Best Practice Checklist for Long-Term Yield Assessment

☑/☒	Technical aspect & what to look for in the LTYA
A	**Solar resource assessment**
☐	1. Only reliable solar irradiation data sources should be used and the name(s) and version(s) must be clearly stated. Data source(s) used must be able to provide uncertainty estimations and ideally have been extensively validated
☐	2. The period covered by the solar irradiation data source(s) used must be reported. Only data sources with more than 10-year recent data should be used for LTYA calculations
	3. The effect of long-term trends in the solar resource should be analyzed. In the presence of such trends, the long-term solar resource estimation should be adjusted to account for this effect
☐	4. The use of site adaptation techniques is recommended to reduce the uncertainty. A measurement campaign of at least 8 months and ideally one full year is recommended
B	**PV yield modeling**
☐	5. The PV modeling software and the specific version used must be clearly stated in the report
☐	6. If in-house software is used, the name(s) and version(s) must also be stated
☐	7. All assumptions (e.g. soiling losses, availability, etc.) and sub-models used (e.g. transposition model) must be clearly stated
C	**Degradation rate and behavior**
☐	8. The degradation rate(s) used for the calculations must be clearly stated in the report. It is recommended to differentiate between first year effects and yearly behavior over project lifetime
☐	9. Degradation behavior assumption (e.g. linear, stepwise, etc.) over time should be clearly stated and ideally backed up with manufacturer warranties
☐	10. If specific manufacturer warranties are available (e.g. module warranty document or sales agreement), these can be used to fine tune the lifetime degradation calculation
D	**Uncertainty calculation**
☐	11. All steps in the long-term yield calculation are subject to uncertainties. All uncertainties should be clearly stated and references must be provided in the report
☐	12. Special attention must be paid to the solar resource related uncertainties as these are among the most important elements in the contribution to the overall uncertainty
☐	13. If special methods are used to reduce some uncertainties e.g. site adaptation techniques, these should be clearly documented and ideally backed up with scientific validation
☐	14. Special care must be taken when classifying each uncertainty as either systematic or variable (stochastic) since these are treated differently in overall lifetime uncertainty calculations
☐	15. When possible, exceedance probabilities (e.g. P90) for each uncertainty must be calculated using empirical methods based on available data instead of assuming normal distribution for all elements