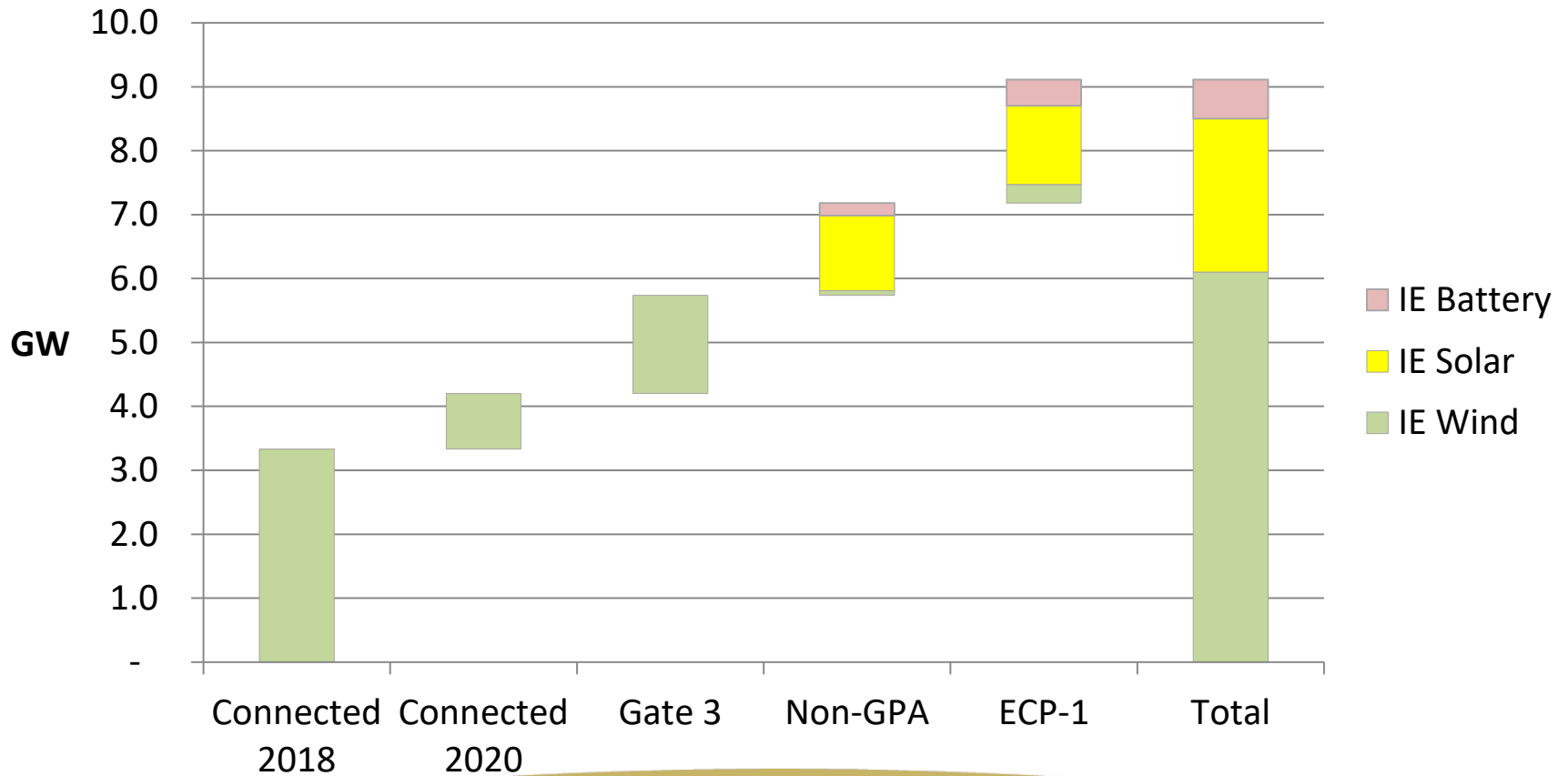
Enduring Connection Process

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Liaison Group – 24th October 2018

Enduring Connection Process 1

Connected, Existing Offers and ECP-1



Purpose

- Constraints Assessment aims to identify regional and local issues.
- We are now finalising the study inputs.
- Seek input on Renewable Energy Profiles.

Wind - Last Six Years

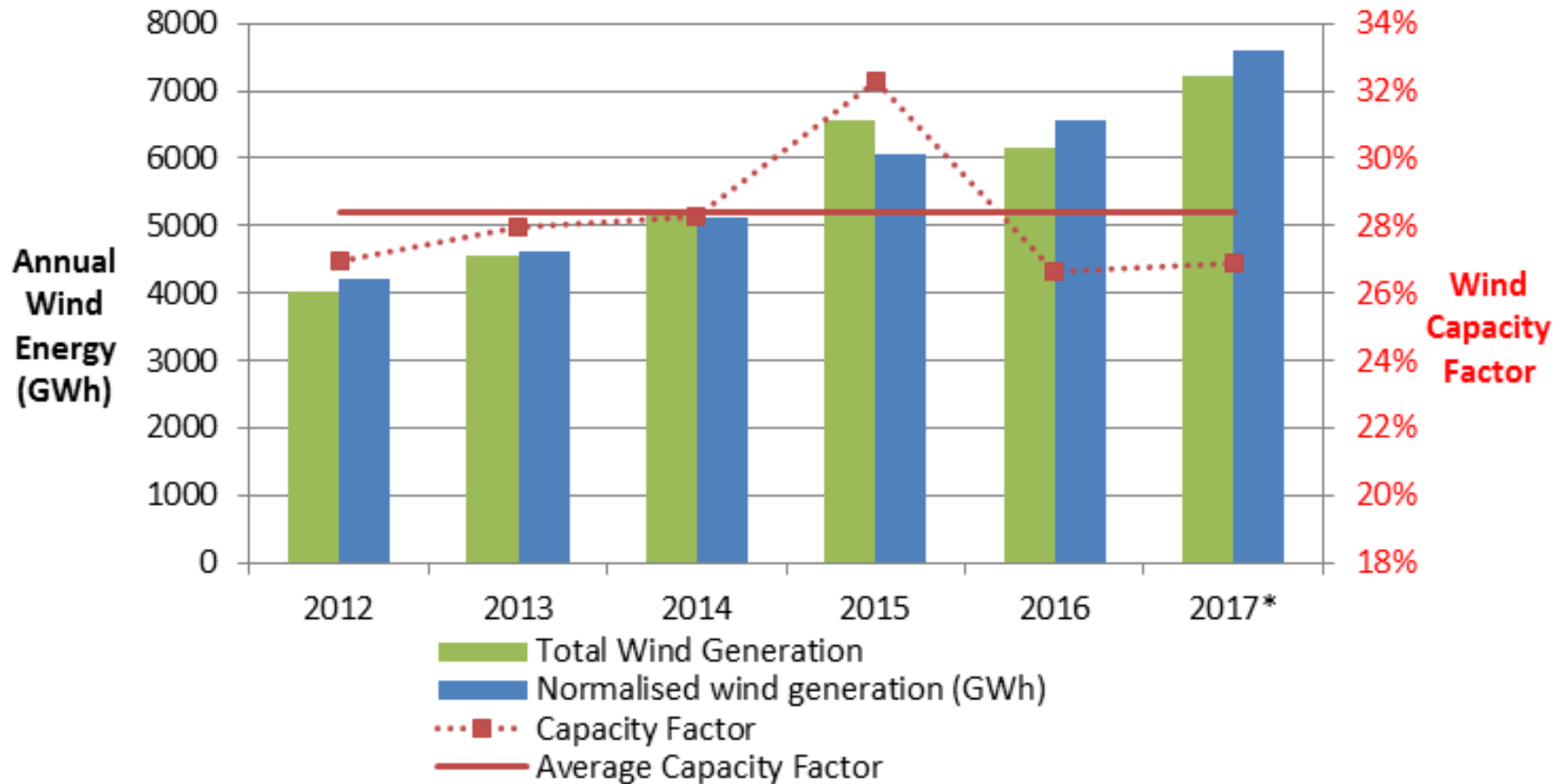


Figure from Generation Capacity Statement 2018-2027

Wind Capacity Factors

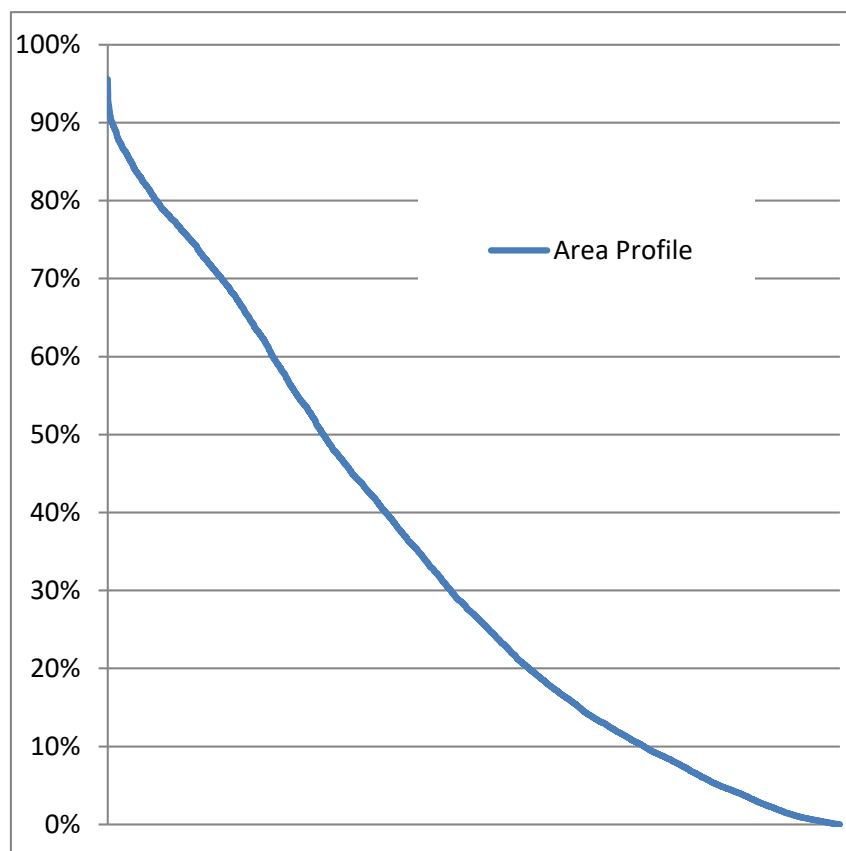
- System Wind Capacity factor has varied in the last six years
- It has varied from 26% to 32%.
- Project Developers predict higher values for future windfarms.

Historical Profiles by Area



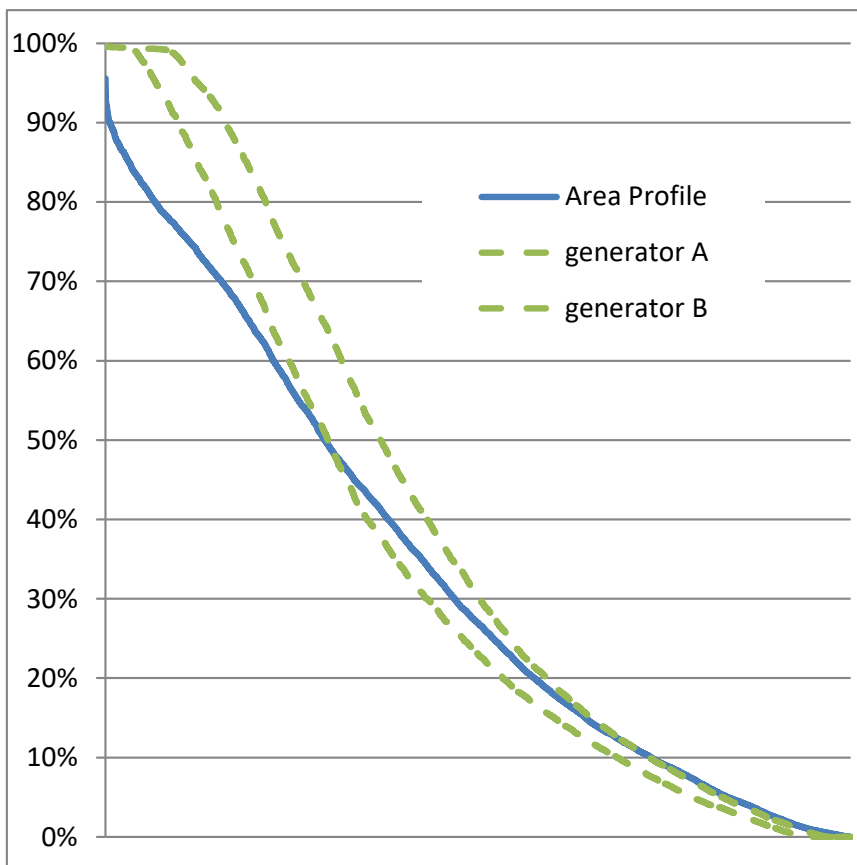
- EirGrid traditionally use historical area profiles.
- 12 areas in Ireland
- These are the sum from existing windfarms in the area.

Generation Duration Curve



- The resultant duration curve shows that historical area averages almost never exceed 90% of the wind capacity.
- Typically, we are seeing area capacity factors close to the national averages of 26% to 32%.
- Is this appropriate for the new windfarms in ECP?

Generation Duration Curve



There are possible alternatives:

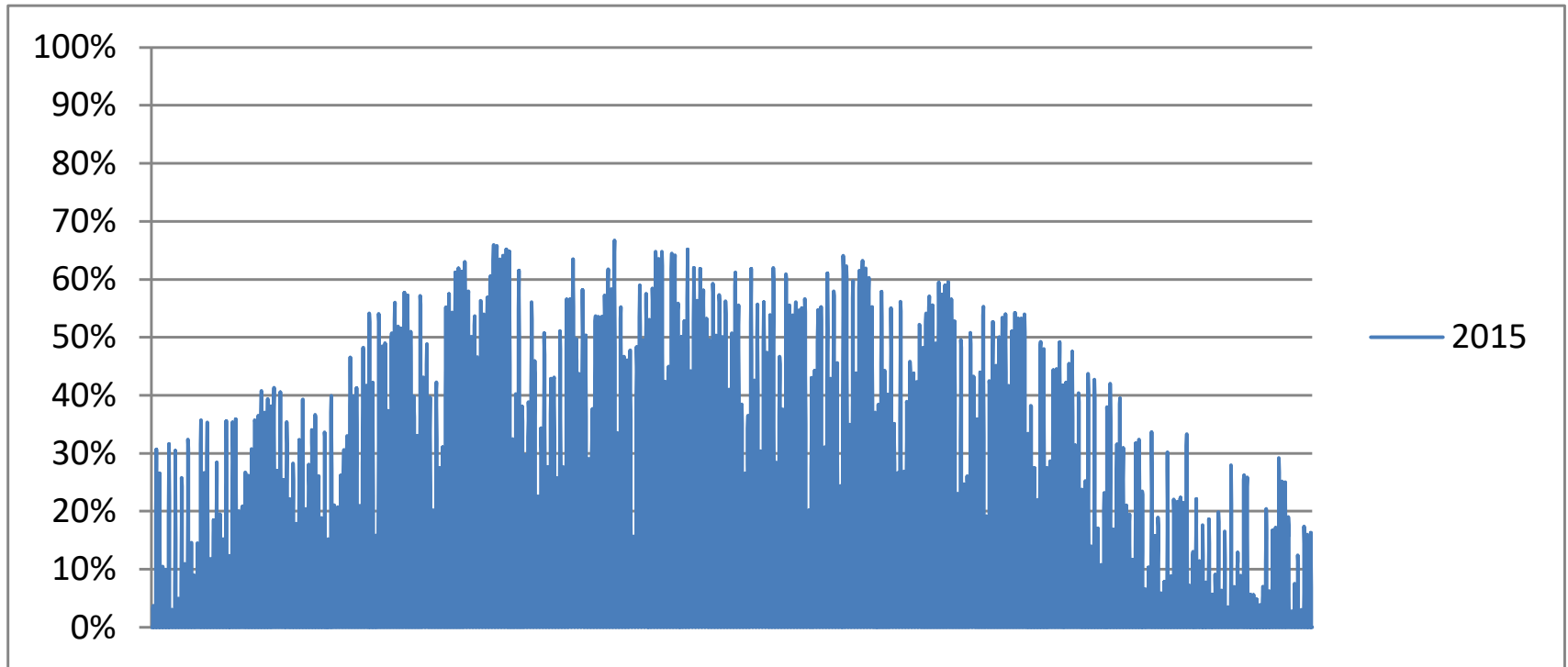
- Scale up the area profile to achieve more hours at 100% output.
- Take one actual windfarm profile and use it for new windfarms in the area. See chart.
- Industry to provide wind profiles. These would need to be of good quality and for multiple years.

Solar Profiles

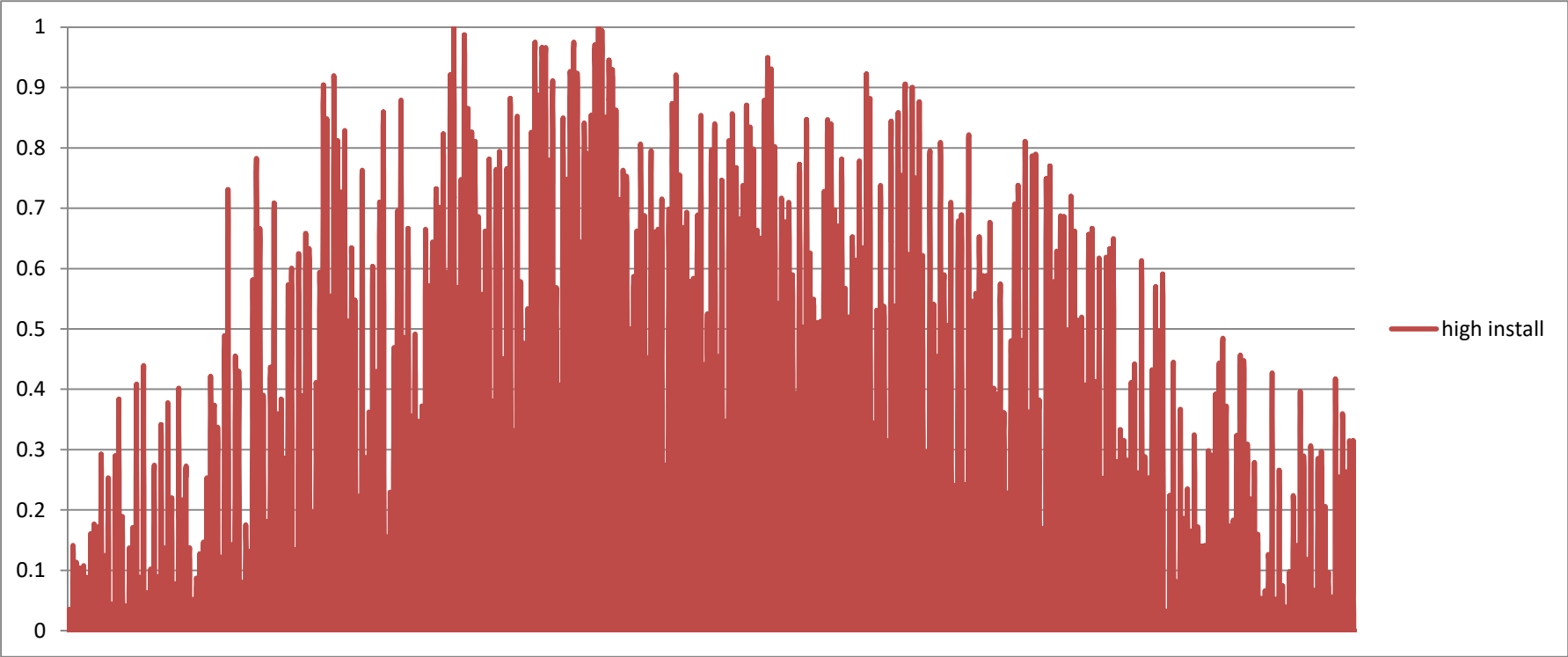
Solar

- We don't have historical regional profiles or individual profiles.
- We do have national profiles. These are average profiles.
- Maximum Power is low for these at approx. 65% of installed capacity.
- If used, the constraints analysis may not be very accurate.

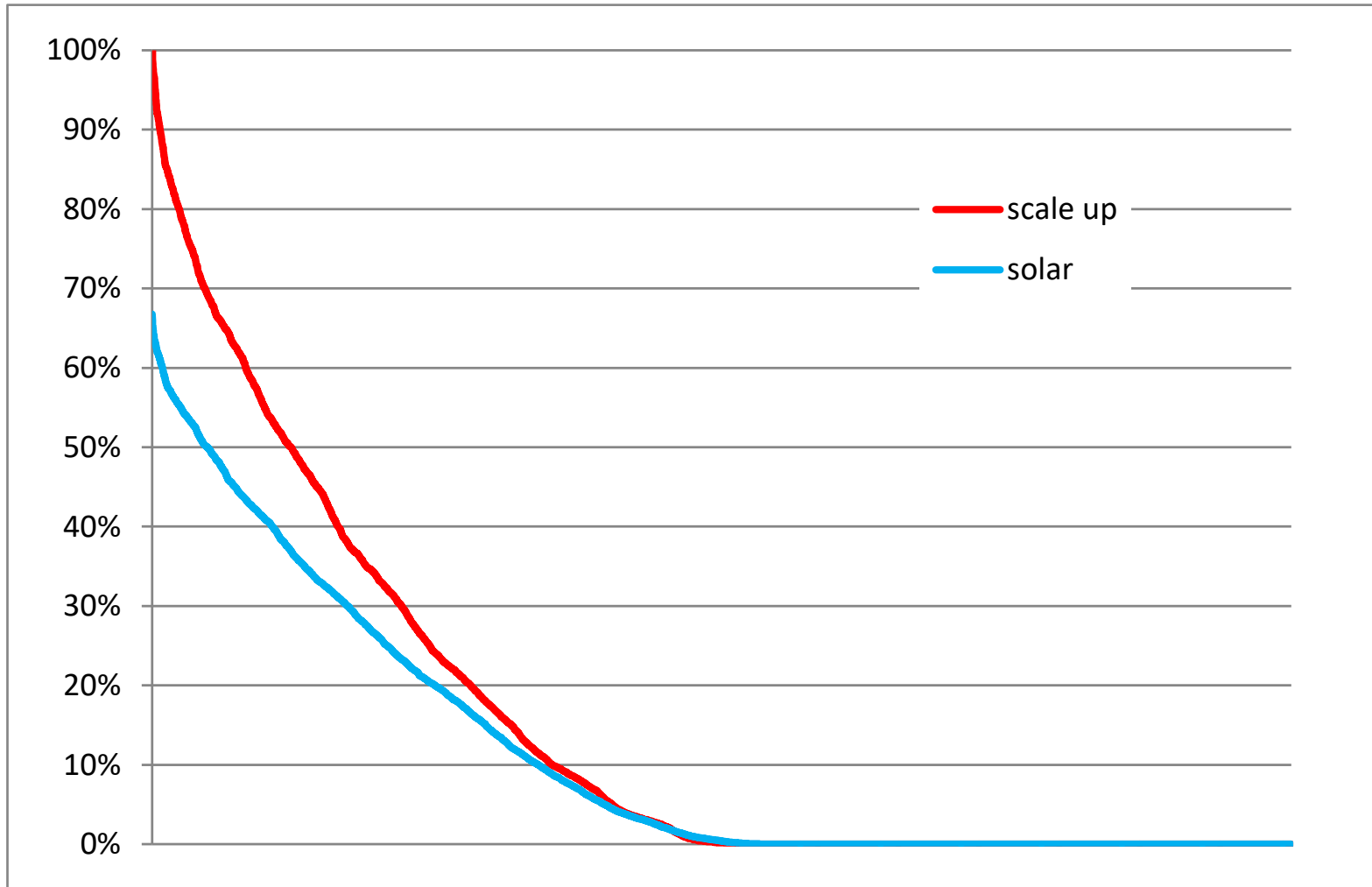
Solar Profile



Solar – Scale Up



Solar Duration Curve



Summary

- We think that scaling up options would help to identify localised constraints and regional constraints better.
- We are looking for feedback.
- Are there other sources of high quality localised historical hourly profiles?

END