Annual Report
on SDG 7 Affordable and Clean Energy

7.4 Energy and the community

7.4.1 Does your university as a body provide programs for local community to learn about importance of energy efficiency and clean energy?

Thaksin University (TSU), as an institution, runs programs that help the local community learn about energy efficiency and clean energy. The programs work in two ways: (1) hands-on training and education pathways in electric vehicle (EV) and clean transport technology for technicians, workers, students and teachers in southern Thailand; and (2) independent impact studies of operating wind farms, which give nearby residents clear, evidence-based information on clean energy and its effects on their communities. **All of TSU's wind farm services reported here were commissioned and carried out in 2025 (B.E. 2568): three wind farms in Nakhon Si Thammarat and Nakhon Ratchasima, each commissioned in 2025 and reported or due for delivery by 31 December 2025.**

Overview

The programs are led by the Faculty of Engineering and its Energy and Environment Research Center, Phatthalung Campus. The wind energy studies are carried out by Assoc. Prof. Dr. Jompob Waewsak, Dr. Chana Chancham and Mr. Sompon Cheewamongkolkarn, linking university research with communities that live near renewable energy plants.

The impact studies follow the Energy Regulatory Commission's Code of Practice regulation for electricity businesses (B.E. 2565, amended No. 2 B.E. 2567), whose purpose is to monitor impacts on communities and residents around wind power projects. The table below summarizes what each activity offers the community.

Activity	What the community learns
EV Up-skill/Re-skill training (TSU–ENG EV Training Center)	Practical skills for clean, low-emission electric transport
Vocational partnership with OVEC	Pathways into clean-energy and EV careers for local students and teachers
Wind resource mapping (CFD, 50 m resolution)	How much clean energy local wind can produce
Shadow flicker assessment at community sites, compared with EHS limits (30 hr/year, 30 min/day) – three wind farms, all in 2025 (B.E. 2568)	Whether nearby wind turbines affect homes, schools, clinics and temples, and that clean energy can operate within health and safety standards

Evidence 1: Electric Vehicle Training Unit open to the local community

On 9 October 2025, the Faculty of Engineering welcomed the working team of the High-Skilled Workforce Development Project for the Next-Generation Automotive (EV) Industry from King Mongkut's University of Technology North Bangkok (KMUTNB). The two teams assessed the faculty's readiness to set up an Electric Vehicle Training Unit (EV Training).

The unit will offer Up-skill and Re-skill courses on electric vehicles that are open to the public, including technicians, workers, vocational students and other interested members of the local community. The courses help people in southern Thailand gain the knowledge and skills needed for clean, low-emission transport, support local workers in moving into green jobs, and prepare the region for the shift to electric mobility.

Public Evidence: https://www.facebook.com/share/p/1FLdjpDBJe/



Evidence 2: MoU with the Office of the Vocational Education Commission and the TSU–ENG EV Training Center

On 7 August 2025, Thaksin University signed a Memorandum of Understanding on academic services and further education with the Office of the Vocational Education Commission (OVEC) at the Faculty of Engineering. The MoU was signed by Assoc. Prof. Dr. Nathapong Chitniratna, President of Thaksin University, and Mr. Narongchai Charoenrujisap, Deputy Secretary-General of OVEC. Asst. Prof. Dr. Amonwan Weerathammo, Secretary-General of the Teachers' Council of Thailand, attended as a witness and gave a special lecture.

During the event, the delegation visited the Faculty's TSU–ENG EV Training Center, the university's platform for sharing knowledge and skills on electric vehicle technology with vocational institutions, teachers and students in the region. Electric vehicles are a key part of the shift to clean energy and lower-carbon transport.

The partnership covers three areas of joint work:

1. A cross-institution bachelor's program (B.Eng. and B.Ed.) to train vocational teachers ("Teachers of Technicians"), combining academic study at Thaksin University with hands-on practice at vocational institutions.
2. Pre-degree and non-degree courses for vocational certificate (Por Wor Chor / Por Wor Sor) students, with credits stored in a credit bank toward bachelor's and master's degrees.
3. Dual-degree bachelor's programs between Thaksin University and vocational institutions.

Public evidence:
https://web.facebook.com/TSUEngineer/posts/pfbid02d943m7SWHaCPWjzJE7PGh3az5BHA447dnULMhuSxvG2RGsStjGgcht66Q1h6y6VEl



Wind farm impact studies carried out in 2025 (B.E. 2568)

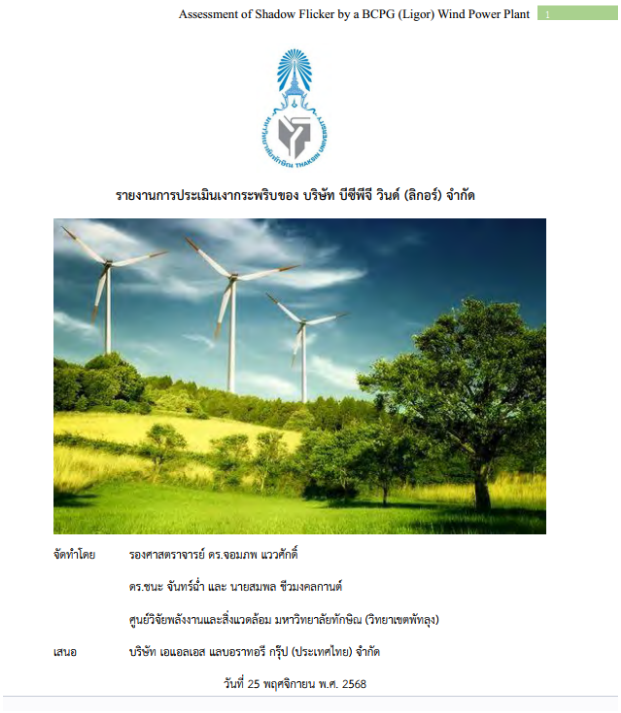
In 2025 (B.E. 2568), TSU provided shadow flicker assessment services for three operating wind farms. Each service was commissioned in 2025, used 2025 wind and operating data, and was contracted for delivery within 2025. The table below confirms the date and reference document for each one.

Wind farm / project	Client	Location	Commissioned (2025)	Delivery	Reference
BCPG Wind (Ligor), 10 MW	ALS Laboratory Group (Thailand) Co., Ltd.	Pak Phanang, Nakhon Si Thammarat	2025	Report dated 25 Nov 2025	Assessment report (Evidence 3)
Saranlom project	Greenovation Power Co., Ltd.	Nakhon Ratchasima	5 Oct 2025	By 31 Dec 2025	PO WEPO25-000041; Quotation ENG-TSU 001/2568
WAYU project	Wind Energy Development Co., Ltd.	Nakhon Ratchasima	5 Oct 2025	By 31 Dec 2025	PO WAPO25-000044; Quotation ENG-TSU 003/2568

Evidence 3: Shadow flicker assessment of the BCPG Wind (Ligor) wind farm

TSU assessed a 10 MW wind farm (4 × GW-121 2.5 MW turbines) in Tha Phaya Subdistrict, Pak Phanang District, Nakhon Si Thammarat. The report, dated 25 November 2025 (B.E. 2568), was prepared for ALS Laboratory Group (Thailand) Co., Ltd.

- **Study area:** 3 km radius, 34.3 km², mostly rice paddy (62.2%) and villages (9.0%).
- **Wind resource:** mean wind speed 7.34 m/s at 90 m hub height (range 4.50–9.73 m/s), from MERRA-2 data and CFD modelling.
- **Community sites assessed (5):** Ban Bang Raet Sub-district Health Promoting Hospital, Ban Bang Raet School, a local repair shop, Aphisit Farm and a household, all in Moo 1, Ban Phoeng Subdistrict.
- **Result:** the highest exposure was at Ban Bang Raet School, 29 hr/year and 30 min/day from WTG 1. All five sites were within the EHS limit.
- **Area result:** 67.2% of the study area receives no shadow flicker; the 8.4% above 30 hr/year is rice paddy next to the turbines.



Assessment of Shadow Flicker by a BCPG (Ligor) Wind Power Plant 1

รายงานการประเมินเงากระพริบของ บริษัท บีซีพีจี วินด์ (ลิกอร์) จำกัด

จัดทำโดย รองศาสตราจารย์ ดร.จอมภพ แววศักดิ์

ดร.ชนะ จันทร์ฉ่ำ และ นายสมพล ขีวมงคลกานต์

ศูนย์วิจัยพลังงานและสิ่งแวดล้อม มหาวิทยาลัยทักษิณ (วิทยาเขตพัทลุง)

เสนอ บริษัท เอแอลเอส แลบอราทอรี กรุ๊ป (ประเทศไทย) จำกัด

วันที่ 25 พฤศจิกายน พ.ศ. 2568

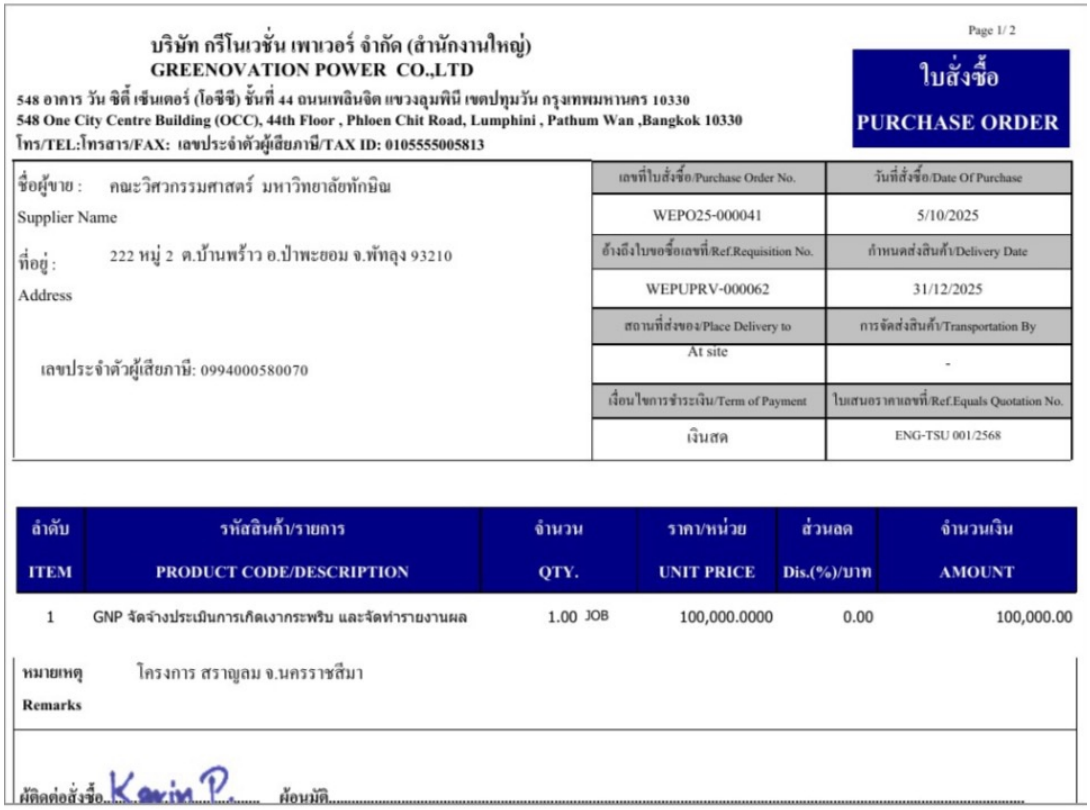
Evidence 4: Purchase orders for wind farm shadow flicker services in Nakhon Ratchasima, 2025 (B.E. 2568)

On 5 October 2025, two wind power companies in Nakhon Ratchasima issued purchase orders to the Faculty of Engineering, Thaksin University, for shadow flicker assessment and reporting at their wind farms. Each order refers to a TSU quotation numbered in B.E. 2568 and sets a delivery date of 31 December 2025, so both services fall within 2025 (B.E. 2568).

The scope of work is the same for both orders:

- Preparing DEM, land use/land cover (LCLU) and project boundary maps (ArcGIS, licensed).
- Running the shadow flicker model with WindFarmer (licensed).
- Analyzing the results and producing 2-D and 3-D shadow flicker maps (ArcGIS, licensed).
- Preparing the shadow flicker report.

Client	Project	PO No. / Date	Quotation	Delivery date
Greenovation Power Co., Ltd.	Saranlom, Nakhon Ratchasima	WEPO25-000041 / 5 Oct 2025	ENG-TSU 001/2568	31 Dec 2025
Wind Energy Development Co., Ltd	WAYU, Nakhon Ratchasima	WAPO25-000044 / 5 Oct 2025	ENG-TSU 003/2568	31 Dec 2025



Page 1/ 2

บริษัท กรีโนเวชั่น เพาเวอร์ จำกัด (สำนักงานใหญ่)
GREENOVATION POWER CO.,LTD

548 อาคาร วัน ซิตี้ เซ็นเตอร์ (โอซีซี) ชั้นที่ 44 ถนนเพลินจิต แขวงลุมพินี เขตปทุมวัน กรุงเทพมหานคร 10330
548 One City Centre Building (OCC), 44th Floor , Phloen Chit Road, Lumphini , Pathum Wan ,Bangkok 10330
โทร/TEL:โทรสาร/FAX: เลขประจำตัวผู้เสียภาษี/TAX ID: 0105555005813

ใบสั่งซื้อ
PURCHASE ORDER

ชื่อผู้ขาย : คณะวิสวกรรมศาสตร์ มหาวิทยาลัยทักษิณ
Supplier Name

ที่อยู่ : 222 หมู่ 2 ต.บ้านพร้าว อ.ป่าพะยอม จ.พัทลุง 93210
Address

เลขประจำตัวผู้เสียภาษี: 0994000580070

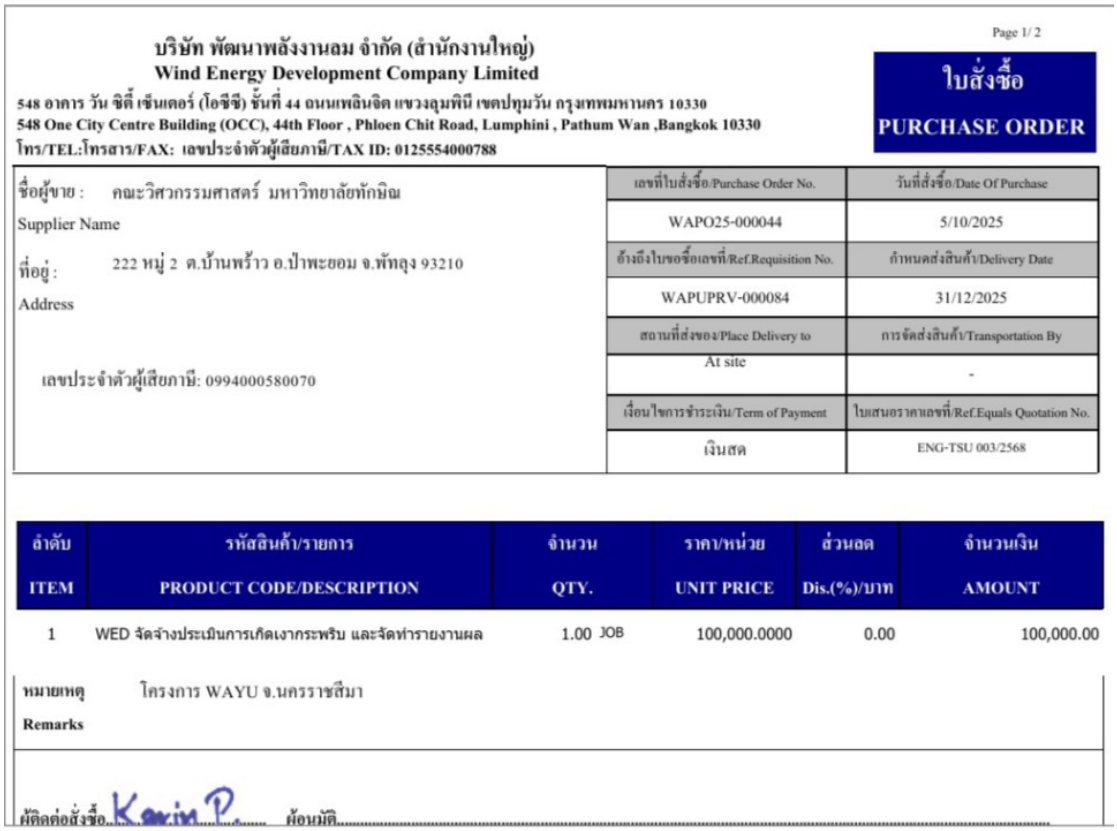
เลขที่ใบสั่งซื้อ/Purchase Order No.	วันที่สั่งซื้อ/Date Of Purchase
WEPO25-000041	5/10/2025
อ้างอิงใบขอซื้อเลขที่/Ref.Requisition No.	กำหนดส่งสินค้า/Delivery Date
WEPUPRV-000062	31/12/2025
สถานที่ส่งของ/Place Delivery to	การจัดส่งสินค้า/Transportation By
At site	-
เงื่อนไขการชำระเงิน/Term of Payment	ใบเสนอราคาเลขที่/Ref.Equals Quotation No.
เงินสด	ENG-TSU 001/2568

ลำดับ ITEM	รหัสสินค้า/รายการ PRODUCT CODE/DESCRIPTION	จำนวน QTY.	ราคา/หน่วย UNIT PRICE	ส่วนลด Dis.(%)/บาท	จำนวนเงิน AMOUNT
1	GNP จัดจ้างประเมินการเกิดเงากระพริบ และจัดทำรายงานผล	1.00 JOB	100,000.0000	0.00	100,000.00

หมายเหตุ Remarks: โครงการ สราญลม จ.นครราชสีมา

ผู้ติดต่อสั่งซื้อ Kevin P. ผู้อนุมัติ

Purchase Order WEPO25-000041 – Greenovation Power Co., Ltd. (Saranlom project)



Page 1/ 2

บริษัท พัฒนาพลังงานลม จำกัด (สำนักงานใหญ่)
Wind Energy Development Company Limited
548 อาคาร วัน ซิตี้ เซ็นเตอร์ (โอซีซี) ชั้นที่ 44 ถนนเพลินจิต แขวงลุมพินี เขตปทุมวัน กรุงเทพมหานคร 10330
548 One City Centre Building (OCC), 44th Floor , Phloen Chit Road, Lumphini , Pathum Wan ,Bangkok 10330
โทร/TEL:โทรสาร/FAX: เลขประจำตัวผู้เสียภาษี/TAX ID: 0125554000788

ใบสั่งซื้อ
PURCHASE ORDER

ชื่อผู้ขาย : คณะวิศวกรรมศาสตร์ มหาวิทยาลัยทักษิณ
Supplier Name
ที่อยู่ : 222 หมู่ 2 ต.บ้านพร้าว อ.ป่าพะยอม จ.พัทลุง 93210
Address
เลขประจำตัวผู้เสียภาษี: 0994000580070

เลขที่ใบสั่งซื้อ/Purchase Order No.	วันที่สั่งซื้อ/Date Of Purchase
WAPO25-000044	5/10/2025
อ้างถึงใบขอซื้อเลขที่/Ref.Requisition No.	กำหนดส่งสินค้า/Delivery Date
WAPUPRV-000084	31/12/2025
สถานที่ส่งของ/Place Delivery to	การจัดส่งสินค้า/Transportation By
At site	-
เงื่อนไขการชำระเงิน/Term of Payment	ใบเสนอราคาเลขที่/Ref.Equals Quotation No.
เงินสด	ENG-TSU 003/2568

ลำดับ ITEM	รหัสสินค้า/รายการ PRODUCT CODE/DESCRIPTION	จำนวน QTY.		ราคา/หน่วย UNIT PRICE	ส่วนลด Dis.(%)/บาท	จำนวนเงิน AMOUNT
1	WED จัดจ้างประเมินการเกิดเงากระพริบ และจัดทำรายงานผล	1.00	JOB	100,000.0000	0.00	100,000.00

หมายเหตุ Remarks: โครงการ WAYU จ.นครราชสีมา

ผู้ติดต่อสั่งซื้อ Karin P. ผู้อนุมัติ .....

Purchase Order WAPO25-000044 – Wind Energy Development Co., Ltd. (WAYU project)

Public Evidence:

1. Faculty of Engineering, Thaksin University. Assessment of readiness to establish an Electric Vehicle Training Unit with KMUTNB, 9 October 2025. https://www.facebook.com/share/p/1FLdjpDBJe/

2. Faculty of Engineering, Thaksin University. MoU signing with the Office of the Vocational Education Commission and visit to the TSU–ENG EV Training Center, 7 August 2025. Faculty of Engineering Facebook page (TSUEngineer). https://www.tsu.ac.th/home/details.php?id=5388

3. Waewsak, J., Chancham, C. and Cheewamongkolkarn, S. *Assessment of Shadow Flicker by a BCPG (Ligor) Wind Power Plant. Energy and Environment Research Center*, Thaksin University (Phatthalung Campus), 25 November 2025 (B.E. 2568). https://drive.google.com/drive/folders/1uGXJ9WulY_1xrGRnWyKXFhoIRzM5_4X5?usp=sharing

4. Greenovation Power Co., Ltd. Purchase Order WEPO25-000041 (shadow flicker assessment and report, Saranlom project, Nakhon Ratchasima), 5 October 2025; delivery date 31 December 2025. https://drive.google.com/drive/folders/1bNWdNp4PFuKa8knDSl8n-nWDxIJVXL4f?usp=sharing

5. Wind Energy Development Co., Ltd. Purchase Order WAPO25-000044 (shadow flicker assessment and report, WAYU project, Nakhon Ratchasima), 5 October 2025; delivery date 31 December 2025. https://drive.google.com/drive/folders/1bNWdNp4PFuKa8knDSl8n-nWDxIJVXL4f?usp=sharing