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Facilitating green public investments in Moldova

Implementing the designed Clean Public Transport (CPT) Programme

SUMMARY



Action implemented by:





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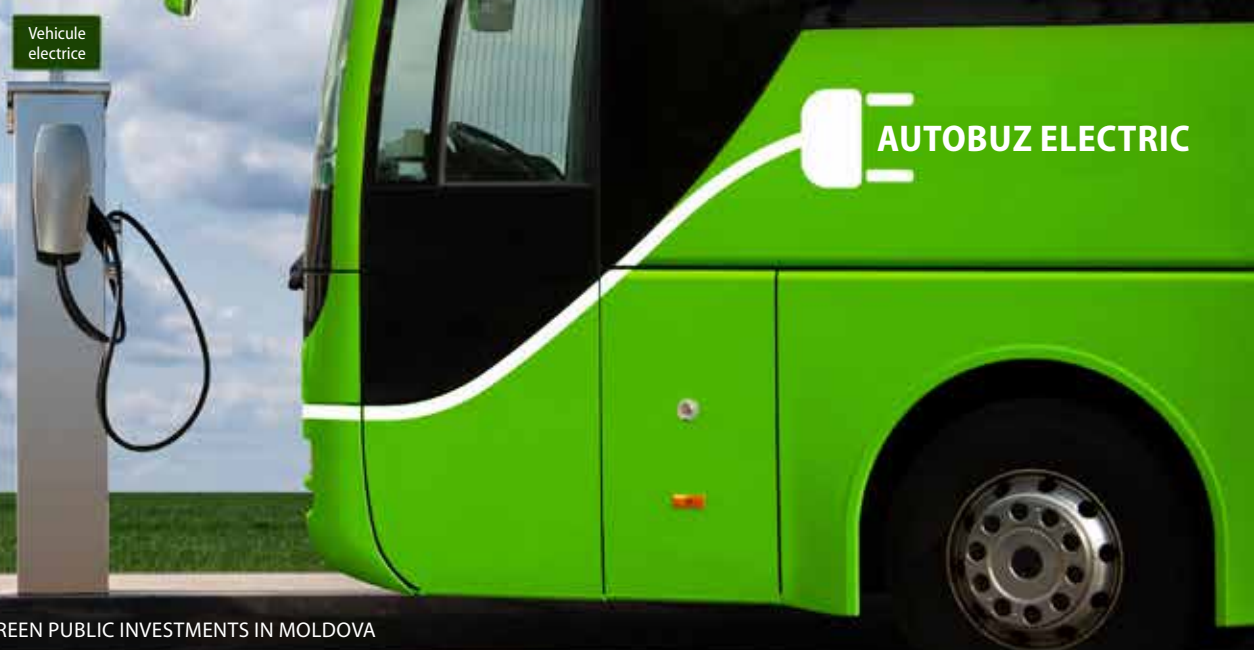
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Programme goals

In the Republic of Moldova (henceforth, Moldova), massive investments and efforts are required to improve the public transport service. Public transport providers, both municipal and private, face significant challenges.¹

The main issues involve:

1. improving traffic management
2. renewing the outdated public transport fleet.



Generally, municipalities in Moldova do not have much room to manoeuvre to extend the network by themselves or to invest in anything other than traditional technologies or second-hand equipment. The Clean Public Transport (CPT) Programme aims to demonstrate how to use scarce public funds to incentivise the private sector to invest in clean and socially important projects – in this case, in less polluting bus, minibus and trolleybus vehicles.

Improving public services plays an important role in increasing the quality of life of Moldovan citizens. The main benefits of cleaner, safer and more reliable municipal transport include:

- a healthier environment;
- easier access to jobs, families and other public services;
- accelerated socio-economic development for Moldova (e.g. through increased demand for investment, which can encourage local production).

To facilitate such investments, the government of Moldova needs to demonstrate that public transport is a national priority. In establishing or improving the service (i.e. by formalising the structures and moving out of a shadow economy), national authorities can provide a legal framework and guidance. Financial incentives, however, may be equally important.

Once green public expenditure programmes like the designed CPT Programme are integrated into the main government policy framework, they can help secure financial resources from the national budget, and leverage international financing and private investments into cleaner and more environmentally friendly technologies or equipment.

Such an approach also helps national authorities to:

- reach their environmental and climate-related goals (e.g. reduce greenhouse gas emissions);
- fulfil their respective international commitments (such as Nationally Determined Contributions, or Sustainable Development Goals).

1. Besides the reliability factor (up to half of the fleet needs urgent maintenance every day), the area of coverage is also an issue. Urban centres are relatively well-served, whereas the network can only partially serve suburban areas or inter-city connections.


Programme goals

For Moldova, strengthening public environmental expenditure management is one of the key enabling elements for embarking on greener economic development and for reducing the energy and carbon intensity of its economy. The extended co-operation between OECD and Moldova was designed to increase the capacity of local public authorities in Moldova and to carry out the CPT Programme. The enhanced capacities of Moldovan professionals will allow public authorities – primarily at the national level – to implement similar public investment in future, with a focus on cleaner mobility and also on other environmental issues).

The target group for enhancing capacity development assistance was primarily government officials, but the assistance was not limited to civil servants. The OECD has identified professional expertise as one of three core skill areas that drive public value, together with strategic orientation and innovation. Gaps in financial and project management skills are not limited to low- and middle-income countries. Capacity development reforms require identification of issues (e.g. needs assessment) and problem-solving approaches, usually through collaboration (OECD, 2017).

The project assumes commitment from the government of Moldova to:

1. act as the programming entity;
2. set up or assign the programme implementation unit (PIU), and secure financial support;
3. provide the financial commitment to carry out the CPT Programme. An existing unit can be considered for the PIU, and the government's financial commitment may be part of an overall financial package for the CPT Programme.

 *For Moldova, strengthening public environmental expenditure management is one of the key enabling elements for embarking on greener economic development and for reducing the energy and carbon intensity of its economy.* 



Project background

The capacity development project “Facilitating green public investments in Moldova: Implementing the designed Clean Public Transport (CPT) Programme” was conducted by the OECD in 2021 and followed technical assistance provided in 2017-18 in preparing the CPT Programme (in a project titled “Low-carbon public spending at the national level in Moldova”)².

2. The analytical report *Promoting Clean Urban Public Transportation and Green Investment in Moldova* (OECD, 2019) presented details of the programme and all aspects of the project. In addition to technical assistance, the project ended with a smaller component for capacity development.

Project background

The project was undertaken by the OECD under the “European Union for Environment” (EU4Environment) Action, as a part of the **greening public expenditure work stream**. The Ministry of Environment of Moldova (MoE), as a major counterpart of the OECD and EU4Environment, and as a future implementer of the investment programme, had a crucial role in arranging and co-ordinating its activities.

The project included four key tasks:

1. reviewing financing sources to help carry out the CPT Programme;
2. helping to establish the structure for launching the programme;
3. helping develop capacity for seeking out financing sources;
4. helping develop capacity on cycle management for the project.

As part of the project, the OECD and the MoE held a two-day **training on managing the environmental programmes** in the context of the CPT Programme. The workshop’s main goal was to transfer practical skills and know-how to experts in the government administration on managing (green) public investments; in preparing, managing and monitoring such programmes; in project cycle management; and in selecting projects for co-financing.³

In 2021-22, the OECD prepared a series of webinars to help partner governments implement green public investment programmes. To support the CPT Programme, two webinars shared the experience of managing **similar green public investments in the EU countries**. The first webinar presented the experience of Poland and the Czech Republic in using national environmental funds as implementing bodies.⁴ The second introduced another way to manage public finances for environmental investments from Austria, Switzerland and the Netherlands, by outsourcing part of the administration to non-governmental entities (including NGOs and private companies).⁵

3. For the project’s final event, see: www.eu4environment.org/events/training-on-the-implementation-of-the-designed-clean-public-transport-in-moldova.

4. For more information, see: www.eu4environment.org/events/designing-and-implementing-green-public-investment-programmes-experience-from-poland-and-the-czech-republic.

5. For more information, see: www.eu4environment.org/events/alternative-schemes-for-implementing-green-public-investment-programmes-experience-from-austria-switzerland-and-the-netherlands.

BOX 1. PREPARATION AND CONTENT OF THE TRAINING SESSION

The two-day training session was held to communicate practical skills and know-how to experts in the government administration on:

- managing (green) public investments by preparing (designing), managing and monitoring of (green) public investment programmes
- project cycle management
- selecting projects for co-financing.

The focus of the training was based on the experience of designing the Clean Public Transport (CPT) Programme, part of the initial project in 2017-18. This involved two main elements:

1. preparing training curricula and materials; and
2. conducting the training.

The training workshops were intended, first and foremost, for members of the Ministry of Environment, who will be assigned to the investment programme. In addition, the training involved government officials, (e.g. representatives of the Ministry of Finance) responsible for environmental management in Moldova. All training materials were prepared in English and Romanian.

The training was divided into two parts:

1. hands-on support in training allocated staff of the programme implementation unit (PIU) to acquire additional funds (with support for drafting a maximum of two applications for financing).
2. hands-on support in training allocated staff of the PIU in project cycle management.

Presentations focused on green public investment programmes and approaches for identifying, appraising and selecting individual projects for co-financing from the green public investment programme; the CPT Programme in Moldova; approaches used in project cycle management; project co-financing from donors and investors; and options for project implementation units and for sustainable urban mobility.

Based on a pre-distributed needs questionnaire, the participants' expectations for the training included:

- preparing, managing and monitoring implementation of an environmental programme
- attracting funding sources and approaching co-financing institutions, including donors and international financial institutions (IFIs)
- finding out more about the CPT Programme.

Project background

BOX 2. ABOUT EU4ENVIRONMENT – GREEN ECONOMY

The “European Union for Environment” (EU4Environment – Green Economy) Action helps the six EU Eastern Partnership countries – Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine – preserve their natural capital and increase the population’s environmental well-being. It supports environment-related action, demonstrating and unlocking opportunities for greener growth, and setting up mechanisms to better manage environmental risks and impacts.

The EU-funded Action supports countries in the EU’s Eastern Partnership (EaP) region, including Georgia, in improving national governance and regulatory mechanisms that support the transition to a greener, more sustainable development path. Public expenditure is an essential way of creating a level playing field for environmental and climate-related objectives. The work area on greening public expenditure (Activity 3.3.1) focuses on assisting the partner governments in utilising public resources – both budgetary and personnel – effectively and efficiently to reach countries’ national environmental and climate-related objectives.

Under the overall direction of the European Commission, the implementing partners, the Organisation for Economic Co-operation and Development (OECD), the UN Environment Programme/UNEP, the UN Economic Commission for Europe (UNECE), the UN Industrial Development Organisation (UNIDO) and the World Bank – build on important achievements of past co-operation programmes, such as “Greening Economies in the Eastern Neighbourhood (EaP GREEN)”, a large regional programme dating to 2013-2017.

Note: For more information, see <https://www.eu4environment.org>.

 *The EU4Environment – Green Economy Action helps the six EU Eastern Partnership countries – Armenia, Azerbaijan, Belarus, Georgia, the Republic of Moldova and Ukraine – preserve their natural capital and increase the population’s environmental well-being.* 

Programme update

The assumptions of the original design of the Clean Public Transport (CPT) Programme from 2017-18 have been partly revised using the **Optimising Public Transport Investment Costs (OPTIC) model**. Based on the revised calculations, the government of Moldova aims to mainstream the programme in the national policy framework (through its integration into the Programme on Promotion of the Green Economy 2023-2027).

Programme update

This update involves using the OPTIC model to optimise investment costs, operating costs and environmental objectives under updated assumptions. These revisions apply to assumptions about the number and types of vehicles required (given investments in the meantime and including additional beneficiary focal cities), their expected unit prices and expected outcomes (e.g. pollution reduction).

This includes updating estimates of:

- **The actual unit costs of the technologies.** The unit costs of vehicles that might be purchased under the CPT Programme have changed.
- **The updated plans and fleet needs of prospective beneficiaries** of the CPT Programme (i.e. the municipalities and their public transport operators).⁶

Changes in the types and unit costs of vehicles considered for financing under the CPT Programme have altered the optimal financing scenario, using the OPTIC model. This spreadsheet-based model is a simple, easy-to-use tool for supporting decision making prepared by the OECD. It helps the government of Moldova prepare and estimate the costs and environmental benefits of the CPT Programme.

The CPT Programme outlined several elements and steps to support the **shift to modern (brand-new) buses**. These buses run either on cleaner fossil fuels – such as compressed natural gas (CNG), liquefied petroleum gas (LPG) or diesel Euro 6 – or on electricity generated by these or renewable resources (wind, solar or hydro power) in the case of trolleybuses (and battery-powered trolleybuses).

The OPTIC model is used to estimate programme costs, and the **emission reductions of carbon dioxide (CO₂) and other pollutants** from urban public transport – i.e. carbon monoxide (CO), nitrogen oxides (NO_x), particulate matter (PM) and sulphur dioxide (SO₂) – that could potentially be achieved using the CPT Programme's pipelines (i.e. types of projects).

The situation in Moldova is evolving. Chisinau and Balti have already purchased buses since the CPT Programme was completed. In addition, IFI and donor support for some technologies – diesel but also potentially LPG and CNG – are being phased out. However, the CPT Programme was updated before being mainstreamed into Moldovan national policy.

6. The main beneficiaries – the cities of Chisinau and Balti – have already made some investments in their transport fleets since the CPT Programme was developed. At the same time, cities that did not plan to replace their fleets when the programme was developed are now potential beneficiaries. National and international financing sources have also updated their guidelines on eligible technologies.

BOX 3. THE OPTIC MODEL

The spreadsheet-based Optimising Public Transport Investment Costs (OPTIC) model is a simple, easy-to-use decision support tool. It was developed to calculate and optimise total programme costs, as well as potential reductions of emissions of CO₂ and other pollutants from urban public transport (CO, NO_x, PM, SO₂), from the proposed project pipelines. The model also enables potential beneficiaries to calculate the optimal level of subsidy available to them.

Optimisation of costs and benefits implies achieving given targets at the lowest possible cost to the public financier. Both targets and subsidy levels can be recalculated (or optimised) and adjusted accordingly if underlying economic conditions change during the programme. For example, tariffs could be increased, interest rates on commercial loans lowered or available public financing reduced or augmented.

The model consists of seven modules: 1) assumptions; 2) emission factors; 3) transport sector overview with information on bus fleet and age; 4) determination of the subsidy level; 5) cost calculation; 6) calculation of emission reductions; and 7) programme costing and environmental effects.

Although the model was designed for public transport (and tested in Kazakhstan), it was adjusted for use of the green public investment programme (i.e. biodegradable waste).

Other similar models on the market focus on estimating greenhouse gas (GHG) emission reductions for a country or for groups of countries. These mainly focus on GHG emissions from industry and consider different scenarios for the country's economic development. They are not, however, suitable for this investment programme, which focuses on reducing emissions only from particular pipelines.

“Changes in the types and unit costs of vehicles considered for financing under the CPT Programme have altered the optimal financing scenario, using the OPTIC model.”

Investment needs

The CPT Programme envisaged a two-phase approach to replacement of the public transport fleet: the first (pilot) phase for the two largest urban centres in the country (Chisinau and Balti) and an extension (scaling-up) phase for a larger target area and a larger number of beneficiaries. These included suburban areas of the pilot cities (first scenario) or even intercity connections (second scenario).

The programme update also includes **three potential financing scenarios** for the first (pilot) phase of the CPT Programme for how the prepared programme may be implemented. All three scenarios foresee a certain financial commitment from the Moldovan government. They also consider the financing needs of the beneficiaries (public transport operators – both municipal and privately owned – in Chisinau and Balti, as well as other prospective beneficiary municipalities).

The current estimate for required investment costs to launch the first (pilot) phase of a revised CPT Programme is **MDL 2 504 million**, or about **MDL 626 million** per year over four years (2022-25).

TABLE 1. Updated CPT Programme investment costs, pilot/first phase

Type of investment	Number required (through 2025)	Unit cost, million MDL	Total cost, million MDL (rounded up)
Trolleybuses	81	3.54*	287
Articulated trolleybuses	11	6.76*	74.4
CNG bus	270	4.2	1 134
Minibuses (CNG or LPG)	455	2.11	960
Subtotal			2 455.4
Accompanying investments	2% of subtotal		49.11
Total cost estimate			2 504.51

Note: * = assembled in Moldova based on Belarusian technology, Chisinau City Hall assumption; average for all lengths, 8m, 12m, 18m at a rate of +EUR 1.35 over the costs of diesel EURO V bus. CNG = compressed natural gas. LNG = liquefied petroleum gas.

Source: OECD calculations, OPTIC model.

The domestic public finance support (co-financing) may range from **MDL 7 million** per year in 2022-25 (Scenario 1), to **MDL 12 million** per year (Scenario 2) and up to **MDL 27.5 million** per year (Scenario 3).

The international public finance support (co-financing) may range from **MDL 487.6 million** per year in 2022-25 (Scenario 1), to **MDL 328.1 million** per year (Scenario 2) and down to **MDL 280 million** per year (Scenario 3).

The second, or scaling-up, phase includes continued financing to replace buses on suburban and intercity routes (as well as for any additional municipal bus services not financed in the first phase). The second phase should be revised during implementation of the first phase.

Financing instruments

As demonstrated in the CPT Programme, the guiding principle of public co-financing should be to provide the financing needed to **ensure that a given project will take place and is feasible**.

In practical terms, this means that the grant portion of the **co-financing should not cover the entire investment cost difference** between conventional options (diesel buses) and more advanced technologies (e.g. CNG and electric buses, but also trolleybuses) considered for fleet replacement. Operating cost savings and tariff increases supported by service level improvements can provide a source of investment financing, either directly or allocated to debt service.

Consequently, a **domestic co-financing** component will be required, including:

- on-lending to local governments
- an exchange rate/interest rate risk subsidies
- loan guarantees
- grants.

In future, other instruments should be considered, such as municipal bonds, green bonds and energy service company-type financing.

The investments required to upgrade the public transport fleet and improve public transport service levels will also require **international assistance**.

The financing instruments applied in Moldova range from:

- sovereign and framework loans, to
- direct loans to (and direct co-operation with) the municipalities and/or their transport service providers, and
- the loans can be sometimes blended with a grant component, given the provision of local co-financing.

However, the outreach is in most cases limited to larger municipalities (e.g. more than 100 000 inhabitants) that can show sufficient financing and implementing capacities. In future, other instruments should be considered, such as municipal bonds, green bonds and energy service company-type financing.

- **Municipal bonds:** No municipal bond market exists, and potential is low given the low level of own revenues of local governments and low creditworthiness.
- **Green bonds:** None exist to date.
- **Energy service company (ESCO):** Several attempts were made to set up ESCO working in Moldova, but all failed due to the high interest rates, lack of access to cheap capital and low energy prices.
- **Revenues:** Operational savings and/or tariffs could be used to repay loans, which is not typical in Moldova.
- **Loan guarantees:** A guarantee fund might work to replace the state guarantee; this could address the problem of local government collateral. Interest rate subsidies could address exchange rate risk.
- **Revolving fund:** None exist, but all domestic funds after reform could operate as revolving funds.

A blue electric bus is shown from a rear-quarter perspective with its rear hatch open. The interior of the hatch reveals a large battery pack with various cables and connectors. The bus has a white stylized logo on its side and a red taillight is visible on the left. The background is a dark, industrial-looking interior.

Financing packages

Based on discussions with IFIs and representatives from domestic financing sources, **several basic financing packages are possible**. These would ensure the renewal and replacement of public and private fleets used to provide public transport services and would take environmental objectives into consideration.

The most likely financing scenarios that can help implement the CPT Programme are the following:

- A package for large municipalities (Chisinau, Balti) and larger orders:
 - IFI financing: A combination of a European Bank for Reconstruction and Development (EBRD) sovereign loan and a European Investment Bank (EIB) framework loan devoted to replacing the bus fleets. The two loans should be used on an equal footing for fleet replacement, with equal amounts from both sources. **The municipalities would be responsible for loan repayment, with sovereign guarantees.**
 - EU financing: EU grant financing, including E5P.
 - Domestic financing: beneficiary own sources (from operating cost savings due to the replacement of outdated conventional diesel buses, from budget sources and from loans from commercial banks), private financing (Moldovagaz), state support (grants and sovereign guarantees from state budget sources).
- A package for small municipalities and smaller orders:
 - A combination of an EBRD sovereign loan and an EIB framework loan dedicated to bus fleet replacement. The two loans should be used on an equal footing for fleet replacement, with equal amounts from both sources. **The loans would be on-granted to small municipalities.**
 - EU financing: EU grant financing, including E5P.
 - Other sources: the Nordic Environment Finance Corporation (NEFCO).
 - Domestic financing: beneficiary own sources (from operating cost savings due to replacement of outdated conventional diesel buses, from budget sources and loans from commercial banks **with support for loan guarantees**), private financing (Moldovagaz), state support (grants and sovereign guarantees from state budget sources).

The follow-up project has developed three basic financing packages to carry out the programme's pilot phase, considering different possible levels of public and private co-financing. All three scenarios consider technological improvements (e.g. relevant for operating costs), as well as new requirements of international financiers (mainly phasing out fossil fuels). Finally, the report looks at how these advances will result in better climate-related and environmental outcomes of the pilot phase, once the programme is adopted on the national level and mainstreamed in public policy.

Financing packages

Three illustrative financing scenarios are depicted in the following tables:

- **Scenario 1 – lower domestic financing + higher international financing:** a pessimistic scenario under which domestic financing sources are significantly lacking. Total domestic financing, including from beneficiaries, is estimated at 22.2% of total CPT Programme costs for Phase 1.
- **Scenario 2 – balanced domestic and international financing:** a scenario in which the share of domestic financing is increased by comparison to Scenario 1, creating a more balanced blend. Total domestic financing, including from beneficiaries, is estimated at 47.6% of the total CPT programme costs for Phase 1.
- **Scenario 3 – higher domestic financing + lower international financing:** a scenario for domestic financing under which domestic financing provides a significant portion of financing. Total domestic financing, including from beneficiaries, is estimated at 55.3% of the total CPT programme costs for Phase 1.⁷

Each scenario started with optimisation of the contribution of beneficiaries to buy new buses, based on the operating cost savings of green buses compared to conventional, diesel buses. Nevertheless, Scenario 3 already has a reserve amount built into the total domestic share. This means that if international financing is not available in the amounts assumed, beneficiary financing should be able to cover the shortfall.

“ Each scenario started with optimisation of the contribution of beneficiaries to buy new buses, based on the operating cost savings of green buses compared to conventional, diesel buses. ”

7. For a detailed outline of the three financing packages, see EU4Environment, 2023.

Sources of finance

Although Moldovan municipalities need tens of millions of euros in investment, the **self- and co-financing capacity of local governments is low**. Most revenues collected by local budgets cover administrative and operational costs, and little or no funds remain as long-term sources for investment in municipal infrastructure and services. For this reason, local public authorities (LPAs) have limited capacity to fulfil their responsibilities. This is reflected in their financial resources and their ability to attract new investments, in their reduced managerial capacity and in their higher costs for service delivery.

Sources of finance

An in-depth survey has been conducted both for domestic sources of finance, such as major public funds, local governments and the private sector, as well as for international financial institutions and other donors active in Moldova.

On the national level, the **National Ecological Fund (NEF)** and the **National Regional Development Fund (NRDF)** are the main financial sources for environmental and climate-related measures in Moldova. All revenues are earmarked for projects that help implement national strategies. Most NEF resources are dedicated to water and wastewater, while the NRDF focuses on investing in road infrastructure, water supply and sanitation.

The report provides a brief overview of the main domestic sources of finance for infrastructure investments, both from public sources (at the national and local levels) and the private sector (transport, banking).

TABLE 2. **Surveyed domestic and international financing sources for CPT Programme**

Domestic financing sources	International financing sources
National Ecological Fund	EBRD
National Regional Development Fund	EIB
Local governments	EU Delegation
Moldovagaz	World Bank
Commercial banking sector	NEFCO

The survey provides a detailed overview of the current priorities and recent activity in the public services sector, including overall budgets for implementation. As discussions with the IFIs and other donors in Moldova have revealed, **priorities are focused on public infrastructure** (e.g. public roads, railways) and new construction, rehabilitation or maintenance.

Increasingly, sustainable transport has become a priority in the portfolio of IFIs and donors. This means **moving away from traditional fossil fuels**, while paying attention to the energy source of power generation for electric vehicles (hybrid, trolleybuses and electric buses).

The report outlines the main steps and their sequence for the CPT Programme to make use of available domestic financing sources and instruments. Above all, the programme has to be **integrated into the main government policy framework**. Some actors also mentioned that Moldova needs to revise its national energy strategy and its transport infrastructure and logistics strategy (e.g. Moldovagaz).

The international community can also play a more active role in the dialogue with LPAs. Specifically, the environmental and economic benefits of installing green technologies and using cleaner fuels both for citizens and municipal budgets should become a subject of discussion. The views of independent experts on environmental and energy issues are not receiving sufficient attention.

TABLE 3. **Analysed synergies and steps for CPT Programme support**

Domestic financing sources	International financing sources
Budget	Current activities
Current priorities	Current priorities
Outlook for public transport	Outlook for public transport
Steps required	Mode of co-operation (international sources)
Timing	Timing

Some IFIs and donors (e.g. NEFCO) have described having difficulty in finding partners, because most local authorities are reluctant to take out loans. Moreover, because donors are interested in investing in public infrastructure, local authorities are used to receiving grants. Often, municipalities benefit from grants with little financial involvement from the local budget (5%-10% co-funding).

Specifically, the environmental and economic benefits of installing green technologies and using cleaner fuels both for citizens and municipal budgets should become a subject of discussion.



Potential beneficiaries

The project has reviewed five local public administrations of the first level that were selected as the main beneficiaries of the Clean Public Transport (CPT) Programme – Chisinau, Balti, Ungheni, Cahul and Edinet. The revision of CPT Programme inputs considered the plans of the administrations and their investment needs in their respective municipal public transport areas.

This report outlines the current situation of the municipalities in Moldova that provide public transport services, including:

- **Reliability:** The bus fleet is based on outdated technologies (diesel without emission norms) and its value has largely depreciated (e.g. about half of the fleet in Chisinau). Both municipal and private PTOs could invest in the modern bus, minibus or trolleybus fleet.
- **Area of coverage:** In Chisinau, this situation has been exacerbated by minibus public transport operators (PTOs) focusing on the city centre and leaving the business (i.e. service provision) in less financially attractive areas.
- **Safety issues:** Cities (in particular, Chisinau) cite the poor service levels of the minibuses and also report that minibus providers do not meet standards for driver and vehicle safety.
- **Mode of operation:** As private operators, the minibus companies are not included in planning and budgeting for the public transport system.⁸ While minibus providers do not receive municipal subsidies, they also are unable to increase their prices. This leads to a vicious cycle of declining service quality from deteriorating buses and lack of public support for price increases. At the same time, the companies are said to under-report revenues and invest no profits in fleet improvement.

TABLE 4. Overview of public transport operators, their fleet and investment needs in focal cities

	Municipal PTOs/fleet	Private PTOs/fleet	Investment needs
Chisinau	2/366 trolleybuses, 160 buses	15/1 290 minibuses	Approx. 220 buses by 2023*
Balti	1/48 trolleybuses, 48 buses	n.a./116 minibuses	20 buses**/ <100 minibuses
Cahul	0	1/20 minibuses	20-30 minibuses*
Ungheni	0	3/22 minibuses	25 minibuses*
Edinet	0	n.a./20 minibuses (est.)	20 minibuses***

Note: * City estimate; ** CPT estimate; *** estimate, pending completion of urban mobility plan. For Chisinau and Balti, the total fleet numbers include some registered buses that are not operational.

Source: Based on information provided by municipalities from October 2020 to February 2021. For Chisinau and Balti, total fleet sizes are from the original CPT Programme 2017-18.

8. In Chisinau and Balti, municipal enterprises (buses, trolleybuses), accompanied by private operators (minibuses), are the backbone of the service. In Ungheni and Cahul, no municipal PTO has been established and private PTOs provide the service. In Edinet, private PTOs provide all transportation services.

Potential beneficiaries

Proposed solutions could include:

- Generally, municipalities do not have much room to manoeuvre to extend the network by themselves. For this reason, **incorporating the private PTOs officially into the municipal structure** would appear to be desirable.⁹
- Municipalities can also **investigate solutions for a more environment- and climate-friendly fleet**. Given the new buses have lower operating costs, a grant – either from Moldova’s budget or international sources – could provide further incentive for the investment.
- It could be economically more efficient if **minibuses serve smaller or more distant suburbs** (due to fewer passengers).
- Minibus PTOs could continue providing services. For example, a large provider could manage a financial package of loans and subsidies to replace its fleet. However, it would have to **comply with the same standards as public providers**. In an ideal scenario, the city would license providers that link the suburbs to the city limits. In urban centres, rapid phasing out of minibuses is a priority (especially in Chisinau).
- In establishing or improving the service (i.e. formalising the structures and moving out of a shadow economy), **national authorities can provide a legal framework and guidance**. In general, the following considerations need to be addressed:
 - contractual modes – service provision contracts, public-private partnerships
 - financing terms – local taxes, fees
 - service quality – needs to be specified and monitored.

9. This would give the municipality control over the quality and reliability of services provided by private PTOs (and move them out of a shadow economy). However, it would also qualify private entrepreneurs for investment support from the municipal budget (as they would be included in municipalities’ planning and budgeting processes).

Implementation set-up

There are several different good practices for managing public environmental expenditure. Simple programmes (e.g. financing research or education, buying simple equipment or standard services) may be managed directly by assigning additional responsibilities to existing government institutions at a variety of levels, using their regular staff and routine budget processes. For larger-scale, targeted programmes – especially those involving financing capital investments such as the Clean Public Transport (CPT) Programme – **special institutional arrangements are recommended**. These special arrangements may take many institutional forms and involve various types of implementing units.

Implementation set-up

In most instances, the institutional arrangement for large-scale (investment) programmes includes both a management (implementation) unit and a supervisory body. The institutional set-up for programme development and implementation should thus include at least two levels:

- **the programming authority (PA)** – the Ministry of Environment (MoE);
- **the managing authority (MA)** – entity/organisation that is specified in this report to carry out the CPT Programme.

In addition, the following institution may be considered:

- **a technical adviser (TA)** – the PA may designate technical advisers to help develop programme implementation documents, such as the list of approved technologies and accompanying investments.

The **Ministry of Environment (MoE)** will perform the role of the PA. The PA will use its available staff and resources for programming duties, in consultation with relevant bodies. In performing its duties, the programming entity will consult with other relevant government bodies, professional associations, municipalities, non-governmental organisations (NGOs) and businesses as appropriate.

The PA will have the following specific roles, to:

- **define** priority objectives that are specific, measurable, realistic and time-bound;
- **develop** programme targets, cost estimates, description of eligible project types and beneficiaries, terms of financing, procedures, principles and criteria of project appraisal and selection, procurement rules, timeframe and indicators of performance;
- **determine** sources of funds and the size of the financial envelope;
- **serve** as reporting authority to the external financing institution, such as the Delegation of the European Union to Moldova;
- **select** the best institutional arrangement for managing the programme, in particular whether it should be managed directly by assigning additional responsibilities to existing government institutions at different levels or whether special institutional arrangements are required;
- **create or appoint**, by ministerial decision, the MA, which will act as the programme implementation unit (PIU);
- **contract and monitor** the PIU to manage the programme;

- **appoint or select** an internal audit and external audit service for the programme;
- **serve** as contracting authority for financing agreements (or delegate this role to the MA), including signature of contracts for delivery of equipment and works performed, as well as related payments.

The designated MA drafts the programme's operating regulations (to be approved by the PA). The MA consults with any technical adviser(s) on the drafting and use of its operating regulations. According to best practice, the responsibilities for programming and project cycle management should be separated and distinct if possible (OECD, 2007).

The tasks of the MA are divided by phases of programme implementation and comprise:

- performing duties as secretariat to the PA to carry out its functions;
- launching the programme;
- selecting project proposals;
- implementing and monitoring projects;
- reporting and *ex post* evaluation.

Several institutions were identified as suitable to manage the programme, i.e. to act as a MA for implementation of the CPT Programme. They were selected for their capacity to implement the programme based on current and/or past experience. Other entities were reviewed but rejected from further consideration based on their lack of capacity and experience. The final list of institutions considered is as follows:

- Environmental Projects Implementation Unit;
- Creation of a PIU within MoE infrastructure;
- National Environment Agency;
- Organisation for Small and Medium Enterprises Sector Development (ODIMM) (renamed Organisation for Entrepreneurship Development, or ODA, in July 2022);
- External NGO – EcoContact, Green City Lab;
- Commercial banks.

Implementation set-up

The government of Moldova makes the final decision on the creation or appointment of the PIU.

The institutions were evaluated according to the following criteria:

1. Main features;
2. Management;
3. Start-up complexity;
4. Experience;
5. Independence;
6. Implementation cost;
7. Financing;
8. Main benefits;
9. Main risks;
10. Readiness by 2022.

Besides the general description (main features and form of management), the institutions were evaluated qualitatively for start-up complexity, experience, independence, implementation costs and readiness by 2022 (Table 5).

TABLE 5. Survey of potential programme implementation unit (PIU) forms – summary of five of ten criteria

Option	Start-up complexity	Experience	Independence	Implementation cost	Readiness by 2022?
Expansion of existing Environmental PIU	Low	++	+	Medium	Yes
Creation of PIU within MoE infrastructure	Medium	+	-	Low	Likely
National Environment Agency	Medium	+	+	Low-medium	Likely
ODIMM*	Low	++	++	Low-medium	Yes
External NGO	Medium	+	++	Medium-high	Possible
Banks	Low-medium	++	++	Medium-high	Possible

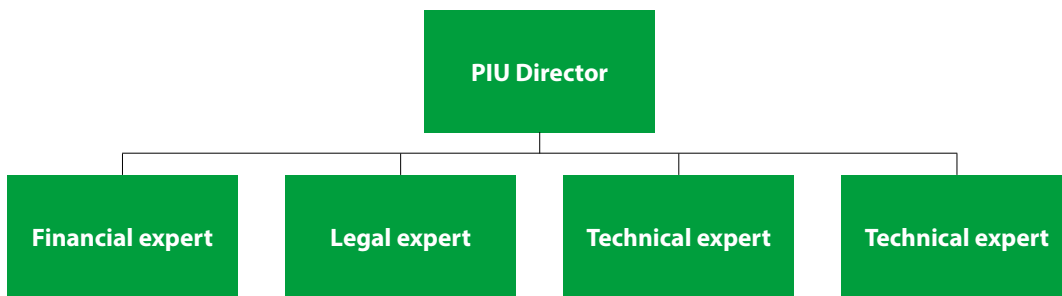
Note: * Renamed the Organisation for Entrepreneurship Development (ODA) in July 2022.

The two most suitable options for the PIU are the **Environmental Projects Implementation Unit** (Environmental PIU) and the NGO **EcoContact**, for the following reasons:

- **Immediate readiness** – both proposed institutions have demonstrated readiness to manage the CPT Programme;
- **Sufficient capacity** – both proposed institutions have demonstrated sufficient capacity to manage the CPT Programme. Additional capacity development could be provided to improve their performance, but this assistance would need only to be focused and minimal compared to what would be required of other potential institutions;
- **Separation from programming authority** – both proposed institutions are separated from the PA (the Ministry of Environment), with the NGO being completely separate and the existing Environmental Projects PIU separate in management and procedures.

While the ODIMM (from July 2022, the ODA) also meets the foregoing criteria, its focus on small and medium enterprises (SMEs), rather than on projects with broader environmental impact, makes it a third-best option.

FIGURE 1. **Proposed programme implementation unit (PIU) organisational structure**





Implementation set-up

The action plan for establishing the PIU includes the following steps:

1. selecting piu to implement the CPT;
2. drafting a workplan to support to the selected PIU;
3. developing PIU regulations;
4. developing PIU procedures and manuals;
5. carrying out a capacity development programme;
6. announcing the CPT Programme.

The following PIU procedures are required to carry out the CPT Programme:

- procedure on approaching co-financing institutions
- procedure and roadmap for implementing the programme
- review, evaluation and selection of projects for financing – to be developed depending on the programme pipelines defined
- monitoring and evaluation procedures and templates for individual projects and the CPT programme overall.

 *In performing its duties, the programming entity will consult with other relevant government bodies, professional associations, municipalities, non-governmental organisations (NGOs) and businesses as appropriate.* 

Roadmap for implementation

The prepared roadmap targets both the preparation phase and the annual reviews (for the PA), as well as a brief outline of the implementation phase (for the MA). **Recommendations are intended for the Ministry of Environment**, which will act as the PA. Importantly, the proposed timing and other requirements reflect the processes of international financial institutions and donors active in Moldova, which are expected to be co-financiers of the programme.

Roadmap for implementation

The Ministry of Environment of Moldova (MoE) – the programming entity – should survey potential financial sources each year as part of the monitoring and evaluation for the programme in question. The steps below, which apply to any expenditure programme promoted by MoE, are followed by an assessment of the Clean Public Transport (CPT) Programme.

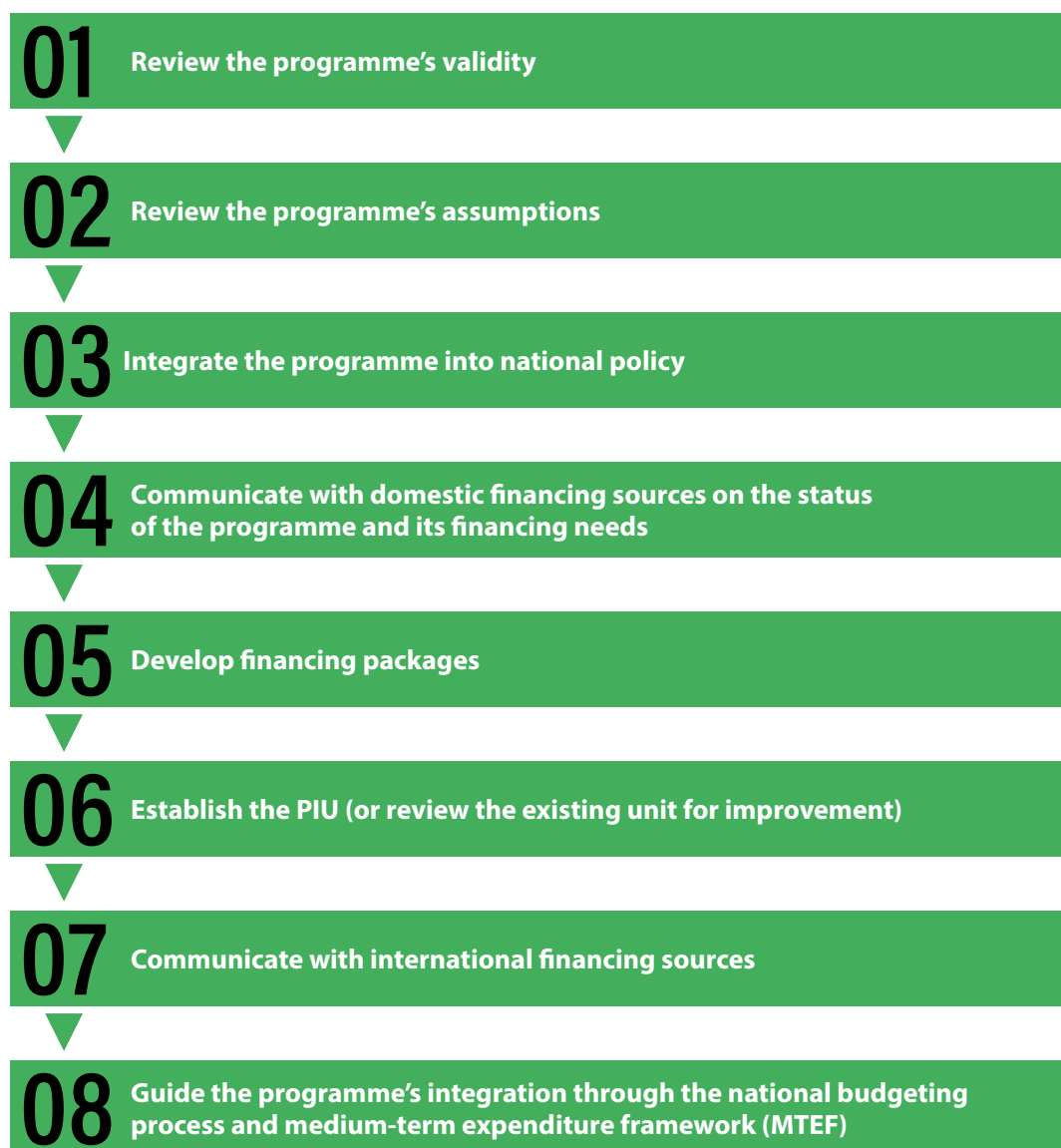
The roadmap for creating the PIU to carry out the CPT Programme includes the following elements:

- 1. Statement of objectives** – i.e. what the PIU is meant to achieve (physical, expenditure and environmental targets).
- 2. Definition of priority action areas** – i.e. the main areas of PIU activity (individual project pipelines).
- 3. Statement of strategies and mechanisms used** – i.e. strategies and mechanisms of the PIU for setting up the CPT Programme (such as promoting the programme and communicating with donors and other stakeholders).
- 4. Statement of available resources** – i.e. budgetary (national and international) and human resources required and available to the PIU to carry out the CPT Programme.
- 5. Monitoring and evaluation (M&E)** – i.e. the PIU's M&E procedures for carrying out the CPT Programme (covering budget, indicators, timeline, etc.). These aspects will be covered in the periodic and final evaluation reports.

The programme overall will be evaluated based on its:

- **Relevance** – e.g. whether it responds to actual needs and meets indicator targets;
- **Efficiency** – e.g. whether it has enough resources to minimise delays (i.e. has a lack of resources created any delays in achieving results?);
- **Effectiveness** – e.g. whether outputs are of the required quality and whether the programme supports MoE policies and actions effectively;
- **Sustainability** – its commitment to maintaining the effects of the programme after its completion (through the budget or through user payments); the institutional mechanisms are in place to improve future programmes.

FIGURE 2. Annual procedure for surveying potential financing sources



Roadmap for implementation

As a result of the decision to draft a new Programme on the Promotion of the Green Economy 2023-2027, the CPT Programme had to be launched in 2023. The next crucial steps are laid out below:

- 1. Update the CPT Programme:** It is not necessary to update the entire CPT Programme comprehensively, because the underlying information, assumptions and conclusions remain valid. A partial update (e.g. the fleet to be replaced, the unit cost) was completed and presented in overview to the State Chancellery in September 2021.
- 2. Integrate the CPT Programme into national policy:** The Ministry of Environment (MoE) will work to ensure the integration of the CPT Programme into the new Programme on the Promotion of the Green Economy for Moldova 2023-2027, which is currently being drafted.
- 3. Negotiate with domestic financing sources:** The MoE will determine, allocate and communicate the programme's financing needs. The speed of this process will depend on revised government priorities, especially in light of the ongoing war in Ukraine, and the progress made on drafting the Promotion of the Green Economy, 2023-2027, and integrating the CPT into it.
- 4. Negotiate with international financing sources:** The EU Delegation communicated information on its budgeting process (starting in March/April 2021) and emphasised the need for constant communication when the CPT Programme is integrated into national policy.

 *The Ministry of Environment of Moldova (MoE) – the programming entity – should survey potential financial sources each year as part of the monitoring and evaluation for the programme in question.* 



Policy recommendations

This short but relevant section briefly outlines the findings of the 2019 OECD study (OECD, 2019). The current project does not aim to address all listed issues. Instead, it contributes to financing clarity and formalisation of the CPT Programme within the national policy framework (through the Programme on the Promotion of the Green Economy, 2023-2027).

Policy recommendations

The main issues involved in setting up the CPT Programme are:

- **Green public transport has not always been a clear priority in local public transport in Moldova.** Chisinau and Balti are renewing their public transport fleet, with some support from IFIs such as the EBRD. Environmental goals, however, are not always municipal priorities. Instead, the focus has been on maintaining or improving service levels. The CPT Programme needs to give Moldovan cities incentives to focus on environmentally friendly public transport.
- **Local financing capacity is limited.** Local government financing capacity in Moldova is not high and has been further exacerbated by the COVID-19 pandemic. Blending of various financial instruments – such as soft loans, exchange rate guarantees, grants, national budget sources, local budget sources and operating cost savings – will be necessary to stimulate green investment.
- **The status of the CPT needs to be formalised.** The CPT Programme needs to be mainstreamed in public policy, for example by inclusion into the Programme on Promotion on the Green Economy, which is being updated for 2023-27.
- **Clear policy and financial signals need to be issued.** The Moldovan government needs to communicate its clear policy and financial commitment to potential beneficiaries of the CPT Programme. This may include banning (or using other tools to decrease the demand for) certain technologies in new public transport vehicles (such as diesel buses) and providing preferential subsidies to more environmentally favourable technologies.
- **The vicious cycle involving tariff-service levels needs to be broken.** Single-ride tickets cost MDL 3, essentially in all Moldovan cities (although in Chisinau, the cost is MDL 6). Local governments and service providers all report that the low tariffs are a major obstacle to the maintenance and upgrading of the fleets. As service levels decline, riders are not inclined to support tariff increases, and this leads to even further deterioration in service. Private service providers are disappearing, creating gaps in services that local governments are struggling to fill. If ticket prices are to be raised, improvements in service must also be introduced.
- **Legal requirements need to be met in improving service.** Local governments often report difficulties in incentivising private sector providers to improve services. For example, the city of Chisinau noted that it cannot subsidise private operators unless they commit to meeting service level standards. In turn, private sector providers cannot upgrade their fleet, leading to further deterioration in service. As a result of the lack of public support for tariff increases, the number of private providers has dropped

FURTHER READING

EU4Environment (2023), *Facilitating green public investments in Moldova: Implementing the designed Clean Public Transport (CPT) Programme*, European Union for Environment, <https://www.eu4environment.org/facilitating-green-public-investments-in-moldova>.

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Facilitating green public investments in Moldova

Implementation of green public investment programmes effectively leads to considerable environmental and climate-related benefits. Under the EU4Environment Action, the OECD assisted the Government of Moldova to drive the implementation of the Clean Public Transport (CPT) Programme, designed in 2017-18. This report provides a comprehensive overview of the activities conducted in 2021 that will facilitate public authorities in Moldova to prepare the Programme's launch and successful implementation.

The technical assistance included: updating the assumptions of the CPT Programme, calculating exemplary financing scenarios and surveying potential domestic and international financing sources. The initial pilot cities of Chisinau and Balti were joined by Ungheni, Cahul, and Edinet. The Programme's pilot phase was extended to ensure a smoother transition to its scaling-up phase, that will also cover suburban areas of the focal cities and some intercity connections.

Overall, the implemented projects in Moldova and the Programme will help local public authorities to acquire the necessary expertise in programmatic approach and to support the national government to mainstream cleaner mobility into strategic documents.

For more information:



eu4environment@oecd.org



<https://www.eu4environment.org>

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