Tanaboon Sattayapan

Electrical Engineering

contact

tuekseaman@gmail.com | 061-349-7453

Address 129 Lan Luang Road

Wat Sommanat Pom Prap Sattru Phai Bangkok 10100

Personal Profile

Date of Birth : August 21,2001

Age : 23 Years old

Nationality : Thai

Religion : Buddhism

Education History

Bachelor's degree

Institution: Kasetsart University

Year of Graduation: 2023

- Bachelor Degree Electrical Engineer
- GPA 3.15 Toeic 515
- Associate Electrical Engineer (Power)

Volunteer Work, Awards, Affiliations

Design Electrical Engineering

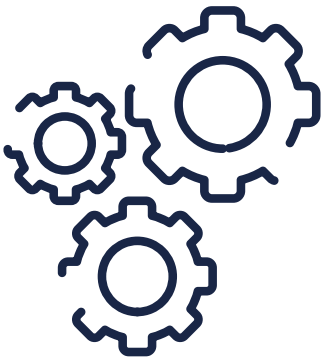
Honorable Mention for using AutoCAD For Electrical Engineering (2022)

Skills and Ability

- Autocad
- PVsyst
- Excel
- Word
- Power Point
- Open solar
- Fusion Solar
- Digsilent
- Python
- Have a driver license
- Have a Electrical professional license

Hobbies

- Design, connect, and install a small solar cell circuit and find information new Renewable Technology.
- stock analysis intermediate.



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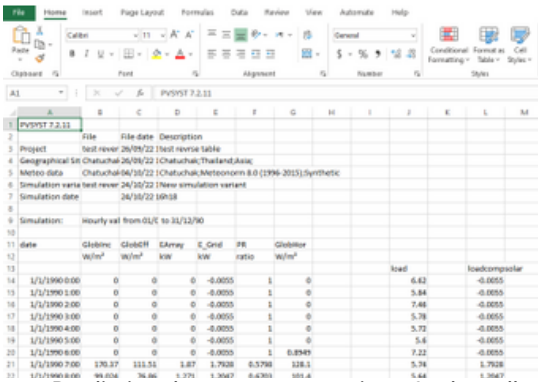
Reserch

Bachelor's degree

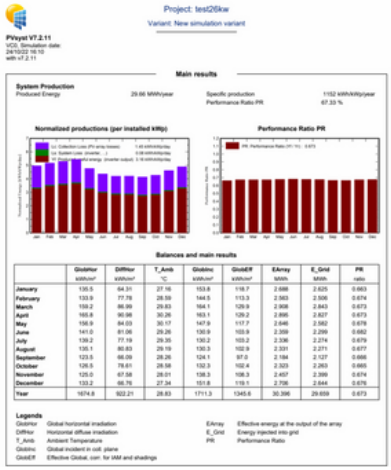
Design and Economic Return Analysis of Solar Rooftop Power Generation System to Reduce Consumption in the Electrical Engineering Building at Kasetsart University Bangkhen

Design and analyzing economic cost-effectiveness using data obtained from a simulation conducted with the PVsyst software and compare the energy consumption of customers on an hourly basis over the course of one year.The energy production forecast for each year is predict estimated using the PVsyst simulation program, and the generated data will be compared with the building's electricity consumption. The analysis will include the assessment of key financial metrics such as net present value (NPV), internal rate of return (IRR), and payback period.

Based on the results of the study and analysis of the return of the project simulation using an interest rate of 6.35%, and the simulation of the installation of solar cells on the roof, which will be installed as an on-grid system, for both 17 kW and 26 kW by 17 kW from calculated average load and 26 kw calculated peak load From 10 AM to 3 PM, which is the period of strong sunlight, It was found that installing a 17 kW solar cell has a net present value (NPV) of 332,735.99 baht, an internal rate of return (IRR) of 12%, and a payback period of 7.41 years. The 26 kW solar cell installation has a net present value (NPV) of 567,704.34 baht, an internal rate of return (IRR) of 14%, and a payback period of 6.41 years.By The lifespan of the solar cell project is 25 years.Therefore, it can be concluded that installing a 26 kW solar cell is the most cost-effective investment.



- Predicting the power generation of solar cell systems using the Pv syst simulation program



- Result Summary power generation of solar cell systems using the Pv syst simulation program

ตารางที่ 4 ข้อมูลในการผลิตเซลล์แสงอาทิตย์ขนาด 17 กิโลวัตต์ในแต่ละปีและผลตอบแทนที่ได้ในแต่ละปี

อายุการใช้งานเซลล์แสงอาทิตย์ (ปี)	กำลังผลิตได้ (กิโลวัตต์)	ผลตอบแทน (ราคาไฟ 5.1 บาทต่อหน่วย)
1	21,102.4232	107,622.3583
2	20,574.86262	104,931.7994
3	20,427.14566	104,178.4429
4	20,279.4287	103,425.0863
5	20,131.71173	102,671.7298
6	19,983.99477	101,918.3733
7	19,836.27781	101,165.0168
8	19,688.56085	100,411.6603
9	19,540.84388	99,658.3038
10	19,393.12692	98,904.9473
11	19,245.40996	98,151.59079
12	19,097.693	97,398.23428
13	18,949.97603	96,644.87777
14	18,802.25907	95,891.52126
15	18,654.54211	95,138.16475
16	18,506.82515	94,384.80825
17	18,359.10818	93,631.45174
18	18,211.39122	92,878.09523
19	18,063.67426	92,124.73872
20	17,915.9573	91,371.38221

- Predicting how much energy a rooftop solar system can produce each year

ตารางที่ 8 คำนวณหามูลค่าปัจจุบันสุทธิของเซลล์แสงอาทิตย์ขนาด 17 กิโลวัตต์

ปีที่	ราคาเซลล์แสงอาทิตย์&อินเวอร์เตอร์	รายได้ (Passive solar)	ค่าดูแลรักษา	รายได้รวมจากการติดตั้งเซลล์แสงอาทิตย์ต่อปี
0	-692,932.0625			0
1		107,622.4	-10,000	97,622.4
2		104,931.80	-10,000	94,931.80
3		104,178.44	-10,000	94,178.44
4		103,425.09	-10,000	93,425.09
5		102,671.73	-10,000	92,671.73
6		101,918.37	-10,000	91,918.37
7		101,165.02	-10,000	91,165.02
8		100,411.66	-10,000	90,411.66
9		99,658.30	-10,000	89,658.30
10		98,904.95	-10,000	88,904.95
11		98151.59	-10,000	88,151.59
12		97398.23	-10,000	87,398.23
13	-41813.06	96644.88	-10,000	44,831.82
14		95891.52	-10,000	85,891.52
15		95138.16	-10,000	85,138.16
16		94384.81	-10,000	84,384.81
17		93631.45	-10,000	83,631.45
19		92124.74	-10,000	82,124.74
20		91371.38	-10,000	81,371.38
21		90618.03	-10,000	80,618.03
22		89864.67	-10,000	79,864.67
23		89111.31	-10,000	79,111.31
24		88357.96	-10,000	78,357.96
25		87604.6	-10,000	77,604.6

จากตารางที่ 8 ทำให้ได้รู้รายได้ในแต่ละปีในการติดตั้งเซลล์แสงอาทิตย์ขนาด 17 กิโลวัตต์ทำให้สามารถคำนวณหาผลลัพธ์มูลค่าปัจจุบันสุทธิโดยมีค่าเท่ากับ

$$NPV = \sum_{t=1}^{n} \frac{ES_t}{(1+i)^t} - I_0 = 332{,}735.99 \text{ บาท}$$

คำนวณหามูลค่าปัจจุบันสุทธิของเซลล์แสงอาทิตย์ขนาด 26 กิโลวัตต์โดยคำนวณตารางที่ 9 โดยจากตารางต้องมีค่าใช้จ่ายในการซื้ออินเวอร์เตอร์ขนาด 25 กิโลวัตต์ ในปีที่ 13 เนื่องจากว่าอายุการใช้งานของอินเวอร์เตอร์จะมีอายุประมาณ 12 ปี

ตารางที่ 9 คำนวณหามูลค่าปัจจุบันสุทธิของเซลล์แสงอาทิตย์ขนาด 26 กิโลวัตต์

ปีที่	ราคาเซลล์แสงอาทิตย์&อินเวอร์เตอร์	รายได้ (Passive solar)	ค่าดูแลรักษา	รายได้รวมจากการติดตั้งเซลล์แสงอาทิตย์ต่อปี
0	-815668.4944			0
1		147,454.7256	-15,000	132,454.7256
2		143,768.3575	-15,000	128,768.3575
3		142,736.1744	-15,000	127,736.1744
4		141,703.9913	-15,000	126,703.9913
5		140,671.8082	-15,000	125,671.8083

- Calculating the economic returns using the Net Present Value : NPV

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Work Experience

Internship Provincial Electricity Authority (PEA)
Working as an internship Electrical and Mechanical Engineering Division in the Power substation Equipment Engineering Department of the Provincial Electricity Authority.The nature of work is to inspect the quality standards of equipment in power substations.
Design Electrical cabinet box design using AutoCAD
March 2022 to June 2022
(3 months)

Electrical Engineering Solar
Greenergy thailand
August 2023 to January 2024 (6 months)

- Design solar rooftop home systems from sizes 3kW-30kW . Make a BOQ table and make a list of equipment orders to the purchasing department (PR) .
- Design solar rooftop Thongsamut factory systems from sizes 125kW and make Calculation sheet .Make a list of equipment orders to the purchasing department (PR) .Install Solar Rooftop System and Communication System . Calculate economic returns
- Design solar rooftop Noppachai Plastic factory systems from sizes 500kW and make calculation sheet. Make a list of equipment orders to the purchasing department (PR) . Install Solar Rooftop System and Communication System. Calculate economic returns
- Design solar rooftop Katevanich factory systems from sizes 762 kW and make calculation sheet .Make a list of equipment orders to the purchaseing department (PR) Install Solar System and Communication System
- Design solar rooftop factory systems from sizes 1 MW and make calculation sheet .

Electrical Engineering Solar
Power solution technology
March 2024 to Present (1 Years)

- Design solar rooftop Hotel and factory systems from sizes 10kW-1MW . Make a BOM,BOQ,ASSUMPTION and Make a list of equipment Installl Solar Rooftop System and Request permission to install a rooftop solar system Example Asia Teaque.
- Design solar Farm and Solar Car port sizes 400kW-5MW . Make a BOQ and Installl Solar Rooftop System Example Solar Carpot Korat Zoo.