Rough Outline Energy Transition WUR 2050 - Update 2024

This document provides an update of the Rough Outline Energy Transition 2050 in which the following topics are discussed:

- Context with the changes around us
- Monitoring the progress of the set ambitions
- Update of the legal framework (now and in the future)
- Distinction between WUR's ambition and the legal baseline
- Update package of measures c.q. implementation agenda with some highlighted examples

This update should be read as a supplement to the original document.

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1. Context with the changes around us

When drawing up the Rough Outline Energy Transition in 2021, it was agreed to update the document every two years based on developments around us and the progress of our own ambitions.

A lot has happened in the past two years.

For example, among other things because of the war in Ukraine, the global energy market has become more uncertain. For example, the price of gas is still more than twice above the level of 2021 and the security of supply is more uncertain.

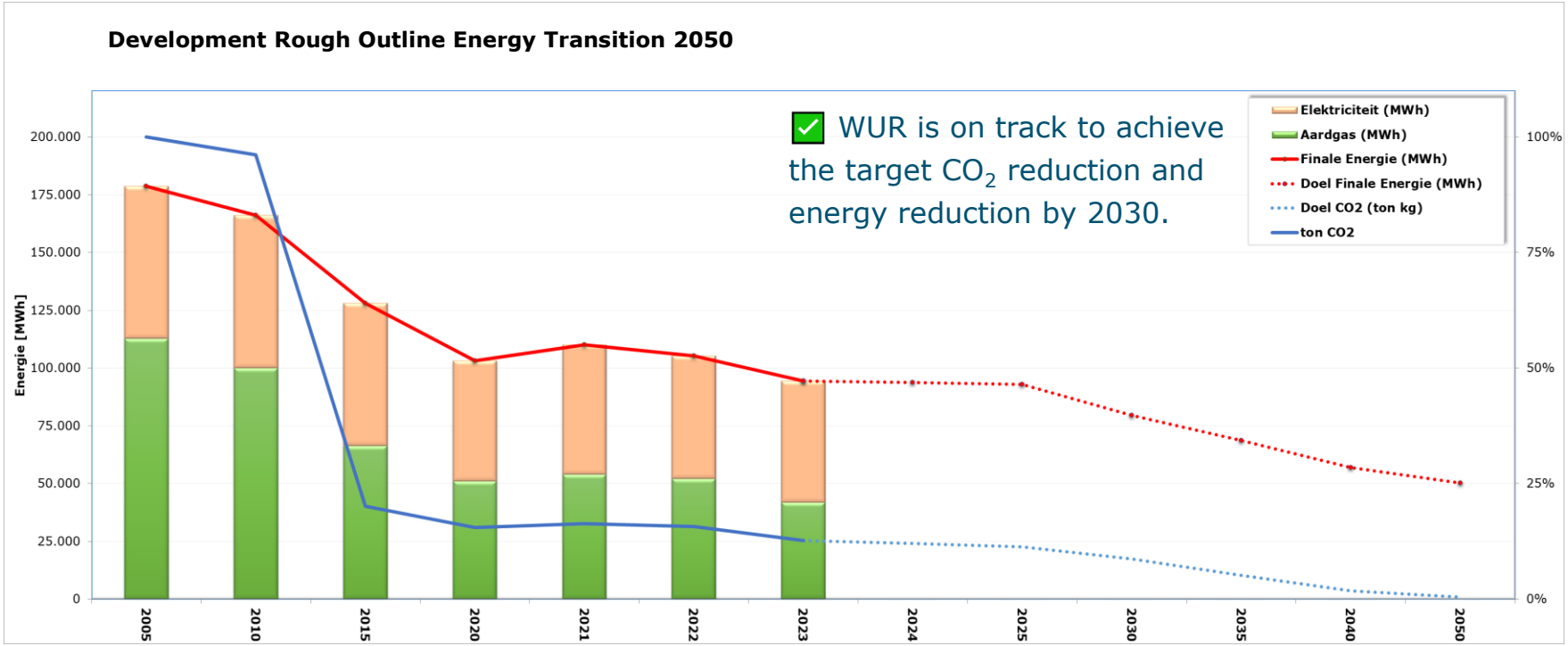
In addition, European and national legislation and regulations in the field of energy are continuously tightened, with many announced policies and pledges being implemented in legislation in the coming years.

Moreover, grid congestion is a national problem since the end of 2022.The capacity shortage on the electricity grid also requires WUR to take measures in the coming years. Among other things, to be able to realize sustainable ambitions.

Finally, the weakening of Dutch climate policy in the recently concluded coalition agreement creates uncertainty. Primarily regarding the stability of climate policy by the Dutch government and secondarily with its consequences for WUR. Furthermore, this coalition agreement is also likely to have negative financial consequences for education and research, with a possible impact on the feasibility of the ambitions within the set timeframe.

All these developments affect the package of measures adopted in 2021.

2. Monitoring the progress of the set ambitions



Please note: For legibility, the horizontal axis has two different scales (5 and 1 year).

2. Monitoring voortgang van de gestelde ambities

	Reductions and targets in % reduction compared to 2005		Renewable energy*
Year	Final Energy (MWh)	Greenhouse gases (ton CO_2)	MWh
2020	42%	84%	1.950
2021	38%	84%	3.340
2022	41%	84%	4.560
2023	47%	87%	4.450
2025	**48%**	**89%****	**5.000**
2030	**55%**	**91%**	**6.000**
2050	**72%**	**100%**	**10.000**

✅ WUR is on track to achieve the target CO_2 reduction and energy reduction by 2030.
⏩ The stated ambition for renewable energy seems more difficult to achieve.

Realisation 2020 to 2023
Targets 2025 and 2030 are in bold.

* Solar on roofs, above parking lots, solar parks and windmills behind the meter.
** Within reach due to the ATES-loop.

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3. Update of the legal framework

The first version of the Rough Outline Energy Transition WUR 2050 outlines a package of measures that should lead to the realisation of the ambition. An update of this package of measures is given on the next slide. Three colors can be distinguished:

- Green: in progress, finalized and/or implemented

- Orange: planned

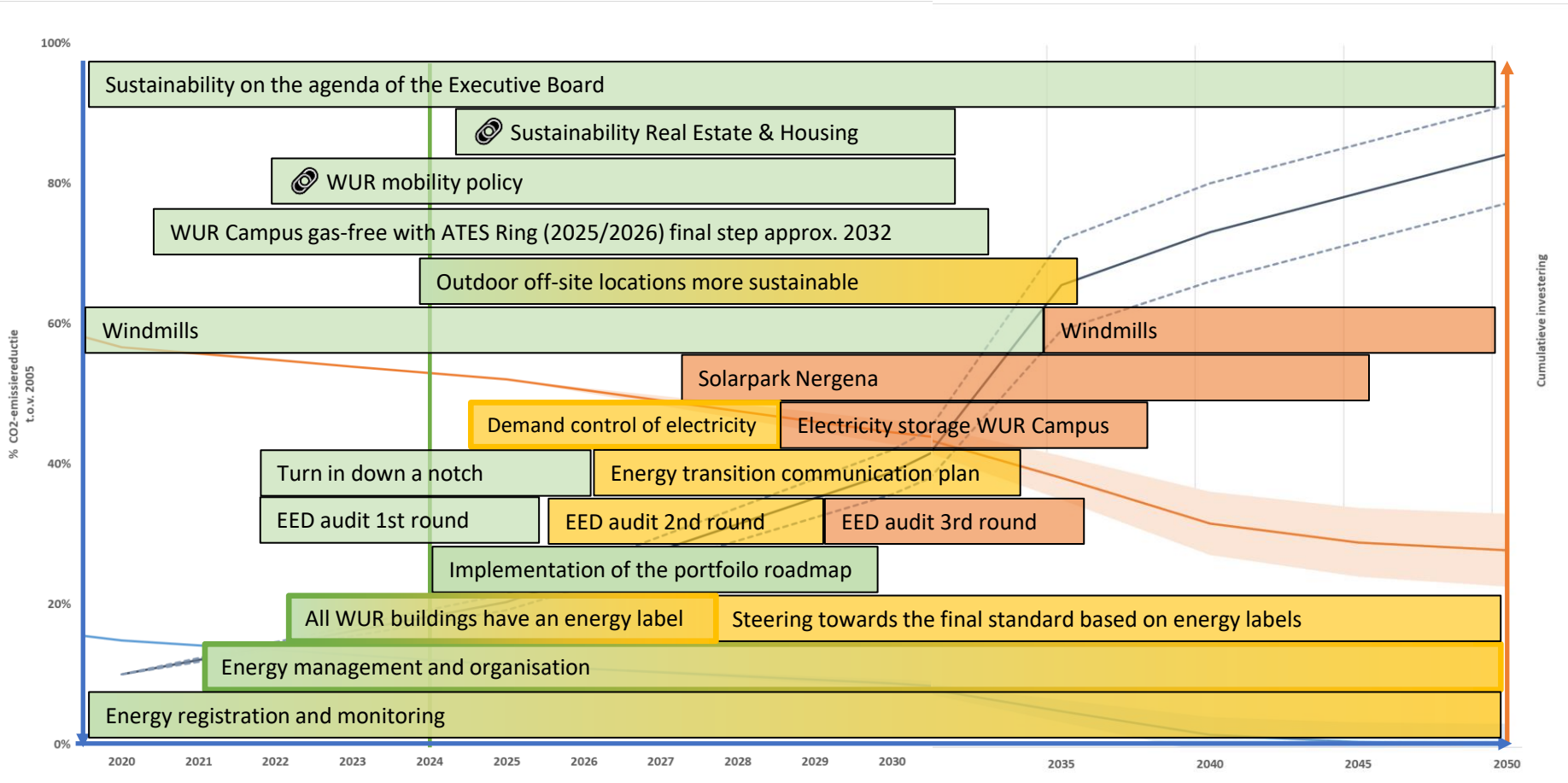
- Red: not yet started

In a few cases, green turns into orange. In those cases, an existing measure is extended or provided with an extra impulse.

The slides following the package of measures explain in more detail those measures which are marked with a colored frame around it.

One 🖇 is a measure that is not part of the Rough Outline but does have a connection with the energy transition and consequently contributes to reducing WUR's energy consumption.

3. Update package of measures



Demand control of electricity and electricity storage

As a result of the national grid congestion, until 2032 also Wageningen has a capacity shortage on the electricity grid. WUR and strategic partners are also affected by this. For example, it hinders in the short term the sustainability and development ambitions on and around Wageningen Campus.

In 2024, work will be done on several scenarios with measures to limit the impact of grid congestion on the ambitions and plans of Wageningen Campus. These scenarios are worked out along three lines.

- On an organizational/legal level to cooperate with third parties in the field of electricity supply.
- On a technical level, the metering is adjusted, and energy management is implemented to be able to control electricity consumption in times of shortage.
- On a technical level, to be able to temporarily store electricity in, for example, a battery.

To have enough energy to heat the buildings on campus during cold hours, a few gas boilers are maintained that can help in case of emergency.

Demand control of electricity and electricity storage

The national grid congestion also affects WUR's sustainability ambitions and other developments. The table below shows the impact of the measures on WUR's sustainability ambitions.

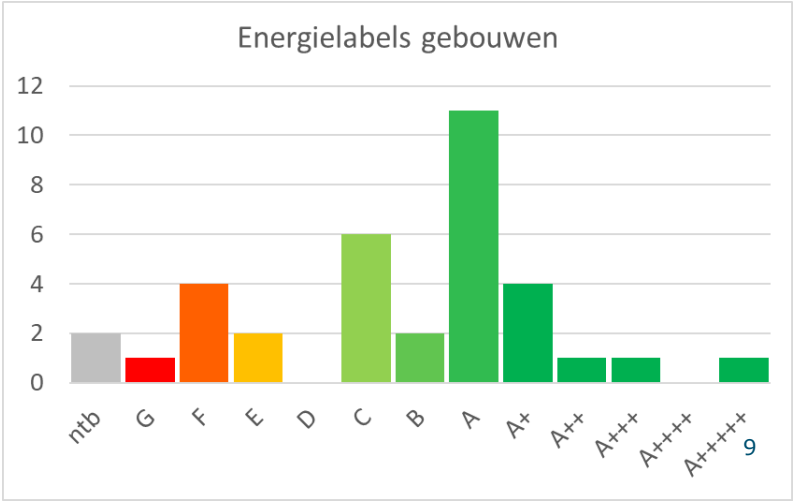
Measure	Impact on sustainbility	Explanation
Maintaining gas boilers as an emergency supply	**Negative**	During very cold days, too much electrical capacity is needed to heat the buildings with heat pumps. By using the gas boilers on those days, the buildings can be heated.
Control of electricity demand	**Positive**	Controlling electricity demand at times of shortage have energy savings as side effect. Peak consumption will be shifted to off-peak hours, leaving more room for WUR developments. During off-peak hours, the share of renewable energy is often higher, especially during the day.

All WUR buildings have an energy label

At present, all WUR office and education buildings subject to a label have an energy label.

In order to be prepared for the legislation with the introduction of the final standard from 2030, WUR buildings will be provided with an energy label at a logical time in the coming years up to and including 2026 (mandatory energy label for public buildings), for example after a renovation.

This gives WUR the opportunity to make strategic choices based on the energy label when buildings are adapted. In addition, an energy label focuses on the energy performance of the building and thus on the building-related energy consumption. This means that the energy label is limited to the technical installations and the building envelope, and the primary process is not affected.



Distribution of WUR buildings based on energy label in 2022

Impulse energy management and organization

WUR has had an energy management system since 2012. This was an obligation for participation in the MJA3. In 2021, the EED Energy Audit included an organisational structure for Energy Management. The structure is also included in the first version of the Rough Outline (2021) and in the portfolio roadmap (2023).

The energy organization develops, implements and excutes energy policies. The aim of the energy organization is to work on saving user-related, building-related and process-related energy. The design is such that both bottom-up and top-down initiatives are possible. The energy organization has the following key roles in the implementation:

Decentralised E-team:

- Collaborating in the implementation of central policy
- Shares information about current projects, initiatives and plans.

Central E-team

- Initiating policy and tackling common central themes
- Exchanging knowledge and experience and ensuring the coherence of plans

Director operations:

- Guiding policy on energy and CO_2 reduction.

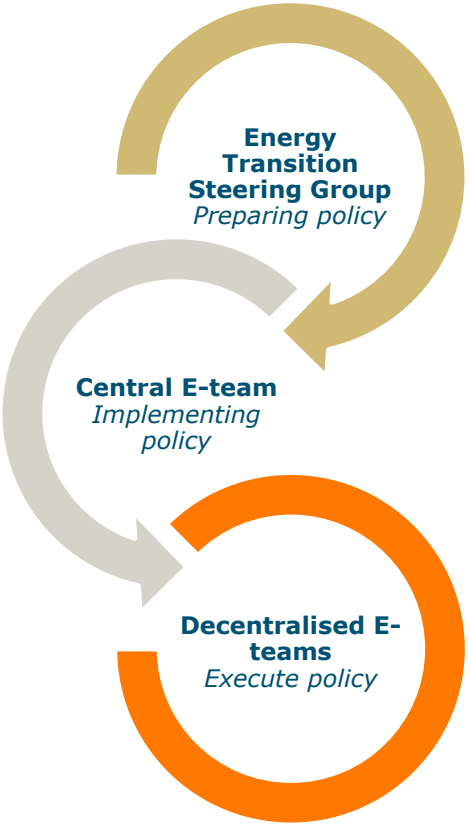
Energy coordinator:

- Represents central policy and ensures that it is translated to the science groups
- Offers insight into energy consumption and can additionally advise on issues that arise.

Impulse energy management and organisation

In addition to the recommendations from the EED, three measures are being taken to improve the quality of the energy organisation:

- Through the central E-team and in collaboration with the organizational units of WUR, give an impulse to the implementation of the energy organization.
- To address and support the decentralised e-teams of the organisational units in with their three main tasks:
    1. Systematic energy management in a PDCA cycle (analysis of energy consumption and associated actions or measures per building)
    2. Coordination of the implementation of the mandatory energy-saving measures (EML) and feedback on progress.
    3. Progress on other projects related to the energy transition, such as progress on the WUR ambitions, energy saving plans and impact on grid congestion.
- Twice a year, the decentralised e-team and the director operations discuss the progress of the three main tasks mentioned above together with the head of V&H and the energy coordinator.



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