

## 13.2. Low carbon energy use

### 13.2.1. Amount of low carbon energy used across the university

Energy supply at USU is still dominated by PLN. Energy utilization from solar panels is used for several buildings such as the USU Academic Bureau, the Mechanical Engineering Laboratory, the Electrical Engineering Department Classroom and several street lights at USU. Apart from that, USU also collaborates with Grab where Grab provides 10 electric motorbikes to reduce GHG emissions at USU. USU also has 100 campus bicycles spread across 8 point stops for transportation within the USU campus. In 2023, USU plans to increase the use of solar panels at several locations.

### Evidence(s)

University : Universitas Sumatera Utara  
 Country : Indonesia  
 Web Address : <https://www.usu.ac.id>

#### [2]Energy and Climate Change (EC)

#### [2.5] Renewable energy produce inside campus



**Biogas Plant**



**solar-powered lights along at Universitas Street, Tri Dharma Street and behind The USU Auditorium**



**Roof Top Solar Panels in USU Office 21 kWp**



**Solar panel in Faculty of Engineering integrated Lab dan Classroom**



**Speed Bump**

Description:

USU has three sources of renewable energy produced on campus. They are:

- a. Biogas power plant (10 kW)
- b. Electricity from solar panel  
Solar panels found in the Main Administration Building (21 kWp capacity), Mechanical Engineering Laboratory (3 kWp capacity), the Rooftop of Electrical Department Integrated one classroom (280 Wp capacity), solar-powered lights alongat Universitas Street (2 kWp capacity).
- c. Electricity from speed bump (Combine Heat and Power) (less than 100 Watt)

**[2.8] The ratio of renewable energy production divided by total energy usage per year**

No.	renewable energy	production
1	Solar Panel found in the Main Administration Building	21 kWp
2	Mechanical Engineering Laboratory	3 Wp
3	Rooftop of Electrical Department Integrated one classroom	280 Wp
4	solar-powered lights along at Universitas Street	2 kWp
	Total renewable energy production	26.8 kWp

**Note:**

**Electricity usage per year= 3,928,405 kWh**

**Peak/day = 4 hour**

**1 year = 360 days (5 day for maintenance time)**

**Total renewable energy production per year = 37,843 kWh**





**Ratio = (Electricity usage per year / Total renewable energy production per year) x100%**

**= (3,928,405 kWh/ 37,843 kWh) x 100%**

**= 0.96%**

[5] Transportation (TR)

[5.9] Zero Emission Vehicles (ZEV) Policy on Campus

	
<p>1. Bicycle parking station (USU, Indonesia)</p>	<p>2. Charging points for EV (USU, Indonesia)</p>
	
<p>3. The students use campus bicycles to travel around the campus (USU, Indonesia)</p>	<p>4. The employees use bicycles for working around campus (USU, Indonesia)</p>

**Description:**

Universitas Sumatera sites are cyclist and pedestrian friendly. Campus sites have cycle parking station and providing free bikes to students, as well as encouraging electronic vehicle for staff and offers Cycle to Work scheme for staff.

**Additional evidence link:**

<https://greencampus.usu.ac.id/index.php/id/green-campus/bidang/bidang-transportasi>

**[5.14] Program to limit or decrease the parking area on campus for the last 3 years (from 2018 to 2020)**

<p>Shuttle bus services (USU, Indonesia)</p>	<p>Free Bicycle for student (USU, Indonesia)</p>
<p>Limiting access for private vehicles (USU, Indonesia)</p>	<p>Recommendation for workers to use bicycles (USU, Indonesia)</p>
<p>Electric motorbike Facility for employees mobility (USU, Indonesia)</p>	

**Description:**

1. Free bicycle for rent on campus
2. Shuttle/bus inside the campus
3. Limiting access for private vehicles
4. Recommendation for workers to use bicycles
5. Electric motorbike Facility for employee's mobility

**Additional evidence link:**

<https://greencampus.usu.ac.id/index.php/id/green-campus/bidang/bidang-transportasi/13-bidang-green-campus/15-bidang-transportasi>

- Grab Supports 10 Electric Motors to Create Pollution-Free USU

BERITA / LIPUTAN UTAMA

## Grab Bantu 10 Motor Listrik untuk Ciptakan USU Bebas Polusi

“Di kampus ini kita punya master plan yang akan membagi dua area, area akademik dan area non akademik. Kita akan rencanakan zero polusi, jadi kendaraan tidak boleh masuk ke area akademik,” ucapnya.

24 Januari 2022 / Bambang Riyanto



HUMAS USU - Universitas Sumatera Utara (USU) melakukan Penandatanganan Kerja Sama dengan PT Grab Teknologi Indonesia sekaligus serah terima bantuan berupa sepeda motor listrik Grab. Kegiatan tersebut diselenggarakan di Gedung Biro Pusat Administrasi USU pada Senin (24/01/2022).

“Di kampus ini kita punya *master plan* yang akan membagi dua area, area akademik dan area non akademik. Kita akan merencanakan *zero* polusi, jadi kendaraan tidak boleh masuk ke area akademik,” ucapnya. Rektor menambahkan, setelah ini akan diatur bagaimana penggunaan motor listrik, serta akan segera dibangun shelter untuk sepeda kampus. “Kerja sama ini akan menguatkan komitmen USU mewujudkan pencegahan polusi dan penggunaan *renewable energy*,” lanjutnya. Sementara dalam penerapan MBKM, rektor menginginkan adanya mentor dari Grab untuk menjadi dosen praktisi dalam kampus. Para praktisi dari Grab dapat mengisi kelas dengan *problem based learning*. “Pembelajaran kini sudah tidak hanya melalui *text book*, kita dapat membuat program pembelajaran yang *mix-method* antara aspek teoritis dan praktis,” katanya.



Dr. Muryanto berharap, kerja sama dengan Grab dapat memberikan kontribusi positif dalam menghadapi perubahan zaman dan mengembangkan talenta digital. Dalam kesempatan yang sama, Director West PT Grab Teknologi Indonesia, Zefanya Richard Aditya menambahkan bahwa Grab bersama dengan OVO juga akan membantu digitalisasi proses pembayaran di USU. “Sehingga transaksi sehari-hari di kampus akan menerapkan *digital payment*, misalnya untuk legalisir dokumen, transaksi di perpustakaan, tidak lagi menggunakan uang kertas,” katanya. Tak hanya itu, Zefanya menyampaikan, Grab juga menaruh perhatian khusus dalam membina talenta digital di kampus USU, dengan membuka kesempatan untuk 20 mahasiswa mengikuti program Magang Merdeka bersama Grab. “Para *leader* di Grab berkomitmen untuk berpartisipasi langsung membina mahasiswa. Kami percaya, sumber daya manusia di USU ke depannya akan membangun Sumatera Utara menjadi lebih maju,” lanjutnya. Menurutnya, kerja sama dengan USU merupakan bentuk nyata dari misi ‘*Grab for good*’ untuk menyalurkan kebaikan. “Program ini saya percaya sama-sama saling berkontribusi melawan pandemi dan memastikan kualitas SDM dari USU punya standar yang baik,” ujarnya.

**Additional evidence link:**

<https://www.usu.ac.id/id/berita/grab-bantu-10-motor-listrik-untuk-ciptakan-usu-bebas-polusi>