

# High Tech Value: Data Centers, Solar Farms, Battery Storage & Wind Farms

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## Computer Data Centers



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# Computer Data Centers



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# Computer Data Centers

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February 2024

## CALCULATOR METHOD

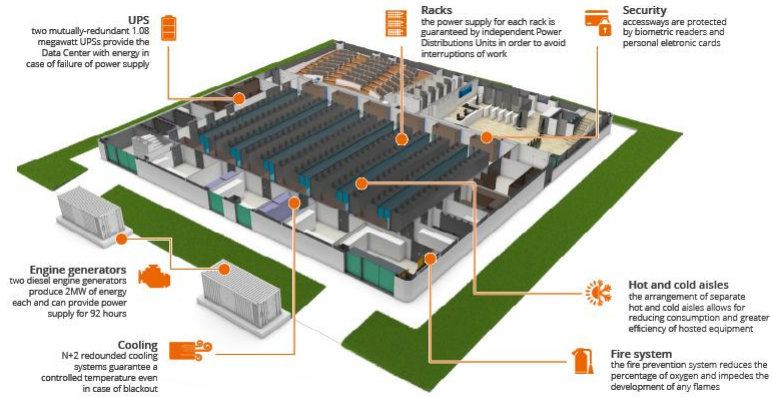
### COMPUTER (DATA) CENTERS (497)

CLASS	TYPE	EXTERIOR WALLS	INTERIOR FINISH	LIGHTING, PLUMBING AND MECHANICAL	HEAT	COST		
						Sq. M.	Cu. Ft.	Sq. Ft.
A-B	Excellent	Good curtain walls, good brick and metal, with ornamentation	Plaster, acoustic ceilings, raised floor, much office space	Fluorescent lighting, many outlets, good plumbing, UPS & EPS	Hot and chilled water (zoned)	4165.63	27.63	387.00
	Good	Face brick, metal panels, good concrete panels, ornamentation	Drywall or plaster, raised floors, good support rooms and offices	Good lighting, many outlets, adequate plumbing, UPS, EPS	Hot and chilled water (zoned)	3401.39	22.56	316.00
	Average	Brick, block, concrete panels, low-cost metal panels	Painted walls and ceilings, raised floors, office and support rooms	Fluorescent lighting, adequate restrooms and plumbing, UPS	Hot and chilled water (zoned)	2777.09	18.42	258.00
	Low cost	Low-cost brick, structural tile, block, concrete panels	Painted walls, large open areas, offices and support rooms	Fluorescent lighting, minimum plumbing, back-up power	Warm and cool air (zoned)	2152.78	14.28	200.00
C	Good	Masonry or concrete, some ornamentation, steel frame	Plaster, raised floors, good support rooms and detail	Fluorescent lighting, adequate restrooms, plumbing, UPS & EPS	Warm and cool air (zoned)	2518.75	16.71	234.00
	Average	Brick, block, concrete, load-bearing walls or frame	Gypsum board, raised floors, adequate office and support areas	Adequate lighting and plumbing, back-up power supply	Warm and cool air (zoned)	2066.67	13.71	192.00
	Low cost	Low-cost brick, concrete, block, tilt-up, very plain	Minimum finish and detail, small office and support areas	Minimum lighting, plumbing and uninterrupted power supply	Package A.C.	1657.64	11.00	154.00
D	Average	Light frame or studs, stucco, siding, EIFS	Drywall or plaster, raised floors, adequate office and support areas	Fluorescent lighting, adequate plumbing, back-up power	Warm and cool air (zoned)	1969.79	13.07	183.00
	Low cost	Bearing studs and stucco or wood siding, very plain	Minimum finish and detail, small office and support areas	Minimum lighting, plumbing and uninterrupted power supply	Package A.C.	1582.29	10.50	147.00
S	Average	Steel frame, transite, steel siding or sandwich panels	Drywall or plaster, raised floors, adequate office and support areas	Adequate lighting and plumbing, back-up power supply	Warm and cool air (zoned)	2012.85	13.35	187.00

NOTE: H.V.A.C. costs must be carefully examined, as high heat producing equipment may require high-capacity systems; adjust to the high-cost range (extreme-climate) or, due to extreme loading, the laboratory complete H.V.A.C. costs may be more representative. Redundant systems can add 100% to 400% to electrical costs also; see Section 44.

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# Computer Data Centers



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# Computer Data Centers



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# Solar Farms



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# Solar Farms



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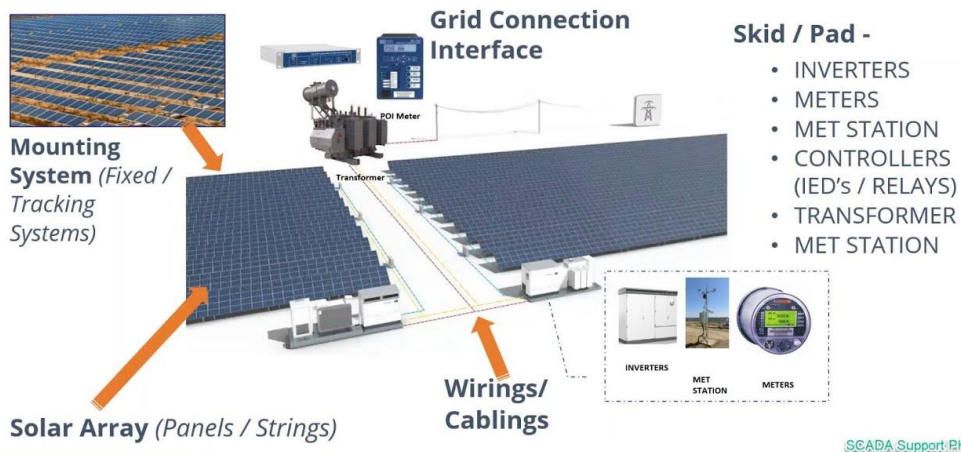
# Solar Farms



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# Solar Farms

## COMPONENTS OF A PV POWER PLANT



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## Solar Farms



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## BESS – Battery Energy Storage System



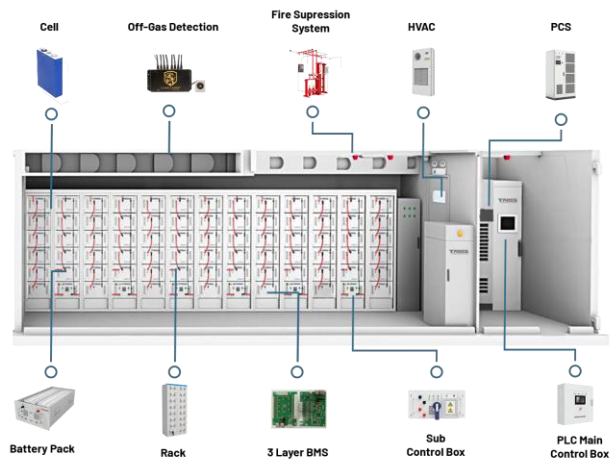
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## BESS – Battery Energy Storage System



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## BESS – Battery Energy Storage System



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# Wind Farms



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# Wind Farms



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