



# Concept Note for Sustainable Infrastructure Community of Learners (SI-CoL)

## BACKGROUND

To aid economic recovery following the COVID-19 pandemic, new funding is being pledged globally to support infrastructure construction. Such investments by themselves, however, will not necessarily promote sustainable development. Many past large-scale infrastructure projects in the transportation, energy, and water sectors have had unintended negative impacts on the environment and local communities that outweighed their positive economic and development benefits. For example, dams have required massive human resettlements and destroyed critical habitats; coal plant pollution has threatened the global climate and local community health; and transportation projects have spurred large-scale deforestation, disrupted migration routes of large mammals, and increased illegal wildlife trade. Without attention to how infrastructure is developed, construction will continue to follow a business-as-usual path that has, in the past, paid little heed to the broad suite of the 2030 UN Sustainable Development Goals (SDGs). There is an urgency in building back better, embedding sustainable infrastructure considerations in projects.

Awareness is growing that, to address these challenges, we need to construct sustainable infrastructure (SI) – that is, projects that are planned, designed, constructed, operated, and decommissioned to ensure economic and financial, social, environmental (including climate resilience), and institutional sustainability over the entire life cycle of the project (IDB 2018; Bhattacharya et al. 2019). Many international institutions have committed to promoting sustainable infrastructure, establishing principles and initiatives such as the [UNEA-4 Resolution on Sustainable Infrastructure](#), [OECD Sustainable Infrastructure Policy Initiative](#), [G20 Principles for Promoting Quality Infrastructure Investment](#), and multilateral development bank-funded [Sustainable Infrastructure Foundation](#). Myriad policies, guidelines, and standards have been developed to enable the creation of sustainable infrastructure, as exemplified in Figure 1. Although there is agreement that broad adoption of sustainable infrastructure is crucial to achievement of the 2030 Agenda for Sustainable Development, there is less concurrence on how to achieve this transformation.

Figure 1. Example of Sustainable Infrastructure Policies, Guidelines, and Standards (Adapted from GIB 2018)

<p><i>Infrastructure Project Sustainability Standards</i></p>	<ul style="list-style-type: none"> <li>• The Standard for Sustainable and Resilient Infrastructure (SuRe®)</li> <li>• Envision</li> <li>• Infrastructure Sustainability Council of Australia (ISCA) Rating Tool</li> <li>• BREEAM/CEEQUAL</li> <li>• Sustainable Development Verified Impact Standard (SD VISta)</li> </ul>
<p><i>Finance Sustainability Standards</i></p>	<ul style="list-style-type: none"> <li>• IFC Performance Standards &amp; Equator Principles</li> <li>• MDB Safeguards &amp; Frameworks</li> <li>• European Commission Sustainable Finance Initiative</li> <li>• GRESB</li> </ul>
<p><i>Sector-Specific Sustainability Standards</i></p>	<ul style="list-style-type: none"> <li>• AWS International Water Stewardship Standard</li> <li>• LEED</li> <li>• Greenroads Certification</li> <li>• Equitable Origin</li> <li>• ARUP City Resilience Index</li> </ul>
<p><i>National Sustainability Standards</i></p>	<ul style="list-style-type: none"> <li>• Russian national standard on “green building”</li> <li>• Kyrgyzstan National Sust. Dev. Strategy</li> <li>• Qatar Env. Standards on Infra Projects</li> <li>• India Green Bonds Council</li> </ul>
<p><i>International Agreements and Initiatives</i></p>	<ul style="list-style-type: none"> <li>• G20 Principles for Quality Infrastructure link</li> <li>• Espoo Convention</li> <li>• United Nations Framework Convention on Climate Change</li> <li>• Aarhus Convention</li> <li>• International Human Rights Instruments</li> </ul>



## PROBLEM STATEMENT

**Existing sustainable infrastructure policies, guidelines, and standards are not being broadly implemented due in part to insufficient capacity and incentives amongst the key stakeholders.** For the most part, institutions within the **public sector** (e.g. government administrative agencies, public works, city planning and engineering agencies, chambers of commerce), **financial sector** (e.g. multilateral development banks, national development banks, commercial banks, insurance companies, private investors), architecture, engineering, and construction (AEC) sector (e.g. industry contractors, consultants, suppliers, state-owned enterprises), and **civil society** (e.g. community representatives, advocacy groups) still lack the abilities, motivation, and common entry points to facilitate SI development at the level of individual projects and integrated across systems of connected projects.

To address this discrepancy, **a growing number of programs and resources** have been developed and deployed **to build capacity to carry out sustainable infrastructure development.** The main objectives of these programs are to build capacity in terms of technical and engineering skills, planning capabilities, project management, sustainable finance, monitoring and evaluation, and knowledge transfer. Figure 2 lists examples of such capacity development programs and resources. They target key stakeholder groups in the public sector, financial sector, AEC sector, and civil society. Most programs and resources are customized to a specific infrastructure subsector (e.g. hydropower, transportation, or water, sanitation, and hygiene) or activity (e.g. sustainable finance, procurement, or management of PPP unit).

These capacity development programs and resources are an excellent step in the right direction, but they have not yet been coordinated, embraced, and scaled to the degree required to bring about a significant and lasting increase in sustainable infrastructure adoption. This shortfall is due to a variety of barriers: Because universally agreed upon protocols and standards do not exist, **stakeholders often find it hard to distinguish among the capacity development resources, match them to their needs, and utilize them.** Additionally, **current capacity development resources are not available broadly, continuously, and in a coordinated fashion.** Finally, **lessons learned and best practices in capacity development have not been widely disseminated.** As a consequence, the SI policies, guidelines, and standards that do exist often fail to be implemented because insufficient and appropriate capacity exists among

Figure 2. Example of Existing Sustainable Infrastructure Capacity Development Programs and Initiatives

<p><i>Sustainable Project Management Capacity</i></p>	<ul style="list-style-type: none"> <li>• EMSD <a href="#">Sustainable Infrastructure Tool Navigator</a></li> <li>• EPFLx <a href="#">Building Expertise on Developing Sustainable and Resilient Infrastructure MOOC</a></li> <li>• SIF SOURCE <a href="#">Multilateral Platform for Quality Infrastructure</a></li> <li>• FIDIC <a href="#">Project Sustainability Logbook</a></li> <li>• UNOPS and University of Oxford <a href="#">SustainABLE</a></li> </ul>
<p><i>Technical and Engineering Capacity</i></p>	<ul style="list-style-type: none"> <li>• NASA <a href="#">Applied Remote Sensing</a> online training</li> <li>• OCTO <a href="#">Ecosystem-Based Management Tools Network</a></li> <li>• <a href="#">Infrastructure Resilience</a> courses</li> <li>• IISD <a href="#">Public-Private Partnership (PPP) Contracting</a> webinars</li> </ul>
<p><i>Sustainable Finance Capacity</i></p>	<ul style="list-style-type: none"> <li>• World Bank <a href="#">Sustainability and E-Learning Program</a></li> <li>• Frankfort School <a href="#">Sustainable Finance course</a></li> <li>• UN CC: Learn <a href="#">Introduction to Sustainable Finance</a> course</li> </ul>
<p><i>Strategic and Systems Planning Capacity</i></p>	<ul style="list-style-type: none"> <li>• ITRC <a href="#">NISMOD-International</a> systems-wide sustainability tools and modelling platforms</li> <li>• UNOPS <a href="#">Capacity Assessment Tool for Infrastructure</a></li> <li>• NCEA <a href="#">Strategic Environmental Assessments Capacity Development</a></li> </ul>
<p><i>Environmental Preservation</i></p>	<ul style="list-style-type: none"> <li>• UNESCO <a href="#">Nature-Based Solutions for Water</a> training course</li> <li>• Natural Capital <a href="#">InVEST</a> Software</li> </ul>
<p><i>Social Inclusion</i></p>	<ul style="list-style-type: none"> <li>• Global Infrastructure Hub <a href="#">Inclusive Infrastructure for Social Equity</a> tool</li> <li>• UNESCAP <a href="#">Guidelines for Developing Eco-Efficient and Socially Inclusive Infrastructure</a></li> <li>• ILO <a href="#">Conducting Employment Impact Assessment of Infrastructure Investment</a> guide</li> <li>• ILO <a href="#">Local Resource-Based Methods for Infrastructure Development</a> guide</li> </ul>



### Vision statement:

For every country to have well informed and fully capable government agencies, financial and construction enterprises, and civil society organizations that are required, motivated, and able to carry out integrated planning, development, and monitoring of sustainable infrastructure to meet its national development objectives and sustainable development goals.

The complementary concern is that, even if capacity exists, **key stakeholder groups often lack motivation and/or support to make use of these resources to develop sustainable infrastructure.** For example, providing administrative training and information access to public employees may not translate into adoption of new behaviors if the regulations and policies are not in place that require or incentivize them. Institutions in a position to encourage and require SI – e.g. governments and financial institutions – rarely do so. **Leadership is needed to promote the use of SI capacity resources.**

The demand for sustainable infrastructure can also be complicated by political processes. Infrastructure decisions are often closely aligned with political decision-making and tied to political cycles. **Capacity development can be dependent on political will and financial resources**, all of which can be lost when administrations change. In order to reduce the risk of being vulnerable to the whims of political change, both the **demand for capacity development and the processes to deliver it must be institutionalized – ideally outside of the political process.**

As a consequence, the recent advances and innovation in the creation of SI capacity development programs have not been implemented at nearly the scale or speed needed to influence the path of development. The need is more urgent than ever. New funding from MDBs and others in the aftermath of the COVID-19 pandemic to support new infrastructure may come with few or no conditions, and may undermine past or ongoing efforts for SI capacity building. **Despite recognition of the pivotal role that capacity development plays in the development of sustainable infrastructure, addressing the supply and demand for SI capacity development has not been given the priority it requires.**

## PROPOSED SOLUTION

An opportunity exists to significantly accelerate the adoption of sustainable infrastructure by taking advantage of the recent proliferation of capacity development programs and tools. One key to achieving this transformation is the establishment of a **learning community among SI capacity resource providers (i.e. those developing and delivering SI capacity resources like courses, tools, standards, or frameworks) and SI capacity resource clients (i.e. those that utilize these resources to create sustainable infrastructure).** The mission of this community would be to **share information, experiences, and resources globally in order to improve approaches, outcomes, and uptake of SI capacity development.** A virtual platform for sharing information, data, tools and lessons learned related to sustainable infrastructure could provide opportunities for a global network of SI capacity development providers and clients to learn from each other about activities that have worked, evaluate innovative concepts and programs, access models and data, identify capacity needs, and connect infrastructure providers and clients. Through peer learning and co-creation, this learning community could build on existing programs, data, and experiences to produce a second generation of SI capacity development resources. It is critical that resources and products are built in collaboration with all parties involved in the entire sustainable infrastructure development process so that there is symmetry between the supply and demand for capacity development resources.

Specifically, the **Sustainable Infrastructure Community of Learners (SI-COL)** could achieve this transformation by:

- Providing easy, transparent, and open access to existing data, standards, tools, training courses, and planning programs for SI capacity resource clients
- Hosting a neutral and evidence-based space outside national political processes for exploration and sharing of lessons learned for SI capacity resource providers and clients; this space will include a venue for CSOs to share their SI expertise and voice their views as well as those of constituencies they represent
- Assessing and helping meet capacity needs of client institutions
- Developing best practice standards and guidance by facilitating innovating, testing, evaluating, and reporting by member institutions on programs, tools, and teaching delivery methods
- Providing venues for the co-design and harmonization of policies, guidelines, and standards with policymakers (i.e. governments and financial institutions)
- Communicating to governments and relevant enterprises the need for sustainable infrastructure, capacity development, and the role of both in long-term sustainable development outcomes, national plans, and international commitments
- Attracting funding to SI capacity development



The coalition will use an inclusive approach by striving for broad representation and participation from each of the key stakeholder groups (public sector, financial sector, AEC sector, and civil society). The founding SI-COL coalition would have a mixture of academic and research-oriented think tanks as well as practitioner-focused government agencies, financial institutions, multilateral development agencies, and non-profit organizations. Sharing information among the academic, advocacy, and practitioner-focused approaches represent one of the comparative advantages of this coalition.

The goal of the SI-COL coalition is to use peer learning and engagement through co-creation activities to better coordinate, share, and learn within and among different stakeholder groups, different infrastructure subsectors, and different geographies in order to produce better sustainability outcomes that meet the needs of client institutions. To achieve this goal, we envision the following four initial activities:

## SI-COL PROPOSED ACTIVITIES

- 1. Creation of SI-COL coalition.** The SI-COL coalition will be an open network of individuals and institutions that represent SI capacity development providers and clients from across the globe. The coalition will coordinate closely with the UNEP-sponsored [Sustainable Infrastructure Partnership](#), a platform to promote and support integrated approaches to sustainable infrastructure planning and development. A steering committee will promote the expansion of the coalition to include member institutions that represent a range of client and provider institutions across different infrastructure subsectors and geographies. The steering committee will also oversee the development and management of the SI-COL Sharing Space to meet the needs of the coalition membership and users.
- 2. Development of (virtual) SI-COL Sharing Space.** Supervised by the steering committee, the SI-COL online network hub will include information portals, forums, and meeting spaces. Access to these spaces will be open. SI-COL Sharing Space will be designed to attract both SI capacity resource providers and clients as well as individuals creating policies affecting SI capacity development. Likely Sharing Spaces will include:
  - MOOCs, certification courses, webinars, and videos on topics related to sustainable infrastructure (e.g. [EPFLx Building Expertise on Developing Sustainable and Resilient Infrastructure MOOCs](#))
  - Portals to sustainable infrastructure tools, standards, and guidelines (e.g. [EMSD Sustainable Infrastructure Tool Navigator](#))
  - Virtual library for peer sharing and discussion of infrastructure lessons learned by SI clients, SI capacity providers, and CSOs (e.g. [WWF and ARUP Case Studies on Integrating Ecosystem Services and Climate Resilience in Infrastructure](#))

- Virtual workshops and expert advice service for policy-making and regulatory institutions designing SI requirements and/or incentives (e.g. Webinar or workshop on Designing incentives for Sustainable Infrastructure Investments in Post-COVID Recovery Plans)
- Hub for expert advice and evaluation of best practices to support SI clients (e.g. Ask SI-CoL answer column)
- Geospatial live-inventory mapping of ongoing and planned infrastructure for tracking projects, developing story maps, sharing information, and building awareness (e.g. [MapX.org](#) platform)
- Portal to needs assessment, planning tools, evaluation, and monitoring programs for SI client institutions (e.g. [UNOPS Capacity Assessment Tool for Infrastructure](#))

- 3. Lessons Learned Initiative to determine how SI-COL programs can most effectively support the development of SI.** A small grant program can be used to encourage practitioners and client organizations to document capacity development activities and their performance over time. This is especially important since monitoring and evaluation often are given scant attention and resources. Academic partners could participate by analyzing and documenting high-impact, least-cost activities that developers can implement to achieve sustainability and avoid unintended or overlooked negative consequences.
- 4. “SI-CoL Laboratory” to pilot innovative and collaborative SI ideas among multiple institutions and stakeholder groups.** While the SI-COL network will mostly interact virtually, we would also pilot on-the-ground capacity building programs that bring together active coalition member institutions to jointly test and cross-pollinate their respective approaches. For example, SI-COL might organize capacity development activities such as sustainable infrastructure procurement training courses, standards harmonization, and development of certification programs for a single sub-sector (e.g. transportation) and in a single location in order to test, evaluate, and adapt different approaches to sustainable transportation development. The pilot would produce case studies that could be analyzed and shared virtually within a subsector and eventually across subsectors.

The urgency is enormous: Large-scale infrastructure projects with their multi-decadal lifespan – constructed in the name of economic recovery – will largely determine whether society is able to make significant inroads toward achieving the UN SDGs and reaching its Paris Climate Agreement Targets. SI-COL is needed to respond specifically to the COVID-19 crisis and response. Capacity development is needed in job-intensive sustainable infrastructure sectors in order to create the enabling environment for recovery funding to be targeted towards “building better” infrastructure projects.



COLLABORATING INSTITUTIONS



NICHOLAS INSTITUTE  
FOR ENVIRONMENTAL POLICY SOLUTIONS



昆山杜克大学  
DUKE KUNSHAN  
UNIVERSITY



Environmental Change Institute



UNIVERSITY OF  
OXFORD



Netherlands Commission for  
Environmental Assessment



DEVELOPMENT  
CORRIDORS  
PARTNERSHIP

IENE  
Infrastructure and Ecology  
Network Europe



Institute for  
Policy Integrity  
NEW YORK UNIVERSITY SCHOOL OF LAW

MINISTÈRE  
DE LA TRANSITION  
ÉCOLOGIQUE  
ET SOLIDAIRE

