Energy Conservation Actions for a Zero-Carbon Campus (NU2026)

April 1, 2026
Nagoya University

1. Basic Policy

The Tokai National Higher Education and Research System promotes reductions in campus energy consumption and actively demonstrates its commitment to achieving a carbon-neutral society for the local community. Under the "Energy Conservation Actions for a Zero-Carbon Campus," one of the guiding policies of this initiative, Nagoya University advances institution-wide efforts to improve energy efficiency among all members of the University.

Nagoya University's energy consumption is among the highest of all commercial and institutional establishments in Nagoya City. Furthermore, under Japan's Energy Conservation Act, the University is required to reduce its energy consumption intensity* by an annual average of at least 1%. The Campus Master Plan 2022 sets a target of reducing CO_2 emissions from total energy consumption by 51% by FY2030 (compared with FY2013 levels). To this end, it is essential that each member of the Nagoya University community increase their awareness of energy conservation and take proactive steps to achieve this target.

In FY2025, despite significant efforts and cooperation from the Nagoya University community to Electricity Saving, record-breaking heat and lingering late-summer conditions led to a 0.8% increase (as of December) over the previous fiscal year in total energy use (electricity and gas) across Nagoya University's three main campuses. Moreover, the recent surge in utility costs has further increased the need for energy conservation and electricity saving across campus.

Accordingly, in this fiscal year's energy conservation and electricity saving initiatives, we will continue to thoroughly implement the steady efforts made to date, while also placing greater emphasis on energy conservation and electricity saving measures through facility improvements.
*Energy consumption intensity: energy use per unit floor area, calculated by dividing the total energy consumption by the total building floor area.

2. Scope and Duration

Scope: All Nagoya University campuses
Duration: April 1, 2026 (Wed) – March 31, 2027 (Wed)

Last fiscal year, energy use across the three main campuses increased due to record-breaking heat and cold waves. With another extremely hot summer expected this year, we ask for your cooperation in energy conservation efforts. Please think creatively and take proactive action to help reduce energy use and curb utility costs.

Progress Report and Outlook for This Fiscal Year

In FY2025, the University's total energy use increased by 0.8% compared with the previous year (as of December). However, this does mark a lower growth rate than the 2.8% increase we saw in FY2024, reflecting the energy-saving efforts of all University members.

Last year's energy-saving renovations will continue into this year, but with the new LYKEION Research Building (tentative name) scheduled to begin operations in FY2026, total energy consumption is expected to rise.

3. Key Energy Conservation and Electricity Saving Measures

(1) Reduce lightning and air conditioning energy consumption by consolidating classrooms for self-study NEW

As large classrooms are sometimes used by only a small number of students for self-study, the number of rooms available for self-study will be limited. (Rooms not available for self-study will be clearly indicated.)

(2) Ensure doors and windows are kept closed when heating or cooling

A survey found that in approximately 20% of classrooms, doors were left open while the heating or cooling was in use. Doors and windows should be kept closed when heating or cooling, and adequate air flow should be maintained by using ventilation fans or other means.
*In major lecture halls, the “maximum occupancy based on the actual ventilation capacity of the ventilation fans” is clearly indicated on the lectern in each room. If the number of occupants exceeds this capacity, please ensure adequate ventilation by opening doors and windows in addition to using the ventilation fans. For other rooms, please use your judgment as to whether opening doors and windows is necessary to provide additional ventilation.

(3) Avoid extreme thermostat settings at start-up

Frequent instances of excessively high or low air-conditioning temperature settings have been observed. Therefore, as a general rule, the temperature should be set to 27°C for cooling and 20°C for heating, and temperatures should not be set above or below these levels. If the set temperature is changed to suit the indoor environment, it must be returned to the original setting.

* The following new and renovated buildings are designed to ZEB specifications, balancing energy efficiency and comfort.
• School of Engineering Building 8 (North Wing) (Nearly ZEB)
• School of Engineering Building 9 (Nearly ZEB)
• LYKEION Research Building (tentative name) (ZEB Ready)

4. Ongoing Energy Conservations and Electricity Saving Practices

(1) Select the appropriate operating mode for air conditioning ventilation fans (Total Heat Exchanger) NEW

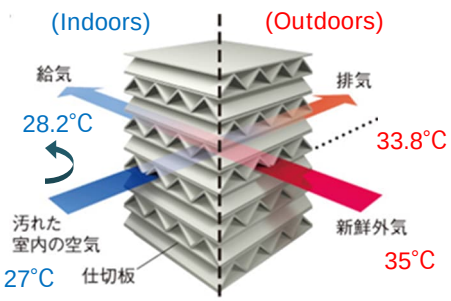
For air conditioning ventilation fans (Total Heat Exchanger) installed in classrooms, offices, and other rooms, select “Auto” mode and choose an airflow setting (High/Low) appropriate to the level of use.
*If no “Auto” mode is available, select “Energy Recovery” mode when heating or cooling, and select “Ventilation” mode at other times. When the room is hot and the outdoor temperature is lower, you can cool the room using outdoor air by selecting “Ventilation” mode.

What is a Total Heat Exchanger?

A Total Heat Exchanger is a ventilation system that transfers heat between the outgoing indoor air and the fresh incoming outdoor air during heating and cooling. This process facilitates ventilation while reducing the loss of heating and cooling energy, making it a key energy-saving device.

[How a Total Heat Exchanger Works]

(Summer Example) Recovers approximately 50–80% of the thermal energy.



Source: DAIKIN https://www.ac.daikin.co.jp/va/kinou1/single

(2) Use appropriate temperature settings in common spaces NEW

To help curb utility costs for heating and cooling, maintain appropriate temperature settings in common spaces, such as self-study rooms. Avoid excessive heating or cooling, and be sure to turn off the air conditioner when you leave the room.

(3) Save electricity when rooms are not in use, such as during lunch breaks or long breaks

Turn off lights during lunch breaks, and turn off all unnecessary lighting and air conditioning when rooms are not in use and when you leave for the day. Be sure to shut down computers during long breaks.

(4) Ensure full implementation of Cool Biz and Warm Biz

In the summer, wear light, breathable clothing (e.g., polo shirts) to stay comfortable in the heat.
In the winter, dress warmly and use items such as lap blankets to stay warm without having to overly rely on heating.

(5) Use recommended temperature settings and centralized air conditioning control

To reduce energy consumption from air conditioning, in addition to promoting Cool Biz and Warm Biz, please use heating and cooling appropriately based on the recommended temperature settings. Centralized air conditioning control will be implemented for general rooms and offices on the Higashiyama Campus.

1. Recommended temperature settings
Cooling: 27°C (lower limit for centralized A/C: 26°C)
Heating: 20°C (upper limit for centralized heating: 23°C)

2. Scheduled automatic shutdown of Air-conditioning
To prevent equipment from being left running, systems are set to shut off at designated times, five times a day (manual override/restart is possible).

*While room temperature recommendations are provided, please prioritize the health and safety of students, faculty, and staff. Please adapt these guidelines according to actual usage needs, such as exemptions in areas where special temperature settings are required for experiments, etc.

*To balance energy efficiency, comfort, and productivity, the recommended temperatures have been relaxed from 28°C to 27°C for cooling and from 19°C to 20°C for heating. Please follow these updated settings and cooperate in conserving energy while maintaining a comfortable environment.

(6) Reduce peak electricity demand

Whenever possible, reduce electricity use during peak demand periods to help level overall power consumption (e.g., by turning off lights or shifting the timing of experiments).

Expected peak periods:
Higashiyama: 13:30–15:00
Tsurumai: 10:30–12:00 and 13:30–15:00

(7) Reduce power consumption from continuously operating equipment

Review the operation of equipment that runs 24 hours a day (e.g., experimental apparatus and PC peripherals) and eliminate unnecessary power consumption where possible.

(8) Operate digital infrastructure properly and efficiently

Aim to migrate lab and departmental servers and related equipment to on-campus cloud services. Also consider consolidating equipment and shutting down inactive and low-use devices.

5. Everyday Energy Conservation and Electricity Saving Practices

We encourage all members of the Nagoya University community to incorporate the following practices into their daily routine.

○: Institution-level initiatives (mainly undertaken by the University)
☆: Organization-level initiatives (mainly undertaken by departments/schools)
◇: Individual-level initiatives (mainly undertaken by students, faculty, and staff)

(1) General

- Ensure that all members are fully aware that the University is in a priority period for energy conservation and electricity saving activities. ＜○☆＞
- Conduct energy-saving patrols within each department and school/graduate school. ＜☆＞
- Design timetables so that air-conditioned classrooms can be used continuously. ＜☆＞
- Turn off and unplug unused laboratory equipment and IT devices. ＜☆◇＞
- Turn off heated toilet seats in summer (June–October) and set them to appropriate temperatures in winter. ＜○☆＞
- Turn off power to unused PCs and other equipment during long vacations. ＜○☆＞

(2) Lighting

- Make sure that lights are turned off when the room is unoccupied or when you leave for the day. ＜☆◇＞
- Reduce the number of lights in use by switching on only some fixtures. (Energy-saving effect: approx. 40 W per fluorescent lamp.) ＜☆◇＞
- During daylight hours, adjust the blinds to reduce the number of lights needed. ＜☆◇＞
- Clean lamps and lighting fixtures. ＜☆◇＞
- Turn off lights after classes and meetings. (Turning off classroom lights for 45 minutes can reduce lighting electricity use by about 6%.) ＜☆◇＞

(3) Electrical Appliances

- Consolidate freezers, electric kettles, and refrigerators to reduce the number of units in use. ＜☆◇＞
- When appliances will not be used for long periods (e.g. overnight), turn off the main power supply. ＜☆◇＞
- Ensure that power strips with switches are installed and used. ＜☆◇＞
- Configure PC energy-saving settings (sleep mode, hibernation, etc.). ＜☆◇＞
  - Turn off and unplug laptops at night and on holidays to prevent battery-related fire risks.
- If you will not use your PC for a short time, turn off the display. ＜◇＞
- If you will not use your PC for a long time (e.g., if you leave your desk for two hours or more), shut it down. (Turning off the PC and monitor can save about 20 W.) ＜◇＞
- Organize the refrigerator and set it to an appropriate temperature. ＜☆◇＞
- Supply power to electric kettles only when in use. ＜☆◇＞

(4) Air Conditioning and Ventilation

- Try not to rely solely on air conditioning; open windows where appropriate. ＜☆◇＞
- Fully implement Cool Biz in summer and Warm Biz in winter along with proper temperature management. (Raising the A/C temperature by 1°C can reduce air conditioning energy use by about 10%.) ＜☆◇＞

  *Raising the A/C temperature by 1°C contributes to a 0.8% reduction in summer electricity use (Higashiyama Campus).

• Review temperature settings for server rooms. ＜☆◇＞
• In summer, adjust blinds and shades appropriately to block direct sunlight and reduce heat gain. ＜☆◇＞
• Manage indoor temperature using thermometer readings, etc. rather than relying on air-conditioning temperature settings. ＜☆◇＞
• When leaving a room for an extended period, turn off the air conditioner. ＜☆◇＞
• Do not leave doors or windows open unnecessarily while using air conditioning. ＜☆◇＞
• Turn off the air conditioning after classes and meetings. ＜☆◇＞
• Use fans as circulators to improve air flow. ＜☆◇＞
• When operating air conditioning, set the total heat exchanger to “Energy Recovery” mode or “Auto” mode. ＜☆◇＞
• Avoid using electric heaters (they are energy-inefficient). ＜◇＞

(5) Other

• Avoid conducting high-power experiments during peak demand hours (13:00–16:00). ＜☆◇＞
• Keep fume hood sashes closed or only slightly opened when the area is unoccupied. ＜☆◇＞
• If the fume hood can be powered off, turn it off after experiments. ＜☆◇＞
• Do not store chemicals (e.g. reagents after use) in fume hoods. ＜☆◇＞

6. Facility Development and Management Initiatives

(1) Continue to promote energy-saving solutions in collaboration with departments and schools/graduate schools

Central Administration will support departments and schools/graduate schools by providing advice on energy-saving measures, conducting measurements and data analysis, and helping draft renewal plans, thereby encouraging departments and schools/graduate schools to proactively implement energy-saving initiatives.
*Energy conservation suggestion box:
https://web-honbu.jimu.nagoya-u.ac.jp/fmd/05naibu/05information/shouene/index.html

(2) Upgrade air conditioning and lighting systems

To achieve reliable and rapid reductions in energy consumption, air conditioning and lighting systems will be systematically upgraded on a schedule.
(FY2026: Planned upgrades to the air-conditioning systems in the School of Science Building and the IB Electronics and Information Building (South Wing).)

(3) Strengthen energy performance in building projects

When constructing new buildings, expanding or renovating existing buildings, or undertaking large-scale refurbishments, the University will prioritize ZEB (Net Zero Energy Building) standards and proactively integrate solar power systems.
(FY2026: Planned renovation of the Togo Research Building, construction of the LYKEION Research Building (tentative name), and refurbishment of the Advanced Technology Joint Research Facility.)

(4) Promote the deployment of solar power generation systems on campus

Photovoltaic systems will be installed in new and renovated buildings, and technical studies will be conducted continuously in preparation for large-scale deployment in the future.

7. Follow-up

These guidelines will be reviewed and updated by Campus Management in response to changes in the University's energy conservation progress and broader social conditions, and any additions, revisions, and decisions will be communicated to students, faculty, and staff. At the conclusion of this activities, the results of these initiatives will be reviewed and published.

【参考】これまでの主な省エネアクト重点項目

参考

省エネアクト for ゼロカーボンキャンパス NU2025 の取り組み実績

1. 全学の取り組み

（1）省エネマインドの醸成

・令和 5 年度に決定した省エネアイデアコンテストのキャッチコピーを継続し、夏期及び冬期に省エネ啓発ポスターを英語版含めて作成した。

・空調リモコン用ステッカーを作成し、収容人数が多い講義室等に掲示した。

・X（旧 Twitter）、Facebook、学内のデジタルサイネージを活用し、本学の省エネ活動の取組みを広く周知した。

・GW 及び年末年始等の連休期間中において、省エネ対策と休暇中の安全確保について構成員によびかけた。

省エネポスター 2025 年 夏・冬

節電ポスター

空調リモコン用
ステッカー

（2）講義室の調査

・法・経本館共用館及び IB 電子情報館における定員 150 人以上の講義室 11 室を対象に、講義中の使用状況を確認した。

調査期間:令和 7 年 7 月 1 日(火)〜7 日(月）の平日(冷房時)

確認項目:使用人数、空調機 ON/OFF、空調設定温度、換気扇(全熱交換器) ON/OFF、全熱交換器の運転モード、扉の開閉、照明の点灯状況

＜調査結果＞

空調設定温度を 27℃以上としている部屋は全体の約 2 割であり、残り約 8 割は室内温度の目安 27℃に対し、低い温度で運用していた。BAD

授業を行っていた多くの部屋では換気設備を運転し、適切な換気量を確保していたが、一部の部屋では換気をしていない部屋もあった。BAD

冷房は、全体の約 8 割で扉を閉めて行っていたが、約 2 割は扉を開けていた。BAD

全熱交換器の運転モードに関し、「自動モード」もしくは「全熱交換モード」の選択状況は、約 4 割が適切なモード選択で運用していた。GOOD

照明は、受講者が少ない講義時、学生の自習時に必要箇所のみを点灯させており、節電の意識が感じられた。GOOD

本調査結果を踏まえ、引き続き啓発活動を行う。

参考

（3）空調改修

・理学館の空調設備 23 系統を更新した。空調エネルギーの約 5%（54 MJ/年）削減を見込んでいる。

（4）建物改修による ZEB 化

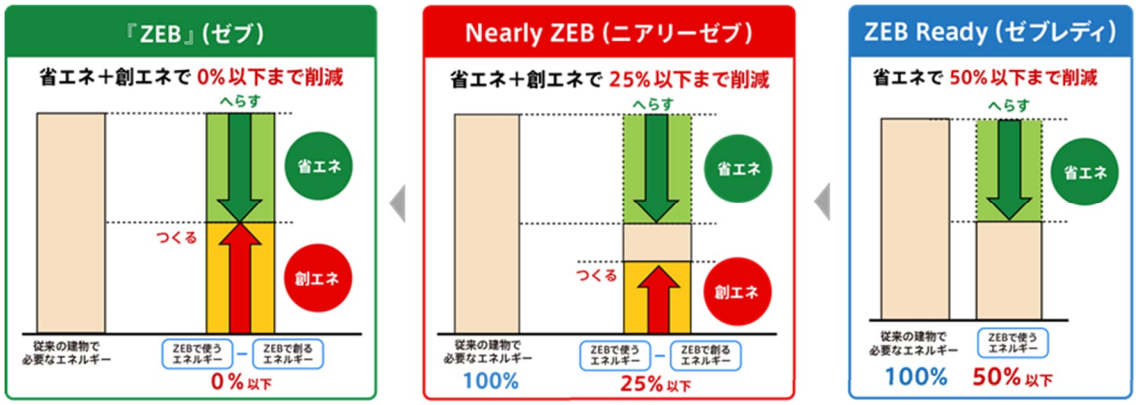
・大規模改修計画にあたり、学内建物の ZEB 化を図っている。

・工学部 8 号館北棟、工学部 9 号館では Nearly ZEB、LYKEION 研究棟(仮称)の設計では、ZEB Ready を達成している。

工学部 8 号館北棟

工学部 9 号館

LYKEION 研究棟(仮称)



出典）環境省：https://www.env.go.jp/earth/detail/01.html

ZEB の定義（参考）

参考

2. 部局の取り組み(NU2025 グッド・プラクティス)

「省エネアクト for ゼロカーボンキャンパス NU2025」のもとに、各部局で取り組まれた省エネ・節電活動のうち、他部局でも参考になる好事例や部局特有の問題の解決に向けて積極的に取り組まれた内容を、**グッド・プラクティス**として紹介します。

理学部の取り組み

●省エネ改修

・修繕時には、部局予算により LED 照明化を行った。

農学部の取り組み

●実験装置廃棄及び更新による使用電気料金削減

・研究室毎に実験機器等の更新を行い、消費電力削減に努めた。

研究所地区の取り組み

●換気抑制

・常時換気を見直し、換気設備の運転を適正化した。

●DK コネクトによる空調利用の省エネ化検討

・フィールドテストの一環で、C-TECs でダイキン工業㈱の協力のもと遠隔自動省エネ制御機能(DK コネクト)による消費電力削減効果の検証試験を開始した。

情報学部の取り組み

●節電意識の醸成・周知

・早期退勤、リフレッシュ休暇・年末年始の休暇取得やテレワークの実施を促して、節電に努めた。

・省エネ啓発ポスターをエレベータ内・各階乗降口、講義室・セミナー室に掲示した。また、講義室の空調操作パネルに省エネ啓発ラミネートを貼り適正な温度管理を呼びかけるとともに、警備員による施錠時に適正温度設定に戻した。

文系地区の取り組み

●ピークシフト

・電力ピーク時間帯に自習室の使用を控えるよう掲示を行い、ピークシフトに努めた。

参考

名古屋大学の省エネ・節電の取組み実績

項目	内容	摘要	備考
1	「省エネアクト」制定	通知日：R7.4.1 期　間：R7.4.1～R8.3.31	全学
2	「連休期間中等の節電行動」の実行	通知日：R7.4.21 期　間：R7.4.29～R7.5.6	全学
3	夏期における節電チャレンジ 省エネ啓発ポスターの掲示	通知日：R7.6.9 期　間：R7.6.19～R7.9.30	全学
4	NU Portalを活用した省エネに関する総長からのよびかけ	NU Portalランディングお知らせに総長パネル 掲示期間(夏期)：R7.6.16～R7.9.30 掲示期間(冬期)：R8.1.22～R8.2.28	全学
5	講義室使用状況調査（夏期・冬期）	150人以上収容可能な講義室の空調機、換気設備、照明の使用状況を調査 夏期：R7.7.1～R7.7.7 冬期：R8.1.19～R8.1.23	IB電子情報館、法・経本館共用館
6	デマンド抑制に対する緊急省エネ・節電に関するメール通知	発出日：R7.7.4、7.22、7.24、7.29、7.30、7.31、8.4、8.5、8.6	全学
7	「夏期連休期間中等の節電行動」の実行	通知日：R7.8.7 期　間：R7.8.9～R7.8.17	全学
8	冬期における節電チャレンジ 省エネ啓発ポスターの掲示	通知日：R7.11.28 期　間：R7.12.1～R8.2.28	全学
9	「冬期連休期間中等の節電行動」の実行	通知日：R7.12.22 期　間：R7.12.27～R8.1.4	全学
10	生協省エネコラボの実施	１）カイロ配りの乱 配布日：R8.1.19、1.20 ２）あったか料理大作戦 提供日：R8.1.19～R8.1.30	生協各店舗
電気01	本部3号館照明の間引き(廊下、階段、会議室1･2、電話交換機室)		本部
電気02	照明のLEDへの更新	毎年実施	本部
空調01	空調リモコンにステッカー貼付	室温27°C目安（夏期）	講義室等
空調02	空調リモコンにステッカー貼付	室温20°C目安（冬期）	講義室等
空調03	講義室空調時の扉開放とりやめ	全熱交換器の風量測定し、コロナ対策の扉窓開放したままの空調を抑制	全学
空調04	空調機の高効率機種への更新	毎年実施	本部
衛生01	トイレ暖房便座Off	暖房便座・温水Off	全学
衛生02	1、6号井戸のピーク時停止	電力ピーク時に井戸ポンプ停止	本部

参考

【電力使用量の推移】

＜東山＞　　括弧書きは前年度比

年度	2020	2021	2022	2023	2024	2025
電力使用量 [千 kWh]	82,820	86,064 （+3.9%）	80,849 (-6.1%)	81,890 (+1.3%)	84,305 (+3.0%)	

＜鶴舞＞

年度	2020	2021	2022	2023	2024	2025
電力使用量 [千 kWh]	47,303	45,639 (-3.5%)	44,391 (-2.7%)	44,129 (-0.6%)	44,695 (+1.3%)	

＜大幸＞

年度	2020	2021	2022	2023	2024	2025
電力使用量 [千 kWh]	1,784	1,799 (+0.8%)	1,710 (-0.5%)	1,748 (+2.2%)	1,761 (+0.7%)	

【ピーク電力発生日、時間帯、ピーク電力】

＜東山＞

年度	2020	2021	2022	2023	2024	2025
発生日時	8/20 (木) 13:30~14:00	8/5 (木) 14:00~14:30	7/1 (金) 14:00~15:00	7/27 (木) 14:00~15:00	7/23 (火) 14:00~14:30	7/7 (月) 14:00~15:00
ピーク電力[kW]	17,164	17,556	17,472	17,388	17,612	18,088

＜鶴舞＞

年度	2020	2021	2022	2023	2024	2025
発生日時	8/21 (金) 11:00~11:30	8/5 (木) 11:00~11:30	6/29 (水) 14:00~14:30	7/26 (水) 16:00~17:00	8/5 (月) 11:00~11:30	8/19 (火) 16:00~17:00
ピーク電力[kW]	8,909	8,819	8,475	8,348	8,293	8,710

＜大幸＞

年度	2020	2021	2022	2023	2024	2025
発生日時	8/21 (金) 14:30~15:00	7/28 (水) 12:30~13:00	6/29 (水) 13:00~13:30	6/29 (木) 13:00~14:00	7/31 (水) 13:00~13:30	7/28 (月) 14:00~15:00
ピーク電力[kW]	367	484	474	462	468	450

※最新の名古屋大学エネルギー使用量については、WEB ページをご覧ください。
https://web-honbu.jimu.nagoya-u.ac.jp/fmd/03energy/energy/index.html