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Facilitating green public investments in Moldova

Implementing the designed Clean Public
Transport (CPT) Programme



Action implemented by:



Facilitating green public investments in Moldova

**Implementing the designed Clean Public Transport (CPT)
Programme**

Foreword

This report is the final analytical output of the capacity development project “Facilitating green public investments in Moldova: Implementing the designed Clean Public Transport (CPT) Programme”. The project was realised from February to December 2021 in co-operation with the Ministry of Environment (MoE) of the Republic of Moldova (hereafter “Moldova”). It followed technical assistance provided in 2017-18 in preparing the CPT Programme (within a project “Low-carbon public spending at the national level in Moldova”).

The project was implemented by the OECD under the “European Union for Environment” (EU4Environment) Action as a part of the greening public expenditure work stream. The 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 activities. Close involvement of the Ministry of Finance and the Ministry of Economy and Infrastructure (later, Ministry of Infrastructure and Regional Development) in this project was equally important.

The OECD green public investment projects aim to demonstrate how to use scarce public funds to incentivise the private sector to invest in clean and socially important projects. For Moldova, strengthening public environmental expenditure management is one of the key enabling elements to enter a greener path of its economic development path and reduce the energy and carbon intensity of its economy.

The project included four key tasks:

1. reviewing financing sources to support CPT Programme implementation
2. supporting establishment of programme implementation structure
3. providing capacity development on seeking financing sources
4. providing capacity development on project cycle management.

The project preparations began in October 2020 and required commitment from the government of Moldova. In particular, it needed a policy commitment to establish a programme implementation unit, including financial support, as well as a financial commitment to implement the CPT Programme. As its main objective, the extended co-operation aimed to increase the capacities of local public authorities in Moldova to implement the designed CPT Programme. More importantly, it sought to increase capacities for similar public investments in future (with a focus on cleaner mobility but also other environmental issues).

The main deliverables of the analytical part of the project were two individual reports: “Potential Financing Sources” (Task 1) and “Establishment of a Programme Implementation Unit” (Task 2), as well as an addendum on “Procedures and Roadmap for Programme Implementation”. This final report represents a comprehensive overview of the public transport sector prior to the CPT Programme implementation (descriptive part), as well as steps needed before and during the programme implementation (prescriptive part).

In addition, the report contains several concrete proposals, both with regard to possible financing packages (three scenarios), as well as the implementation set-out (programming and implementing authorities). The

project team also prepared additional documents, such as a programme concept for financing (two-pager), as agreed with the EU Delegation to Moldova.

The analytical reports are based on collection of primary data mainly through (online) bilateral meetings with relevant stakeholders, both local and international. Local stakeholders primarily include the local public administrations (municipalities). Apart from the two largest Moldovan cities with the most advanced public transport networks (Chisinau and Balti), the project team consulted with other municipalities interested in developing their public transport networks (Ungheni, Cahul, Edinet).

Among international stakeholders were bilateral and multilateral development banks, environmental/climate funds, etc. On the donors' side, the project team discussed the feasibility of support mainly from the European Union and international financial institutions within and beyond it. For instance, Moldova's former Ministry of Agriculture, Regional Development and Environment (MARDE) submitted the programme concept to the EU Delegation to Moldova for financing in the 2021-27 budget.

As part of the project, the OECD and the MoE organised a two-day training on managing the environmental programmes in the context of the CPT Programme. The training session was held on 15-16 December 2021 virtually (as preferred by the MoE). The main objective of the workshop was to transfer practical skills and know-how to experts in the government administration on managing (green) public investments; in preparation, managing and monitoring of such programmes; in project cycle management; and in selecting projects for co-financing.

Box 1. Preparation and content of the training session

The two-day training aimed to transfer practical skills and know-how to experts in the government administration on:

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

The training's focus was based on the experience of designing a specific investment programme, the Clean Public Transport (CPT) Programme, developed as part of the initial project implemented in 2017-18. This activity will consist of two main elements: (i) preparing training curricula and materials; and (ii) conducting the training.

The training workshops were tailored, first and foremost, to people from the Ministry of Environment, who will be assigned to the investment programme designed under this project. In addition, the training involved government officials (e.g. representatives of the Ministry of Finance) with responsibilities 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) in acquiring additional funds (support in drafting maximum 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 to identify, appraise and select 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 project implementation units options and sustainable urban mobility.

Prior to developing the training materials, a needs questionnaire was distributed to relevant institutions and potential participants. The received answers included the type of organisations that the respondents represent, reasons to participate in training, topics for the training content, expectations, interests, current skills and type of desired lecture. All respondents selected the “Obtaining co-financing – approaching co-financing institutions (donors/IFIs)” and most also chose “Preparation of the environmental programmes including programme indicators”; “Eligibility criteria for applicants, projects and costs” and “Preparation of co-financing rules”. Regarding the expectations for the training, the main interests were:

- preparing, managing and monitoring implementation of an environmental programme
- attracting funding sources
- finding out more about the CPT Programme.

Following this, the training content was created, and speakers identified, depending on the needed expertise.

The training workshop was led by international (OECD, SST-Consult) and national (Green City Lab, Sinergetika Consulting, AD Assistance) experts and attended by 25 representatives of the public sector related to transport and environmental issues. This included Ministry of Environment, Ministry of Infrastructure and Regional Development, National Ecological Fund, Environmental Agency, Environmental Protection Inspectorate, Environmental Project Implementation Unit – now called the National Office for Implementation of Environmental Projects, NOEIP, non-governmental organisations (National Environmental Centre, Green City Lab) and local administrations from cities interested in implementing CPT options (Chisinau, Balti, Cahul, Ungheni and Edinet).

To support project implementation, two webinars shared the experience of managing green public investments in the EU countries. The first webinar presented the experience in Poland and the Czech Republic using national environmental funds as implementing bodies. The second webinar introduced another way to manage public finances for environmental investments from Austria, Switzerland and the Netherlands through outsourcing part of the administration to the non-governmental entities (NGO, private company).

Towards the end of 2021, the consultations on the best form (institutional solution) of the programme implementation unit (PIU) with the partner ministry were ongoing. The second report presented and analysed several six options; the meeting with the State Secretary, Valentina Tapes, in June 2021 narrowed the focus to the three most viable options. Due to then upcoming parliamentary elections (July 2021), the final decision was left for the new government.

Although project implementation was measured primarily by quantitative indicators (e.g. reports/manuals produced, people trained), other measures were also important. These included increasing local ownership and accompanying/leveraging a policy of change based on local priorities and commitment (including affordability issues). Sustainability of the capacity development efforts has been ensured by a regular follow-up and consistency (e.g. through longer-term assignments that can go beyond the project implementation timeframe).

The OECD has been supported in this work by a team of international and national consultants (contractors and sub-contractors) with relevant experience and practical expertise in the preparation, costing and management of multi-year public environmental investment programmes, as well as the EU4Environment National Action Co-ordinator in Moldova.

The study was prepared with the financial support of the European Union within the “European Union for Environment” (EU4Environment) Programme and of Germany’s Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, provided through its International Climate Initiative.

Box 2. About EU4Environment

The “European Union for Environment” (EU4Environment – Green Economy) Action helps the Eastern Partnership countries preserve their natural capital and increase people's environmental well-being. To that end, it supports environment-related action, demonstrates and unlocks opportunities for greener growth, and sets up mechanisms to better manage environmental risks and impacts.

It is funded by the European Union and implemented by five Partner organisations – Organisation for Economic Co-operation and Development (OECD), United Nations Economic Commission for Europe (UNECE), United Nations Environment Programme (UNEP), United Nations Industrial Development Organization (UNIDO) and the World Bank - over 2019-2024, with a budget of EUR 20 million.

Source: <https://www.eu4environment.org/>.

The views expressed herein are those of the authors only and can in no way be taken to reflect the official opinion of the European Union, its members, the governments of the EaP countries or the EU4Environment implementing partners (OECD, United Nations Economic Commission for Europe, United Nations Environment Programme, United Nations Industrial Development Organization and the World Bank).

The study was prepared within the framework of the GREEN Action Task Force hosted by the OECD Environment Directorate.

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Abbreviations and acronyms

AIPA	Agency for Intervention and Payments in Agriculture of Moldova
ATU	Administrative-territorial unit
CM	<i>Comunitatea Mea</i> (My Community)
CNG	Compressed natural gas
CPT	Clean Public Transport (OECD programme)
CSO	Civil society organisation
CTF	Clean Transport Facility
EaP	Eastern Partnership (of the European Union)
EIB	European Investment Bank
EBRD	European Bank for Reconstruction and Development
EEA	Energy Efficiency Agency of Moldova
ESC	Energy Saving Credits (NEFCO programme)
ESCO	Energy service company
EU	European Union
EUR	Euro (Eurozone currency)
EUD	EU Delegation
E5P	Eastern Europe Energy Efficiency and Environment Partnership
GCAP	Green City Action Plan
GCF	Green Climate Fund
GCL	Green City Lab

GCP	Green Commodities Programme (UNDP programme)
GEF	Global Environment Facility
GHG	Greenhouse gas
GoM	Government of Moldova
IFI	International financial institution
IU	Implementation unit
LPA	Local public administration
LPG	Liquefied petroleum gas
MA	Managing authority
MAIB	Moldova Agroindbank
MARDE	(former) Ministry of Agriculture, Regional Development and Environment of Moldova
MDL	Moldovan lei
MoE	Ministry of Environment of Moldova
MoSEFF	Moldova Sustainable Energy Efficiency Finance Facility
MSIF	Moldova Social Investment Fund
MTEF	Medium-term expenditure framework
NDC	Nationally Determined Contribution
NEF	National Ecological Fund of Moldova
NEFCO	Nordic Environment Finance Corporation
NGO	Non-governmental organisation
NOIEP	National Office for Implementation of Environmental Projects (formerly Environmental PIU)
NRDF	National Regional Development Fund of Moldova
ODA	Organisation for Entrepreneurship Development (<i>Organizația pentru Dezvoltarea Antreprenoriatului</i> , formerly ODIMM)
ODIMM	Organisation for Small and Medium Enterprises Sector Development (<i>Organizația pentru dezvoltarea întreprinderilor mici și mijlocii</i> , now ODA)
OECD	Organisation for Economic Co-operation and Development

OSCE	Organization for Security and Co-operation in Europe
OPTIC	Optimising Public Transport Investment Costs (OECD model)
PA	Programming authority
PIU	Project implementation unit (Environmental PIU, now NOIEP)
PTO	Public transport operator
RDA	Regional Development Agency
SA	Stock company (<i>Societate pe Acțiuni</i>)
SDG	Sustainable Development Goal
SGP	Small Grants Programme
SME	Small and medium-sized enterprise
TLS	Transport and Logistics Strategy
UNDP	United Nations Development Programme
USD	United States dollar
WG	Working group
WSS	Water supply and sanitation

Units and compounds

CO	Carbon monoxide
CO ₂	Carbon dioxide
CO ₂ eq	Carbon dioxide equivalent
GJ	Gigajoule
Km	Kilometre
Kt	Kilotonne
NO _x	Nitrogen oxides
PM	Particulate matter
SO ₂	Sulphur dioxide

Executive summary

This report presents the main findings, proposals and outcomes of a capacity development project “Facilitating green public investments in Moldova: Implementing the designed Clean Public Transport (CPT) Programme”. The CPT Programme as a green public investment 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 a less polluting public transport fleet. Green public expenditure programmes can help allocate financial resources from the national budget but also leverage international financing and private investments into cleaner and more environment-friendly technologies or equipment.

Given that data for the preparation of the CPT Programme were collected in 2017-18 and also focused primarily on Chisinau and Balti (in the pilot phase), investment costs were updated using the 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 Green Economy 2023-2027).

What is the cost of CPT Programme implementation?

This report presents 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 estimated investment costs required to launch the first phase of a revised CPT Programme are MDL 2 504 million, or about MDL 626 million per year over four years of implementation (2022-25).

Based upon the financing packages, the scenarios are:

- Scenario 1 – lower domestic financing + higher international financing: a pessimistic scenario according to 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 compared to Scenario 1, creating a more balanced blend. Total domestic financing, including from beneficiaries, is estimated at 47.6% of total CPT Programme costs for Phase 1.
- Scenario 3 – higher domestic financing + lower international financing: a scenario for domestic financing according to which domestic financing sources provide a significant portion of financing. Total domestic financing, including from beneficiaries, is estimated at 55.3% of total CPT Programme costs for Phase 1.

The starting point for each scenario was the optimisation of the contribution of beneficiaries to buy new buses. This was based on cost savings of operating 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.

In sum, the loan and grant component ranges from 49.1% (Scenario 3), to 54.3% (Scenario 2) and up to 79.3% (Scenario 1). Conversely, the investors will need to cover at least 20.7% (Scenario 1), 45.7% (Scenario 2) and up to 50.9% (Scenario 3) of the total investment costs of the CPT Programme.

Who will implement the CPT Programme?

The institutional set-up for programme development and implementation should include two levels:

- Programming authority (PA), responsible for the design of the programme. The Ministry of Environment (MoE) is expected to perform the role of the PA. The MoE should use its available staff and resources to undertake its 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.
- Managing authority (MA), responsible for implementing the CPT Programme. This can be an entity/organisation within the public domain or even a private company. The most relevant institutions were considered as potentially suitable candidates to act as MA for implementation of the CPT Programme (be it within their existing structure or with proposed modification or extension).
- The candidates were selected from a range of government institutions and external organisations (NGOs broadly focused on environmental issues or specifically on public transportation). The final decision on the MA configuration lies with the government of Moldova.

What is needed to begin CPT implementation?

CPT Programme implementation requires the following crucial steps:

- Update the CPT Programme (complete). The entire CPT Programme does not require updating because the underlying information, assumptions and conclusions remain valid. Instead, the assumptions on the number and type of vehicles, as well as unit costs, have been updated. The investment timeframe is updated for 2022-25. This update provides the basis with which to negotiate a financial package.
- Integrate CPT Programme into national policy. The MoE will work to ensure integration of the CPT Programme into the update of the Programme on the Promotion of the Green Economy for Moldova 2023-2027.
- Negotiate with domestic financing sources. The MoE will work to determine the amounts that can be allocated from Moldova's National Ecological Fund and National Regional Development Fund towards upgrading the public transport fleet. The MoE will communicate financing needs to other potential domestic financing sources as well, such as Moldovagaz, local banks and local governments.

Negotiate with international financing sources. The MoE will work to communicate the government commitment to implementing the CPT Programme, as well as the financing needs, to international financing sources. The MoE started this process in June 2021 by submitting a profile of the CPT Programme to the EU Delegation according to the Delegation's specifications so it could be analysed and included in the EU budgeting process.

1 Introduction

This chapter introduces in detail the process, objectives and outcomes of the original Clean Public Transport (CPT) Programme designed in 2017-18. The chapter thematically links the initial technical assistance with follow-up activities that resulted in the capacity development project for the Ministry of Environment of Moldova in 2021. The chapter outlines the four main activity areas that were part of this project (two of them technical analyses, the other two related to hands-on experience of public officials in programme implementation). The chapter concludes with the major findings of the original 2019 OECD study on the main policy issues affecting implementation of the CPT Programme that need to be addressed.

Preparation of the CPT Programme

From April 2017 to February 2018, the OECD's project "Low-carbon public spending at the national level in Moldova" helped the Ministry of Agriculture, Regional Development and Environment (MARDE) increase capacity to design a green public investment programme that could reduce the energy and carbon intensity of Moldova's economy. This work, in line with good international practices, aimed to contribute to a greener development path of Moldova.

The main outcome of the initial project was an investment programme known as the Clean Public Transport (CPT) Programme, as well as increased knowledge about designing and costing green public investment programmes. 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 electricity generated by these or renewable resources (wind, solar or hydro power) in the case of trolleybuses (and battery-powered trolleybuses).

The analytical report "Promoting Clean Urban Public Transportation and Green Investment in Moldova" (OECD, 2019^[1]) presented details of the programme and all project elements. Besides the technical assistance part, the project included a smaller capacity development component at the end of its implementation (February 2018). This comprised a one-day training workshop, which was attended by 14 participants (public officials and independent or associated experts). The workshop contained both the general requirements of the programming approach to public spending, as well as the key elements of project cycle management.

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 OECD costing methodology and the programme design aimed to demonstrate in practice how to use scarce public funds to incentivise the private sector to invest in clean and socially important projects. In this case, the aim was to facilitate achievement of Moldova's environmental and climate-related targets. This was mainly a reduction of greenhouse (GHG) emissions and air pollution. Equally important objectives were improved public service delivery, as well as accelerated socio-economic development of the country (e.g. through increased investment demand that can spur local production). Achieving these objectives would contribute to Moldova's sustainable development, an ongoing commitment since gaining independence in 1991.

Specifically, the Optimising Public Transport Investment Costs (OPTIC) model has foreseen replacing 77 old vehicles (62 trolleybuses and 15 minibuses) in Chisinau and Balti. This involves a total investment of USD 19.1 million over one year (after a one-year preparatory phase). Together, the pilot and the scaling-up phase (Scenario 1) will provide 735 new urban and suburban vehicles in the two pilot cities (62 trolleybuses, 393 buses and 280 minibuses), requiring an investment of USD 150.2 million. Assuming the more ambitious scaling-up phase (Scenario 2) is implemented, Moldova will have 2 510 new urban, suburban and intercity vehicles (62 trolleybuses, 1 456 buses and 992 minibuses with CNG, LPG and modern diesel engines) at an investment cost of USD 498.6 million.

Following up on discussions with stakeholders during OECD missions in October 2018 and January 2020, the OECD and MARDE agreed to support implementation of the CPT Programme, focusing on technical assistance and capacity development. This included support in attracting co-financing from international financial institutions (IFIs) and donors, as well as examining the feasibility of establishing a "programme implementation unit" (PIU) and other possible approaches.

These discussions resulted in the follow-up project "Facilitating green public investments in Moldova: Implementing the designed Clean Public Transport (CPT) Programme" in 2021. The main objective of the

project was to transfer practical skills to specialists in MARDE with responsibilities for managing green public investments. As part of this project, a targeted training was conducted on managing country-wide low-carbon public investment programmes in Moldova with a special focus on cleaner mobility.

The enhanced capacities of Moldovan professionals will enable public authorities – primarily at national level – to implement the designed CPT Programme and, more importantly, also similar public investments in future. The target group of the implemented capacity development assistance was primarily government officials but not limited to civil servants.¹

In particular, the project included four tasks:

1. reviewing financing sources to support CPT Programme implementation
2. supporting establishment of programme implementation structure
3. providing capacity development on seeking financing sources
4. providing capacity development on project cycle management.

The project assumes commitment from the government of Moldova to i) act as the programming entity; ii) establish or assign the programme management authority (i.e. the programme implementation unit – PIU), including financial support; and iii) provide financial commitment to implement the CPT Programme. An existing unit can be considered for the PIU and the government's financial commitment may be part of the overall financial package to implement the CPT Programme.

Main issues affecting implementation of the CPT Programme

This short but relevant chapter briefly outlines the findings of the 2019 OECD study (OECD, 2019^[1]). The current project does not aim to address all listed issues. Instead, it contributes to financing clarity and formalisation of the CPT Programme into the national policy framework (through the Programme on Promotion of Green Economy 2023-2027).

The main issues affecting implementation of the CPT Programme comprise:

- **Green public transport has not always been a clear priority in local public transport.** Chisinau and Balti are renewing their public transport fleet, including with support of IFIs such as the European Bank for Reconstruction and Development. Environmental goals, however, are not always among municipal priorities. Instead, the focus has been on maintaining or improving service levels. Thus, the CPT Programme needs to incentivise Moldovan cities to focus on environmentally friendly public transport.
- **Limited local financing capacity.** Local government financing capacity in Moldova is limited 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 investments.
- **CPT status needs to be formalised.** The CPT Programme needs to be mainstreamed in public policy, such as inclusion into the Programme on Promotion on Green Economy, which is being updated for 2023-27.
- **Clear policy and financial signals.** The Moldovan government needs to present clear policy and financial signals to potential beneficiaries of the CPT Programme. This may include banning (or using other tools to decrease the demand of) certain technologies in new public transportation vehicles (such as diesel buses) and providing preferential subsidies to more environmentally favourable technologies.
- **Tariff-service level vicious cycle.** Single-ride tickets cost MDL 3 essentially in all Moldovan cities (in Chisinau, increased to MDL 6). In all cases, local governments and service providers cite low

tariffs as a barrier to fleet maintenance and upgrading. As service levels decline, riders do not support tariff increases, which leads to future deterioration of service levels. Private service providers are disappearing, leading to gaps in services that local governments are struggling to fill. Service level improvements need to accompany any increase in ticket prices.

- **Legal barriers.** Local governments often cite problems with incentivising private sector providers to improve services. For example, the city of Chisinau stated it cannot subsidise private operators unless those operators commit to meeting service level standards. In turn, private sector providers cannot upgrade their fleet, leading to deterioration of services. The lack of support for tariff increases has led to a decline in private providers.

References

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OECD Publishing, Paris, <https://doi.org/10.1787/31925aae-en>.

OECD (2017), *Skills for a High Performing Civil Service*, OECD Public Governance Reviews, [2]
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Note

¹ The OECD has identified their 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 always require problem identification (e.g. needs assessment) and problem-solving approaches (usually through collaboration) (OECD, 2017^[2]).

2 Costs and financing of the CPT Programme implementation

This chapter presents the core of the project's first individual report on potential financing sources for the Clean Public Transport (CPT) Programme. The assumptions of the original design from 2017-18 have been partly revised, based on the actual unit costs of the technologies, as well as updated plans of programme beneficiaries (i.e. the municipalities and their public transport operators) and other specifications. The follow-up project has developed three basic financing packages to implement 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 of fossil fuels). Finally, the chapter 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.

Assumptions on potential CPT Programme costs

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

The investment costs presented in this report are based on an update of the CPT Programme using the Optimising Public Transport Investment Costs (OPTIC) model. This update was based on updated unit costs together with stated and estimated needs of the main beneficiaries (Chapter 4). Together, this aims to help design the financing packages for the CPT Programme (Table 2.1).

Table 2.1. 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)	Type of investment
Trolleybuses	81	3.54*	287	81
Articulated trolleybuses	11	6.76*	74.4	11
CNG bus	270	4.2	1 134	270
Minibuses (CNG or LPG)	455	2.11	960	455
Sub-total				2 455.4
Accompanying investments		2% of sub-total		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 +1.35 over costs of diesel EURO V bus. CNG = compressed natural gas. LNG = liquefied petroleum gas.

The updated costs presented in Table 2.1 form the basis of the revised first, or pilot, phase of the CPT Programme as presented in 2017-18. 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.

The situation in Moldova is evolving. Chisinau and Balti have already purchased buses since the CPT Programme was completed.¹ In addition, international financial institution (IFI) and donor support for some technologies – diesel but also potentially liquefied petroleum gas (LPG) and compressed natural gas (CNG) – are being phased out. However, the CPT Programme was updated before being mainstreamed into Moldovan national policy.

This update involves using the OPTIC model to optimise investment costs, operating costs and environmental objectives under updated assumptions. This includes updating estimates of:

- **Transport fleet needs (number and type of vehicle) of prospective beneficiaries.** 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.
- **Unit costs by type of vehicle.** Unit costs of vehicles that might be purchased under the CPT Programme have changed.

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 decision support tool prepared by the OECD. It supports the government of Moldova in preparing and estimating the costs and environmental benefits of the CPT Programme. It can be used for

costing replacement of the old bus fleet in urban centres with modern buses equipped with engines that run on:

- CNG
- LPG
- diesel, ideally (imported) Euro 5 fuel
- electricity (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 by implementing the CPT Programme's pipelines (i.e. types of projects).

Estimate of available international and domestic co-financing

Massive investments are required to upgrade the public transportation fleet and improve public transport service levels, as well as to demonstrate that public transportation is a national priority. Consequently, **a domestic co-financing component will be required**, including on-lending to local governments, exchange rate risk subsidies and grants. Private sector financing should also be included. In future, other instruments should be considered, such as municipal bonds, green bonds and energy service company-type financing.

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 investments required to upgrade the public transportation fleet and improve public transport service levels will also require international assistance. This includes sovereign loans, direct loans to municipalities and/or their transportation service providers and grants. As detailed in the following chapter, this financial support should not be designed to cover the entire cost of fleet replacement.

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).

Of the projects listed on the State Chancellery database of external assistance projects, 48 are in the transport sector. The vast majority, however, are road improvement projects. Support for investment in fleets has concentrated on Chisinau and Balti, covering EUR 18.34 million in disbursements, with another EUR 4.1 million committed.²

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

Development of comprehensive financing packages

Based on discussions with IFIs and representatives from domestic financing sources, several basic financing packages are possible. The most likely financing scenarios are the following:

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

Three illustrative financing scenarios are depicted in the following tables:

- **Scenario 1 – lower domestic financing + higher international financing:** a pessimistic scenario according to 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 compared to Scenario 1, creating a more balanced blend. Total domestic financing, including from beneficiaries, is estimated at 47.6% of total CPT Programme costs for Phase 1.
- **Scenario 3 – higher domestic financing + lower international financing:** a scenario for domestic financing according to which domestic financing provides a significant portion of financing. Total domestic financing, including from beneficiaries, is estimated at 55.3% of total CPT Programme costs for Phase 1.

Each scenario started with optimisation of the contribution of beneficiaries to buy new buses, based on operating cost savings of green buses compared to conventional, diesel buses. Nevertheless, Scenario 3 (see below) 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.

A two-page project outline was sent to the EU Delegation to Moldova in June 2021 using the costs presented in Table 2.2. This will form the basis for development of financial packages that can be proposed and discussed with potential financing institutions.

As demonstrated in this chapter, it should be possible to construct a financing package that can help implement the CPT Programme. This would ensure the renewal and replacement of public and private fleets used to provide public transport services consider environmental objectives.

Each of the three scenarios is presented below in more detail:

Scenario 1 – lower domestic financing + higher international financing

Scenario 1 is based on the following assumptions:

- Domestic sources:
 - 1% of National Ecological Fund of Moldova (NEF) budget (MDL 500 million) allocated to upgrading the public transport fleet (MDL 5 million per year)
 - 1% of National Regional Development Fund of Moldova (NRDF) budget (MDL 200 million) allocated to upgrading public transport fleet (MDL 2 million per year)
 - Other national budget allocation: MDL 2 million per year
 - 20% of total costs financed by beneficiaries: local governments and public transportation operators, including loans from commercial banks, government on-lending, NEFCO, etc. (MDL 125.2 million per year)
 - Moldovagaz: 35% of accompanying investments (totalling MDL 4.3 million per year).
- International sources:
 - 52% allocation of EBRD loan of EUR 20 million (MDL 55 million per year)
 - NEFCO financing (E5P grants), assumed at 15% of total CPT Programme costs (MDL 93.9 million per year)
 - EIB: 21% allocation of EUR 50 million framework loan (MDL 55 million per year)³
 - EU grant: assumed to cover all (100%) of remaining costs to be financed (MDL 283.7 million per year).

Scenario 1 is shown in Table 2.2. The overall loan and grant component of Scenario 1 amounts to **79.3%**, whereas investors will cover **20.7%**.

Table 2.2. Potential financing sources – Scenario 1 (lower domestic financing + higher international financing)

(MDL million)

	2022	2023	2024	2025	TOTAL	%
Domestic	138.5	138.5	138.5	138.5	554.1	22.1%
NEF	5.0	5.0	5.0	5.0	20.0	0.8%
NRDF	2.0	2.0	2.0	2.0	8.0	0.3%
Other national budget	2.0	2.0	2.0	2.0	8.0	0.3%
Local governments / bus operators*	125.2	125.2	125.2	125.2	500.9	20.0%
Moldovagaz*	4.3	4.3	4.3	4.3	17.2	0.7%
International	487.6	487.6	487.6	487.6	1 950.4	77.9%
EBRD loan	55.0	55.0	55.0	55.0	220.0	8.8%
NEFCO+E5P	93.9	93.9	93.9	93.9	375.7	15.0%
EIB loan	55.0	55.0	55.0	55.0	220.0	8.8%
EU grant	283.7	283.7	283.7	283.7	1134.7	45.3%
TOTAL	626.1	626.1	626.1	626.1	2 504.5	100%

Note: * Contribution of the “private” sector (including municipal companies). EBRD = European Bank for Reconstruction and Development. EIB = European Investment Bank. NEF = National Ecological Fund of Moldova. NEFCO = Nordic Environment Finance Corporation.

Scenario 2 – balanced domestic and international financing

This scenario is based on the following assumptions:

- Domestic sources:

- 1% of NEF budget (MDL 500 million) allocated to upgrading the public transport fleet (MDL 5 million per year)
- 2.5% of NRDF budget (MDL 200 million) allocated to upgrading public transport fleet (MDL 5 million per year)
- Other national budget allocation: MDL 2 million per year
- 45% of total costs financed by beneficiaries: local governments and public transportation operators, including loans from commercial banks, government on-lending, NEFCO, etc. (MDL 282 million per year)
- Moldovagaz: 35% of accompanying investments (totalling MDL 4.3 million per year).
- International sources:
 - 38% allocation of EBRD loan of EUR 20 million (MDL 40 million per year)
 - NEFCO financing (E5P grants), assumed at 10% of total CPT Programme costs (MDL 62.6 million per year)
 - EIB: 15% allocation of EUR 50 million framework loan (MDL 40 million per year)
 - EU grant: assumed to cover all (100%) of remaining costs to be financed (MDL 185.5 million per year).

Scenario 2 is shown in Table 2.3. The overall loan and grant component of Scenario 2 amounts to **54.3%**, whereas investors will cover **45.7%**.

Table 2.3. Potential financing sources – Scenario 2 (balanced domestic and international financing)

(MDL million)

	2022	2023	2024	2025	TOTAL	%
Domestic	298.1	298.1	298.1	298.1	1 192.2	47.6%
NEF	5.0	5.0	5.0	5.0	20.0	0.8%
NRDF	5.0	5.0	5.0	5.0	20.0	0.8%
Other national budget	2.0	2.0	2.0	2.0	8.0	0.3%
Local governments / bus operators*	281.8	281.8	281.8	281.8	1127.0	45.0%
Moldovagaz*	4.3	4.3	4.3	4.3	17.2	0.7%
International	328.1	328.1	328.1	328.1	1312.3	52.4%
EBRD loan	40.0	40.0	40.0	40.0	160.0	6.4%
NEFCO+E5P	62.6	62.6	62.6	62.6	250.5	10.0%
EIB loan	40.0	40.0	40.0	40.0	160.0	6.4%
EU grant	185.5	185.5	185.5	185.5	741.8	29.6%
TOTAL	626.1	626.1	626.1	626.1	2 504.5	100%

Note: * Contribution of the “private” sector (including municipal companies). EBRD = European Bank for Reconstruction and Development. EIB = European Investment Bank. NEF = National Ecological Fund of Moldova. NEFCO = Nordic Environment Finance Corporation.

Scenario 3 – higher domestic financing + lower international financing

This scenario is based on the following assumptions:

- Domestic sources:
 - 2.5% of NEF budget (MDL 500 million) allocated to upgrading public transport fleet (MDL 12.5 million per year)
 - 5% of NRDF budget (MDL 200 million) allocated to upgrading public transport fleet (MDL 10 million per year)

- Other national budget allocation: MDL 5 million per year
- 50% of total costs financed by beneficiaries: local governments and public transportation operators, including loans from commercial banks, government on-lending, NEFCO, etc. (MDL 313 million per year)
- Moldovagaz: 45% of accompanying investments (totalling MDL 5.5 million per year).
- International sources:
 - 29% allocation of EBRD loan of EUR 20 million (MDL 30 million per year)
 - NEFCO financing (E5P grants), assumed at 10% of total CPT Programme costs (MDL 62.6 million per year)
 - EIB: 11% allocation of EUR 50 million framework loan (MDL 30 million per year)
 - EU grant: assumed to cover all (100%) of remaining costs to be financed (MDL 157.4 million per year).

Scenario 3 is shown in Table 2.4. The overall loan and grant component of Scenario 3 amounts to **49.1%**, whereas investors will cover **50.9%**.

Table 2.4. Potential financing sources – Scenario 3 (higher domestic financing + lower international financing)

(MDL million)

	2022	2023	2024	2025	TOTAL	%
Domestic	346.1	346.1	346.1	346.1	1 384.4	55.3%
NEF	12.5	12.5	12.5	12.5	50.0	2.0%
NRDF	10.0	10.0	10.0	10.0	40.0	1.6%
Other national budget	5.0	5.0	5.0	5.0	5.0	0.8%
Local governments / bus operators*	313.1	313.1	313.1	313.1	1 252.3	50.0%
Moldovagaz*	5.5	5.5	5.5	5.5	22.1	0.9%
International	280.0	280.0	280.0	280.0	1 120.2	44.7%
EBRD loan	30.0	30.0	30.0	30.0	120.0	4.8%
NEFCO+E5P	62.6	62.6	62.6	62.6	250.5	10.0%
EIB loan	30.0	30.0	30.0	30.0	120.0	4.8%
EU grant	157.4	157.4	157.4	157.4	629.7	25.1%
TOTAL	626.1	626.1	626.1	626.1	2 504.5	100%

Note: * Contribution of the “private” sector (including municipal companies). EBRD = European Bank for Reconstruction and Development. EIB = European Investment Bank. NEF = National Ecological Fund of Moldova. NEFCO = Nordic Environment Finance Corporation.

Notes

¹ For a recent example, see: http://www.chisinau.md/ro/semnarea-contractului-de-achizitionare-a-celor-100-de-autobuze-noi-20292_245771.html (accessed 12 July 2021).

² See Aid Management Platform at: <https://bit.ly/3razGcX> (accessed 29 January 2021). The totals for the transport sector in general are: EUR 1.09 billion in commitments and EUR 489 million disbursed.

³ Percentages for EBRD and EIB loans calculated to ensure EBRD and EIB participation will be *pari-passu*.

3 Survey of main sources of finance

The chapter is based on the project's first individual report and provides an overview of potential financing sources whose priorities correspond with the focus of the Clean Public Transport Programme. 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. The survey provides a detailed overview of their current priorities and recent activities in the public services sector, including overall budgets for implementation. The chapter also provides a brief insight into the legal and regulatory requirements of public financial management in Moldova, both from the viewpoint of municipal revenues (funding) and expenditure (financing). The chapter concludes with possible synergies with other donor-funded programmes in Moldova. Further details on the main sources of finances resulting from the project's survey are provided in Annexes B and C.

Municipal finance

Fiscal decentralisation (funding)

Although Moldovan municipalities need tens of millions of euros in investment,¹ 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 capacities to fulfil their responsibilities. This is reflected in their financial resources and ability to attract new investments, reduced managerial capacity and higher costs for service delivery.

Local budgets still depend on transfers from the state budget; more than 70% of local budget revenues in 2017-18 came from these transfers (Budianschi, 2019^[1]). This reliance registered a trend upward, especially after the local public finance reform of 2013, fully implemented from 2015.² The growth rate of income from fiscal transfers surpasses the increase in own revenues in the consolidated local budgets, with 25.3% compared to 20.5% in 2016-18. Except for Chisinau (and partly Balti), second-level LPAs mostly manage resources for predetermined purposes by the central authorities. Contrary to first-level LPAs, the second-level LPAs have no own-source taxes but can collect only fees.

Fiscal equalisation mechanisms ensure that mandatory and basic services are provided in all regions. Local governments benefit from two types of fiscal transfers from the central government. General purpose transfers (*echilibrium*) are financed from the Equalisation Fund based on a differentiated equalisation formula for the regional and local levels.³ Special purpose transfers are allocated to local government budgets for funding of education, regional development, environmental protection, etc. In 2016, around 13% of transfers were general purpose transfers while 87% were earmarked transfers (OECD/UCLG, 2019^[2]).

Beyond the transfers from the state budget, only a few revenue sources contribute substantially to local budget revenues. Property taxes, local taxes and revenue from services and administrative charges provide over 86% of income from own sources in LPAs of the second tier (Budianschi, 2019^[1]). Until 2014, local governments benefited from personal income tax and corporate income tax. With the modification of the tax-sharing arrangements, the corporate income tax goes to the state budget while the personal income tax is redistributed according to the following share: 20% for villages, 35% for cities that are capitals of the districts (*rayons*), 75% for towns and cities with the status of municipality, 50% for Chisinau and 45% for Balti (Budianschi, 2019^[1]).

Fiscal decentralisation efforts have so far not translated into marked increases in financing capacities. Meanwhile, access to credit is limited. The loans on the internal market are seen as expensive because of high interest rates and short tenures. While the analysis shows that loan terms from international financial institutions (IFIs) could be the most favourable to municipalities, exchange rate risk for loans in foreign currency discourages small and medium-sized enterprises from pursuing such solutions. Further, municipalities typically expect to receive grants from donors and IFIs and do not actively look for other means of financing.

Local governments engage in single-year budgeting. While a medium-term expenditure framework exists at the national level, local governments need at least to introduce multi-year financial and investment planning reflected in a multi-year investment budget. However, small cities also have low investment capacity due to a dearth of staff in general and, more specifically, qualified staff in project planning and implementation, as well as financial planning.

Fiscal rules (financing)

The legal framework on fiscal decentralisation of Moldova is governed primarily by the Law on Local Public Finance (2003, last amended 2021),⁴ Law on Administrative Decentralisation (2006, last amended 2020)⁵ and Law on Public Sector Debt, State Guarantees and State Re-crediting (adopted 2006, last amended 2018).⁶

There are two guiding principles regarding fiscal rules set out by the Law on Local Public Finance (397/2003). First, and most importantly, the law imposes balanced public spending (Art. 13). In other words, budget expenditures must be equal to revenues plus funding sources. For this purpose, LPAs must take all necessary steps to maintain a balanced budget (approved, amended or executed). This implies avoiding budgetary deficits (i.e. negative balance of the budget).

According to the law (Art. 2), local budgets include:

- First-level local budgets, which represent the budgets of villages (communes), cities (municipalities, except for Balti and Chisinau).
- Second-level local budgets, which represent the district budgets, the budget of the autonomous territorial unit with special legal status, the municipal budgets of Balti and Chisinau.

At the same time, the Law on Local Public Finance (397/2003) allows local governments in Moldova to access debt markets and, therefore, implement projects or development programmes using long-term direct crediting (Art. 15). The municipalities⁷ have a possibility to borrow for capital investments (“Golden Rule”) both domestically and abroad.⁸ The law also enables local authorities to issue guarantees on borrowing to municipal enterprises and commercial companies with full or majority municipal capital (both from IFIs and from the country).⁹

According to the law, the annual loan repayments (principal payments and interest) cannot exceed 20% (for Chisinau and Balti, 30%) of own municipal budget revenues, excluding special transfers from the central government (Art. 15).¹⁰ According to the Law on Public Sector Debt, State Guarantees and State Re-crediting (419/2006), the administrative-territorial unit (ATU) may contract long-term debt for the following purposes (Art. 45):

- financing capital investment projects/development programmes
- refinancing the previously contracted long-term debt to achieve the purpose provided for in (a), and at more advantageous conditions than the debt to be refinanced.

While the respective local council needs to approve all loans, all loans denominated in foreign currency need additional approval from the Ministry of Finance (as for municipalities, these need to be sovereign guaranteed loans). According to the Law on Public Sector Debt, State Guarantees and State Re-crediting (419/2006), local authorities must obtain prior approval of the Ministry of Finance before long-term borrowing. The law requires LPAs to co-ordinate in advance the contracting of the debt and/or the granting of guarantees for loans, as well as the issue of long-term securities with the Ministry of Finance (Art. 46).

The opinion of the Ministry of Finance and its aligned Authorisation Committee is binding and is based on following criteria:

- the ability to repay the debt
- the compatibility of the financial conditions for attracting funds with the objectives of the ATUs’ debt management policy
- compliance of the projects planned to be financed from the sources attracted with annual and multi-annual development programmes
- compliance of contracting the debt/granting the mentioned guarantee with the restrictions established in the Law on Local Public Finance.

All decisions on debt issuance and/or guarantees provision, as well as long-term securities issuance, is co-ordinated in advance with the Ministry of Finance. A prior approval of the Ministry of Finance is a mandatory pre-condition for signing the financing/guarantee agreement (Art. 46).

On the other hand, according to the Law on Local Public Finance (397/2003), the obligation to repay the debt in line with the terms and conditions of the contract rests on the respective ATU authority. The national government cannot be invoked as a guarantor of the repayment of the debt (Art. 16), as neither a direct, nor indirect obligation is incurred. In case of foreign currency denominated debt, the Law on Public Sector Debt, State Guarantees and State Re-crediting (419/2006) provides that the currency exchange risk is borne by the beneficiaries of on-lending from the state or of loans backed by a state guarantee (Art. 13).

The Law on Local Public Finance (397/2003) also allows local governments in Moldova to secure long-term loans for capital investments by issuing municipal bonds denominated in the national currency (Art. 15).¹¹ These can be used to finance infrastructure investments (road infrastructure, water and sewerage, renovation of public buildings or purchase of long-term operating equipment) or to re-finance long-term debt incurred to finance capital investments.

Municipal bonds were introduced as a measure to increase local self-governance. LPAs launched the first municipal bond issues in August 2021, with the support of commercial Bank Victoriabank SA. The first two LPAs to launch public bond offers were the City Hall of Singera (for expansion of the water supply and sewerage system) and the City Hall of Ceadir-Lunga (for rehabilitation of some local roads).

In March 2022, Chisinau municipality expressed its intent to attract financing through a bond issue to modernise its trolleybus fleet, and the city council approved the plan. The total value of the project is MDL 99 million, of which the amount borrowed through the bonds is expected to be MDL 65 million, for a maturity period of seven years.¹²

Domestic financing institutions have some interest in financing local government projects (e.g. Mobiasbanca). On the other hand, local government interest in domestic loans tends to be low due to key barriers: the need for loans to be denominated in local currency (foreign currency-based loans are only possible through sovereign loans, which act as a bottleneck to local financing), high interest rates and short repayment periods. Local governments also cite the debt limits capped at 20% of annual capital and interest payments and additional constraints from the Ministry of Finance as barriers.

As one example of international financing for LPAs, the Nordic Environment Finance Corporation (NEFCO) offers small loans in local currency at 3% for five years, including a one-year grace period for energy efficiency projects. For the European Investment Bank (EIB), the typical loan conditions (in EUR) are an interest rate of 2%, a grace period of 3 years and repayment in 20 years, with a minimum debt service coverage ratio of 1.2. There are few projects of blending finance. The European Bank for Reconstruction and Development (EBRD) with the European Union and EIB has implemented a water supply and sanitation project in six districts (second tier LPAs), with one-third of the project budget offered as loan.

Domestic financing sources

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. The NRDF relies on resources representing 1% of the state budget, while the NEF relies on environment-related charges established in Law on Payment for Environmental Pollution (1998, last amended 2021).¹³ The NEF applies the polluter pays principle (i.e. charges on environmental pollution or environmentally harmful goods).

All revenues are earmarked for projects contributing to implementation of national strategies. Most NEF resources are dedicated to water and wastewater, while the NRDF focuses on investing in roads infrastructure and water supply and sanitation.

Table 3.1 provides a brief overview of the main domestic sources of finance for infrastructure investments, both from public sources (national and local levels) and the private sector (transport, banking).

Table 3.1. Domestic financing sources – budget and priorities

	Budget	Current priorities
National Ecological Fund	MDL 150 million in 2008 up to MDL 400 million in 2018. Approx. MDL 300 million allocated in 2019. Approx. MDL 500 million allocated in 2021.	Mainly water and wastewater (In 2018 and 2019, 90% and 95% of total expenditures).
National Regional Development Fund	MDL 200 million in 2017 and 2018 allocated annually. MDL 220 million allocated annually 2019-21. In 2021, MDL 200 million earmarked for regional development projects.	From 2010-20, 102 projects approved for funding: regional and local roads (41%) water supply and sanitation (27%) means of transport not among priorities
Local governments	MDL 6.2 billion (Chisinau). Transfers from national government account for majority of budget revenues (approx. 33-60+%).	various: water and wastewater, solid waste, regional and local roads, energy efficiency.
Moldovagaz	Has funds to build required infrastructure – CNG stations close to the bus fleet pool. Main clients in Chisinau are taxi companies (75% of vehicles use CNG). Other potential clients would be minibuses, provided operators are incentivised to use CNG to renew their licences. MDL 130.5 million investment programme in 2020.	Public awareness campaign on the efficiency and importance of using CNG transport. Construct infrastructure according to demand: public transport in Chisinau, followed by the other cities, including interurban transportation.
Commercial banking sector	Total assets of the banking sector amounted to MDL 92.5 billion (about EUR 4.43 billion) at the end of the first quarter of 2020, an increase of 2.1% over the previous period. As of 31 March 2020, gross loan portfolio accounted for 45.4% of total assets, or MDL 42 billion (about EUR 2.1 billion), an increase of 4.1% over the previous period.	Loan portfolio: mainly trade and purchase/construction of real estate.

Note: CNG = compressed natural gas.

Source: Authors' compilation based on information provided by representatives of the respective institutions and (EC, 2020^[3]). For commercial banking sector: National Bank of Moldova.

Table 3.2 outlines main steps and their sequence for the CPT Programme to make use of available domestic financing sources and instruments. Above all, the programme requires integration into the main government policy framework. Also, some actors mentioned that Moldova needs to revise the national energy strategy and the transport infrastructure and logistics strategy (e.g. Moldovagaz¹⁴). The international community can also play a more active role in the dialogue with LPAs. Specifically, they should discuss the environmental and economic benefits of installing green technologies and using cleaner fuels both for citizens and municipal budgets. Voices of independent experts on environmental and energy issues are not being heard sufficiently.

Table 3.2. Domestic financing sources – possible support for clean public transport/CPT Programme

	Outlook for public transportation	Steps required	Timing
National Ecological Fund	Within EU4Environment, in 2022, money can be allocated for transportation (according to EU Delegation).	Mainstream CPT Programme in government policy. Include public transport (air quality and climate protection) in priorities.	Call for proposals Budget proposals July 1 Parliament adopts Dec. 1
National Regional Development Fund	Current call includes urban connectivity and mobility — modernisation of road infrastructure and urban services of public transport. Backlog of projects.	Mainstream CPT Programme in government policy.	Call for proposals Budget proposals July 1 Parliament adopts Dec. 1
Local governments	Two largest and four smaller have public transport as priorities, contingent upon financing.	Mainstream CPT Programme in government policy. Financial support instruments needed due to reliance on grants.	Budget cycle: July-December
Moldovagaz	Moldovagaz developed a study on using CNG as a fuel for municipal transport in Chisinau. Willingness to co-finance pilot projects (two buses and waste management truck). Operating cost savings from CNG as a means of financing.	IFIs and development partners to lobby for the CPT Programme implementation.	n.a.
Commercial banking sector	No loans given to date. Driven by local government priorities.	Mainstream CPT Programme in government policy. Financial support instruments needed due to reliance on grants.	n.a.

Note: CNG = compressed natural gas.

Source: Authors' compilation based on information provided by representatives of the respective institutions and (EC, 2020^[3]). For commercial banking sector: National Bank of Moldova.

International financing sources

As discussions with the IFIs and other donors in Moldova have revealed, priorities are centred around public infrastructure (e.g. public roads, railways) and their new construction, rehabilitation or maintenance. Improving public services (e.g. municipal transport) also plays an important role for increasing the quality of life of Moldovan citizens (healthier environment, access to jobs, families and other public services). This includes both the traffic management, as well as renewing the outdated public transport fleet. These activities also help national authorities in Moldova to reach their environmental and climate-related objectives (e.g. reduction of greenhouse gas emissions) and fulfil the respective international commitments (Nationally Determined Contributions, Sustainable Development Goals) (Table 3.3).

Table 3.3. International financing sources – current activities and priorities

	Current activities	Current priorities
EBRD	Mandate over GCF funds in Moldova. This comes in tandem with Green Cities Framework, under which eligible municipalities are those with a population of at least 100 000.	Loan to MAIB: EUR 5 million under Green Economy Financing Facility (GEFF) (for private sector energy efficiency investments). Recently approved Green Economy Transition 2.1 for 2021-2025. The EBRD aims to harmonise its aims with Moldova's NDCs/SDGs. Commitment to helping Moldova meet its NDCs under Paris Accord.
EIB	Engaged with Chisinau in an investment programme for urban roads. Contract under negotiation. In 2019, approved railway project for Moldova.	EU Climate bank: electric public transport eligible under framework loan. No diesel. Framework loan: approx. EUR 50 million and a project cost of EUR 0.5 million and would include financing for renewal of bus fleets, as well as ancillary investments such as road improvements, bus lanes, bus stops and stations.
EU Delegation	Large-scale transport investments in Moldova, mainly roads and railways. Co-operates according to framework agreements with municipalities, e.g. Cahul and Ungheni. Chisinau and Edinet were selected in a call for proposals "Partnerships for sustainable cities". Chisinau: traffic management, policy dialogue on traffic management at municipal and ministerial levels, e-ticketing. Later stage scaling-up to correspond with renewal of transport fleet. Edinet: local public services, including public transport.	Direct municipal co-operation. Green Deal and Transport & Mobility Strategy: invest in energy-efficient transport and reduce carbon footprint.
World Bank	Local Roads Improvement Project for Moldova: safe and sustainable local road accessibility to education, health and market facilities along selected corridors. Rehabilitation and upgrading of about 300 km of priority local roads 2015-22.	USD 80 million loan facility. About USD 31 million disbursed.
NEFCO	Results-based green financing of LPA projects that reduce emissions harmful to the environment. Difficulty finding partners, as most local authorities are reluctant to take out loans. Moreover, because of donor interest to invest in public infrastructure, local authorities are used to grants.	Energy Saving Credits (ESC) loan programme, offering small-scale financing to municipalities. Projects: energy efficiency in social facilities and street lighting – green projects that lead to energy savings. Maximum loan: EUR 500 000, max. co-financing 90% of project costs. MDL denominated; 3% annual interest rate; five-year tenure.

Note: EBRD = European Bank for Reconstruction and Development. EIB = European Investment Bank. GCF = Green Climate Fund. MAIB = Moldova Agroindbank. NDC = Nationally Determined Contribution. NEFCO = Nordic Environment Finance Corporation. SDG = Sustainable Development Goal.

Table 3.4 shows a brief overview of the international actors in Moldova with regard to the (clean/urban) transport sector. Increasingly, sustainable transport plays an important role 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 financing instruments range from sovereign and framework loans to direct loans to (and direct co-operation with) the municipalities or even the private sector. 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.

Annex C provides more detailed information on the international actors and their projects with the local authorities in Moldova.

Table 3.4. International financing sources – possible support for clean public transport/CPT Programme

	Outlook for public transportation	Mode of cooperation	Timing
EBRD	Moving away from fossil fuels and encouraging green investments. Hybrid, trolleybuses and electric buses will be preferred over CNG and LPG buses (no diesel). For electric buses, energy source is important, with coal-fired power viewed less favourably. In talks with Executive Committee of Gagauzia, which is considering public transport including buying electric buses. Assist MoE to drive and promote its policy aims and strategic directions.	Mobilise and blend three sources: own loans, GCF funding and grants. Loan facility. Gradual investment programme – government-led and subject to LPA debt capacity.	GoM driven. 2022 possible.
EIB	Interested in transport fleet component. Clean Transport Facility (CTF): umbrella to support the deployment of new cleaner technology in transport by making use of EIB tools.	Framework loan. Sovereign loan. Loan to LPA. Loan to private sector subject to state aid rules.	2022 and later.
EU Delegation	Currently in budgeting phase. Substantial part will be allocated for sustainable transport, in line with EU goals for reducing greenhouse gas emissions, including those generated by transport. Overall financial envelope not known.	Framework agreements. Grants, with national co-financing. Projects directly with municipalities.	Financing possibility in 2022, discussions should start in March–April 2021. Political stability is a prerequisite.
World Bank	Currently focused on roads.	Loan facility.	Possibly after 2022.
NEFCO	No fossil fuels project will be supported, unless there is a combination of a photovoltaic park, the energy of which would be used by electric transport. Loans up to EUR 5 million, covering up to 50% of total project cost. Work with large municipalities with good financial and project implementation capacity.	Loans, with co-financing.	Ongoing.

Note: CNG = compressed natural gas. EBRD = European Bank for Reconstruction and Development. EIB = European Investment Bank. GCF = Green Climate Fund. GoM = Government of Moldova. LPG = liquefied petroleum gas. MoE = Ministry of Environment of Moldova. NEFCO = Nordic Environment Finance Corporation.

Some IFIs and donors (e.g. NEFCO¹⁵) have described a difficulty in finding partners,¹⁶ as most local authorities are reluctant to take out loans. Moreover, because of the desire of donors to invest 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).

Synergies with other programmes

In 2020, the Small Grants Programme (SGP) of the Global Environment Facility (GEF) approved a country programme for 2021-25 in Moldova. The programme is focused on innovation, inclusion and impact (“the 3Is”). Catalysing sustainable urban development is one of five strategic priorities. Environment-friendly and climate-related objectives are the core in all strategic areas, including agriculture, biodiversity, energy, and chemicals and waste.¹⁷

The programme promotes community-led initiatives to mobilise bottom-up actions led by local civil society organisations. Therefore, only public entities are eligible for SGP grants (with a maximum budget of USD 50 000 per grant and representing max 50% of the total project budget). Private companies can benefit from the technical and financial support only in case of their co-operation with LPAs or NGOs, for instance, through a public-private partnership.

The SGP can also provide a larger grant (maximum of USD 150 000) for strategic projects, such as replicating successful pilot approaches and scaling up pilot projects (e.g. EcoVisio in Moldova¹⁸) or be part of a larger co-financing scheme with other IFIs and donors. The United Nations Development Programme (UNDP) is implementing the programme, on behalf of the GEF partnership, and therefore it closely relates to other UNDP-led activities (EU4Moldova, EU4Climate, Green City Lab).

The EU4Moldova's Focal Regions programme, public transportation and urban mobility are generally elements of local socio-economic growth and improving living standards of citizens. The two focal regions – cities of Ungheni and Cahul and their neighbouring communities – are at a different level of developing their public transportation system. Before any investment can take place, let alone in a finance-intensive public transport sector, LPAs need a clear vision. As part of this exercise, the programme helps cities develop concepts for Smart regions.

Based on the vision and the concepts, a specific action plan can be developed to improve public service transportation. Public authorities can access several financial instruments once the strategic documents at local level on developing public transport are prepared and approved. There is EUR 5 million in investments for redesigning urban centres in Ungheni and Cahul. This might also include public infrastructure – parking lots, bus stations and bike lanes.

The programme will be implemented over five years (2019-24), with a budget of approximately USD 25.89 million.¹⁹ EU4Moldova programme's interventions should be considered mobilising, catalysing and opening the road for other interventions. There is an EIB loan already available for Moldova of EUR 100 million. Some of these resources can be linked to EU4Moldova interventions and directed to improvement of solid waste management service, while considering the regional context.

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Notes

¹ Moldova's financing gap in 2022 is estimated to be 3.2% of the country's GDP and MDL 8 648 million (EUR 460 million) (IMF, 2022^[4]).

² The reform introduced changes to the allocation of transfers to local governments and local budget formulation. The principle of balancing local expenditures to a certain minimum level, established nationwide, was replaced with a new formula focusing on local fiscal capacity. Local government powers over taxes on economic activities (corporate income and wage taxes) have been removed (OECD/UCLG, 2019^[2]).

³ For the local level, allocation of funds is carried out in inverse proportion to the fiscal capacity per inhabitant multiplied by 1.3 and in direct proportion to the population and area. For the regions, transfers are calculated using two indicators: population and district size (OECD/UCLG, 2019^[2]).

⁴ Law No. 397 of 16 October 2003 on Local Public Finance, published on 19 October 2003 in Official Gazette No. 248-253, Art. 996. Available at www.legis.md/cautare/getResults?doc_id=129334&lang=ro (accessed 12 October 2022).

⁵ Law No. 435 of 28 December 2006 on Administrative Decentralisation, published on 2 March 2007 in Official Gazette No. 29-31, Art. 91. Available at www.legis.md/cautare/getResults?doc_id=125085&lang=ro (accessed 4 October 2022).

⁶ Law No. 419 of 22 December 2006 on Public Sector Debt, State Guarantees and State Re-crediting, published on 9 March 2007 in Official Gazette Nr. 32-35, Art. 114. Available at www.legis.md/cautare/getResults?doc_id=116876&lang=ro (accessed 14 October 2022).

⁷ This applies not only to all administrative-territorial units, but also to state/municipal enterprises and companies with full or majority public capital.

⁸ Including financial institutions and from other creditors in the country and for external loans from or loan guarantees for international financial institutions.

⁹ The Law on Public Sector Debt, State Guarantees and State Re-crediting (419/2006) reiterates that debt contracted by state/municipal enterprises and commercial companies with full or majority public capital does not constitute state debt or debt of administrative-territorial units (Art. 43).

¹⁰ In November 2016, eight cities (Cahul, Ceadir-Lunga, Edinet, Hincesti, Orhei, Soroca, Straseni and Ungheni) obtained the status of municipality (beside the three existing ones – Chisinau, Balti and Comrat). This allows them to keep 20% of the total taxes collected in the municipal budget. However, while Chisinau, Balti and Comrat are considered part of the second tier ATU, the other eight municipalities are of the first tier.

¹¹ In accordance with the provisions of Law No. 171 of 11 July 2012 on the Capital Market.

¹² For more information, see, for instance: [www.chisinau.md/libview.php?l=ro&idc=403&id=38006&t=/Presă/Comunicate-de-presă/Rezultatele-ofertei-publice-de-obligatiuni-municipale-emise-de-Primăria-Chiinau](http://www.chisinau.md/libview.php?l=ro&idc=403&id=38006&t=/Presa/Comunicate-de-presă/Rezultatele-ofertei-publice-de-obligatiuni-municipale-emise-de-Primăria-Chiinau) (accessed 14 October 2022).

¹³ Law No. 1540 of 25 February 1998 on Payment for Environmental Pollution, published on 18 June 1998 in Official Gazette No. 54-55, Art. 378. Available at www.legis.md/cautare/getResults?doc_id=131980&lang=ro (accessed 11 October 2022).

¹⁴ Information received during a meeting with representatives of Moldovagaz company on 5 November 2020.

¹⁵ Information received during a meeting with representatives of Sinergetika company on 27 October 2020.

¹⁶ A similar finding was presented in the Municipal Finance Study on Energy, Climate and Environment Sectors in Eastern Partnership Countries (EC, 2020_[3]). For the final report and webinar, see <https://com-east.eu/hy/news-events/item/13462-municipal-finance-study-on-energy-climate-and-environment-sectors-in-eastern-partnership-countries> (accessed 17 November 2022).

¹⁷ Since its inception, the SGP has provided over USD 724.91 million of GEF and other donor funds to over 26 429 projects around the world. In addition, over USD 876.94 million have been mobilised as co-finance to community-based projects. In Moldova, the SGP foresees implementation of projects worth USD 2.84 million over 2012-24. For more information, including the GEF SGP Country Programme Strategy (CPS), see www.undp.org/moldova/projects/small-grants-programme-global-environment-facility (accessed 15 November 2022).

¹⁸ Information received during a meeting with a GEF SGP representative in Moldova on 4 November 2020.

¹⁹ For more information on “EU4Moldova: Focal Regions”, see www.undp.org/moldova/projects/eu4moldova-focal-regions (accessed 27 September 2022).

4

Review of potential beneficiaries

This chapter presents in short the current situation of municipalities in Moldova with regard to provision of public transport services. In particular, the review includes the 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 chapter introduces the main legal and regulatory framework in relation to public transport in Moldova in light of the municipal and private transport operators' co-existence. It also outlines the main policy documents prepared by focal cities and their ongoing investments in the sector, both of which indicate the priorities and challenges faced by municipalities. Specifically, the revision of CPT Programme inputs considered the plans of the administrations and their investment needs in their respective municipal public transport areas. Further details on the beneficiaries based on the survey are presented in Annex A.

Update of CPT Programme

This original Clean Public Transport (CPT) Programme developed in 2017-18 has been partly revised. These revisions apply to assumptions on the number and types of required vehicles (given investments in the meantime and including additional beneficiary focal cities), their expected unit prices and expected outcomes (e.g. pollution reduction). For example, international financial institutions (IFIs) interviewed for this study (see Chapter 3 and Annex C) will no longer finance diesel buses; the update reflects these policy changes.¹ The CPT Programme revisions will be included as a chapter in the update of the Programme on Promotion on Green Economy 2023-2027.

As a first step in this revision, Table 4.2 below provides a survey of the main stakeholders – municipalities and their public transportation service providers. Annex A provides additional detail. Table 4.1 gives an overview of the population in the focal cities and their municipalities.

Table 4.1. Population of the focal cities and their municipalities, 2019

(thousand)

	Chisinau	Balti	Ungheni	Cahul	Edinet
Resident population (city)	695.4	146.9	38.3	39.4	18.4
Resident population (municipality)	832.9	151.8	116.7	124.1	79.2
Present population (city)	639.0	122.5	32.7	35.6	18.2
Present population (municipality)	779.3	127.2	105.5	115.4	78.2

Source: National Bureau of Statistics of Moldova (<https://statistica.gov.md>).

Current challenges in the sector

Generally, municipalities in Moldova – which provide public transport services² – cope with challenges connected with such transport networks that are far from marginal. 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 cover 18 suburban areas in Chisinau and 2 micro-rayons in Balti).

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.³ At the same time, it is (should be) economically more efficient if minibuses serve smaller or more distant suburbs (due to fewer passengers). 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 seem a desired solution.⁴

According to the Law on Public Services of Communal Households (adopted 2002, last modified 2015),⁵ the management of public utilities, including public transport, is organised through direct or delegated management (Art. 17). Direct management implies that local public authorities (LPAs) assume all the tasks and responsibilities related to the organisation, operation, administration and management of public services through specialised departments. Each public utility established and operated under the direct management regime operates under a statute prepared and approved by the local public administration (Art. 18). In the case of delegated management, the LPAs may contract (Art. 20) one or more operators to manage the provision of public utility services (Art. 19).

Second, the bus fleet is based on outdated technologies (diesel without emission norms) and has largely depreciated (e.g. about half of the fleet in Chisinau⁶). It is a task both for municipal as well as private PTOs

to invest in the modern bus, minibus or trolleybus fleet. Because of large volumes of investments and an urgency to implement these measures, the municipalities usually focus on traditional technologies (or even secure second-hand products, if they can). The preference of economic over environmental criteria is legitimate under these constraints. However, 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.

As private operators, the minibus companies are not included in planning and budgeting of the public transportation system. While minibus providers do not receive municipal subsidies, they also are unable to increase prices. This leads to a vicious cycle of declining service quality from deteriorating buses and lack of support for price increases. At the same time, the companies are said to under-report revenues and do not invest any profits in fleet improvement.

Cities (and, 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. Such providers could continue providing services. For example, a large provider could manage a financial package of loans and subsidies to replace its fleet. However, they 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 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, PTOs also provide public transportation services. 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 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.

Developing policy documents

With the support of development partners, the city of **Chisinau** has conducted analyses and prepared development policy documents to improve public services, including urban public transport. It has developed a Green City Action Plan (GCAP) and established the Green City Lab, operated by the United Nations Development Programme (UNDP), undertaking various activities from the GCAP. The city is also considering reforming its Public Transport Department to increase its capacities (also relying on external support).

Chisinau also established a working group (WG) of the municipal council to identify technical solutions and financing options for the renewal and replacement of the public transport fleet. The WG published a report,⁷ based upon which Chisinau Municipal Council approved an action plan. Besides the renewal of the fleet, the city plans to introduce electronic ticketing and digitise route information, as well as install dedicated bus lanes.⁸

Also, the city of **Balti** has defined municipal public transport as a priority. In 2019, Balti joined the European Bank for Reconstruction and Development (EBRD) programme for urban sustainability (Green Cities). EBRD will support the municipality to develop a GCAP to identify, prioritise and address environmental challenges. The programme will also develop a Transport and Logistics Strategy (TLS) for the city.

The city aims to apply the findings from the GCAP and the TLS to determine, among others, the number of transportation units required to meet demand. The precise needs of the city for new buses was to be

known in 2021, albeit after the financial envelope of the CPT Programme will have been defined. Nevertheless, a reasonable estimate of investment needs can be made.

In the city of **Ungheni**, as part of co-operation with the European Union (EU4Ungheni), an urban mobility survey showed that public transportation and alternative transport (cycling and walking paths, etc.) was a concern for residents. This survey will provide input into the Urban Mobility Plan, which was under preparation (as of October 2022). The city aims to expand public transportation service to the entire region.

The city of **Cahul** is also a beneficiary of the EU-funded project (EU4Cahul). The city hoped to have an urban mobility plan and feasibility study for public transport by October 2021, which would provide insight into the extent of investment needs in public transport. The city was also planning to consider whether to establish a public transportation service provider or continue co-operation with private entities.

The city planned to request findings from studies in 2021 to help determine the number of transportation units required to meet demand, albeit after the financial envelope of the CPT Programme will have been defined. Nevertheless, a reasonable estimate of investment needs can be made. The city is open to considering compressed natural gas (CNG) and electric buses but would need exact estimates (for the local council to make an informed decision).

In 2021, the EU-funded EUR 4.36 million project “Edinet – insights into tomorrow cities” was launched. It was to take place under the EU’s regional programme “Local Authorities: Partnerships for sustainable cities” in the Neighbourhood East and South. Together with Cahul and Ungheni, **Edinet** works under the EU4Moldova umbrella.

One component of this project is public transportation (together with water supply and sanitation, public lighting, business education or living conditions).⁹ As part of this co-operation, an urban mobility plan for the city of 18 400 was developed and on the agenda of the municipal council for approval at its autumn 2022 meeting. The public transportation component will begin implementation (the overall timeframe is until 2025). The urban mobility plan will be part of the general urban development plan.

Edinet’s urban mobility plan will provide insight into the required number of buses in the city. The new public transportation unit, as well as earmarked funds for direct investment, among others, in the public transportation fleet underline the priority of public transport for the city. The findings from studies in 2021 will help determine the number of transportation units required to meet demand, albeit after the financial envelope of the CPT Programme will have been defined. Nevertheless, a reasonable estimate of investment needs can be made.

The actual investments were expected to take place from the second year of project implementation. In 2021, the city did not expect to explore electric transport, but rather other environment-friendly solutions, such as cycling infrastructure or car sharing. For development of smart urban solutions, the city relies on its partnership with Alba Iulia from Romania.

The EBRD was in talks with the Executive Committee of **Gagauzia**, which is considering public transport including purchasing electric buses. The city of **Orhei** can also be approached and should be eligible for assistance.

Ongoing investments

The pilot cities of the CPT Programme – Chisinau and Balti – have moved forward with replacement of their public transportation fleets.

In July 2020, to replace the most depreciated transport units in the fleet, **Chisinau** decided to purchase 100 Euro V diesel buses. The city reasons that diesel buses are cheaper and more affordable and that new buses are urgently needed to meet citizen demands. The tender procedure to buy these buses, however, was contested by the other economic operator that had provided an offer. As a result, the

National Agency for Settlement of Claims annulled the decision of Chisinau City Hall to award the purchase contract to the MAZ company. The city issued a new decision in favour of another economic operator in the public auction.¹⁰

All the buses were delivered to Chisinau by the end of 2021. As approximately half of Chisinau's public transport fleet needs to be renovated, the 100 new vehicles were meant to solely serve the existing routes and not its extension. However, there has been some criticism that the municipal council bought Euro V and not Euro VI vehicles.¹¹

The city has a pipeline to support investment in buses and trolleybuses. From 2020-23, Chisinau municipality plans to assemble 150 buses (engine type not specified), 70 trolleybuses and 20 articulated trolleybuses. Trolleybus purchases – with a final assembly in Moldova – are to be based on a joint venture with Belarusian company Belkommunmash and the local service provider, RTE Chisinau.¹² In March 2022, the number of trolleybuses operated by RTE Chisinau increased to 430 units, including 332 vehicles assembled based on a licence from Belkommunmash since 2012.¹³ In addition, it plans to acquire 18 used articulated trolleybuses from Riga.

Chisinau would be interested in replacing and rehabilitating its bus fleet with more green technology if investment subsidies are available. Because it produced a study on its immediate and medium-term investment needs in the public transport sector, it will be possible to estimate possible support levels from the CPT Programme.

The city has considered investment in CNG buses in co-operation with Moldovagaz. In February 2021, Moldovagaz was invited to become a member of the WG for public transportation. However, the city has decided not to pursue such investments because of the perceived higher investment cost, the lack of necessary infrastructure and the high number of buses necessary to update the fleet.

The city has stated it would be interested in a heavily co-financed investment in CNG buses, as well as pilot projects. However, it is not ready to contribute significant financing due to budget constraints and the many needs in other sectors as well. Nevertheless, the city considers that CNG can be a medium-term option ("in approximately five years"). It could be convinced otherwise if its up-front investment costs could be lowered and the benefits from lower operating costs from CNG buses can be demonstrated.

In 2021, the city of **Balti** replaced 11 trolleybuses, with the financial support of EBRD and E5P (EUR 2.5 million loan and EUR 1.2 million grant, respectively). The city plans for the 11 new trolleybuses to serve new city areas, while existing minibuses will serve narrow streets. It plans to work to eliminate overlapping schedules and routes of public and private transportation units. The city plans to negotiate with three to four of the largest private service providers to improve the transportation network. Currently, eight private companies own 100 vehicles (minibuses).

Accompanying actions include expansion of the trolleybus network and improvement of overall service efficiency. In addition, the loan will finance rehabilitation of old power supply infrastructure and acquisition of maintenance equipment. Additional EBRD funds will support technical implementation of the project and the Bank will also provide support in developing a sustainable public transport plan.

As part of a 2015 project with EBRD, the city replaced 23 trolleybuses.

In 2020, the city negotiated an MDL 60 million credit line from commercial banks for road renovation, especially targeting service from wireless trolleybuses. Balti negotiated a borrowing limit of 30% of what they collect from taxes (total 2020 revenues from taxes and fees: MDL 181 million or about EUR 8.6 million).

As part of the *Comunitatea Mea* (My Community) project,¹⁴ the city of **Ungheni** is renovating 146 bus stops in the entire service area (103 in Ungheni proper and the rest in suburbs). This requires an investment of MDL 13.9 million, with the US Agency for International Development to provide MDL 8.6 million.¹⁵ For Ungheni citizens, transport is stated as a number one priority, according to a survey by the municipality

(including non-motorised ways, such as bike lanes or pedestrian bridges).¹⁶ The city has estimated EUR 2 million in investment needs, but this value may change when the Urban Mobility Plan is completed. This amount will be needed for renewal of the bus fleet (approx. 25 minibuses to cover the entire municipality, at a cost of EUR 70 000-120 000 each). The city would like six to seven bus routes, which would cover the renovated bus stops.

With respect to the public transport fleet, three private PTOs run 22 vehicles (as typical in Moldova, the minibuses are converted Sprinter cargo vans and have 22 seats). According to the municipality, a fleet of 25 units would be sufficient to provide complete service. The municipality no longer operates large (Ikarus make) buses on the city main streets (typical during Soviet times). To increase the needed investments, the city is investigating whether to establish a public provider or pursue a public-private partnership. The former would have the advantage of giving the city better control over service, while the latter has the benefit of investments being borne by the private sector (in addition, private providers have garages and fleet bases).

Still, the city will need support for replacement and upgrading of its public transport fleet, regardless of whether it is in private or public hands. Unless a derogation is provided for the existing fleet, the city foresees a collapse of the public transport service. Declining ridership, due to COVID-19, has made it difficult to gain support for tariff increases (set at the 3 MDL per ride level typical in Moldova, i.e. EUR 0.14). This collapse was imminent at the time of this report.

In the city of **Cahul**, a private company is the sole service provider. The fleet comprises 20 minibuses (ranging from small to mid-sized), but not all are operating due to a driver shortage caused by COVID-19 (drivers are typically retired persons, who are at greater risk). Service levels are reportedly low due to the unpredictability of buses.¹⁷

For the city, both private and municipally owned operators would be acceptable (for the latter option, the city is ready to renew respective facilities). The city also sees competition in this area as preferable to a monopoly. As the city stated, interurban public transport is more profitable than only urban transport (one private company serves the adjacent rural areas). As in other cities, low transport fares are a problem for the private PTOs and they required the city council to deal with the issue (not popular for public officials). Some population groups are subsidised on the transport fare (lower monthly subscriptions).

Two private operators provide local public transport in Edinet for one suburban and two urban routes. A feasibility study for the new public transport service shows that subsidies from the local budget are needed for investments and cover the travel costs of vulnerable groups.

Table 4.2. Survey of main potential CPT Programme beneficiaries

Municipality	Current activities	Plans	Investment needs
Chisinau	Seeking immediate replacement of 100 buses with new diesel buses. Established working group for public transport issues. Rapid phasing out of minibuses.	Municipal public transport is a priority. From 2020-23, plans to assemble 150 buses, 70 trolleybuses and 20 articulated trolleybuses. In addition, plans to acquire 18 used articulated trolleybuses from Riga. Electronic ticketing and digital enhancements of busing system.	Approx. 220 buses by 2023 (city estimate).
Balti	Replacing 11 trolleybuses with EBRD assistance. Expansion of trolleybus network and rehabilitation of old power supply infrastructure. MDL 60 million credit line from commercial banks for road renovation.	Municipal public transport is a priority. Plans to apply findings from Green City Action Plan and Transport and Logistics Strategy to determine, among others, the number of transportation units required to meet demand (2021). EBRD to provide support in developing a sustainable public transport plan.	20 buses (CPT-based estimate). Up to 100 minibuses (current private providers).

Municipality	Current activities	Plans	Investment needs
Ungheni	Served by three private operators with a total fleet of 22 minibuses. Under the <i>Comunitatea Mea</i> (CM) programme, renovating 146 bus stops in the entire service area, of which 103 in Ungheni proper. Requires MDL 13.9 million, of which MDL 8.6 million from the CM programme and nearly MDL 5.4 million from the city budget. Beneficiary of the EU4Ungheni project.	Municipal public transport is a priority. EU4Ungheni: urban mobility survey showed residents concerned with public transportation. Urban Mobility Plan under preparation. The city is investigating whether to establish a public provider or pursue a public-private partnership.	25 minibuses (city estimate: EUR 2 million needed).
Cahul	Private company is sole service provider in the city. Fleet comprises 20 minibuses, but not all are operating due to driver shortage. Service levels are reportedly low. Beneficiary of the EU4Cahul project.	Municipal public transport is a priority. Plans for an Urban Mobility Plan and feasibility study for public transport by October 2021 to provide insight into investment needs. Considering public vs. private provider. Open to considering CNG and electric buses.	20–30 minibuses (city estimate).
Edinet	Public transport based solely on private providers with ageing fleet. In 2021, the city launched the EU-funded EUR 4 million programme “Partnerships for sustainable cities in the Southern and Eastern Neighbourhood”, one component of which is public transportation.	Municipal public transport is a priority. Urban Mobility Plan was to be developed in 2021, and in 2022 the public transportation component should begin implementation. Public transportation company will be established and EUR 1 million in direct investments in public transportation units budgeted.	20 minibuses (estimate, pending completion of urban mobility plan).
Gagauzia	Private providers serve Comrat and nearby towns.	EBRD in talks with the Executive Committee of Gagauzia, which is considering public transport including purchasing electric buses.	20 buses and 25 minibuses (rough estimate).
Other	Intercity bus service providers.	Plans unknown.	To be determined in a later phase of CPT Programme.

Source: Authors' compilation based on information provided by municipalities from October 2020 to February 2021.

Reference

OECD (2019), *Promoting Clean Urban Public Transportation and Green Investment in Moldova*, [1]
OECD Publishing, Paris, <https://doi.org/10.1787/31925aee-en>.

Notes

¹ Despite recent examples of financing of diesel waste management trucks, it should be assumed that no diesel buses will be financed from any international source.

² According to Law No. 1402 of 24 October 2002 on Public Services of Communal Households, the management of public utilities, including public transport, is organised through direct or delegated management (Art. 17). Direct management implies that local public administrative authorities assume all the tasks and responsibilities related to the organisation, operation, administration and management of

public services through specialised departments (Art. 18). In the case of delegated management, the local public administrative authorities may call upon one or more operators to manage the provision of public utility services (Art. 19) on a contractual basis (Art. 20). See also (OECD, 2019^[11]).

³ On 1 July 2022, the single-ride fares for buses and trolleybuses in Chisinau increased to MDL 6, from MDL 3 and MDL 2, respectively.

⁴ This works both ways. It would give the municipality control over the quality and reliability of services provided by private PTOs (and move them out of a shadow economy). At the same time, it would qualify private entrepreneurs for investment support from the municipal budget (as they would be included in municipalities' planning and budgeting processes). From this perspective, such a solution would seem to provide a win-win outcome.

⁵ Law No. 1402 of 24 October 2002 on Public Services of Communal Households, published on 7 February 2003 in Official Gazette No. 14-17, Art. 49. Available at www.legis.md/cautare/getResults?doc_id=83605&lang=ro (accessed 15 September 2022).

⁶ Meeting with Chisinau municipality on 28 October 2020.

⁷ Report of the Working Group of the Chisinau Municipal Council. Identification of the technical solution and the optimal financial option for renovation of the rolling stock of the public transport system in Chisinau: www.chisinau.md/public/files/anul_2020/comunicate_de_presa/Transport_Public_Raport_Final.pdf.

⁸ See the Decision of the Municipal Council (No. 6/3 of 19 May 2020) regarding approval of the Plan to renew the public transport fleet in Chisinau for 2020-23. Available at https://www.chisinau.md/ro/decizia-nr-63-din-19052020-cu-privire-la-aprobarea-planului-20297_253058.html (accessed 17 August 2022).

⁹ Personal communication with the project manager (Angela Cascaval) on 18 January 2021.

¹⁰ For more information, see: <https://revizia.md/ro/lupta-maz-si-isuzu-pentru-cele-100-de-autobuze-continua/> and <https://primariamea.md/100-autobuze-noi-cu-aer-conditionat-si-camere-de-supraveghere-ofertele-la-cea-de-a-doua-licitatie-pentru-transport-municipal> (accessed 4 November 2022).

¹¹ Meeting with Chisinau municipality on 28 October 2020.

¹² See the Decision on approving the credit contract between the Commercial Bank Moldova Agroindbank and Chisinau City Hall aiming to continue the trolleybuses assembly. Available at www.chisinau.md/public/files/anul_2020/cmc_2020/cmc_20.10.2020/3_Cu_privire_la_aprobarea_contractului_de_credit_2020.pdf.

¹³ See, for instance, www.moldpres.md/en/news/2022/03/11/22001865 (accessed 10 November 2022).

¹⁴ A five-year USAID-financed project focused on strengthening local government. See www.irex.org/project/comunitatea-mea-my-community (accessed 18 November 2022).

¹⁵ See <http://ungheni.md/peste-100-de-statii-de-asteptare-moderne-in-tot-municipiul-ungheni> (accessed 26 April 2021).

¹⁶ Information received during a meeting with Ungheni City Hall on 22 February 2021.

¹⁷ Information received during a meeting with Cahul City Hall on 22 February 2021.

5 Proposed implementation set-up

This chapter is based on the project's second individual report on establishing the programme implementation unit (PIU). The chapter outlines the roles and responsibilities of the programming and managing authorities and recommends suitable entities to perform these two distinct functions. It supports the programming authority with a roadmap for establishing the PIU. The chapter also proposes a suitable organisational structure for this unit to manage the Clean Public Transport Programme, including personnel requirements or procedures (project cycle management). Finally, it presents the outcomes of the project's review of the potential candidates in light of their readiness to manage the programme (start-up complexity), sufficient capacity to perform the role (including experience and costs) and separation from the programming authority (independence). Annex D provides further details on the reviewed candidates.

Set-up options

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.

The institutional set-up for programme development and implementation includes two levels:

- programming authority (PA) – the Ministry of Environment (MoE)
- managing authority (MA) – entity/organisation specified in this report to implement the CPT Programme.

In addition, the following institution may be considered:

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

This chapter briefly describes the roles and responsibilities of the units and personnel. It also provides guidance on the following elements:

- regulation establishing programme implementation unit (PIU)
- organisational chart
- job descriptions
- organisational procedures (approaching co-financing institutions, review and evaluation of projects, monitoring and evaluation procedures, etc.).

Programming authority

The PA designs the programme, including the following tasks (adapted from (OECD, 2007^[1])):

- **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.
- **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.
- **Select, contract and monitor the PIU** to manage the programme.

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:

- Create or appoint, by ministerial decision, the MA, which will act as the PIU.

- Serve as reporting authority to the external financing institution, such as the Delegation of the European Union to Moldova.
- Appoint/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.

Managing authority

The designated MA drafts the programme's operating regulations (to be approved by the PA). The MA consults with any technical adviser(s) in 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^[1]).

The tasks of the MA are divided into programme implementation stages and comprise:

- **Performing duties as secretariat to the PA in realisation of its functions**, by:
 - preparing, under co-ordination of the PA, documentation related to written procedures, information or other consultations launched under the programme
 - co-operating with relevant organisations, institutions and networks.
- **Launching the programme**, by:
 - preparing the call for proposals with necessary forms and documents
 - launching the call for proposals
 - performing information and publicity activities (e.g. seminars, conferences, trainings) and co-ordinating, under PA supervision, the generation of project proposals by organising information events for potential applicants regarding financing opportunities, programme requirements and application procedures
 - contributing to updating of programme information materials and documents, etc. under the supervision of the PA, and according to an information and communication plan.
- **Selecting project proposals**, by:
 - receiving and registering project proposals
 - assessing proposals for eligibility and taking necessary steps
 - organising technical evaluation sessions, involving external evaluators
 - supporting the PA in the contracting process by preparing related documentation and performing pre-contracting visits to selected beneficiaries.
- **Implementing and monitoring projects**, by:
 - organising and co-ordinating monitoring, including corresponding site visits
 - receiving and conducting operational and financial verification of requests for payments submitted by beneficiaries, together with supporting documents
 - sending verified requests for payment documents to the contracting authority with a notification regarding regularity and compliance of the request for payment with the programme rules
 - introducing and validating data related to projects in a computerised monitoring system.
- **Reporting and ex post evaluation**, by:
 - supporting the PA in performing the programme evaluation by providing relevant information
 - performing *ex post* visits to the projects to check the sustainability of projects and evaluate their impact.

The MA will assist the audit authorities or any controls – national, regional or EU-related (Commission, European Anti-Fraud Office, European Court of Auditors and any external auditor authorised by these institutions and bodies) – in the execution of their tasks by supporting the organisation of the audit and control missions, including the organisation of related on-site visits.

Review of potential implementation forms

Several institutions were identified as suitable 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 (ODA) in July 2022)
- External NGO – EcoContact, Green City Lab
- Commercial banks.

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

The institutions were evaluated according to the following criteria:

- **Main features** – what would be involved in assigning the management of the CPT programme to the given institution? In practice, this refers to how many employees would need to be hired or what changes would be needed in the organisation to implement the programme.
- **Management** – what is the type of management? Government institution, external organisation, etc.
- **Start-up complexity** – how difficult would it be to establish the PIU at the organisation?
- **Experience** – does the institution have any experience with project and/or programme implementation? Are these programmes comparable in size to the CPT Programme?
- **Independence** – is the institution independent? The role of implementation should be separate from programming.
- **Implementation cost** – are there any costs related to the institution serving as the PIU? Implementation costs of the institutions are compared relative to each other rather than by absolute costs. External organisations involve higher costs and government organisations involve relatively lower costs.
- **Financing** – how will the PIU be financed? Budget funds, fees for implementation, donor funds?
- **Main benefits** – what are the main benefits of the given institution serving as the PIU?
- **Main risks** – what are the main risks involved in the given institution serving as the PIU?
- **Readiness by 2022** – how likely will the institution be ready to serve as the PIU by the beginning of 2022?

Besides the general description (main features and form of management), the institutions were evaluated in qualitative terms, including start-up complexity, experience and independence (Table 5.1) as well as implementation costs, financing, main benefits and risks, or readiness by 2022 (Table 5.2). The following tables provide an overview, while Annex D provides additional (background) information.

Table 5.1. Survey of potential PIU forms – main features, start-up complexity

Option	Main features	Management	Start-up complexity	Experience	Independence
Expansion of existing Environmental Projects Implementation Unit	Adding 1–2 additional, permanent employees to the PIU specifically responsible for CPT.	Public institution, already established.	Low	++ Existing; history of project implementation (public information sharing under development).	+ While founder is MoE, it has some degree of independence from the programming authority.
Creation of PIU within MoE infrastructure	Identify up to 4 persons, of which 1–2 permanently focused on CPT implementation.	MoE full control, established by government decision.	Medium	+ Existing employees; some with project implementation experience.	- Separate department/entity within programming authority.
National Environment Agency	Fill agency vacancies to include programme implementation.	Public institution, already established.	Medium	+ Some existing employees and new hires.	+ Subordinated to programming authority, but some independence.
ODIMM – Organisation for Small and Medium Enterprises Sector Development*	Adding 1–2 additional, permanent employees to the institution, specifically responsible for CPT.	Public institution, already established.	Low	++ Capacity to elaborate, promote and implement /manage programmes for SMEs (grants + training).	++ Non-commercial institution Activities in co-operation with Ministry of Infrastructure and Regional Development.
External NGO	NGO is contracted to implement CPT for a limited implementation period.	External to government.	Medium	+ Potential NGOs exist.	++ Independent of programming authority.
Banks	Banks are qualified and selected to administer the CPT.	External to government.	Low-Medium	++ Project finance experience.	++ Independent of programming authority.

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

Table 5.2. Survey of potential PIU forms – financing, benefits, risks

Option	Implementation cost	Financing	Main benefits	Main risks	Readiness by 2022?
Expansion of existing Environmental Projects Implementation Unit	Medium	Public budget Service fees Donor funds	Established entity with some track record. International financing resources could be easier to attract. Separate from programming entity.	International financing sources co-ordinated with the Ministry of Finance. Service fees set by government.	Yes
Creation of PIU within MoE infrastructure	Low	Public budget Service fees Donor funds	International financing resources could be easier to attract.	International financing sources co-ordinated with the Ministry of Finance. Only nominal separation of	Likely

Option	Implementation cost	Financing	Main benefits	Main risks	Readiness by 2022?
				programming and implementing entity Service fees set by government.	
National Environment Agency	Low-Medium	Public budget Service fees Donor funds	International financing resources could be easier to attract.	International financing sources co-ordinated with the Ministry of Finance. Some separation of programming and implementing entity. Service fees set by government.	Likely
ODIMM – Organisation for Small and Medium Enterprises Sector Development*	Low-Medium	Public budget Service fees Donor funds	Established entity with some track record. International financing resources could be easier to attract. Separate from programming entity.	International financing sources co-ordinated with the Ministry of Finance. Service fees set by government.	Yes
External NGO	Medium-High	Service fees Donor funds	Revenues reinvested to NGO operations. Separate from programming entity.	Sustainability of arrangement if NGO has no other projects. Contracting.	Possible
Banks	Medium-High	Service fees Donor or public funds (e.g. for interest rate subsidy)	Sustainable operations of bank. Separate from programming entity.	Contracting.	Possible

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

Recommended PIU

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 have demonstrated readiness to manage the CPT Programme.
- **Sufficient capacity** – both have demonstrated sufficient capacity to manage the CPT Programme. Additional capacity development could be provided to improve performance, but such assistance would be focused and minimal compared to what would be required of other potential institutions.
- **Separation from PA** – both are separated from the PA (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 SMEs rather than on projects with environmental impacts more broadly makes it a third-best option.

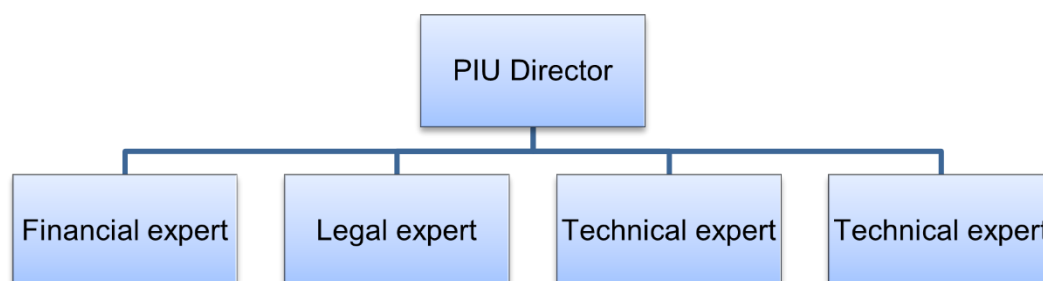
It would pose a risk to sustainability if EcoContact has no other projects and is contracted to implement the CPT Programme for a limited period. The NGO will need other projects before, during and after CPT Programme implementation.

PIU personnel and procedures

The following PIU personnel are required for CPT implementation:

- **PIU Director** – responsible for management, quality control and implementation of the CPT Programme. The PIU Director ensures that deliverables are produced with quality and on time by monitoring progress and providing advice and support. The director must be proficient in the identification, analyses and resolution of problems and effective planning, organising, estimating, scheduling and monitoring of programme activities.
- **Financial expert** – responsible for financial review of project proposals, including plausibility of proposed project results and performance indicators, as well as proposed financing, in particular beneficiary contribution. Leads financial monitoring of projects during implementation.
- **Legal expert** – develops draft contracts for individual project implementation, covering delivery of results and compensation, as well as obligation to report to PIU on project implementation. Ensures legal and contract compliance. Leads monitoring of projects during implementation with respect to relevance, efficiency, effectiveness, sustainability and horizontal issues, as defined in the monitoring and evaluation procedures (Chapter 6).
- **Technical expert (2)** – responsible for technical review of project proposals, including plausibility of proposed project results and performance indicators. Leads technical monitoring of projects during implementation.
- **Other experts** – other technical experts, as needed, depending on number of applications. For the CPT, additional experts are not expected to be needed. In addition, depending on the institutional form selected, the PIU Head may also function as an expert for this purpose.

Figure 5.1. Proposed PIU organisational structure



All PIU personnel will be involved in project monitoring and evaluation, as well as overall CPT Programme monitoring and evaluation.

The following PIU procedures are required for CPT Programme implementation:

- **procedure on approaching co-financing institutions** (as outlined in Chapter 6)
- **procedure and roadmap for programme implementation** (as outlined in Chapter 6)
- **review, evaluation and selection of projects for financing** – to be developed depending on defined programme pipelines
- **monitoring and evaluation procedures** and templates for individual projects and the CPT programme overall.

More detailed job descriptions and procedures were contained in project's sub-output "Establishment of a Programme Implementation Unit". The final versions are to be developed as part of the technical assistance to the selected PIU.

Roadmap for establishing PIU

The present report analyses the potential PIU forms. The roadmap for establishment of the PIU for CPT Programme implementation contains the following elements:

- **Statement of Objectives.** This includes what the PIU is meant to achieve.
- **Definition of Priority Action Areas.** This includes the main areas of PIU activity.
- **Statement of Strategies and Mechanisms Used.** This includes the strategies and mechanisms of the PIU to implement the CPT Programme.
- **Statement of Available Resources.** This includes the financial and human resources required and available to the PIU to ensure CPT Programme implementation.
- **Monitoring and Evaluation.** This includes the monitoring and evaluation procedures of the PIU to implement the CPT Programme. These aspects will be covered in the periodic and final evaluation reports.

These elements are presented in more detail in Table 5.3 (roadmap) and Table 5.4 (action plan).

Table 5.3. Roadmap for establishing PIU

Roadmap component	Key issue	Purpose and means
Statement of objectives	What the PIU is meant to achieve.	Contribute to achieving CPT overall objectives. Achieve physical, environmental and expenditure targets. Ensure CPT Programme is delivered on time, on budget and in accordance with overall objectives.
Priority action areas	Main areas of PIU activity.	Define project pipelines.
Strategies and mechanisms used	Strategies and mechanisms that the PIU will use to implement the CPT Programme.	Promote CPT Programme. Communicate with donors and financing sources.
Available resources	Financial and human resources required and available to the PIU to ensure CPT Programme implementation.	State budget resources covering salaries and/or paid as a fee to the PIU. Five specialised employees, of which OECD contribution to one employee for a limited period. Procedures and manuals for CPT Programme management, as well as monitoring and evaluation.
Monitoring and evaluation	Monitoring and evaluation procedures of the PIU to implement the CPT Programme.	Quarterly and annual monitoring and evaluation reports on CPT Programme with respect to budget, indicators and implementation timeline (see the following section).

Table 5.4. Action plan for establishing PIU

Action	Description	Milestone	Responsibility	Timing
Select PIU for CPT implementation	MoE selects preferred PIU for CPT implementation.	PIU option selected.	MoE OECD support	September 2021
Draft workplan for support to selected PIU	OECD and MoE develop workplan for support to selected PIU.	Workplan for support to selected PIU drafted and agreed.	OECD MoE approval	By end September 2021
Develop PIU regulations	MoE and OECD develop required regulations to establish PIU.	Regulation establishing PIU drafted, agreed and published.	MoE OECD support	Mid-October 2021
Develop PIU procedures and manuals	OECD and PIU develop procedures and manuals (capacity development).	Procedures developed (organizational chart, job descriptions, internal working procedures, communication with financing institutions). CPT Programme manuals developed (programme description, list of pipeline, funding applications, guide for applicants, monitoring and evaluation).	OECD Selected PIU MoE	October-November 2021
Implement capacity development programme	OECD provides capacity development on programme management training.	Training programme on CPT Programme implementation. PIU and MoE employees invited to attend.	OECD Selected PIU	November 2021
Announce CPT Programme	PIU announces CPT Programme	CPT Programme start is announced.	PIU of CPT Programme	II Q 2022

Monitoring and evaluation system

The PIU conducts monitoring.

Overview

Result-Oriented Monitoring (ROM), overseen by the PIU, will regularly review performance with focus on results to be achieved and the need for remedial actions. ROM reports will also make recommendations to lead beneficiaries/applicants.

Monitoring means

Monitoring of project and programme implementation will be accomplished through the following means:

- Monthly meetings between the PIU and the beneficiary (and employer/beneficiary, contractor, engineer for construction works, if relevant) to discuss project progress, deviations, delays, expected deviations, expected delays, next steps and claims. Each meeting should include a site inspection of the works and supplied equipment.
- PIU reports on project progress (see annex for template of beneficiary report) – interim and final reports.
- Monitoring reports on project progress. These reports should be prepared by the PIU based on monthly meetings, PIU project progress reports, as well as any required supplementary interviews with the contractor, engineer and beneficiary (if applicable for construction works, see annex for template of monitoring report).
- Timely agreement on remedies to remove any project defects or to address project delays.

- Presentation of monitoring reports to MoE during regular meetings.

Evaluation means

The PIU will prepare evaluation reports for each project and for the programme as a whole. Two kinds of evaluation reports will be prepared:

- Interim reports:
 - Per project – prepared at the following intervals: commencement of project (contracting purchase of vehicles or construction of supporting investments) and mid-point in project implementation (see annexes for template of report and questionnaire).
 - For programme – at commencement of project, once all tenders have been resolved (see annexes for template of report and questionnaire). These results should be compared to the expected impacts of the programme.
- Final reports:
 - Per project – after final project acceptance (see annexes for template of report and questionnaire).
 - For programme – one month after completion of programme (see annexes for template of report and questionnaire). These results should be compared to the expected impacts of the programme.

The evaluation reports will compare planned and actual figures for the following:

- project/programme budget
- project/programme indicators
- project implementation timeline.

The projects will be evaluated with respect to:

- Relevance – e.g. how the project responds to actual needs and meets indicator targets
- Efficiency – e.g. whether resources are sufficient (i.e. delays, status of results)
- Effectiveness – e.g. whether outputs are required quality and whether project supports MoE policies and actions effectively
- Sustainability – e.g. commitment to maintain project after completion (through budget means or user payments)
- Horizontal issues – whether visibility activities are carried out as required.

The programme overall will be evaluated with respect to:

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

Timing for monitoring and evaluation activities

A detailed monitoring and evaluation schedule, as well as project baseline table, will be developed for each project. Each project will be assigned a person responsible from the PIU.

Conclusion

The analysis presented in this chapter (and more detailed information in Annex D) demonstrates the two most promising options for the PIU are the Environmental PIU and the NGO EcoContact.

While the ODIMM (from July 2022, the ODA) also meets the foregoing criteria, its focus on SMEs rather than on projects with environmental impacts more broadly makes it a third-best option.

It would pose a risk to sustainability if EcoContact has no other projects and is contracted to implement the CPT Programme for a limited period. The NGO will need other projects before, during and after CPT implementation.

Reference

OECD (2007), *Handbook for Appraisal of Environmental Projects Financed from Public Funds*, EAP Task Force, OECD Publishing, Paris, <http://www.oecd.org/env/outreach/38786197.pdf>. [1]

6 Procedures and roadmap for programme implementation

The chapter outlines the main phases of the implementation of the Clean Public Transport (CPT) Programme. The prepared roadmap targets both the preparation phase and the annual reviews (for the programming authority), as well as a brief outline of the actual implementation phase (for the managing authority). Recommendations in the first section are targeted at the Ministry of Environment, which will act as the programming authority. Importantly, the proposed timing and other requirements reflect the processes of international financial institutions and donors active in Moldova, who are foreseen as co-financiers of the programme. The chapter's second part deals with the procedures of the selected programme implementation unit on the example of the designed CPT Programme. However, they have a wider relevance that could be used to implement similar large-scale and targeted investment programmes.

Annual procedure for surveying potential financing sources

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 with respect to the Clean Public Transport (CPT) Programme:

Step 1: Review programme validity

This includes ensuring coherence and compatibility with national strategies and policies, as well as international obligations.

Timing: January/February of each year.

Status: Complete for CPT Programme. This step was completed during the programming of the CPT in 2017/18 and remains valid. The programme will help Moldova meet its international and national obligations with respect to greenhouse gases (GHGs) and air pollution.

Step 2: Review programme assumptions

If some time has passed between programme development and implementation, the main programme assumptions should be reviewed. This includes the following elements:

- **Main issues affecting implementation.** These include both expected negative and positive impacts. For example, municipalities have begun self-financing of investments in public transport but not according to national objectives and obligations for climate protection and ambient air quality. This presents a challenge (sunk costs in non-environmentally friendly investments), as well as an opportunity (incentives for more environmentally friendly investments).
- **Confirm implementation period.** Changes in the status quo may have affected the programme implementation period. For example, uncertainties due to the COVID-19 pandemic may make it advisable to conduct incremental, medium-term planning until more financing is available. On the other hand, international donors may be poised to assist in the specific sector covered under the programme, making it prudent to accelerate implementation.
- **Survey main beneficiaries' needs and objectives.** Beneficiaries do not postpone needed investments if there are delays in programme implementation, in particular, if they are providing services to citizens. In the interim, Moldovan municipalities have invested in their public transport fleets (Chisinau and Balti) and/or increased the importance of the sector for their constituents (smaller municipalities such as Cahul, Ungheni and Edinet).
- **Track changes in international donor and financing institutions' objectives.** International donors and financing institutions also have constituents, and their needs and objectives change. For example, the European Bank for Reconstruction and Development, European Union and European Investment Bank will no longer finance the purchase of modern diesel buses and are becoming increasingly averse to buses powered by any fossil fuels.
- **Update programme scope and costs, as required.** Based on changes in beneficiary needs and donor objectives, the programme should be updated to remain a relevant and effective tool for policy implementation. For the CPT Programme, this involves updating the type of vehicles that can be financed (mainly eliminating modern diesel buses) and the unit costs. Once this is done, the Optimising Public Transport Investment Costs (OPTIC) model can optimise investment costs, required public support and environmental outcomes (reduce air pollution).

Timing: by end of April each year.

Status: Complete for CPT Programme for 2021. This process began with this report and completed with the updating of the scope and cost assumptions of the CPT Programme. The remainder of the programme remains valid.

Step 3: Ensure integration of programme into national policy

The programme must either exist formally, as understood under Moldovan law and practice, or be integrated into an existing policy. As part of the annual review process, the programming entity reviews implementation within the chosen policy approach.

Timing: Initial timing: August/September 2021 (commitment and communication to State Chancellery) and December 2021 (full integration). In subsequent years, this will be part of the annual review of how well the programme is being implemented within the chosen policy approach. Due to the decision to draft the Programme on the Promotion of the Green Economy anew, the timing is postponed to 2023.

Status: Pending. The former Ministry of Agriculture, Regional Development and Environment of Moldova first committed to ensuring integration of the CPT Programme into the update of the Programme on the Promotion of the Green Economy (2022-2025) in 2021. It was later determined the latter should be drafted anew in 2023 and therefore, the CPT would be integrated into it during 2023.

Step 4: Communicate with domestic financing sources on status of programme and financing needs

This includes the following elements:

- Promote programme through State Secretary responsible for programme implementation (environment and/or transportation).
- Co-ordinate with relevant line ministries (MoE and Ministry of Infrastructure and Regional Development of Moldova).
- Communicate financing needs to domestic fund managers.
- Communicate financing needs to Ministry of Finance.
- Initiate discussions with other domestic financing sources, including commercial banks and the private sector.

Timing: August/September 2021 (and each year of programme duration).

Status: Pending. Status of CPT Programme has been discussed and promoted at the level of State Secretary and the approach to integrate the CPT Programme into an existing strategy (Programme on Promotion of the Green Economy) has been accepted within the MoE. The initial commitment was to undertake final acceptance after July 2021 elections after selection of new state secretaries. It was later determined that the Programme on the Promotion of the Green Economy should be drafted anew in 2023. Therefore, the CPT Programme would be integrated into the larger programme during 2023. The Programme on the Promotion of the Green Economy is intended to cover 2023-27.

Step 5: Communicate with international financing sources

This includes the following elements:

- Survey international financing sources active in Moldova to understand their current and future activities, the types of financing they offer and the timing for accessing this financing.
- Ensure compliance with programme objectives and potential financing sources. For example, the CPT Programme remains broadly compatible with the objectives of international donors and financing institutions, apart from diesel buses and (potentially) any buses operating on fossil fuels.

- Provide concise communication on programme objectives and financing needs to potential financing institutions. Ensure this communication emphasises the importance of the programme in implementing national policy and, if applicable, international obligations. The CPT Programme is consistent with national policy (pending formal integration into the update of the Programme on the Promotion of the Green Economy, 2022-2025) and international obligations to reduce GHG emissions.
- Work towards framework agreements for financing to avoid annual discussions on justification of financing.

Timing: Initial timing: April-July 2021. Postponed to 2023 due to the decision to completely revise the Programme on the Promotion of the Green Economy 2023-2027.

Status: Ongoing. Communication with international donors and financing institutions has begun. Most importantly is to communicate with, and meet the deadlines of, the European Union (June 2021) and other deadlines, as specified by donors and IFIs.

Step 6: Develop financing packages

This includes the following elements:

- Estimate total programme costs (or update existing programme costs).
- Compare potential financing sources – domestic and international – with total programme costs.
- Determine optimal level of public assistance to incentivise participation in the programme.
- Communicate to potential financing sources on overall financing needs.

Timing: Initial timing: March-August 2021 (and each year of the programme duration to evaluate the adequacy of available financing). Postponed to 2023 due to the decision to completely revise the Programme on the Promotion of the Green Economy 2023-2027.

Status: Ongoing. Cost estimates of the CPT Programme have been updated using the OPTIC model. Specific financing package proposals can be discussed with domestic and international financing sources.

Step 7: Establish Programme Implementation Unit (or review existing unit for improvement)

This includes the following elements:

- Determine the optimal institutional solution for the programme implementation unit (PIU).
- Review PIU procedures, manuals and guides (all documents and procedures governing project cycle management).

Timing: March-September 2021 (and each year of the programme duration to evaluate the suitability of the selected PIU).

Status: Ongoing. A separate report on establishment of the PIU was developed and the conclusions are summarised in Chapter 5. The recommendations should be implemented during integration of the CPT into the Programme on the Promotion of the Green Economy, 2023-2027.

Step 8: Guide programme to integration into national budgeting process and medium-term expenditure framework

This includes the following elements:

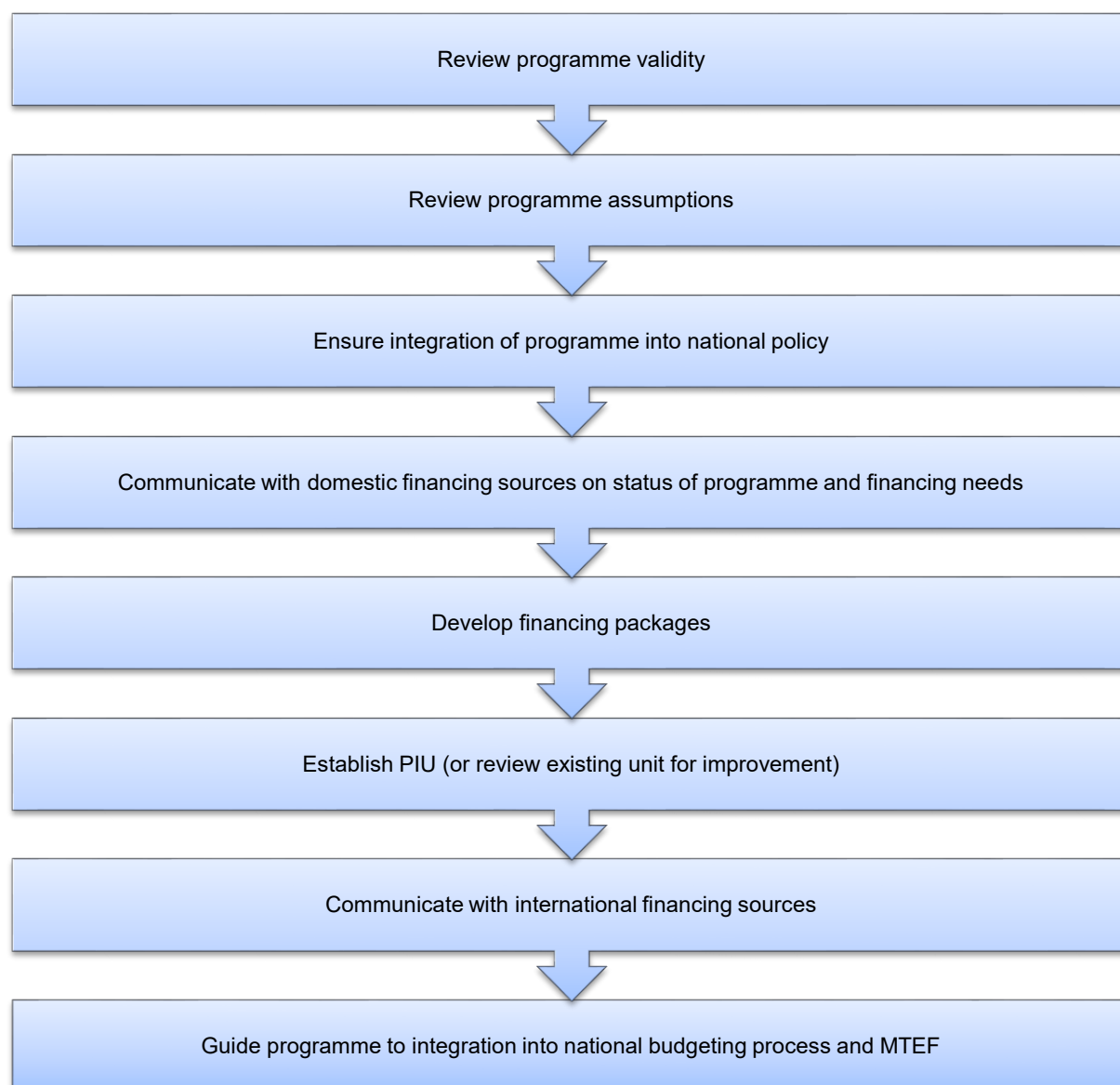
- Ensure programme is communicated by deadline for budget proposals annually (1 July).

- Pilot programme through budgeting process and defend budget allocations by emphasising expected impacts.

Timing: March-September 2021 (and annually according to budget calendar).

Status: Pending. Initial promotion of CPT Programme has commenced. Additional promotion to be pursued during integration of the CPT into the Programme on the Promotion of the Green Economy, 2023-2027.

Figure 6.1. Overview of public expenditure programme implementation procedure



Roadmap for project and programme implementation

The present chapter constitutes a draft roadmap for implementation of the current project. A more detailed roadmap will be developed as part of capacity development with the PIU.

The roadmap for CPT Programme implementation – and programmes in general – contains the following elements:

Statement of objectives

This includes annual expectations of the CPT Programme:

- overall objective
- targets, by year of implementation
- physical targets (number of buses)
- environmental targets (emission reductions : carbon dioxide, nitrogen oxides, carbon monoxide, particulate matter)
- expenditure targets (amounts spent compared to results).

Definition of priority action areas

The priority action areas in the context of the CPT Programme can be understood as separate project pipelines. For each, specific actions and expected outputs are defined. Possible project pipelines are only outlined (proposed) in the existing CPT Programme. The PIU will define pipelines in detail, but they may include the following:

- **Pipeline 1:** replacement of outdated and polluting public transport vehicles with green public transport options in Chisinau and Balti, including suburbs.
- Output: number of buses, specific annual pollution production.
- **Pipeline 2:** replacement of outdated and polluting public transport vehicles with green public transport options in other municipalities (main town and surrounding areas). Output: number of buses, specific annual pollution production.
- **Pipeline 3:** financing support infrastructure for compressed natural gas bus fleets, such as fuelling stations and bus parks.
- Output: daily fuelling capacity of infrastructure (number of bus-fuelling).
- **Pipeline 4:** financing support infrastructure for trolleybus fleets, including overhead wires, as required.
- Output: length of extended reach and increase in number of daily average passengers.
- **Pipeline 5:** financing support infrastructure for electric bus fleets, such as charging stations.

Output: daily charging capacity of infrastructure (number of bus-charges).

Statement of strategies and mechanisms used

This includes the strategies and mechanisms that will be used to implement the CPT Programme, including:

- **Promotion of CPT Programme.** This involves both domestic and international promotion. The PIU communicates the objectives, expected outcomes and results of the programme. Most importantly, the PIU increases the visibility of the programme to ensure its implementation remains a priority.
- **Ongoing communication with potential donors and financing institutions.** The programming entity (i.e. MoE) and the PIU must communicate with potential donors and financing institutions on programme objectives, emphasising coherence with national policy, as well as financing needs. At the same time, the programming entity and PIU must ensure that application or funding request

deadlines are met, subject to budgeting procedures and timeframes of the respective financing institutions.

- Mechanisms for implementation of the CPT are:
 - National focal point for CPT Programme (from MoE)
 - PIU that will ensure overall programme implementation, as well as conduct monitoring and evaluation.

Statement of available resources

Financial and human resources need to be secured for CPT Programme implementation, as follows:

- establishment of PIU, including necessary human resources, as well as information, and procedural and information capital
- national budget sources, including from special purpose funds such as the National Ecological Fund of Moldova and the National Regional Development Fund of Moldova
- international sources, including framework loans and grants.

Monitoring and evaluation

Progress in implementing the CPT Programme will be monitored and reported quarterly and annually throughout its duration (2022-25 in the first phase). A final evaluation report will be delivered at the end of the programme (2025) with particular attention to findings and recommendations affecting any potential second phase.

Monitoring and evaluation will cover the following aspects of implementation:

- budget – deviations from planned budget
- indicators – targets vs. achieved
- implementation timeline – deviations from plans.

These aspects will be covered in the periodic monitoring reports.

Overall, the CPT Programme will be evaluated with respect to:¹

- Relevance – e.g. whether it responds to actual needs and meets indicator targets
- Efficiency – e.g. whether resources are sufficient (i.e. does lack of resources result delays, status of results)
- Effectiveness – e.g. whether outputs are of required quality and whether programme supports MoE's policies and actions effectively
- Sustainability – commitment to maintain the programme effects after completion (through budget means or user payments); institutional mechanisms in place to improve future programmes.

These aspects will be covered in the periodic and final evaluation reports.

This roadmap will be revised with additional detail as part of the capacity development support under the current project. It will be part of the manuals and procedures developed for the PIU.

Note

¹ The PIU will develop specific targets in consultation with MoE.

7 Conclusion for the CPT Programme

This chapter briefly summarises the main steps in the implementation of the CPT Programme, such as update of the programme and its integration into the national policy framework, as well as the core of this capacity development assistance – i.e. the review of available financing sources and recommended institutional form for the programme implementation.

Potential financing

In the core of this report and the follow-up of the capacity development project within the EU4Environment Action, Chapter 2 lays out potential financing packages for the Clean Public Transport (CPT) Programme based on estimated required investments for 2022-25. The assumptions need to be discussed and tested through negotiations with domestic and international financing sources.

As demonstrated in this report, the opportunity exists to construct a financing package that can help implement the CPT Programme. In this way, it could ensure that environmental objectives are considered in the renewal and replacement of public and private fleets used to provide public transport services.

Timing

Due to the decision to draft a new Programme on the Promotion of the Green Economy 2023-2027, the CPT Programme must begin implementation in 2023. Crucial steps are outlined below:

- **Update the CPT Programme**, according to assumptions set out in Chapter 2. This update has been completed and presented in overview to the State Chancellery in September 2021. The entire CPT Programme does not require updating because the underlying information, assumptions and conclusions remain valid. Instead, the assumptions on the number and type of vehicles, as well as unit costs have been updated. The investment timeframe should be updated for 2023-26. This update provides the basis with which to negotiate a financial package.
- **Integrate CPT Programme into national policy**. The Ministry of Environment (MoE) will work to ensure integration of the CPT Programme into the new Programme on the Promotion of the Green Economy for Moldova 2023-2027, currently being elaborated.
- **Negotiate with domestic financing sources**. MoE will work to determine the amounts that can be allocated from Moldova's National Ecological Fund and National Regional Development Fund towards upgrading the public transport fleet. MoE will communicate financing needs to other potential domestic financing sources as well, such as Moldovagaz, local banks and local governments. The speed of this process will depend on revised government priorities, especially in light of the ongoing war in Ukraine and the progress towards drafting the Promotion of the Green Economy, 2023-2027 and integrating the CPT into it.
- **Negotiate with international financing sources**. The MoE will work to communicate the government commitment to implementing the CPT Programme, as well as financing needs, to international financial sources. The EU Delegation communicated information on its budgeting process (initially beginning in March/April 2021) and emphasised the need for constant communication when the CPT Programme is integrated into national policy. To begin this process, in June 2021, the former Ministry of Agriculture, Regional Development and Environment of Moldova submitted a profile of the CPT Programme to the EU Delegation according to its specifications.

Recommended institutional form

The analysis presented in Chapter 5 and Annex D demonstrate that the two most promising 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 performance, but such assistance would be focused and minimal compared to requirements of other potential institutions.
- **Separation from programming authority** – both proposed institutions are separated from the programming authority (Ministry of Environment), with the non-governmental organisation completely separate and the existing Environmental Projects PIU separate in management and procedures.

While the ODIMM – Organisation for Small and Medium Enterprises Sector Development (from July 2022, the Organisation for Entrepreneurship Development – ODA) also meets the foregoing criteria, its focus on SMEs rather than on projects with environmental impacts more broadly makes it a third-best option.

It would pose a risk to sustainability if EcoContact has no other projects and is contracted to implement the CPT Programme for a limited period. The NGO will need other projects before, during and after CPT implementation.

Annex A. Survey of main beneficiaries

City of Chisinau

Current activities and objectives

The City of Chisinau has moved forward with the replacement of its public transportation fleet. With the support of development partners, Chisinau has conducted analyses and prepared development policy documents aimed at improving public services, including urban public transport. It has developed a Green City Action Plan (GCAP), and the Green City Lab – operated by the United Nations Development Programme – is undertaking various activities from the plan.

The city established a working group (WG) of the municipal council to identify technical solutions and financing options for the renewal and replacement of the public transport fleet. The WG published a report, based on which an action plan was drafted and approved by Chisinau Municipal Council.

The city also considered co-operation with Moldovagaz but does not plan any follow-up investment due, in their opinion, to the high up-front cost of compressed natural gas (CNG) vehicles and buses. In February 2021, Moldovagaz was invited to become a member of the WG for public transportation.

Plans and investment needs with respect to public transport

The city's plans with respect to public transport rest on the following objectives:

- **Rapid replacement of the most depreciated transport units in the fleet.** It was decided to purchase 100 Euro V diesel buses. The city reasons that diesel buses are cheaper and more affordable and that new buses are urgently needed to meet citizen demands. The tender procedure for purchase of these buses, however, is contested.
- **Short- to medium-term replacement of buses.** The city has a pipeline to support investment in buses and trolleybuses. From 2020-23, Chisinau Municipality plans to assemble 150 buses (engine type not specified), 70 trolleybuses and 20 articulated trolleybuses. Trolleybus purchases are to be based on partnership with Belkommunmash SA for assembly by the local service provider (M.E. RTEC). In addition, it plans to acquire 18 used articulated trolleybuses from Riga.
- **Rapid phasing out of minibuses.** The city cites poor service levels of the minibuses. As private operators, the minibus companies are not included in planning and budgeting of the public transportation system. While minibus providers do not receive municipal subsidies, they are also unable to increase prices, leading to a vicious cycle of declining service quality from deteriorating buses and lack of support for price increases. At the same time, the companies are said to under-report revenues and do not invest any profits in fleet improvement. According to the city, minibus providers do not meet standards for driver and vehicle safety. Such providers could continue providing services. For example, a large provider could manage a financial package of loans and subsidies to replace its fleet. However, they 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).

- **Improving ticketing and route information.** The city plans to introduce electronic ticketing and digitise route information, as well as install dedicated bus lanes.

The city has considered investment in compressed natural gas (CNG) buses but has not decided to pursue such investments because of the perceived higher investment cost, the lack of necessary infrastructure and the high number of buses necessary to update the fleet. The city has stated it would be interested in a heavily co-financed investment in CNG buses, as well as pilot projects. However, it is not ready to contribute significant financing due to budget constraints and the many needs in other sectors as well.

Conclusions and recommendations

The city of Chisinau is interested in replacing and rehabilitating its bus fleet with more green technology if investment subsidies are available. Because it has produced a study on its immediate- and medium-term investment needs in the public transport sector, it will be possible to estimate possible support levels from the CPT Programme. At the same time, the city considers that CNG can be a medium-term option (“in approximately five years”). However, it could be convinced otherwise if its up-front investment costs could be lowered and the benefits from lower operating costs from CNG buses can be demonstrated.

City of Balti

Current activities and objectives

In 2019, Balti joined the European Bank for Reconstruction and Development (EBRD) programme for urban sustainability called Green Cities. The EBRD will support the municipality to develop a Green City Action Plan (GCAP) to identify, prioritise and address environmental challenges. The programme will also develop a Transport and Logistics Strategy (TLS) for the city.

In 2021, the city replaced 11 trolleybuses with the financial support of the EBRD and E5P (EUR 2.5 million loan and EUR 1.2 million grant, respectively). Accompanying actions include expansion of the trolleybus network and improvement of overall service efficiency. In addition, the loan will finance rehabilitation of old power supply infrastructure and acquisition of maintenance equipment. Additional EBRD funds will support technical implementation of the project and the Bank will also provide support for developing a sustainable public transport plan.

As part of a 2015 project with the EBRD, the city replaced 23 trolleybuses.

In 2020, the city negotiated an MDL 60 million credit line from commercial banks for road renovation, in particular where wireless trolleybuses will provide service. Balti negotiated a borrowing limit of 30% of what it collects from taxes (total 2020 revenues from taxes and fees: MDL 181 million, or about EUR 8.6 million).

Plans and investment needs with respect to public transport

Balti has defined municipal public transport as a priority. The city plans to apply the findings from GCAP and TLS¹ to determine, among others, the number of transportation units required to meet demand.

At the same time, the city plans to negotiate with three to four of the largest private service providers to improve the transportation network. Currently, eight private companies own 100 vehicles (minibuses).

The city plans for the 11 new trolleybuses to serve new city areas, while existing minibuses will serve narrow streets. It plans to work to eliminate overlapping schedules and routes of public and private transportation units.

Conclusions and recommendations

Public transportation is a priority for the city of Balti. Its precise needs for new buses were to be known in 2021, albeit after the financial envelope of the CPT Programme will have been defined. Nevertheless, a reasonable estimate of investment needs can be made.

City of Ungheni

Current activities and objectives

The city of Ungheni is served by three private operators with a total fleet of 22 minibuses. As typical in Moldova, the minibuses are converted Sprinter cargo vans and have 22 seats. As part of the *Comunitatea Mea* (My Community) project, the city is renovating 146 bus stops in the entire service area, of which 102 in Ungheni proper and the rest in suburban areas. This requires an investment of MDL 13.9 million, with MDL 8.6 million to be provided by the United States Agency for International Development. Declining ridership, due to COVID-19, has made it difficult to gain support for tariff increases (set at the 3 MDL per ride level that is typical in Moldova).

As part of co-operation with the European Union (EU4Ungheni), an urban mobility survey showed that public transportation and alternative transport (cycling and walking paths, etc.) was a concern for residents. This survey will provide input into the Urban Mobility Plan, which is under preparation.

Plans and investment needs with respect to public transport

The city has estimated that EUR 2 million is needed for renewal of the bus fleet (approx. 25 minibuses to cover the entire municipality, at a cost of EUR 70 000-120 000 each). The city would like six to seven bus routes, which would cover the renovated bus stops. Unless a derogation is provided for the existing fleet, the city foresees a collapse of the public transport service. The city is investigating whether to establish a public provider or pursue a public-private partnership. Private providers have garages and fleet bases.

Conclusions and recommendations

Ungheni will need support to replace and upgrade its public transport fleet, regardless of whether it ends up in private or public hands. The city has an estimated EUR 2 million in investment needs, but this value may change when the Urban Mobility Plan is completed.

City of Cahul

Current activities and objectives

A private company is the sole service provider in the city. The current fleet comprises 20 minibuses, but not all are operating due to a driver shortage related to COVID-19 (drivers are typically retired persons, who are at greater risk). Service levels are reportedly low due to the unpredictability of buses (schedules, breakdowns). The city is a beneficiary of the EU4Cahul project.

Plans and investment needs with respect to public transport

The city hoped to have an Urban Mobility Plan and feasibility study for public transport by October 2021, which was to provide insight into the extent of investment needs in public transport. The city will also

consider whether to establish a public transportation service provider or continue co-operation with private entities.

Conclusions and recommendations

The city of Cahul has defined municipal public transport as a priority. The city plans to request findings from studies in 2021 to help determine the number of transportation units required to meet demand, albeit after the financial envelope of the CPT Programme will have been defined. Nevertheless, a reasonable estimate of investment needs can be made. The city is open to considering CNG and electric buses.

City of Edinet

Current activities and objectives

Public transport in Edinet is based solely on private providers with ageing fleets. In 2021, the city launched the EU-funded EUR 4 million programme “Partnerships for sustainable cities in the Southern and Eastern Neighbourhood,” one component of which is public transportation. As part of this co-operation, an urban mobility plan was to be developed in 2021. In 2022, the public transportation component was to begin implementation. A public transportation company will be established and EUR 1 million in direct investments in public transportation units and vehicles are budgeted.

Plans and investment needs with respect to public transport

The urban mobility plan will provide insight into the required number of buses. The establishment of the public transportation unit, as well as earmarked funds for direct investment, among others, in the public transportation fleet underline the priority the city places on public transport.

Conclusions and recommendations

The city of Edinet has defined municipal public transport as a priority. The findings from studies in 2021 will help determine the number of transportation units required to meet demand, albeit after the financial envelope of the CPT Programme will have been defined. Nevertheless, a reasonable estimate of investment needs can be made.

Other beneficiaries

The EBRD is in talks with the Executive Committee of Gagauzia, which is considering public transport including purchasing electric buses. The city of Orhei can also be approached and should be eligible for assistance.

Note

¹ For the TLS 2013-2022, see, for instance http://collaboration.worldbank.org/content/sites/collaboration-for-development/en/groups/eastern-partnership-transport-panel/documents.entry.html/2017/09/09/2013-2022_moldova-uADM.html (accessed 20 October 2022).

Annex B. Survey of main domestic sources of co-financing for clean public transport

The following annex provides an overview of the main domestic sources of potential programme financing, some of which may be appropriate for the Clean Public Transport (CPT) Programme.

Public funds

Grant instruments from the state budget

There are many grant instruments from Moldova's state budget. These are distributed, for instance, by the National Ecological Fund (NEF), National Regional Development Fund (NRDF), Moldova Social Investment Fund (MSIF), Energy Efficiency Agency (EEA) or Agency for Intervention and Payments in Agriculture (AIPA).

The national funds provide funding under different procedures and criteria and do not provide matching funds for other donors/international financial institutions (IFIs). The total amounts allocated by state funds are not negligible, but spending is not always tightly linked to strategies, especially with regard to financing larger projects. National grant programmes also have a large backlog of unfinanced projects. Since overall needs in the country are high, projects tend not to be prioritised and the need to satisfy many constituencies leads to small projects that do not comprehensively address problems.

The EEA has a 2021 budget of MDL 30 million, but transport is not included in its current call. The Social Investment Fund (FISM) has a 2021 budget of about MDL 77 million.¹ The Fund has been successful with small social projects and energy efficiency in public buildings but does not have transportation as a priority. Thus, this is not a potential financing source for the CPT Programme.

The AIPA mission is to manage the resources of the National Fund for Agriculture and Rural Development and the resources of development partners allocated for administration and to implement intervention measures for agriculture. AIPA focuses on broad support for agricultural producers and monitoring and control of the use of funds allocated to beneficiaries. AIPA manages the National Fund for the Development of Agriculture and Rural Environment (MDL 1.1 billion budget for 2021).² However, allocation towards replacement of buses will not be included. Thus, this is not a potential financing source for the CPT Programme.

The State Road Fund is well financed, with a proposed budget in 2021 of about MDL 1.5 billion.³ This money, however, is solely for national, regional and local roads. This is not a potential financing source for the CPT Programme.

The NEF and NRDF are described below in separate sections.

National Ecological Fund

The NEF was established in 1998 within the state budget to finance programmes in the field of environmental protection.⁴ The Fund is subordinated to Moldova's environmental public authorities and the financial volume assigned to it is approved annually by the Law on State Budget.

According to the Law on Environmental Protection (adopted 1993, last amended 2019),⁵ the Fund is used for the following domains (Chapter VIII Art. 84):

- policies and management in the field of environment
- protecting and managing water resources
- ensuring access of the population to quality drinking water supply and sanitation
- protecting atmospheric air and ozone layer
- protecting soil resources
- protecting and conserving biodiversity
- managing mineral resources
- managing waste and chemicals
- monitoring environmental quality
- climate change attenuation and adaptation measures
- environmental security
- biological security
- scientific research.

A new regulation is drafted for the Fund that defines its purpose in the following way:⁶

- Facilitate, co-finance and encourage the necessary investments to implement the policy that will contribute to implementation of the relevant EU environmental policies and legislation. This includes investments in waste management, water supply and treating water use, protection of nature and biodiversity, industrial pollution and ecological technologies, ecological education and research, as well as in other sectors provided for by community environmental legislation and policies.
- Support commercial and foreign financing for investments in the environment.
- Develop capacities of Moldovan stakeholders in developing, evaluating and financing projects, which will ultimately allow Moldova to absorb more financial investments in the environment.

The main beneficiaries are the local public authorities (LPAs) with water supply and sanitation (WSS) projects. For several projects, subdivisions of Ministry of Environment (Agency Moldsilva/Forest Agency), Hydrometeorological Service, Environmental Agency and three environmental non-governmental organisations (NGOs) also benefit. Enterprises and NGOs in Moldova can benefit from the Fund.

On the Fund's revenue side, recent data show a significant increase in 2008-18 – from MDL 150 million in 2008 to about MDL 400 million in 2018.⁷ The strong growth in the Fund's revenue is almost entirely related to the introduction of a levy on imported plastic and packaging in 2008 (whose revenues flow entirely into the NEF). Its second largest source, the fuel tax on mobile emission sources, accounted for another 12% (no longer applicable from 2017). The remaining 1.5% of the Fund's revenue derives from charges for air pollution from stationary sources, water pollution, waste storage and fines.

Although in 2019, MDL 298.95 million was allocated for the NEF, Moldova's state budget for 2020 grew to MDL 328.76 million in 2020. It approved MDL 500 million for the Fund for 2021, which is the highest amount ever budgeted for this Fund.⁸ In 2021, within EU4Environment, the former Ministry of Agriculture, Regional Development and Environment of Moldova was able to begin allocating money for transportation from this Fund. This was in line with discussions to re-orient the NEF from projects to programmes.

On the expenditure side, more than 90% of the NEF's spending went to WSS projects with local governments as the main beneficiary of this support in 2018. The same tendency was observed in 2019. The remainder went to projects related to air, waste or biodiversity. In 2019, around 95% of spending went to WSS projects, mainly for the new/ongoing projects in this domain.

A significant part of NEF resources is allocated to non-investment activities (e.g. running costs and equipment for environmental authorities, monitoring equipment, international co-operation, environmental education, training, development of laws and regulations).

Moldovan legislation allows the NEF to use instruments such as interest rate subsidies, soft and interest-free loans and guarantees for loans from banks. To date, however, the NEF has only provided grants. The transformation of the NEF into a revolving fund that provides loans was on the government's agenda on several occasions, but to date no such step has been approved.

National Regional Development Fund

Eligible applicants are LPAs, public entities, business entities and NGOs. Only LPAs can apply for all programmes; the remainder of eligible entities can only apply for certain programmes of the 2020-21 call for proposals.

During 2010-20, 102 projects were approved for funding, of which 30 (41%) are in regional and local roads, 23 (27%) in WSS, 17 (13%) in tourism, 12 (9%) in business support infrastructure, 11 (4%) in solid waste management and 9 (4%) in energy efficiency. The total cost is MDL 1.9 billion.⁹ Table 9.1 provides more detail.

Table A B.1. National Regional Development Fund expenditures by sector, 2015-19

	Sector	2015		2016		2017		2018		2019	
		MMDL	%	MMDL	%	MMDL	%	MMDL	%	MMDL	%
1	Road infrastructure	102.4	69.7	74	52.86	51.5	27.6	51.0	24.2	46.4	36.4
2	Water supply and sanitation	17.9	12.2	23	16.43	73.4	39.3	71.2	33.7	26.3	20.7
3	Environmental improvements	0	0	0	-	1.1	0.6	2.1	1.0	0	-
4	Tourism	9	6.1	7	5.0	19.3	10.3	22.8	10.8	24.2	19
5	Business support	17.6	12	32	22.7	16.6	8.9	32.3	15.3	21.2	16.7
6	Energy efficiency			4	2.9	25.1	13.4	31.8	15.1	9.2	7.2
	Total	146.9	100	140	100	187.1	100	211.3	100	127.3	100

Note: MMDL = MDL million

Source: MARDE (2020 data available in February 2021).

At the time of preparation of the CPT Programme update, the second stage of the call for proposal for funding from the NRDF had begun. The three eligible programmes and measures were:

- Competitiveness
 - Business infrastructure
 - Entrepreneurship and innovation
 - Tourism
- Urban development
 - Urban revitalisation
 - Public spaces infrastructure
 - Urban connectivity and mobility – modernisation of road infrastructure and urban services of public transport

- Private sector development and attraction of foreign investments
- Modernisation of the municipal infrastructure and public utility networks
- Regional infrastructure
 - Water supply and sanitation
 - Public lighting
 - Solid waste management

During 2017-19, the following financial sources were allocated from the NRDF (both for projects and operational cost of regional development agencies):

Table A B.2. Financial sources allocated from the NRDF in 2017-19

(MDL million)

	2017	2018	2019
Approved funds	200.0	200.0	220.0
Revised funds	200.0	226.0	220.0
Spent funds	200.0	226.0	141.5

Source: MARDE (2020 data available in February 2021).

For 2021, about MDL 220 million was to be earmarked for the Fund, including MDL 200 million for regional development projects (and MDL 20 million for the work of Regional Development Agencies (RDAs)).¹⁰

Commercial banking sector

The condition of the domestic banking sector is an important barrier to ramping up project development and implementation in Moldova with commercial financing. Some domestic banks are interested in local government clients and have attempted to develop financial products for them. However, unfavourable loan terms – requirement that loans be denominated in domestic currency, high interest rates and short repayment periods – limit local government interest.

For local banks to become more desirable financing partners to local governments in the implementation of infrastructure investments, Moldova will need policies that improve market conditions for domestic banks.

Local government borrowing is limited not only by centrally imposed restrictions and lack of creditworthiness, but also by high interest rates for loans denominated in domestic currency. While foreign currency loans from IFIs are available to local governments, they incur a currency exchange risk, which limits local government interest.

Domestic financing institutions in Moldova have some interest in financing local government projects (e.g. Mobiasbanca). However, local government borrowing is limited not only by lack of creditworthiness, but also by centrally imposed restrictions. As previously noted, the loan must be denominated in local currency (foreign currency-based loans are only possible through sovereign loans, which acts as a bottleneck to local financing). Exacerbated by high interest rates and short loan periods, the interest of local government interest in domestic loans tend to be low. While foreign currency loans from IFIs have better conditions and are available to local governments, they incur a currency exchange risk.

Table A B.3. Financial market conditions

	End 2019^{11,12}	April 2020¹³	November 2020¹⁴
Average interest rate in MDL, %	9.02	8.37	7.95
Average interest rate in foreign currency, %	4.03	4.33	4.14

Note: Loans for more than five years for legal entities.

Source: National Bank of Moldova.

There are 11 authorised commercial banks in Moldova. Significant changes were made in 2018 related to the acquisition of shares in the capital of certain banks by several reputable international groups. This followed changes in banking supervision priorities and the commitments to development partners to strengthen transparency of the shareholders' structure for the banks. As a result, more than 70% of bank assets are being managed by international groups with a sound reputation.¹⁵

The banking sector has undergone some consolidation in recent years, while maintaining liquidity and profitability levels. In 2018, the main financial and prudential indicators of banks were solid. Capital reserves were set at 10%. The liquidity of banks was well above regulated limits, reaching about 55% in the short term, i.e. more than half of banks' exposures were liquid assets. Indicators of asset quality continued to improve thanks to efforts to resolve the issue of non-performing loans (NPLs) granted before the banking crisis of 2015.¹⁶

Total assets of the banking sector amounted to MDL 92.5 billion (about EUR 4.43 billion) at the end of the first quarter of 2020, an increase of 2.1% over the previous period. As of 31 March 2020, the balance of the gross loan portfolio accounted for 45.4% of the total assets, or MDL 42 billion (about EUR 2.1 billion), an increase of 4.1% compared to the previous period. In addition, the volume of new loans granted in the first quarter of 2020 increased by 3.5% compared to the same period of the previous year. The largest increases in the loan portfolio were related to trade and purchase/construction of real estate. During the first quarter of 2020, the share of NPLs in total loans remained at the same level as the previous quarter at 8.5% and was down from 10.6% on 30 June 2019. NPLs ranged widely depending on the bank, from 4.6% to 19.9%. In absolute value, however, NPLs increased by 4% from the previous quarter.¹⁷

As of 31 March 2020, the banking system generated a profit of MDL 432 million (about EUR 20.7 million), which is a decrease of 17.9% (MDL 94.5 million, or about EUR 4.5 million) compared to the same period in 2019. During the same period, the return on assets and capital constituted 1.8% and 10.4%, respectively. The sector continues to meet prudential requirements with respect to liquidity.¹⁸

While banks do finance municipal projects, this practice is infrequent. The short tenure periods and high interest rates limit municipal interest in these loans. Furthermore, indebtedness of local governments is capped at annual repayment of capital and interest of 15% compared to budget revenues. Additional procedural constraints from the Ministry of Finance also limit local government borrowing.

Moldova Agroindbank (MAIB), the largest bank in Moldova, is sufficiently capitalised. It is willing to work with municipalities, when possible, but is more involved with IFIs such as the EBRD. The bank would like to finance more investments in the municipal sector, but it sees the borrowing capacity/borrowing limits set by the Ministry of Finance as a major constraint. It sees grant co-financing as a way to mitigate credit risk and increase interest from municipalities. In addition, a guarantee fund might help because often municipalities have a problem providing collateral for loans. Interest rate subsidies may also help, according to the bank.

Recently, the European Bank for Reconstruction and Development (EBRD) and Green Climate Fund (GCF) provided a EUR 5 million loan to MAIB under the EBRD's Green Economy Financing Facility (GEFF). The loan combines EUR 3.75 million of EBRD finance and EUR 1.25 million of GCF concessional co-finance. The financing for MAIB is the first loan to be made available under the GEFF in Moldova. It is

intended to facilitate the country's transition to a more sustainable, low-carbon and climate-resilient economy. The loan will be used for on-lending to individuals, small and medium-sized enterprises (SMEs) and corporations for investments in climate change mitigation and adaptation technologies and services, including electric vehicles. The EBRD will also assist MAIB with the implementation and monitoring of the programme. The loan is expected to help Moldova reduce its annual energy consumption by 108 800 gigajoules (GJ) per year, the equivalent of annual energy consumption of more than 6 000 Moldovan households. It will reduce carbon emissions by 9 880 tonnes per year, equivalent to taking more than 5 000 passenger vehicles off the streets.¹⁹

Mobiasbanca, part of a larger banking group, OTP Group S.A., works with municipalities when possible, especially with IFIs. For example, the bank provided financing for the LED street lighting project in Balti through an EIB programme. Also, it financed projects in Ungheni and Chisinau (water project). It also participated in MoSEFF, mostly working with SMEs (EUR 50 million). In its opinion, a loan tenure of five to seven years is not a problem given the situation in the banking sector. Thus, they could finance energy efficiency projects. They see a problem, however, with the creditworthiness limits of the cities, as well as the quality of project preparation. As one solution, the bank sees standardised projects in sectors that will be easier to develop. Generally, they see 10-12 larger municipalities apart from Chisinau that are ready for borrowing. In the bank's view, IFIs should not lend directly to municipalities but rather through local banks to avoid distorting the market. The bank also agreed that grant components and interest rates subsidies might stimulate interest.

Moldovagaz

Current activities and objectives

Moldovagaz developed a study²⁰ on using compressed natural gas (CNG) as a fuel for municipal transport in Chisinau. This study included a proposal for a pilot project for two passenger buses and a solid waste management truck equipped with CNG systems. The study also detailed the potential operating cost savings from using CNG buses. After meetings and talks with the Chisinau municipality, however, no agreement has yet been reached.

Moldovagaz has its own funds to build the required infrastructure – CNG stations close to the bus fleet pool – thus addressing one of the city's major concerns. In February 2021, Moldovagaz was invited to become a member of the working group for public transportation in Chisinau.

The company's main clients in Chisinau are taxi companies, where at least 75% of the vehicles use CNG. Other potential clients would be minibuses, provided operators are incentivised to use CNG to renew their licences.

Plans and potentially available co-financing

Moldovagaz has stated that a clean public transport programme (such as the CPT Programme) requires IFIs and development partners to lobby for implementation, starting with Chisinau municipality.²¹

Meanwhile, Moldovagaz plans to start a public awareness campaign on the efficiency and importance of using CNG transport.

The first phase of company plans involves public transport in Chisinau, followed by the other cities, including interurban transportation. Therefore, Moldovagaz is interested in projects promoting CNG as fossil fuels in other cities as well.

Moldovagaz has also stated its intention to build the needed infrastructure according to demand and in accordance with the municipal investment plans (Chisinau approved its investment plan in May 2020, including investments of EUR 50 million until 2023).

Conclusions and recommendations

Moldovagaz is interested in co-financing pilot projects, co-ordinating with local governments to develop infrastructure for CNG and facilitating the import of CNG buses.

Other potential financial instruments

Other potential financial instruments that can be considered include:

- **Municipal bonds:** No municipal bond market exists, and potential is low given the low level of own revenues of local governments and low creditworthiness capacity.
- **Green bonds:** None exist to date.
- **Energy service company (ESCO):** There is no ESCO working in Moldova. Several attempts were made but all failed due to 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. This is not typically used 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.

Notes

¹ For more information, see the respective websites at www.aee.md and <https://fism.gov.md> (accessed 15 September 2022).

² See AIPA's website at www.aipa.gov.md (accessed 15 September 2022).

³ See the Fund's website at www.asd.md (accessed 15 September 2022).

⁴ For more information, see <https://mediu.gov.md/ro/content/fondul-ecologic-na%C8%9Bional> (accessed 30 November 2022).

⁵ Law No. 1515 of 16 June 1993 on Environmental Protection, published on 30 October 1993 in Official Gazette Nr. 10, Art. 283. Available at www.legis.md/cautare/getResults?doc_id=112032&lang=ro (accessed 14 October 2022).

⁶ The new regulation has been approved by Moldova's Cabinet of Ministers, see www.eu4environment.org/news/towards-a-green-transition-in-moldova-with-a-reformed-national-environmental-fund (accessed 20 September 2022).

⁷ Personal communication with the MoE.

⁸ Law No. 258 of 16 December 2020 on the State Budget for 2021, published on 22 December 2020 in Official Gazette Nr. 353-357, Art. 290. Available at www.legis.md/cautare/getResults?doc_id=126066&lang=ro (accessed 14 October 2022).

⁹ Personal communication with the MoE.

¹⁰ See <http://news.gov.md/en/news/2021/01/29/21000645> (accessed 30 November 2022).

¹¹ National Bank of Moldova, www.bnm.md/en/content/developments-loan-and-deposit-markets-september-2019 (accessed 29 January 2021).

¹² Ibid.

¹³ National Bank of Moldova, www.bnm.md/en/content/developments-loan-and-deposit-markets-november-2020 (accessed 29 January 2021).

¹⁴ Ibid.

¹⁵ European Banking Federation, www.ebf.eu/moldova (accessed 29 January 2021).

¹⁶ Ibid.

¹⁷ National Bank of Moldova, <http://bnm.md/en/content/financial-situation-banking-sector-first-quarter-2019-0> (accessed 29 January 2021).

¹⁸ Ibid.

¹⁹ EBRD and GCF promote green financing in Moldova, www.ebrdgeff.com/ebd-and-gcf-promote-green-financing-in-moldova (accessed 29 January 2021).

²⁰ Feasibility study: The opportunity to introduce CNG buses in the urban bus fleet (in Romanian).

²¹ Information received during a meeting with representatives of Moldovagaz company on 5 November 2020.

Annex C. Survey of main international sources of co-financing for clean public transport

The following annex provides an overview of the main international sources of potential financing for the CPT Programme.

European Bank for Reconstruction and Development

Current activities and objectives

The European Bank for Reconstruction and Development (EBRD) is one of the largest institutional investors in Moldova. To date, it has invested around EUR 1.4 billion in more than 135 projects in the country to support private businesses and key infrastructure, as well as to build a greener and more sustainable economy.

The EBRD has been working with the cities of Chisinau and Balti. Both cities became official signatories under the EBRD Green Cities, among other things, to improve their urban environment. Under this programme, a Green City Action Plan was elaborated and approved by the Municipal Council of Chisinau on 18 June 2020. Balti followed the same procedure and the plan was approved by the Municipal Council of Balti on 23 November 2021.

The EBRD has co-operated with Chisinau and Balti on the purchase of trolleybuses in the past. Most recently, EBRD began a project with Balti in 2020, including a grant component, to buy 10 trolleybuses (+ an 11th due to savings in public procurement procedures) and rehabilitation of the infrastructure. As part of this project, the EBRD is helping Balti with sustainable public transport planning, including optimisation of public transportation (routes, managing buses and minibuses).

The EBRD has a mandate over GCF funds in Moldova. This comes in tandem with the Green Cities Framework, which is eligible to municipalities with a population of at least 100 000. Thus, the EBRD can mobilise and blend three sources: own loans, GCF funding and grants.

Plans and potentially available co-financing

The EBRD has recently approved its own Green Economy Transition 2.1 for 2021-25. The EBRD aims to harmonise its aims with Moldova's Nationally Determined Contributions/Sustainable Development Goals.

The Bank is moving away from fossil fuels as much as possible and encourages investments to be as green as possible. Accordingly, trolleybuses and electric buses will be preferred over compressed natural gas (CNG) and liquefied petroleum gas (LPG) buses, while diesel buses will not be financed under any circumstances. Even for electric buses, however, the energy source is important, with coal-fired power viewed less favourably. On the other hand, in 2019 the EBRD financed the purchase of 175 CNG buses in six cities of Georgia.

The EBRD is in talks with the Executive Committee of Gagauzia, which is considering public transport including purchasing electric buses.

The Bank stated it could help the (former) Ministry of Agriculture, Regional Development and Environment of Moldova drive its policy aims and desired strategic directions.

Conclusions and recommendations

The government of Moldova can approach the EBRD for support – both loan and grant – for the CPT Programme.

European Investment Bank

Current activities and objectives

The European Investment Bank (EIB) has engaged with Chisinau City Hall within an investment programme focused on urban roads. In 2019, the EIB Board approved a railway project for Moldova.

In 2016, the EIB also launched the Cleaner Transport Facility, which is “an umbrella to support the deployment of new cleaner technology in transport by making use of the tools the EIB and the European Commission can offer”. The objective is to support the accelerated deployment of cleaner transport vehicles and their associated infrastructure needs, such as for charging and refuelling. This aimed to achieve socio-economic benefits, including reduced health costs due to cleaner air and lower noise.

The facility targets transport vehicles operating on alternative fuels that have lower greenhouse gas (GHG) emissions – or enhanced environmental performance – compared to conventionally fuelled transport vehicles. These alternative fuels include electricity, hydrogen, biofuels and natural gas.

The facility focuses on life-cycle cost models involving risk-sharing financial instruments leveraging private sector funds. This contrasts with more traditional models entailing higher capital investment with a debt burden on the public sector. All projects to date have taken place within the European Union.

Plans and potentially available co-financing

As the climate bank of the European Union, the EIB will not finance the purchase of diesel buses. At the same time, it will be phasing out of financing the purchase of fossil fuels such as LPG or CNG. Electric public transport is eligible under a framework loan, accompanied by related actions like renewing bus stops, having separate bus lanes, etc. The Bank is interested in financing such an investment programme.

The EIB could provide direct loans to a municipality, with a state guarantee or a sovereign loan with on-lending to municipalities. It is also considering a framework loan approach for municipalities and private investors. This loan would be approximately EUR 50 million and a project cost of EUR 0.5 million. It would include financing for renewal of bus fleets, as well as ancillary investments such as road improvements, bus lanes, bus stops and stations.

Conclusions and recommendations

The framework loan of EUR 50 million for Moldova to finance renewal of bus fleets and accompanying investments can be used to co-finance the CPT.

World Bank

Current activities and objectives

With respect to transportation in Moldova, the World Bank-financed Local Roads Improvement Project for Moldova is focused on ensuring safe and sustainable local road accessibility to education, health care and market facilities along selected regional road corridors. The USD 80 million loan facility is intended for the rehabilitation and upgrading of about 300 km of priority regional and local roads from 2015-22. Up to 2021, about USD 31 million has been disbursed.

Plans and potentially available co-financing

For the short to medium term, the World Bank is focused on roads.

Conclusions and recommendations

The World Bank could be approached after 2022 regarding financing of public transportation fleet improvements.

Delegation of the European Union to Moldova

Current activities and objectives

The EU Delegation to Moldova (EUD) has funded large-scale transport investments in Moldova, mainly roads and railways. As it affects public infrastructure, the EUD mainly co-operates according to framework agreements with municipalities, such as Cahul and Ungheni.

Further, the cities of Chisinau and Edinet were selected in a call for proposals for the project “Partnerships for sustainable cities”. Chisinau will implement a project related to traffic management. In addition, a policy dialogue will impact responsibilities for traffic management at the municipal and ministerial levels. Another component is about e-ticketing and to scale up at a later stage for synergy with the plan to renew the transport fleet.

Over the next four years, Edinet will implement a project related to local public services, including public transport.

Plans and potentially available co-financing

Priority for the European Union through the Green Deal and Transport & Mobility Strategy is to invest in energy-efficient transport and reduce the carbon footprint contribution to climate change as much as possible.

The European Union is in the budgeting phase. It will allocate a substantial part for sustainable transport, as it is in line with EU goals for reducing GHG emissions, including those generated by transport. The overall financial envelope, however, is not known.

Conclusions and recommendations

There was a tentative financing possibility in 2022. The revision of the Programme on Promotion of Green Economy 2023-2027 and integration of the CPT programme into it will provide another opportunity to discuss co-financing from the EU. Regardless of the timing, continued political stability is a prerequisite.

Nordic Environment Finance Corporation

Current activities and objectives

The Nordic Environment Finance Corporation (NEFCO) is an IFI established by Nordic countries in 1990. It provides results-based green financing by offering financing to projects that reduce emissions harmful to the environment. NEFCO does not support projects with fossil fuels unless it combines a photovoltaic park, whose energy will be used by the electric transport.¹

NEFCO works with any acceptable idea and can fund up to a maximum of 50% of the project value. It works only with local authorities.

NEFCO has launched the loan programme Energy Saving Credits (ESC), under which it will offer small-scale financing to municipalities in Eastern Partnership countries, including Moldova (plus Armenia and Ukraine).

The types of investment include energy efficiency in public facilities (such as day-care centres, schools or hospitals) and street lighting, etc. (in short, everything that is green and leads to energy savings). The maximum loan amount is EUR 500 000 and a maximum co-financing share of 90% of project costs. Loans will be denominated in local currencies (i.e. MDL in Moldova) with an annual interest rate of 3% and a repayment period of five years.²

Plans and potentially available co-financing

In the future, the organisation plans to focus on projects from investment funds, offering loan amounts up to EUR 5 million, covering up to 50% of the total project cost. It plans to work with large municipalities with good financial and project implementation capacity.

Conclusions and recommendations

NEFCO could provide additional funding, for example, for the purchase of electric vehicles. Other programme pipelines cannot be supported as NEFCO supports only green activities, i.e. no fossil-fuel based technologies.

Notes

¹ Information received during a meeting with NEFCO representatives on 27 October 2020.

² For more information on the programme, see www.nefco.int/facility-for-energy-saving-credits (accessed 30 November 2022).

Annex D. Survey of potential institutional solutions for PIU

Environmental Projects Implementation Unit (now: the National Office for Implementation of Environmental Projects)

Brief history

The Environmental Projects Implementation Unit (Environmental PIU) – now called the National Office for Implementation of Environmental Projects, or NOIEP – was created in December 2018 to support the Ministry of the Environment (MoE). Specifically, it supports the efficient implementation of financial and technical assistance projects in environment protection and use of natural resources to implement requirements of international conventions to which Moldova is party and alignment with international standards in the field of environmental protection. Its activity is guided by a statute, included as Annex 2 of the Government Decision on Environmental Projects Implementation Unit (1294/2018).¹

The areas of competence of the Environmental PIU are the following:

- prevention of environmental pollution
- protection of atmospheric air, ozone layer and climate change
- management of water resources
- preserving the biodiversity and management of the natural areas protected by the state
- waste and chemical substances management
- biosecurity.

Experience with programme and project implementation

Implemented projects/programmes under implementation: water supply and sanitation sector, waste management sector. Donors: European Bank of Reconstruction and Development (EBRD), European Union, World Bank, European Investment Bank (EIB).²

Management

Organisation of activity. The institution has a director (executive body, with a mandate of four years) and a supervisory board. The Environmental PIU has the right to: i) manage the financial means, dispose of, use and manage its own patrimony; ii) plan and undertake the economic-financial activity according to the action plan approved by the Supervisory Board; and iii) contract local and international consultants/experts, service providers, and suppliers of works and goods.

The **Supervisory Board** has five members, and a mandate of four years. It gathers every three months. Its representatives are from:

- State Chancellery
- Ministry of Finance

- Ministry of Environment
- Civil society.

The president of the Supervisory Board is the State Secretary responsible for Environment from MoE.

The staff of the Environmental PIU is composed of:

- **Permanent staff** – the director, a legal practitioner (also responsible for human resources), and a specialist in financial management (also chief-accountant) – three persons.
- **Temporary staff** – is contracted according to the personnel needs and for a determined period. It is remunerated from financial means allocated by the donors.

Conclusions and suitability for Environmental PIU recommendations

The Environmental PIU has a low start-up complexity (**Error! Reference source not found.**). It is a public institution, with two years of experience in implementing projects and programmes in the environmental sector. The institution has a certain degree of dependence from the MoE, which is also its founder. The Environmental PIU receives its funding from the public budget, donor funds (for projects and programmes implementation) and from service fees.

The main benefits are:

- established entity with some track record
- international financing resources could be easier to attract
- separate from programming entity, although in close co-operation.

The main risks are related to the co-ordination of international financing sources with the Ministry of Finance and that the government sets the service fees (Table 5.2. Survey of potential PIU forms – financing, benefits, risks

Option	Implementation cost	Financing	Main benefits	Main risks	Readiness by 2022?
Expansion of existing Environmental Projects Implementation Unit	Medium	Public budget Service fees Donor funds	Established entity with some track record. International financing resources could be easier to attract. Separate from programming entity.	International financing sources co-ordinated with the Ministry of Finance. Service fees set by government.	Yes
Creation of PIU within MoE infrastructure	Low	Public budget Service fees Donor funds	International financing resources could be easier to attract.	International financing sources co-ordinated with the Ministry of Finance. Only nominal separation of programming and implementing entity Service fees set by government.	Likely
National Environment Agency	Low-Medium	Public budget Service fees Donor funds	International financing resources could be easier to attract.	International financing sources co-ordinated with the Ministry of Finance. Some separation of programming and implementing entity. Service fees set by government.	Likely

Option	Implementation cost	Financing	Main benefits	Main risks	Readiness by 2022?
ODIMM – Organisation for Small and Medium Enterprises Sector Development*	Low-Medium	Public budget Service fees Donor funds	Established entity with some track record. International financing resources could be easier to attract. Separate from programming entity.	International financing sources co-ordinated with the Ministry of Finance. Service fees set by government.	Yes
External NGO	Medium-High	Service fees Donor funds	Revenues reinvested to NGO operations. Separate from programming entity.	Sustainability of arrangement if NGO has no other projects. Contracting.	Possible
Banks	Medium-High	Service fees Donor or public funds (e.g. for interest rate subsidy)	Sustainable operations of bank. Separate from programming entity.	Contracting.	Possible

Note:).

Besides the three permanent staff for all projects and programmes, the institution contracts additional staff with donors' funds. For the Clean Public Transport (CPT) implementation, two additional permanent employees were needed. By 2022, it was ready to start this activity.

National Environment Agency

Brief history

The National Environment Agency was created in June 2018, by Government Decision No. 549, on the Establishment, Organisation and Functioning of the Environment Agency (549/2008).³

The regulation includes: i) general provisions; ii) mission, activity areas, main functions, main duties and rights; and iii) the organisation of the Agency's activity.⁴

It is an administrative authority subordinated to the MoE, responsible for implementation of state policies in environmental protection.

Experience with programme and project implementation

The Agency is a young institution, created in 2018. It has **no history of implementing projects and programmes**.

Management

The structure of the Agency includes:

- Management – one director, two deputy directors
- Internal audit service
- Institutional management department
- Legal service
- Financial-administrative service

- Human resources service
- Information and communication service with the media
- Document management service
- Environmental policy implementation department
- Environmental quality monitoring department
- Natural resources monitoring department
- Environmental assessment and ecological expertise department
- Regulatory Directorate and Permissive Environmental Acts
- Integrated environmental information management department
- Environmental Economic Mechanisms Section
- Environmental information, education and ecological awareness service
- Environmental training and counselling service
- Environmental reference laboratory (with the status of General Directorate)
- Air quality laboratory (department in the General Directorate)
- Water quality laboratory (department in the General Directorate)
- Soil quality laboratory (department in the General Directorate)
- Waste laboratory (department in the General Directorate)
- Laboratory for environmental radioactivity (department in the General Directorate)
- Operational service for ecological investigations (department in the General Directorate).

Territorial subdivisions

- Northern Environment Agency (department status)
- Southern Environment Agency (department status).

Staff

According to Government Decision on the Environment Agency (549/2008), the number of staff of the Agency is limited to 136 units (including 7 technical service personnel units and 48 specialised personnel units). As 2020, there were 96 employees, and 3 vacancies were announced. In December 2020, the Ministry of Finance imposed a moratorium for filling all vacancies in public institutions in the country.

Of the 96 employees, 40 were working in the directions and sections of the agency, while the rest were working for laboratories of regional branches. According to the Agency's website,⁵ there were three vacancies in January 2021:

- main internal auditor, Internal Audit Service
- main specialist, Information and Communication with Media Service
- main specialist, Legal Service.

The activity report for 2020⁶ mentions the Agency has revised its internal structure and elaborated a concept for its internal reorganisation. It proposed giving 17 units to MoE (11 units for the National Ecological Fund and 6 units for the creation of the Chemical Substances Agency). The bill must be promoted by the MoE and therefore, Government Decision 549/2018 regarding the Agency's structure will need to be modified.

Conclusions and suitability for PIU recommendations

The Agency has a medium start-up complexity. It is a public institution, subordinated to the MoE, with 2.5 years of experience in environmental sector-related activities, mainly public policies and legislation implementation.

The main benefit: international financing resources could be easier to attract and there is some separation of programming and implementing entities.

The main risks: international financing sources are co-ordinated with the Ministry of Finance and the government sets service fees.

Filling Agency vacancies (more than 30 vacancies, on which a moratorium for hiring is imposed) would allow the needed staff to include CPT Programme implementation. This would also likely make it ready to start the work by 2022.

ODIMM – Organisation for SME Sector Development

Brief history

The Organisation for Small and Medium Enterprise Sector Development was renamed the Organisation for Entrepreneurship Development (ODA) in July 2022. It was created in 2007 by Government Decision No. 538.⁷ Its **regulation** (Annex 1 of the Government Decision 538/2007) includes: i) general provisions; ii) main tasks; iii) functions; iv) rights; v) assets; vi) management; vii) co-ordination council; and viii) evidence and reports.

Experience with programme and project implementation

History of projects/programme implementation: ODIMM implements government policies that support SMEs. Among its implemented projects, the biggest one had an overall budget of up to EUR 5 million.

Table A D.1. Sample EU projects implemented by ODIMM

Title	Circular economy in tourism
Budget	EUR 1 329 358
Donor	European Commission , COSME programme
Title	Support to SMEs in rural areas
Budget	EUR 5 000 000
Donor	European Union
Title	Danube Women in Business – Promoting entrepreneurship among young women in the Danube region
Budget	EUR 2 021 050
Donor	Danube Transnational Programme
Title	Danube Chance 2.0 – Accepting failure to facilitate entrepreneurs' second chance access to the Danube region
Budget	EUR 1 822 550
Donor	Danube Transnational Programme
Title	Danube Finance4SocialChange – Mobilising financial resources for positive social change
Budget	EUR 2 013 975

Donor	Danube Transnational Programme
Title	RESTART_4DANUBE – Regeneration of urban areas to stimulate creative industries for a stronger Danube region
Budget	EUR 1 814 895
Donor	Danube Transnational Programme

Source: Authors' summary based on data received from ODIMM.

National Programmes (some of which are co-financed by donors):

1. National Programme “Start for Youth – a sustainable business at your home”
2. Credit Guarantee Fund. 505 guarantees issued. Total value of guarantees: MDL 226 million
3. Continuous Training Programme “Efficient Business Management” (GEA). 771 trainings delivered
4. ECO SMEs – programme of greening the SMEs. Approved in 2019 by Government Decision No. 592)⁸
5. Digitisation of SMEs
6. Programme for attracting remittances in the economy (Pare 1+1). 1 757 funding contracts. MDL 367.63 million allotted
7. National Programme “Women in Business” (PFA). 481 funding contracts. MDL 73.41 million value of the grants approved
8. Internationalisation – growth engine of the SMEs. Programme for SME with growth potential and their internationalisation
9. Programme “Moldovan Network of Business Incubators” (RIAM)
10. First home/primary residence
11. Multifunctional Industrial Platforms Programme.

Management

ODIMM has an organisational chart,⁹ but it was changed in December 2020. The new chart has not been made public. It has 110 units. There is a general director, a deputy director, one internal auditor and one adviser.

The departments include:

1. Business Consulting and Training (9 units)
2. Start-up Department (17 units)
3. Business Growth Department (9)
4. Rural Business Development Department
5. Credit Guarantee Fund (10)
6. International Co-operation Department (7)
7. Planning, M&E, Reporting (8)
8. Financial and Administrative (11)
9. Public Relations (8)
10. HR (3)
11. Legal (2).

According to an updated organisational chart, over **40 vacancies** are available. The high number of vacancies is determined by the changes to the organisational chart and the new positions added in late December.

Conclusions and suitability for PIU recommendations

The Organisation for Small and Medium Enterprise Sector Development has a low start-up complexity (**Error! Reference source not found.**). It is a public, non-commercial institution that works alongside the Ministry of Economy. It has 14 years' experience in implementing projects and programmes for the SME sector funded nationally or by donors.

The main benefits are:

- established entity with some track record
- international financing resources could be easier to attract
- separate from programming entity.

The main risks are related to the co-ordination of international financing sources with the Ministry of Finance and that the government sets the service fees.

Two additional permanent employees are needed to the institution to include the CPT Programme implementation, which would make it ready by 2022.

External NGO – EcoContact

Brief history

The Association EcoContact (Asociația EcoContact) is the successor of the local office of Milieukontakt International in Moldova and continues to be the partner of Milieukontakt International Amsterdam office. EcoContact, which was registered on 2 August 2010, has a rich history of activity starting from 2001 when Milieukontakt International in Moldova started projects on environmental and civil society issues. The main areas of activity are: public participation and access to information on environmental matters; management of waste, toxic waste (obsolete pesticides), water; soil remediation; disaster risk reduction and vulnerability; supporting in drafting and promoting political documents on environment at local and national level, drafting and implementing environmental and civil society laws; establishing partnership and co-operation relations with stakeholders (authorities, business and NGOs); representing interest in international forums on environmental issues.

Since 2013, EcoContact has been hosting the Environmental Consultation and Information Aarhus Centre, created with the support of the OSCE Mission in Moldova.

The main areas of activity are divided into five domains:

- **Information management:** ensuring information flow for the environmental NGO sector, contributing to promote transparency and ensuring the right to opinion and access to information.
- **Capacity building:** the NGO's trainers are using the Kolb approach for adult education, while providing thematic trainings on environmental management, development NGOs' capacities/viability, environmental legislation and environmental human rights, etc.).
- **Participation:** EcoContact is actively involved in environmental decision making at local, regional and national levels. As well as presenting its own opinions, it also represents other NGOs and civil society through its active membership in thematic working groups and councils and developing recommendations for governments.

- **Consultations:** EcoContact is offering consultations on application of environmental legislation, ensuring environmental human rights and guiding applications for access to justice in environmental matters at national and international levels. It also offers consultation in policy and law drafting processes.
- **Solving environmental problems:** The main thematic areas of EcoContact's activity are natural resources, biodiversity, chemicals, toxic waste (obsolete pesticides), waste management, water management, disaster risk reduction, soil remediation.
- **Project programming, monitoring and evaluation:** EcoContact's staff is constantly performing internal monitoring and evaluation, and applying as independent evaluators the systematic methods for collecting, analysing and using information with reference to projects, policies and programmes, particularly about their effectiveness and efficiency.

EcoContact is experienced in providing training for NGOs and authorities. EcoContact trainers are certified in national and international training schools. The main training topics are project management, organisation management, environmental issues, environmental law drafting and human rights (right to water, public participation, access to environmental information, access to justice). For each training, all materials and hand-outs are elaborated by EcoContact trainers.

Due to the personal background of some EcoContact staff, the NGO has great experience in environmental policy drafting, law drafting, evaluating legislation on human rights and environment (i.e. relevance of national laws in regard of Aarhus Convention, Espoo Convention, Water Directive, etc.) and also in writing manuals and brochures, as well as designing and implementing training courses. EcoContact has practical knowledge and skills on environmental issues such as water management, waste management, risk assessment, climate change, vulnerability, chemical management, environmental impact assessment, etc. EcoContact ensures regular communication and meetings inside the environmental network through a mailing list of more than 208 NGO activists. Since its establishment, EcoContact has moderated this mailing list.

Experience with programme and project implementation

EcoContact implements projects involving a mix of different activities, such as:

- monitoring of sustainable development indicators
- drafting and appraising of environmental legal framework and policies at national and local level
- raising awareness and disseminating information
- designing and organising training courses.

Projects are implemented based on project cycle management principles, using result-based evaluation methodology, and each member of staff has clear tasks and responsibilities. The NGO was involved in implementing more than 25 projects. The overall budget of the largest implemented project was EUR 1 280 000, while the largest budget managed by EcoContact within a project was EUR 230 000. Information on these projects is provided in the following tables.

Table A D.2. EcoContact sample project 1

Ecosystem-based adaptation, climate-resilience measures and institutional development in the Lower Dniester	
Primary objective	To contribute to implementation of Moldova's Strategy on Biological Diversity and Climate Change Adaptation Strategy through reducing the pressure on biodiversity in the Lower Dniester area.
Location, period	Moldova, RAMSAR Site, Lower Dniester December 2017 – November 2021
Results of the actions	Output 1. Implemented climate adaptation measures for water supply systems in villages from the LDRS, ensuring

Ecosystem-based adaptation, climate-resilience measures and institutional development in the Lower Dniester	
	<p>equal and affordable access to water for women, men and socially vulnerable groups.</p> <p>Output 2. Developed legal and institutional framework for the creation of a Lower Dniester National Park.</p> <p>Output 3. Developed capacities of local communities from target area of the Lower Dniester for climate adaptation, nature conservation and management.</p> <p>Output 4. Improved management of the Lower Dniester Ramsar Site through cost-based evaluation, biodiversity conservation and climate adaptation measures.</p> <p>Output 5. Selected areas of the LDRS are rehabilitated through forestation on both riverbanks. Eco-system services and climate mitigation are enhanced.</p>
Funding organisation and budget	<p>Financed by ADA</p> <p>Lead Applicant: SE Biotica</p> <p>Partners: EcoContact</p> <p>Overall budget: EUR 833 300</p> <p>EcoContact budget: EUR 230 000</p>

Source: Authors' summary based on information received from EcoContact.

Table A D.3. EcoContact sample project 2

Climate Forum East (CFE) II	
Primary objective	To increase capacity of six national CSO Climate Change Adaptation (CCA) networks and individual CSO network members to contribute to national and local policy-making processes, public awareness raising, and education on climate change and environmental governance in the Eastern Neighbourhood Region.
Location, period	EaP region / Republic of Moldova, July 2015 / ongoing.
Results of the actions	<p>Capacities of six CSO networks and individual CSO network members strengthened through tailored CSO capacity development programmes in the areas of leadership, resource mobilisation and communication.</p> <p>CSOs have increased capacity in developing local CCA action plans through multi-stakeholder dialogue and implemented community-led projects for evidence-based local and national advocacy.</p> <p>National CSO networks have increased their impact in influencing national policy dialogue in climate change and environmental governance, reaching out to and mobilising youth and raising public awareness on climate-related topics.</p> <p>Capacities of six CSO networks and individual CSO network members increased by sharing practical climate change and environmental governance knowledge and experiences regionally.</p>
Funding organisation and budget	<p>EuropeAid Austria Development Agency Austrian Red Cross.</p> <p>Total – EUR 1 280 000, Action in Moldova: EUR 195 107.</p>

Source: Authors' summary based on information received from EcoContact.

Management

Number of permanent employees: 10 full-time

Number of part-time employees/experts: 15 experts

The Staff of EcoContact has environmental, scientific, legal and educational background. They are actively involved at national, local and international level in promoting environmental values. They also have good experience in working with international experts and donors. The managers have the internationally recognised Certification in Project Management (PRINCE 2 Foundation).

Conclusions and suitability for PIU recommendations

EcoContact NGO has a medium start-up complexity. It is a non-governmental and non-commercial institution, with 11 years' experience in implementing donor-funded projects and programmes in the environmental sector. It is independent from the programming authority.

The main benefits are:

- revenues reinvested to NGO operations
- separate from programming entity.

The main risks are related to the sustainability of the arrangement if the NGO has no other projects and whether the NGO contracted to implement the CPT programme would be ready when the programme is integrated into the Programme on Promotion of Green Economy 2023-2027.

External NGO – Green City Lab

Brief history

Green City Lab (GCL) was created in March 2021. It is envisaged to be an institution of leading innovation, knowledge management and networking platform and a source of expertise for catalysing sustainable low-carbon green city development in Moldova. It aims to become the central project development and implementation support infrastructure for both Moldovan and foreign public institutions as key customers. Its activity is guided by a statute, registered by the Public Services Agency in Moldova.

The areas of competence of the GCL are the following:

- promotion and contribution to urban mobility with reduced emissions of pollutants
- efficient waste management
- energy efficiency in public buildings and use of renewable energy sources
- environment protection and promotion of environmental values
- improvement, together with public authorities, of the legal national framework regarding urban mobility with reduced pollutants and environment protection
- information and raising public awareness on challenges related to sustainable development, urban mobility, environmental protection, waste management, energy efficiency
- contribution to fulfilling the conditions laid down in the international documents at which result-oriented monitoring is party and use of best practices, especially in the above-mentioned sectors.

Experience with programme and project implementation

Projects/programmes under implementation: waste management, energy efficiency of multi-storey building, renewable electricity. Donors: GEF, Termoelectrica, Chisinau City Hall.

Table A D.4. GCL example 1

Energy efficiency in multi-story building	
Primary objective	<p>Moldova Sustainable Green Cities Project is targeting the residential sector. It seeks to strengthen the role of Homeowner Associations (HOAs) to manage their buildings and common property and to contribute to the development of their surroundings, while also supporting them to get their legal status as credit-worthy legal entities with the option to access affordable financing for the required energy efficiency investments.</p> <p>The objective of the demo project is to contribute to the Green Cities project development objective and intended CO₂ reduction (200 kt of CO₂eq. from direct GHG emission reductions) by demonstrating the cost benefits of the</p>

	energy efficiency refurbishment of a multi-story residential building, working with the Home Owners Associations and catalysing further investments in low-carbon infrastructure.
Location, period	Chisinau, Moldova, 2021-22
Funding organisation and budget	Technical assistance: USD 25 000 (UNDP/GEF) Investment: USD 250 000 out of which: GEF Funds: USD 100 000 Termoelectrica: USD 50 000 (Individual Thermal Point + modernisation of distribution heating system) Homeowners Association (HOA): USD 50 000 (replacement of exterior windows) Chisinau Municipality: USD 50 000

Source: Authors' summary based on information provided by Green City Lab.

Table A D.5. GCL example 2

Plastic bottles collecting through Reverse Vending Machines	
Primary objective	Create a system of reverse vending machines for collection of plastic bottles.
Location, period	Chisinau, Moldova, 2021-22
Donors and budget	Project Green city/GCL USD 180 000 (cash)

Source: Authors' summary based on information provided by Green City Lab.

Table A D.6. GCL example 3

Distributed generation of the renewable electricity	
Primary objective	Provide up-front investment for public institutions, condominiums, etc. for installation of the photovoltaic modules.
Location, period	Chisinau, Moldova, 2021-22
Donors and budget	Project Green city/GCL USD 180 000

Source: Authors' summary based on information provided by Green City Lab.

Management

Organisation of activity. At the start of the activity in 2021, the organisation had five employees engaged in the process:

- Executive Director
- EMIS Development Manager
- Fundraising Manager
- Products Development Manager
- Financial, Procurement and Administrative Assistant.

The Executive Director is the key decision maker, reporting to the Board; the staff is capable of managing transferred UNDP Green Commodities Programme (GCP) projects, developing and perfecting key activities. These range from project-related (development, implementation and management) to stakeholder-related (establishing relationships with partners like municipalities, donors, private sector, funds, etc.).

Table A D.7. GCL staffing plan

No.	Function	2021	2022	2023	2024	2025
1	Project manager (GCL Executive Director)	1	1	1	1	1
2	Financial/procurement/administrative assistant	1	1	1	1	1
3	Project development manager	1	1	1	1	1
4	Fundraising manager	1	1	1	1	1
5	EMIS Development manager	1	1	1	1	1
6	EMIS engineers	0	2	3	3	4
7	Communication/community organiser specialist	1	1	1	1	1
	Total full-time equivalent staff costs	6	8	9	9	10

Source: Authors' summary based on information provided by Green City Lab.

The work of the GCL team focuses on: i) integrated and participatory urban land use and mobility planning and low-carbon transport; ii) public and residential building energy efficiency and renewable energy use; and iii) resource efficient waste management, complemented with future project proposal development and new project implementation.

GCL Board is responsible for making consensus-based decisions. The Board plays a critical role in monitoring and evaluation by assuring the quality of activity and by using evaluations for improving performance, accountability and learning.

The Board oversees the activity of GCL, providing guidance on overall strategic direction. They serve as the “leadership” support for the organisation, and resolve issues brought to its attention by the Executive Director of the GCL.

Conclusions and suitability for PIU recommendations

GCL has a medium start-up complexity (**Error! Reference source not found.**). It is a non-governmental and non-commercial institution and a spin-off form of organisation with UNDP/GCP support, in its first year of activity. It is independent from the programming authority.

Although the organisation is young, GCL has employed qualified experts that are researching and finding new ways to gain access to energy efficiency and climate resilience in urban planning and waste management. They are making innovations and exploring less harmful solutions for the environment.

The main benefits are:

- revenues reinvested to NGO operations
- supported financially by UNDP in the first three years of activity
- separate from programming entity.

The main risks are related to the sustainability of the arrangement if the NGO has no other projects; if it is contracted to implement the CPT Programme for a limited period; and if it is possible to be ready by 2022.

Besides the five permanent staff for the CPT implementation, two additional permanent employees were needed by 2022 to start this activity.

Commercial banks

Brief history

There are 11 authorised commercial banks in Moldova. Significant changes were made in 2018 related to acquisition of shares in the capital of certain banks by several reputable international groups. This was in accordance with changes in banking supervision priorities and commitments towards development partners in strengthening the transparency of the shareholders' structure for the banks. As a result, more than 70% of bank assets are being managed by international groups with a sound reputation.¹⁰

The banking sector has undergone some consolidation in recent years, while maintaining liquidity and profitability levels. In 2018, the main financial and prudential indicators of banks were solid. Capital reserves are set at 10%. The liquidity of banks is well above regulated limits, reaching about 55% in the short term, i.e. more than half of banks' exposures is in liquid assets. Indicators of asset quality continued to improve thanks to efforts to resolve the issue of non-performing loans (NPLs) granted prior to the banking crisis of 2015.¹¹

Domestic financing institutions in Moldova have some interest in financing local government projects (e.g. Mobiasbanca). On the other hand, local government interest in domestic loans tends to be low due to key barriers: the requirement that loans be denominated in the local currency (foreign currency-based loans only possible through sovereign, which act as a bottleneck to local financing), high interest rates and short loan periods.

Experience with programme and project implementation

Recently, the EBRD and Green Climate Fund (GCF) provided a EUR 5 million loan to Moldova AgroindBank (MAIB) under the EBRD's Green Economy Financing Facility (GEFF). The loan combines EUR 3.75 million of EBRD finance and EUR 1.25 million of GCF concessional co-finance. The financing for MAIB is the first loan to be made available under the GEFF in Moldova. It is intended to facilitate the country's transition to a more sustainable, low-carbon and climate-resilient economy. The loan will be used for on-lending to individuals, small and medium-sized enterprises (SMEs) and corporations for investments in climate change mitigation and adaptation technologies and services, including electric vehicles. The EBRD will also assist MAIB with the implementation and monitoring of the programme. The loan is expected to help Moldova reduce its annual energy consumption by 108 800 gigajoules (GJ) per year, the equivalent of annual energy consumption of more than 6 000 Moldovan households. It will also reduce carbon emissions by 9 880 tonnes per year, equivalent to taking more than 5 000 passenger vehicles off the streets.¹²

Mobiasbanca, part of a larger banking group, OTP Group SA, works with municipalities, when possible, especially with IFIs. For example, the bank provided financing for the LED street lighting project in Balti through an EIB programme. Also, it financed projects in Ungheni and Chisinau (water project). It also participated in MoSEFF, mostly working with SMEs (EUR 50 million).

Management

Commercial banks are private institutions.

Conclusions and suitability for PIU recommendations

The main benefits of engaging a commercial bank in the management of the CPT Programme include:

- programme implementation experience
- independence from programming authority

- relatively lower implementation cost
- readiness.

The main risks involved engaging a commercial bank in the management of the CPT Programme include:

- financing – fee-based and potentially relatively more expensive
- contracting risks.

Creation of PIU within MoE infrastructure

Brief history

No PIU exists in the MoE infrastructure, apart from the others discussed in this chapter.

Experience with programme and project implementation

Not applicable.

Management

Public institution directly subordinated to the MoE. No current employees or organisational chart created for the purpose of programme implementation.

Conclusions and suitability for PIU recommendations

The main benefits of entrusting management of the CPT Programme to a PIU within the MoE (to be created) include:

- relatively low implementation cost (employees could be drawn from existing MoE staff)
- relative ease of financing (budget financing)
- relatively low start-up complexity (employees could be drawn from existing MoE staff)
- could conceivably be ready for CPT implementation in 2022.

Conversely, the main risks associated with entrusting management of the CPT Programme to a PIU within the MoE (to be created) include:

- lack of independence from programming authority
- no programme implementation experience.

Note

¹ Government Decision No.1249 of 19 December 2018 on Organisation and Operation of the Environmental Projects Implementation Unit, published on 28 December 2018 in Official Gazette No. 513-525, Art. 1353. Available at www.legis.md/cautare/getResults?doc_id=113696&lang=ro (accessed 9 September 2022).

² List of projects not available.

³ Government Decision No. 549 of 13 June 2018 on the Establishment, Organisation and Functioning of the Environment Agency, published on 22 June 2018 in Official Gazette No. 210-223, Art. 603. Available at www.legis.md/cautare/getResults?doc_id=119162&lang=ro (accessed 12 October 2022).

⁴ For more information, see the Agency' website at <https://am.gov.md> (accessed 14 November 2022).

⁵ Ibid.

⁶ See the reports at <https://am.gov.md/ro/content/rapoarte-de-activitate> (accessed 30 November 2022).

⁷ Government Decision No. 538 of 17 May 2007 on Organisation and Operation of the Environmental Projects Implementation Unit, published on 25 May 2007 in Official Gazette No. 70-73, Art. 571. Available at www.legis.md/cautare/getResults?doc_id=25751&lang=ro (accessed 14 November 2022).

⁸ Government Decision No. 592 of 27 November 2019 on the Approval of the Greening Programme of Small and Medium-sized Enterprises, published on 6 December 2019 in Official Gazette No. 360-366, Art. 907. Available at www.legis.md/cautare/getResults?doc_id=119235&lang=ro (accessed 14 November 2022).

⁹ For ODIMM organisational chart, see www.odimm.md/ro/despre/despre-odimm/organigrama (accessed 30 November 2022).

¹⁰ European Banking Federation, www.ebf.eu/moldova (accessed 29 January 2021).

¹¹ Ibid.

¹² EBRD and GCF promote green financing in Moldova, www.ebrdgeff.com/ebd-and-gcf-promote-green-financing-in-moldova (accessed 29 January 2021).



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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.

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