Appendix 1
Circular 1/2021

General provisions for drawing up draft budgets

The climate effect of the entity's draft budget 2021, economic plan 2021-2024

Oslo has adopted ambitious climate targets leading up to 2030 to ensure a climate-robust zero-emissions city. Moving towards 2030, the municipality shall work to reduce direct GHG emissions by 45% in 2021 and 52% in 2023, compared with levels in 2009. Achieving these targets requires the municipality to implement measures to reduce emissions from existing and potential future emissions sources. Finding effective measures within the areas of road transport and fossil-fuel vehicles, building and construction, and waste management is particularly important. Achieving the targets also requires the municipality to be aware of what makes the city 'climate vulnerable' and to initiate measures to reduce this vulnerability. It is especially important to take the consequences of climate change into account in connection with changes in land use as well as buildings and infrastructure. When new investments are made, it is important to assess the life time of the investment and its effect on surrounding areas. Keeping Oslo up and running in a way that takes account of the changed climate is important to strengthen the city's climate robustness. Preventing damage as a result of extreme weather makes better sense for the municipality financially than paying for repairs and rebuilding.

In their draft budget, all entities must

1. provide a general assessment of the effect the draft budget will have on GHG emissions in Oslo and the city's ability to cope with future climate change (if relevant). If the draft budget changes the city's or the entity's climate robustness, the need for mitigation measures must be assessed.
2. describe new climate measures that (1) are planned to be implemented within the existing budget framework or (2) are being put forward as additional proposals in the economic plan period 2021-2024. Additional proposals and proposals for new climate measures are to be assessed in accordance with the attached "Template for additional proposal with climate effect – budget 2021 (operations)" or "Template for additional proposal with climate effect – budget 2021 (investment)".
3. account for any changes in measures from the Climate budget 2020 that will be continued in 2021. Please refer to the attached guidance memorandum for help with completing 1) and 2). In addition, the Agency for Climate may be contacted for assistance with climate assessments and to determine whether the entity should assess the climate consequences of its draft budget as a whole.

Please refer to the attached guidance memorandum for help with completing 1) and 2). In addition, the Agency for Climate may be contacted for assistance with climate assessments and to determine whether the entity should assess the climate consequences of its draft budget as a whole.

Appendix 2a
Circular 1/2021

Guidelines for assessing the climate effect of budget input and proposed measures in the climate budget

It is not relevant for all municipal entities to provide input for measures in the climate budget or to carry out climate assessments of their budget input. This only applies to entities that contribute to increased and/or reduced GHG emissions in or outside Oslo or that can influence the city's climate robustness.

Entities are encouraged to contact the Agency for Climate for guidance on and help with technical assessments.

1.1 Climate effect of new measures in the climate budget that are being proposed within existing frameworks and as additional proposals (operations and investment)

New activities/measures that are assessed to have the potential to increase or reduce GHG emissions in Oslo, or to influence Oslo's ability to adapt to future climate change, are to be assessed using the attached template for additional proposals. This applies both to measures that will be implemented within the entity's budget framework and any additional proposals (operations and investment).

The table below lists a number of questions that can help in assessing any climate effect the measure may have. Guidance is also provided on which point in the template the guidance covers.

Point	Question	Next step	Guidance
4, 5	Does the measure involve building and excavating activity using construction machinery and heavy vehicles?	If fossil-fuel construction machinery will be used, complete point 4. If zero-emissions solutions will be used, complete point 5.	Construction requires a lot of energy, and, in order to reduce GHG emissions, the City of Oslo must set requirements regarding fossil-free/zero-emissions building and construction. Construction machinery can be anything from building dryers to excavators and cranes. Heavy vehicles used to and from the construction site are also included.
4, 5	Does the measure lead to changes in transport requirements?	If the transport requirement will increase, complete point 4. If the transport requirement will be reduced, complete point 5.	Increased transport will generate increased emissions if it involves passenger cars, vans and heavy vehicles that run on fossil fuels. As a rule of thumb, reducing the transport requirement is therefore positive in a climate context.
4, 5	Does the measure involve fossil-fuel vehicles/machinery/boats being replaced by zero-emissions vehicles/machinery?	If no, complete point 4. If yes, complete point 5.	Oslo has set a target for the municipality's vehicles and machinery to use zero-emissions technology, or use sustainable fuel in the absence of good zero-emissions solutions. This must be taken into account when buying or leasing vehicles and equipment, and when buying transport services.

4, 5	Does the measure reduce use of fossil energy products (heating oil, paraffin or natural gas) for buildings or heating?	If consumption will be reduced, complete point 5.	Some heating oil and paraffin is still being used although the national ban on oil-fired heating came into force in 2020. Some natural gas is also used in buildings. Measures that reduce energy use or switch from fossil fuels will be positive for GHG emissions in Oslo.
4, 5	Will the measure affect other emissions sources in Oslo?	If the emissions will increase, complete point 4. If the emissions will be reduced, complete point 5.	Measures linked e.g. to how waste or wastewater is managed or how district heating is produced could also affect emissions. If measures are to be implemented in these sectors, the entity is asked to contact the Agency for Climate to assess the consequences.
4, 5	Does the measure involve a transition from concrete, cement or similar materials with high indirect emissions to using more climate-friendly materials?	If concrete or cement will be used, complete point 4. If recovered materials, solid wood or other alternative, more climate-friendly building materials will be used, complete point 5.	Use of solid wood, recovered materials (reuse and/or recycling) etc. may generate lower emissions from production than more traditional building materials such as concrete and cement.
4, 5	Does the measure involve reduced consumption, or increased reuse and repair of the entity's equipment?	If alternative solutions to increased consumption will be used, complete point 5.	Reduced consumption and increased reuse/reutilisation reduce the entity's indirect emissions. This may also be financially beneficial if the alternative is high costs for new equipment.
4, 5	Does the measure involve reduced food waste or reduced meat consumption?	If the measure will contribute to increased food waste*/meat consumption, complete point 4. If the measure will contribute to reduced food waste, complete point 5.	Food production generates GHG emissions. By throwing out less food/using more of the food, we can produce less food and thus reduce emissions. Reduced food waste therefore helps to reduce the entity's indirect emissions. Less food waste can also be finally beneficial for the entity as it means lower purchasing costs.
6	Will the measure lead to changes in land use?	If the measure will lead to reduction of nature or park areas, complete points 4 and 6. If the measure will lead to more nature or park areas, complete points 5 and 6.	Changes in land use can result in both capture and emissions of GHGs. Vegetation and soil are important carbon stores. As a rule of thumb, changes that lead to less vegetation and soil will lead to GHG emissions, while measures that increase the quantity of vegetation or soil will lead to increased CO_2 capture. Changes in land use also have consequences for Oslo's robustness to climate change, which is why it is important to preserve green areas in the city.
6	Will the measure affect Oslo's ability to mitigate climate change?	If yes, complete point 6.	Questions that can be asked to assess this are whether infrastructure or production of services will be affected by or will affect the ability to deal with the consequences of climate change. This means the ability to deal with:

			- Extreme precipitation/surface water/rivers flooding (reduction of green areas, building in zones requiring special consideration, opening gullies, surface water measures) - Storm surge (building adjacent to the fjord) - Heatwaves (change of green structure, wind conditions, temperature regulation in buildings) - Landslides

If it is assessed that the measure has both positive and negative effects for the climate, points 4 and 5 of the template must both be completed. An example of this would be a measure that leads to reduction of nature areas but also a reduction in transport requirements.
Measures included in the climate budget must have a result indicator with associated target figure; it is an advantage if a possible result indicator(s) is (are) proposed in point 5-2.

The Norwegian Environment Agency has produced a tool (in Norwegian) that can be used to estimate the emissions effect in point 5-2:
https://www.miljodirektoratet.no/tjenester/klimagassutslipp-kommuner/gjennomfore-klimatiltak/

1.2 General assessment of the draft budget's climate effect

This should be a general assessment of how, based on the draft budget for 2022, the entity's activity will affect GHG emissions within the municipal boundary and the city's vulnerability to climate change. In line with the adopted Climate Strategy for Oslo (proposition 109/20), it may be relevant for some entities to provide a short discussion of measures to reduce the entity's consumption-based emissions (emissions outside the municipal boundary). See below for a few examples of general assessments of an entity's draft budget.

Example of general climate assessment of budget:
X-agency's draft budget for the economic plan period involves extensive building and excavating activity. X-agency requires fossil-free fuel in all construction contracts and in heavy vehicle transport to and from building sites, and uses allocation criteria to reward zero-emissions solutions, cf. the City Government proposition on standard climate and environmental requirements for the municipality's building and construction sites (City Government proposition 1091/19).

Any additional costs associated with this have been taken into account in the cost frameworks submitted. There may however be x contracts where the fossil-free requirement is not met because xx. This may lead to increased emissions in Oslo.

X-agency requires zero-emissions transport when purchasing goods and services, and the additional cost of this is estimated at xx. However, zero-emissions requirements are not appropriate for some purchases, because xx. This may lead to increased emissions in Oslo. In 2021, the agency will have replaced all fossil-fuel vehicles with zero-emissions vehicles. Some construction machinery still needs to be switched to zero-emissions/sustainable biofuel, and

work is under way to have this in place early in 2022. This will lead to reduced emissions in Oslo.

X-agency's draft budget involves reducing green areas, something that could have negative consequences for managing surface water in an area that has experienced flood damage. Blue–green factor requirements have been included in the building projects, and any additional costs associated with the choice of surface water solutions have been taken into account in the cost frameworks submitted.

X-agency is following the Climate Strategy (proposition 109/20) by introducing measures to reduce energy use, seeking building materials with low GHG emissions and increased reuse of building materials, and prioritising rehabilitation of existing buildings over new building where this is practical and beneficial from a climate perspective.

X-agency's draft budget will contribute to making it as easy as possible for employees to 'travel green' to and from work, by means of physical workplace amenities such as cloakrooms, cycle parking, repair and charging facilities, as well as non-physical measures such as participating in competitions or training in work time (cycling/walking/running to and from work, which is registered as work time). Moreover, it seems that homeworking and reduced work travel because of the coronavirus pandemic have contributed to a reduced air travel requirement for the entity's employees, including after the pandemic.

X-agency is following the Climate Strategy (proposition 109/20) by introducing measures to reduce food waste and meat consumption in its own operations. This is being done by training catering staff in date stamping, how to use more of the edible food and preparing vegetarian dishes, and planning weekly menus to include meals based on leftovers.

1.3 Example

ADDITIONAL PROPOSAL WITH CLIMATE EFFECT – BUDGET 2020 (INVESTMENT)

Name of measure and project number, if relevant	Responsible entity
Purchase of three electric vans to replace three existing vans with internal combustion engines	Agency for Climate

1. **Check the relevant type of additional proposal and complete the relevant information:**
   ☒ Additional proposal ☐ Measure with climate effect within adopted cost framework

2. **Enter financial information relating to the measure:**

Financial effect in the economic plan period in MNOK (incl. VAT)				
	New requirements 2022	New requirements 2023	New requirements 2024	New requirements 2025
P50	MNOK 0.9	*<MNOK xx>*	*<MNOK xx>*	*<MNOK xx>*

Is all or part of the amount VAT-exempt? (e.g. purchase of electric cars) ☒ Yes ☐ No

Sales of electric cars are exempt from calculation of value-added tax

For existing measures:

How much is currently being spent on existing measures?
Not relevant

3. Short description of the measure

The aim of the project/measure: what do we want to achieve and which adopted target/political resolution will it help to achieve?
In line with the measure "Zero emissions/sustainable biofuel in the municipality's light vehicle fleet" in the Climate Budget 2021, the Agency for Climate wishes to replace its three diesel vans. If this investment is made, all the Agency for Climate's vehicles will then be zero-emissions. The Agency for Climate has conducted a detailed survey of current zero-emissions alternatives and concluded that the Nissan E-NV200 Comfort Plus 40 kWh electric van, which is included in the City of Oslo's joint purchase agreement for purchase of vans and passenger cars, would be the most reasonable option to simultaneously meet all the Agency for Climate's requirements in terms of range, carrying capacity and reliability. The van in question is approximately NOK 80,000 more expensive to buy than the fossil-fuel alternative, the Nissan NV200 van. The total additional cost, for three vans, is 3 x NOK 80,000 = NOK 240,000. However, a total saving of NOK 225,000 (including the investment) is expected for the three electric vehicles over four years, compared with buying the fossil-fuel alternative. This reflects expectations of lower loss in value, reduced fuel costs, reduced maintenance costs, and reduced charges/exemption from tolls and parking charges.

ASSESSMENT OF CLIMATE EFFECT

Entities are encouraged to contact the Agency for Climate for guidance on and help with technical assessments. See attached guidance memorandum.

4. Measures that lead to increased emissions

1) Describe how the measure will increase emissions
The measure will not lead to increased emissions.
2) What remedial measures have been considered and what are the potential costs of these?
The vans are equipped with zero-emissions technology, which is fully covered by the investment cost.

5. Measures that contribute to emissions reductions

1) Which emissions sources will be affected by the measure?
☒ Road transport and vehicles ☐ Boats and harbours ☐ Buildings and heating ☐ Waste management and incineration ☐ Construction machinery and building sites ☐ Other
2) Describe how the measure will reduce emissions
The measure replaces three conventional vans with internal combustion engines currently in operation. The vehicles will be replaced in Q1 2021. We have used the Norwegian Environment Agency's calculation template for passenger cars and vans (see appendix) to estimate the effect of the measure. (All the City of Oslo's municipal vehicles are scheduled to be fossil-free from 2021, but in this example we assume that the existing vans were running on fossil diesel.)
3) What additional effects does the measure have?
Besides reducing GHG emissions by 5,616 tonnes CO_2e, the measure will also contribute to reduced emissions of NOx and PM, as well as reducing noise.

6. Measures that affect Oslo's ability to cope with future climate change

1) Describe how the measure affects Oslo's or the entity's ability to cope with future climate change
No effects of the measure have been identified that will affect Oslo's ability to cope with climate change.
2) What remedial measures have been considered and what are the potential costs of these?
Not relevant.

Appendix 2b
Circular 1/2021

TEMPLATE FOR ADDITIONAL PROPOSAL WITH CLIMATE EFFECT – BUDGET 2022 (OPERATIONS)

Name of measure	Responsible entity
<tekst>	*<tekst>*

1. Check the relevant type of additional proposal and complete the relevant information:

☐ Additional proposal ☐ Measure with climate effect within budget framework

2. Enter financial information relating to the measure:

Financial effect in the economic plan period in MNOK			
New requirements 2022	New requirements 2023	New requirements 2024	New requirements 2025
<MNOK xx>	*<MNOK xx>*	*<MNOK xx>*	*<MNOK xx>*

For existing measures:

How much is spent on existing measures now?
<tekst>

3. Short description of the measure and aim

The aim of the project/measure: what do we want to achieve and which adopted target/political resolution will it help to fulfil? What would be the consequences of not allocating funding for the measure?
<tekst>

ASSESSMENT OF CLIMATE EFFECT

Entities are encouraged to contact the Agency for Climate for guidance on and help with technical assessments. See also attached guidance memorandum.

4. Measures that lead to increased emissions

3) Which emissions sources will be affected by the measure?
☐ Road transport and vehicles ☐ Boats and harbours ☐ Buildings and heating ☐ Waste management and incineration ☐ Construction machinery and building sites ☐ Other
4) Describe how the measure will increase emissions
<e.g. increased fuel consumption, increased transport or construction phase involving use of fossil fuel>
5) What remedial measures have been considered and what are the potential costs of these?
<e.g. remedial measure may be transition to sustainable biofuel>

5. Measures that lead to reduced emissions

4) Which emissions sources will be affected by the measure?
☐ Road transport and vehicles ☐ Boats and harbours ☐ Buildings and heating ☐ Waste management and incineration ☐ Construction machinery and building sites ☐ Other

5) Describe how the measure will reduce emissions
<e.g. reduced fuel consumption or use of fossil-free/zero-emissions solutions in the construction phase>
6) What other effects will the measure have on climate and the environment (air pollution, noise, etc.)?
<tekst>

6. Measures that affect Oslo's ability to cope with future climate change

3) Describe how the measure affects Oslo's ability to cope with future climate change
<e.g. will the measure affect the ability to manage climate challenges such as torrential rain, flooding, landslides, higher temperatures, storm surges, etc.?>
4) What remedial measures have been considered and what are the potential costs of these?
<e.g. measures that facilitate better management of surface water as a result of torrential rain>

Appendix 2c
Circular 1/2021

TEMPLATE FOR ADDITIONAL PROPOSAL WITH CLIMATE EFFECT – BUDGET 2020 (INVESTMENT)

Name of measure and project number, if relevant	Responsible entity
Road upgrade	The Department of Urban Environment

1. **Check the relevant type of additional proposal and complete the relevant information:**
   ☐ Additional proposal ☒ Measure with climate effect within adopted cost framework

2. **Enter financial information relating to the measure:**

Financial effect in the economic plan period in MNOK (incl. VAT)				
	New requirements 2022	New requirements 2023	New requirements 2024	New requirements 2025
P50	MNOK	*<MNOK xx>*	*<MNOK xx>*	*<MNOK xx>*

Is all or part of the amount VAT-exempt? (e.g. purchase of electric cars) ☐ Yes ☐ No

For existing measures:

How much is currently being spent on existing measures?
Not relevant

3. **Short description of the measure**

The aim of the project/measure: what do we want to achieve and which adopted target/political resolution will it help to achieve?
In line with the target to make Oslo climate-robust by 2030, surface water/flood measures are being carried out in connection with road upgrades. These measures will be applied in areas that are frequently affected by damage to infrastructure and buildings from surface water in connection with major precipitation events. The construction will involve reducing green areas. To achieve a remedial effect and preventive effect for surface water in built areas, a vegetated ditch will be built to conduct surface water to neighbouring green areas. The surface water measure will help to reduce damage to built areas downstream from the project area. Surface water is one of the biggest challenges facing Oslo in light of climate change. Episodes of heavy precipitation will increase both in intensity and frequency towards the end of the century.

ASSESSMENT OF CLIMATE EFFECT

Entities are encouraged to contact the Agency for Climate for guidance on and help with technical assessments. See attached guidance memorandum.

4. **Measures that lead to increased emissions**

1) Describe how the measure will increase emissions
The measure will involve increased emissions from construction machinery in the building phase.
2) What remedial measures have been considered and what are the potential costs of these?
Using electric construction machinery.

5. **Measures that contribute to emissions reductions**

1) Which emissions sources will be affected by the measure?

☐ Road transport and vehicles ☐ Boats and harbours ☐ Buildings and heating ☐ Waste management and incineration ☒ Construction machinery and building sites ☐ Other
2) Describe how the measure will reduce emissions Using electric construction machinery
3) What additional effects does the measure have?

6. Measures that affect Oslo's ability to cope with future climate change

1) What remedial measures have been considered and what are the potential costs of these?
The measure is estimated to have an additional cost of XXX in the building phase and XXX for maintenance. The cost/benefit ratio of the expenditure, adjusted for the recurrence interval for large volumes of precipitation, was estimated by using the following cost/benefit tool, which calculated costs saved for damage at XXX for 20 and 50 years' rain. https://www.klimaoslo.no/wp-content/uploads/sites/88/2019/09/Overvannstiltak-langs-vei.pdf