Calculation of Resources Needed to Ensure 100 MWs are Available on a Summer Day Based on E3 Analysis and RETI Data [1]

E3 assumptions: Peak availability for Solar PV is 65%, Wind 28.5%, and Natural Gas is 100%. The cost data includes capital costs, but not fuel, operating and maintenance costs.

	Probability Resource Will be Available on a Summer Day	Resources Needed to Ensure 100 MWs are Available on a Summer Day	Cost/MW of Resource	Total Cost
Single Power Resource				
Solar	65%	153 MW	$6,585,000/MW	$1 billion
Wind	28.5%	351 MW	$2,304,000/MW	$808 million
Natural Gas Only (No Renewables)	100%	100 MW	$1,156,000/MW	$115 million
Renewable and Conventional Power Resources				
100 MW of Solar with Natural Gas Back-up	65% (Solar) 100% (Natural Gas)	100 MW (Solar)* 35 MW (Natural Gas)	$6,585,000/MW (Solar) $1,156,000/MW (Natural Gas)	$700 million
100 MW of Wind with Natural Gas Back-up	28.5% (Wind) 100% (Natural Gas)	100 MW (Wind)** 71.5 MW (Natural Gas)	$2,304,000/MW (Wind) $1,156,000/MW (Natural Gas)	$312 million
Natural Gas Only (No Renewables)	100%	100 MW	$1,156,000/MW	$115 million

** Peak availability of a solar facility is 65%. A 100 MW solar facility will provide 65 MW on a summer day. 35 MW will be needed from a natural gas facility to ensure 100 MWs are available on a summer day.*
*** Peak availability of a wind facility is 28.5%. A 100 MW wind facility will provide 28.5 MW on a summer day. 71.5 MW will be needed from a natural gas facility to ensure 100 MWs are available on a summer day.*

[1] Analysis based on E3 and RETI data. All availability on-peak and cost data presented here are drawn from Energy and Environmental Economics' (E3) 33% Implementation Analysis, a study being conducted under contract to the CPUC. E3's data relies heavily on the Renewable Energy Transmission Initiative being lead by the CEC.