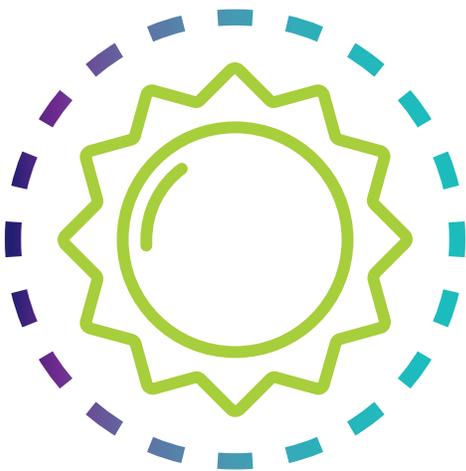




• PHOTO: GEF •



• SUSTAINABILITY •



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## EVALUATION OF THE GEF SUSTAINABLE TRANSPORT PORTFOLIO

Although an important area of GEF support, sustainable transport had not previously been assessed. This evaluation looked at relevance, results, implementation, and lessons learned.

### Key findings of evaluation

- Global Environment Facility (GEF) support for sustainable transport is relevant and is correlated with the distribution of the urban population across GEF recipient countries.
- GEF financing generally adds value by supporting mainstreaming and speedier adoption, and by enhancing the viability of low-carbon approaches.
- Sustainable transport projects mobilize higher cofinancing commitments than other projects.
- Sustainable transport projects are complex and are likely to face implementation challenges related to procurement and coordination.
- Overall, 72 percent of sustainable transport projects were rated satisfactory for outcomes; those projects rated in the satisfactory range account for 83 percent of the funding.
- Although the majority of projects are assessed as having achieved their expected outcomes, performance in terms of meeting greenhouse gas (GHG) abatement targets is lower: Only 40 percent of the completed projects met at least 80 percent of the target at implementation completion.
- The effectiveness of transport planning and traffic demand management activities generally depends on the level of support from, and alignment with, local leadership vision. Where such support and alignment are missing, projects face implementation challenges and are often less effective.

Global demand for transportation is expected to increase substantially because of increases in population, affluence, and urban sprawl. Developing and transitional economies, where most of these changes are taking place, need to update their transport infrastructure to meet this demand. The GEF has cumulatively provided \$501 million, along with \$8.4 billion in partner cofinancing, through 80 projects to support sustainable transport in its recipient countries. The GEF Independent Evaluation Office (IEO) conducted an evaluation to assess the extent to which the GEF support for sustainable transport is well targeted and effective.

The evaluation covered all 80 GEF-supported projects that focused on sustainable transport and had been approved from 1998 to 2018 (GEF-2 to GEF-6). Of these projects, 33 have been completed, 24 are under implementation, and 23 are under preparation. The projects cover a variety of themes: adoption of clean technologies; development of public transit and non-motorized transit; adoption of efficiency measures in freight and logistics; transport planning; adoption of enabling legal and policy measures, and capacity development for sustainable transport (figure 1).

The evaluation used a mixed-methods approach. The sources of information included a literature review and desk review of project documents, progress reports, and terminal evaluations. Separate modules were used to gather information based on project cycle status—that is, whether a project was completed, under implementation, or under preparation. Four projects were field verified, two each in Brazil and China.

**GEF support for sustainable transport is focused on addressing the challenges related to urban transport.** Of the GEF support for sustainable transport, 94 percent is focused at addressing the challenges related to urban transport. This focus is very different from that of international development banks such as the Asian

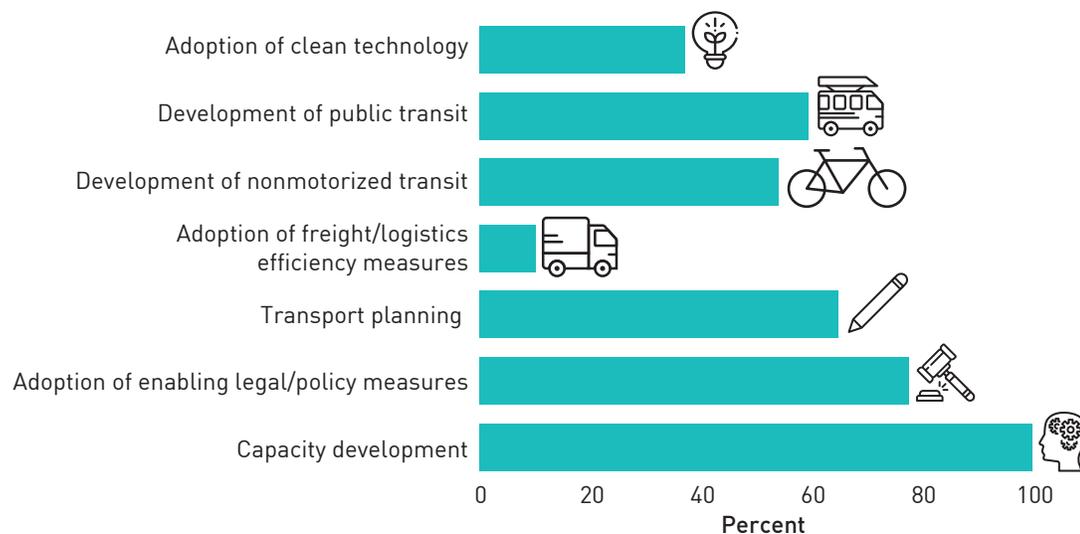
Development Bank (ADB) and the African Development Bank (AfDB), whose shares of urban transport in funding for transportation-focused projects are much lower—15 percent for ADB and 3 percent for AfDB, according to their respective independent evaluation offices.<sup>1</sup> The evaluation assessed the GEF focus on urban transport to be appropriate because this area provides for substantial GHG emissions abatement opportunities.

**The GEF has facilitated the transformation of markets for fuel cell and electric/hybrid-based mobility technologies.** Early GEF experience in promoting fuel cell bus technologies in Brazil and China found that the technologies were too expensive to be viable. They were introduced before they were ready for commercialization, and development was slower than expected. With time, fuel cell technologies matured and become more cost-effective. Building on the foundations laid by GEF projects, China is now commercializing these technologies with—and without—GEF support. The GEF support to electric/hybrid technologies helped these technologies develop faster. In China, these have found considerable traction among manufacturers and city governments. The GEF is now supporting large-scale adoption of these technologies in China, Malaysia, and South Africa. The focus is also shifting toward connecting the use of these technologies with the renewable energy grid to reduce the carbon footprint.

**GEF support has been instrumental in the development of bus rapid transit (BRT) systems in several major cities.** Of the 33 completed projects, 17 focused on establishing and/or improving the efficiency of bus rapid transit. GEF support to BRT systems and BRT-style upgrades has generally focused on technical assistance and planning, such as the development of feasibility studies, origin-destination surveys, and environmental impact studies for BRT corridors. GEF funding has also been used for capacity building; updating the legal, policy, and regulatory framework; and knowledge management. GEF financing

helped lay the groundwork for BRT systems in several major cities including Mexico City, Mexico; and Dar-es-Salaam, Tanzania. Dissemination activities combined with demonstrations have facilitated replication in several other cities. For example, GEF support to the Lima Urban

**FIGURE 1** Thematic focus of the GEF’s sustainable transport projects



NOTE: n = 80.

<sup>1</sup> ADB Independent Evaluation Department, “Sector-Wide Evaluation: ADB Support for the Transport Sector” (Manila, 2019); and AfDB Independent Development Evaluation, “Transport in Africa: The African Development Bank’s Intervention and Results for the Last Decade” (Abidjan, 2014).



SOURCE: GEF Project Management Information System. UNDP = United Nations Development Programme; UNEP = United Nations Environment Programme.

Transport project funded feasibility studies for implementation and optimization of future BRT corridors in Peru, which have since been implemented.

**GEF support for nonmotorized transport has generally been implemented satisfactorily, but tracking of environmental results is poor among these projects.** Twenty completed projects have promoted nonmotorized transport. The supported activities include construction and/or repair of bike lanes and walkways, spaces for bike parking, demonstration of the bike-share business model, awareness campaigns, and preparation of a nonmotorized transport plan. The GEF generally avoids financing civil works. Although the incremental environmental benefit rationale provided for GEF funding for construction and repair of bike lanes and walkways was generally sound, the IEO evaluation found some instances where the logic was not clear. In most instances, these activities were implemented effectively. However, tracking of environmental results is limited, and it is difficult to assess the extent to which these activities contributed to low-carbon transport.

**Effectiveness of GEF transport planning and traffic demand management activities depends on the level of support from, and alignment with, the vision of local leadership.**

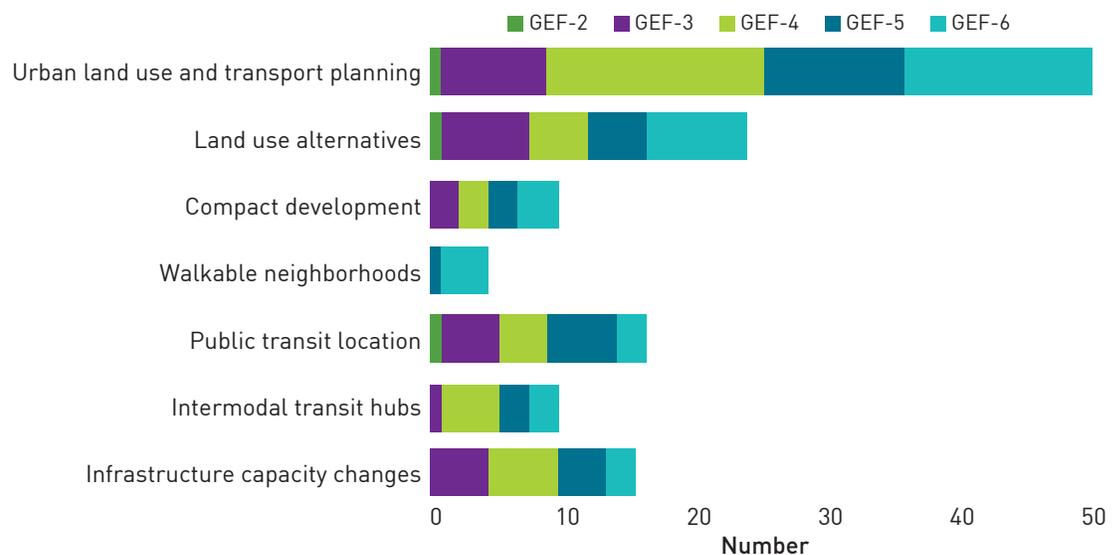
Most GEF sustainable transport projects address aspects related to urban and transport planning (figure 2). GEF-supported integrated land use and transport planning activities facilitated transit-oriented development in cities such as Mexico City and Changsha. However, in Dushanbe and Tianjin, these efforts were less successful. This was because these projects were either not aligned with the vision of local decision makers or had not adequately addressed policy and regulatory barriers. Experience

from projects that include traffic demand management-related activities shows that such activities are likely to be successful when they do not involve trade-offs or make some groups worse off. Where trade-offs are involved, commitment from political leadership and broader public support are important.

**Overall performance of the sustainable transport portfolio is in the same range as other GEF projects.** Of the 32 completed projects that were rated on outcomes, 23 have satisfactory outcomes; although nominally lower, this is statistically the same as the outcome ratings of the overall GEF project portfolio (72 percent versus 80 percent). Sustainable transport projects in the large emerging economies are more likely to be rated in the satisfactory range (92 percent) compared to other recipient countries (50 percent). The projects where outcomes were rated in the unsatisfactory range faced challenges such as high turnover of project personnel, poor coordination, challenges in procurement, insufficient government commitment/ownership, and low capacity of executing agencies. In large emerging economies, procurement-related delay tended to be more common.

**The cofinancing ratio for sustainable transport projects is \$19 per dollar of GEF grant; this is higher than for other projects in**

FIGURE 2 Urban and transport planning themes covered in GEF sustainable transport projects



**the GEF portfolio.** For example, other climate change projects achieve a cofinancing ratio of \$9 per dollar of GEF grant, and the cofinancing ratio for the entire portfolio of comparable GEF projects is \$6 per dollar of GEF grant. Recipient countries account for the majority of promised cofinancing (57 percent). Cofinancing commitments are fully met or exceeded in 55 percent of completed projects, which is comparable to other climate change projects and for the GEF project portfolio (59 percent).

**Performance in meeting GHG abatement targets is generally lower than expected at project start.** GEF support for sustainable transport aims to reduce the level of GHG emissions from transportation. Consequently, the extent to which supported projects contribute to GHG emissions abatement is an important parameter in assessing performance. Twenty completed projects provide information on GHG emissions abatement. The evaluation retroactively applied a consistent approach to reported GHG emissions abatement data so the results may be aggregated. For these 20 projects, the aggregate estimated GHG emissions abatement was 11.0 metric tons of carbon dioxide equivalent (Mt CO<sub>2</sub>e), which is lower than 92.9 Mt CO<sub>2</sub>e expected at project start. Eight projects (40 percent) met at least 80 percent of their target. The average cost of GHG emissions abatement is \$11.50, with a median of \$12.70 per Mt CO<sub>2</sub>e.

**During implementation, sustainable transport projects often face difficulties in procurement and coordination.** Sixty-eight percent of completed sustainable transport have satisfactory ratings for quality of implementation, compared to 82 percent for the overall GEF portfolio. Information from terminal evaluations and respondents indicates that sustainable transport projects require coordination among multiple agencies and face procurement-related difficulties.

**Monitoring and evaluation (M&E) is generally weak in sustainable transport projects.** Only 37 percent of completed sustainable transport projects are rated as having satisfactory quality of M&E design and 46 percent in M&E implementation, compared to 67 percent and 66 percent, respectively, for the GEF portfolio overall. There is a considerable gap in the specification of results indicators for sustainable transport projects, as only 42 percent of the approved projects in this portfolio specify indicators to track GHG emissions abatement and/or fuel savings. Designing a robust M&E plan and specifying appropriate indicators for sustainable transport projects is a challenge because GEF support is often concentrated in activities focused on capacity development; update of legal, policy, and regulatory frameworks; and knowledge management. Moreover, for legal, policy, and regulatory contributions, impacts are difficult to track within the project time frame.

## Conclusions

- 1** GEF support for sustainable transport is focused on urban transport, which is appropriate because this area provides for substantial GHG emissions abatement opportunities.
- 2** The GEF has made valuable contributions to facilitating the use of low-carbon technologies, enhancing the efficiency of public transit and freight transport, promoting nonmotorized transport, and energy efficiency benchmarking.
- 3** Sustainable transport projects are likely to succeed in major emerging economies that have enabling market conditions and political commitment for follow-through.
- 4** Sustainable transport projects are complex and are likely to face challenges in procurement and coordination.
- 5** The quality of project monitoring plans and poor tracking of results of nonmotorized transport projects are areas of concern.

## Recommendations

- 1** Ensure that the M&E designed to monitor results is consistent with the project's theory of change. GEF projects should specify clear assumptions on how a project will achieve its long-term intended results, and a clear methodology should be applied across projects to assess GHG emissions abatement.
- 2** GEF support for capacity development, urban and transport planning, and policy and regulatory framework development activities is critical, and such support should continue. GEF funding should be used for civil works in a limited set of situations.



**Independent Evaluation Office**  
Global Environment Facility  
1818 H Street NW, Washington, DC 20433 USA

[www.gefio.org](http://www.gefio.org) @gefio\_tweets /gefio

CONTACT: Neeraj Kumar Negi, Senior Evaluation Officer, [nnegi1@thegef.org](mailto:nnegi1@thegef.org)  
FOR MORE INFORMATION: <https://www.gefio.org/evaluations/apr-2019-transportation>

