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# International Financial Institutions Ask to Contribute to Climate Protection

G. Ahamer

Institute for Economic and Social History, Graz, Austria

<https://orcid.org/0000-0003-2140-7654>

## ABSTRACT

The **aim** of this article is to show in which way international financial institutions (IFIs) can contribute to climate protection projects. The principles of IFIs' project cycles are explained in the context of the new blending tool. The cooperation with other donors stands in the centre of EU project funding and the notion of leveraging allows to quantify the cooperative effect among different donors. The bulk of this article describes the most relevant IFIs and national development banks with an international focus: Green Climate Fund (GCF), European Investment Bank (EIB), European Bank for Reconstruction and Development (EBRD), French Development Agency (AFD), German Development Bank (KfW), World Bank (WB), Asian Development Bank (ADB), and the Asian Infrastructure Investment Bank (AIIB). For all these IFIs, descriptions are provided and their main fields of actions identified. The procedure of application (the "project cycle") is illustrated and an overview of their strategies is given. Thus, this article seeks to provide practical guidance on how to cooperate with IFIs and to direct funds into substantially valid and responsible climate projects.

**Keywords:** global warming; mitigation; project funding; International Financial Organisations; IFIs; infrastructure projects; environmental quality criteria; project cycle; application procedures; blended financing

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## ОРИГИНАЛЬНАЯ СТАТЬЯ

# Международные финансовые организации и их вклад в защиту климата

Г. Ахамер

Институт экономической и социальной истории, Грац, Австрия

<http://orcid.org/0000-0003-2140-7654>

## АННОТАЦИЯ

**Цель** настоящей статьи заключается в том, чтобы показать, каким образом международные финансовые организации (МФО) могут вносить вклад в проекты по защите климата. Принципы проектных циклов МФО разъясняются в контексте нового комбинирования инструментов финансирования. Сотрудничество с другими донорами занимает центральное место в финансировании проектов ЕС, а понятие «леверидж» позволяет количественно оценить эффект сотрудничества между различными донорами. Большая часть статьи посвящена описанию наиболее важных МФО и национальных банков развития, имеющих международную направленность: Зеленый климатический фонд (ЗКФ), Европейский инвестиционный банк (ЕИБ), Европейский банк реконструкции и развития (ЕБРР), Французское агентство развития (ФАР), Германский банк развития (KfW), Всемирный банк (ВБ), Азиатский банк развития (АБР) и Азиатский банк инфраструктурных инвестиций (АИИБ). Для данных МФО даны описания и определены их основные направления деятельности. Проиллюстрирована процедура подачи заявки («проектный цикл») и дан обзор их стратегий. Таким образом, в настоящей статье предпринята попытка дать практические рекомендации о том, как сотрудничать с МФО и направлять средства на осуществление значимых и ответственных климатических проектов.

**Ключевые слова:** глобальное потепление; смягчение последствий; проектное финансирование; международные финансовые организации; МФО; инфраструктурные проекты; критерии качества окружающей среды; проектный цикл; процедуры подачи заявок; смешанное финансирование

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## INTRODUCTION: SETTING THE SCENE

An **evolutionary** world view is valuable when following the ideas of both Teilhard de Chardin [1] and Vladimir Vernadsky [2] (compare [3]), hence by Western and Russian authors. Within this concept, the notion of transition is a valuable tool to describe present-day structural changes [4–13].

As mentioned, the EU preferably finances sustainable projects [14–20] and had set targets to no more promote fossil-fuel projects, and this mindset is even stronger than ever after the successful start of the “European Green Deal”,<sup>1</sup> including the “European Energy Union”<sup>2</sup> as a tool towards this climate protection target. In this frame, a vast number of international and European projects<sup>3</sup> assessed and keeps assessing the states and

stages of economic (and thus financial) transition [21–30] in countries that decades ago still were part of a much more secluded economic sphere [31–40], and thus had thrived less, economically and financially, despite their mostly healthy base of human capital. One of the most recent and most comprehensive reports is by UNECE [41]; thus, providing a cutting-edge and neutral set of assessments and recommendations for countries with a similar structure as Russia.

In recent years, one of the strongest promoters for socio-economic evolution is **climate change (CC)**, which already caused a number of positive effects on redirecting huge financial volumes towards **sustainable projects**. The present article provides concrete information on how to tap this considerable financial potential.

Moderation among differing standpoints is here achieved by dialogue and discourse, not by advocating military strategies of “strength”.

## SUSTAINABLE FINANCING – THE EXAMPLE OF IFCA

Such a blending instrument can be illustrated for the Central Asian (CA) region<sup>4</sup>: the IFCA (Investment Facility for Central Asia) pools resources and improves coherence or coordination of donors’ actions supporting partners in their work *in true partnership* towards SDGs, i.e., *sustainable development goals* – which are popularised worldwide by “Global Studies” curricula: [43]. Also, it targets cross-cutting requirements, including adaptation to and mitigation of climate change results. Establishment of IFCA in 2010 promoted investments in CA through blending.

(Remark: as evident, IFCA is not an IFI in itself, but an EU instrument to include IFIs.)

Regarding the goals of leveraging, an additional core concept is “leverage”<sup>5</sup> [44] echoing a strategic inquiry: what amount of marginal (i.e., additional, in the sense of economics) funding triggers what quantity of overall funds being invested? Such

<sup>1</sup> EU (2020). The European Green Deal. URL: [https://ec.europa.eu/info/strategy/priorities-2019–2024/european-green-deal\\_en](https://ec.europa.eu/info/strategy/priorities-2019–2024/european-green-deal_en) (accessed on 22.06.2021). EC President (2020). Political Guidelines of the next European Union Commission. URL: [https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission\\_en.pdf](https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf). (accessed on 22.06.2021).

<sup>2</sup> EnU (2020), The European Energy Union with its five dimensions. URL: <https://ec.europa.eu/energy/en/topics/energy-strategy/energy-union> (accessed on 22.06.2021).

<sup>3</sup> EBRD (European Bank for Reconstruction and Development) (2014). *Innovation in Transition*. London.

EBRD (European Bank for Reconstruction and Development) (2018). *Transition Report 2018–19 – Work in Transition*. London. EBRD (European Bank for Reconstruction and Development) (2019). *Transition Report 2019–20 – Better Governance, Better Economies*. London.

EC (European Commission) (2014). *East Horizon EECA Cluster – ICT Environment, Innovation Policies and International Cooperation Report*. Brussels.

EY (Ernst and Young) (2017). *The IT Industry in Belarus: 2017 and Beyond*. London.

German Agency for International Cooperation (GIZ) (2011). *Current Situation of the Diaspora-Connected FDIs in Armenia*. Yerevan: GIZ Private Sector Development Program South Caucasus.

OECD (Organization for Economic Cooperation and Development) and others (2020). *Eastern Partner Countries 2020: Assessing the Implementation of the Small Business Act for Europe*. SME Policy Index. Brussels, Paris: European Union, OECD Publishing. UNECE (United Nations Economic Commission for Europe) (2005). *Economic Survey of Europe, No. 2*. Geneva.

UNCTAD (United Nations Conference on Trade and Development) (1998). *World Investment Report – Trends and Determinants*. New York, Geneva.

UNCTAD (United Nations Conference on Trade and Development) (2019). *Investment Policy Review: Armenia*. Geneva.

UNCTAD (United Nations Conference on Trade and Development) (2020). *World Investment Report 2020 – Country Fact Sheet: Transition Economies*. Geneva.

UNCTADstat (United Nations Conference on Trade and Development Statistics) (2020). International Trade in Goods and Services (database). URL: [https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS\\_ChosenLang=en](https://unctadstat.unctad.org/wds/ReportFolders/reportFolders.aspx?sCS_ChosenLang=en) (accessed on 22.06.2021).

World Bank (2020a). World Development Indicators (database). URL: <https://data.worldbank.org/indicator> (accessed on 22.06.2021).

World Bank (2020b). WITS (World Integrated Trade Solution) (database). URL: <https://wits.worldbank.org/CountryProfile/en> (accessed on 22.06.2021).

<sup>4</sup> EuropeAid (2015), Activities in Central Asia. IFCA. URL: [https://ec.europa.eu/europeaid/2015-operational-report-2015-asia-investment-facility-aif-investment-facility-central-asia-ifca-and\\_en](https://ec.europa.eu/europeaid/2015-operational-report-2015-asia-investment-facility-aif-investment-facility-central-asia-ifca-and_en) (accessed on 22.06.2021).

<sup>5</sup> EU (2019), Innovative financial instruments (blending). Brochure and information. URL: [https://ec.europa.eu/europeaid/policies/innovative-financial-instruments-blending\\_en](https://ec.europa.eu/europeaid/policies/innovative-financial-instruments-blending_en) (accessed on 22.06.2021).

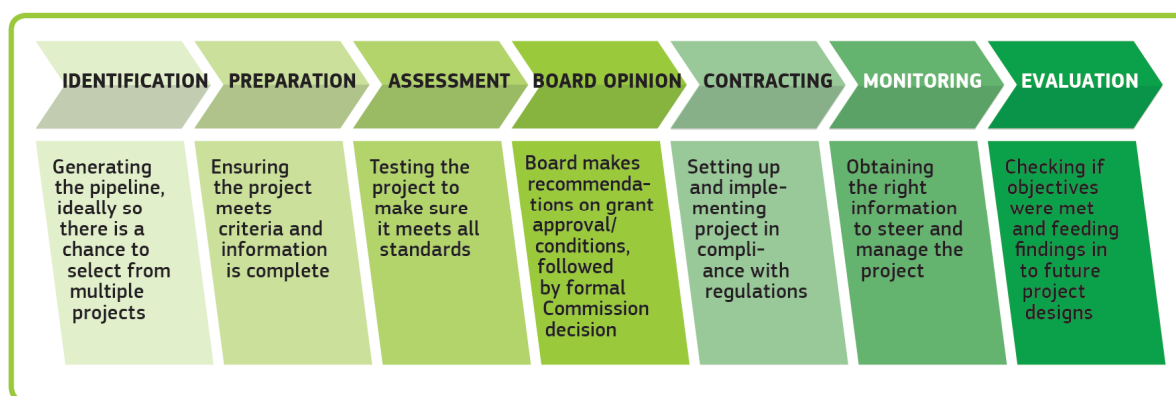


Fig. 1. Stages of a project cycle in blending operations

Source: DEVCO (2015), Guidelines on EU blending operations, Vol. 1 “General”, Brussels & Luxembourg, DG for developmental cooperation DEVCO. URL: <https://europa.eu/capacity4dev/t-and-m-series/document/guidelines-eu-blending-operations> (accessed on 22.06.2021) plus 3 more special reports.

quotient is called the leverage factor and proud officers boast achieving leverage factors by their programmes of five to ten.

We expect these sub-effects when appropriately leveraging:

- The meaning of *financial* leverage is to mobilise private or public resources with an intention of enhancing the developmental impact while effectively using funds;
- The meaning of *non-financial* leverage is improving projects’ sustainability and impacting development while enabling earlier starting projects;
- The meaning of *policy* leverage is supporting reforms towards EU policies or those of partner countries;
- The targets of *aid effectiveness* are improving cooperation among EU and non-EU actors for aid;
- The meaning of *visibility* is providing better public visibility for EU’s developmental funding.

Blending constitutes opportunities for engagement towards *dialogues* between regional governments and EU regarding specific multi-governmental sector policies.

This subsection deals with EU financial institutions’ procedures. For blending operations, what are procedures practically?

This “EU blending project cycle” (Fig. 1) encompasses seven specific stages while crucial stakeholders share responsibilities, namely the EU Delegations in beneficiary countries, DG NEAR and DG DEVCO (at Brussels HQ = Headquarters), other partner countries, regional organisations, and financial institutions.

The single stages are in detail<sup>6</sup>:

1. **Identification:** IFIs and EU Delegations identify suitable projects, jointly with partner countries or relevant regional organisations [42]. Coherence of these projects with EU’s policy objectives and sector priorities is ensured by EU Delegations. Here occurs the generating of a so-called project “pipeline”.

2. **Preparation:** A leading FI (or financial institution, FI) is responsible for submitting the project proposal or IFIs, EU DGs and FIs hold trilateral consultation to secure matching criteria.

3. **Assessment:** Responsible EU’s services evaluate (a) alignment with objectives of their policies, (b) justifying added value or need, (c) environmental, social and climate change aspects of a project, (d) financial structure, given political barriers & similar actions (see detailed project criteria in the annex of [45]).

4. **Board opinion:** Decisions on grant requests to EU are made in consensus by a pertinent “Blending Framework Board” (voting are: EEAS, Commission and the EU MS = Member States); and only afterwards the Commission (Com) takes a decision.

5. **Contracting:** When Com decides to proceed with a project, this allows them to formally contract and to sign a Del agreement with the FI leading.

6. **Monitoring:** Responsibility for implementing a project (procurement & tendering) and reporting/monitoring (financially & operationally), founded on indicators mentioned, lies with the leading FI.

<sup>6</sup> DEVCO (2015), Guidelines on EU blending operations, Volume 1 “General”, Brussels & Luxembourg, DG for developmental

cooperation DEVCO. URL: <https://europa.eu/capacity4dev/t-and-m-series/document/guidelines-eu-blending-operations> (accessed on 22.06.2021) plus 3 more special reports.

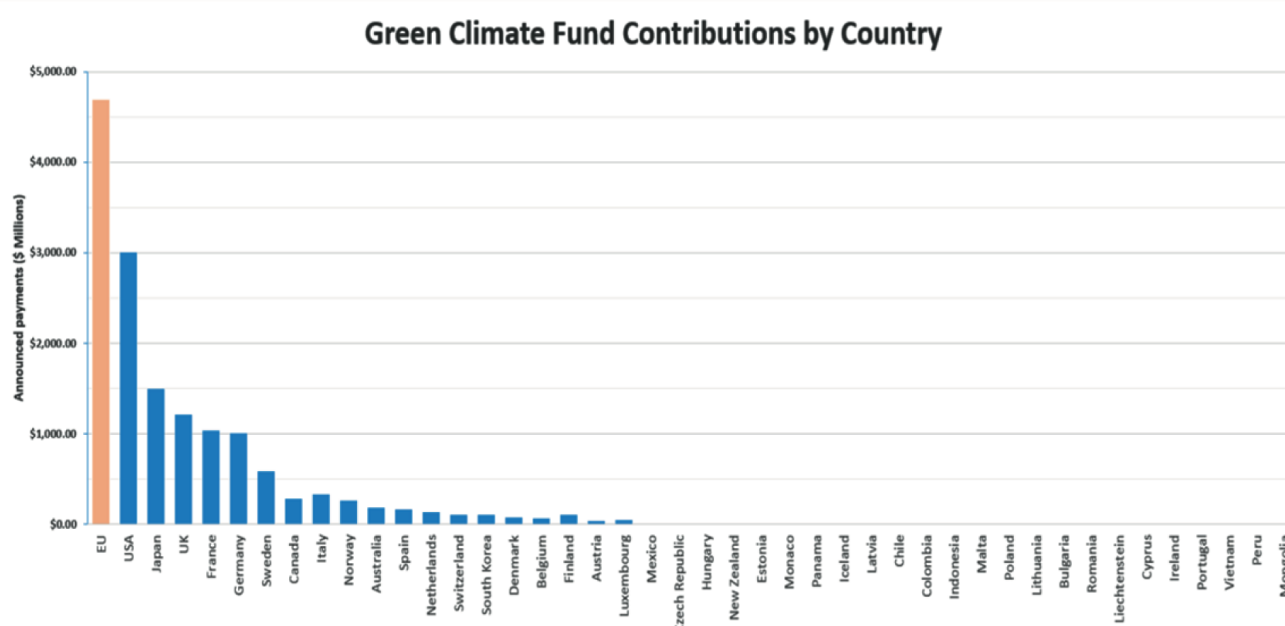


Fig. 2. Overview over funds in the GCF pledged contributions to the GCF by country

Source: GCF (2019), The Green Climate Fund. URL: [https://en.wikipedia.org/wiki/Green\\_Climate\\_Fund#Sources\\_of\\_finance](https://en.wikipedia.org/wiki/Green_Climate_Fund#Sources_of_finance) (accessed on 21.12.2019).

7. **Evaluation:** This responsibility is delegated to the FI leading.

At least two donors are required for blending: one from the EU plus at least one IFI.

## THE SINGLE IFIS AND THEIR POTENTIAL CONTRIBUTIONS

### THE GREEN CLIMATE FUND (GCF)

The institution of the “Green Climate Fund”<sup>7</sup> was established within the UNFCCC framework meant to assist developing countries for mitigating and adapting CC. Geographically, it is located in the new Songdo district of Incheon in South Korea, and governed by a Board of 24 members while initially supported by a Secretariat.

The core objective of GCF is to “support projects, programmes, policies or other activities in developing country Parties using thematic funding windows”<sup>8</sup> [3]. The year 2020 was a record year, in which GCF funding amounted to 4900 M€. <sup>9</sup> Already,

disbursement of GCF financing is accelerating, as the Fund follows its major focus to implement approved projects.

During Cancun’s COP-16, the matter of GCF governing was allocated to a freshly founded “Green Climate Fund Board”, while **World Bank** was chosen as a temporary trustee.

Advanced economies did formally agree to **mobilising jointly 100 billion \$ per year** by 2020 (Fig. 2 and <sup>10</sup>) from several sources, in order to address both pressing mitigating and adapting needs for developing countries. Also, governments declared to channel a share of new multilateral funding through this newly established GCF.

### Sustainable Financing and Bankable Projects

To decide if or not a project is deemed bankable depends on procedures and criteria required from each single FI or source. A good project proposal best secures financing when fulfilling all criteria. Criteria for CC adaptation projects include: providing the most benefits to a large number of people; providing effective implementation while being sustainable for long time. Such durable quality is documented by a national government’s

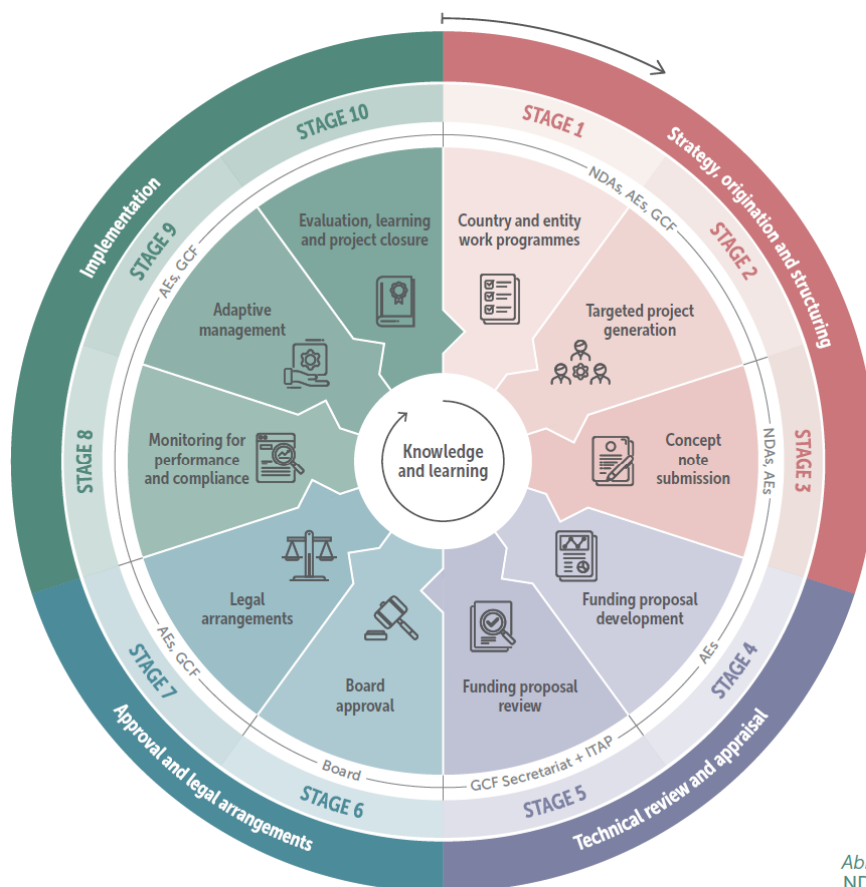
<sup>7</sup> GCF (2017a), The Green Climate Fund. URL: <http://www.greenclimate.fund/what-we-do/portfolio-dashboard> (accessed on 21.05.2018).

<sup>8</sup> GCF (2017a), The Green Climate Fund. URL: <http://www.greenclimate.fund/what-we-do/portfolio-dashboard> (accessed on 21.05.2018).

<sup>9</sup> GCF (2017a), GCF Annual Report 2020. URL: <https://www.greenclimate.fund/sites/default/files/document/gcf-annual-results-report-2020.pdf> (accessed on 21.05.2018).

<sup>10</sup> GCF (2017a), The Green Climate Fund. URL: <http://www.greenclimate.fund/what-we-do/portfolio-dashboard> (accessed on 21.05.2018).





Abbreviations: AE = accredited entity,  
NDA = national designated authority,  
TAP = Technical Advisory Panel.

Fig. 3. The GCF project cycle

Source: GCF (2020), GCF Programming Manual. An introduction to the Green Climate Fund project cycle and project development tools for full-size projects. URL: <https://www.greenclimate.fund/document/programming-manual> (accessed on 26.10.2020).

willingness or ability to carry through projects beyond the period of initial investment or finance. A recent GCF Regional Workshop focused on Central Asia and Eastern Europe in Tbilisi.<sup>11</sup>

#### GCF project cycle

GCF utilises various financial instruments such as concessional debt financing; grants; equities or guarantees. The Global Climate Fund's private sector support also assists actors in tapping finance markets. GCF's invests via grants, loans, equity or guarantees.<sup>12</sup>

The Global Climate Fund develops its initial strategic planning as guidance for ongoing work. One such plan was endorsed by its Board in March 2016 at its twelfth

meeting,<sup>13,14</sup> and its 2017 plan is available here,<sup>15</sup> as confirmed recently.<sup>16</sup>

The main steps of the GCF project cycle are (Fig. 3): "I. Country, regional and/or accredited entity programmes, II. Generation of programme or project funding proposals, III. Concept note (Voluntary), IV. Funding proposals, V. Secretariat analysis and independent technical assessment and recommendations to the Board, VI. Board

<sup>11</sup> GCF (2017a), The Green Climate Fund. URL: <http://www.greenclimate.fund/what-we-do/portfolio-dashboard> (accessed on 21.05.2018).

<sup>12</sup> GCF (2017a), The Green Climate Fund. URL: <http://www.greenclimate.fund/what-we-do/portfolio-dashboard> (accessed on 21.05.2018).

<sup>13</sup> GCF (2016), The Green Climate Fund. URL: <http://www.greenclimate.fund/who-we-are/about-the-fund/governance> (accessed on 21.12.2019).

<sup>14</sup> GCF (2017b), The Green Climate Fund. URL: [www.greenclimate.fund/meetings/2017/tbilisi](http://www.greenclimate.fund/meetings/2017/tbilisi) (accessed on 21.05.2018).

<sup>15</sup> GCF (2017c), The Green Climate Fund. URL: [https://www.greenclimate.fund/documents/20182/239759/Proposal\\_Approval\\_Process\\_Updated\\_.pdf/53357eae-1a4d-48da-99c5-e11c5ef7761c](https://www.greenclimate.fund/documents/20182/239759/Proposal_Approval_Process_Updated_.pdf/53357eae-1a4d-48da-99c5-e11c5ef7761c) and URL: <https://www.slideshare.net/Ecofys/a-nama-for-the-electrification-of-sialkot-with-pv-technology> (accessed on 21.05.2018).

<sup>16</sup> GCF (2017d), The Green Climate Fund. URL: <https://www.greenclimate.fund/boardroom/meeting/b29> (accessed on 21.05.2018).



Fig. 4. Structure of the EIB project cycle

Source: EIB (2018), The European Investment Bank's Project Cycle. URL: <http://www.eib.org/projects/cycle/index.htm> (accessed on 21.03.2020).

decision, VII. Legal arrangements for approved proposals”.<sup>17</sup>

### THE EUROPEAN INVESTMENT BANK (EIB)

The EIB<sup>18</sup> “represents the interests of EU member states” and is the EU’s long-term non-profit lending banking institution as established under the Treaty of Rome in 1958. The EIB is not to be confused with the European Central Bank. The EIB (whose shareholders are the member states of the EU), as a “policy-driven bank” uses its financing operations to *enhance social cohesion and European integration*.

#### Mission of EIB

Often nicknamed “the Bank of the European Union”, EIB’s mission is to *make a difference* to the living future of Europeans and EU partners by supporting solid investments that promote goals of EU policies. Especially, EIB strongly supports the SME sector.

Although some 90% of EIB-financed projects are geographically located in EU member states, the bank funds projects in over 150 other countries such as non-EU South-Eastern European countries, Mediterranean partner countries, ACP group countries, countries in Asia and Latin America, Eastern Partnership countries and Russia.<sup>19</sup> EIB works in these countries in order to implement the financial pillar of the EU policies on

external cooperation and development by encouraging development of the private sector, security of energy supply, development of infrastructure and a sustainable environment.

Outside the EU, EIB’s lending strategy follows priority objectives for its lending activities:

- Development of private sector.
- Development of financial sector.
- Development of infrastructure.
- Energy supply security.
- Environmental sustainability.
- EU presence.

#### How the EIB acts

• **Lending:** A wide majority in its financing works through loans, while EIB also offers microfinance, equity investment, guarantees, etc.

• **Blending:** European Investment Bank support unlocks financing from other sources, particularly from the EU budget. This is blended with loans to form a full financing package.

• **Advising:** Often, lack of finance is not the key barrier to investment, as described above. Thus, EIB helps with project and administrative management capacity to facilitate investment.

The **EIB Project cycle** includes: Application for a loan; Appraising; Deciding; Procuring; Monitoring; Repaying (Fig. 4).

### THE EUROPEAN BANK FOR RECONSTRUCTION AND DEVELOPMENT (EBRD)

The EBRD (European Bank for Reconstruction and Development), founded in April 1991, headquartered in London, represents a multi-lateral developmental investment bank and an IFI. It uses investments as a strategic tool to

<sup>17</sup> GCF (2017a), The Green Climate Fund. URL: <http://www.greenclimate.fund/what-we-do/portfolio-dashboard> (accessed on 21.05.2018).

<sup>18</sup> EIB (2017a). The European Investment Bank. URL: <http://www.eib.org/about/index.htm> and related sub-pages (accessed on 21.03.2020).

<sup>19</sup> EIB (2017b), The European Investment Bank’s Central Asian Engagements. URL: <http://www.eib.org/projects/regions/central-asia/index.htm> (accessed on 21.03.2020).

build market economies. While EBRD initially focused on the former Eastern Bloc, it meanwhile expanded to support development in over 30 countries from CE (Central Europe) to CA (Central Asia). EBRD member countries come from Europe, and five more continents (na, af, as, au, [3, p. 334]), whereof the US are the biggest single shareholder. Formally, the 65 countries and 2 EU institutions own the EBRD. While its shareholders represent the public sector, EBRD mainly invests into private enterprises, and does so jointly with commercial partners.

As the largest single donor to the EBRD, the European Union, accounts for over a third within total EBRD grants since its foundation. In 2016, EBRD received contributions of over 289 M€ from the EU, which represents 2/3 of entire donor funding delivered for the EBRD's projects.

#### In a nutshell: EU & EBRD

- EU = EBRD's single largest donor.
- This amounts to over 1,990 M€ of all donors' contribution.
- Meaning 378 M€: contributions in 2019 for EBRD projects.
- As the largest single donor to the EBRD, the EU has accounted for about 40 per cent of total donor funds channelled through the EBRD since the Bank's inception.<sup>20</sup>
- 3% share in capital.

#### EBRD focuses on Environment

The EBRD considers itself the first developmental multilateral bank to have explicitly required by mandate ensuring of environmentally sound sustainable development. As follows, EBRD describes itself:

- EBRD applying strict social and environmental standards for all its financed projects. Such is regulated by its "Environmental and Social Policy and Performance Requirements".<sup>21</sup>
- EBRD acts as one of the largest investors for environmentally focussed projects for its operating countries, including 12,200 M€ in climate

change, EE and resource financing under EBRD's approach abbreviated "GET" (**Green Economic Transition**). This GET approach contains projects summed up under two earlier initiatives, namely the "Sustainable Resource Initiative" plus the "Sustainable Energy Initiative".

EBRD rolled out and officially adopted its GET approach already in 2016.

#### Financing procedure for EBRD projects

From initiation to repayment, the total lifecycle of an EBRD project could vary from 1 year (e.g., for trade financing or working capital projects) to 15 years (e.g., for sovereign long-term infrastructural projects). An EBRD procedural cycle as described<sup>22</sup> contains the following principal stages (*Fig. 5* shows identical key steps):

**Concepts' review:** The OpsCom (Operations Committee) of EBRD, consisting of senior mgt. from banking, Chief Economist's Office, General Counsel's Office, Finance, and Evaluation & Operational & Environmental Support) approve a project's concepts and its entire structure, containing financing structures proposed plus supportive obligations. A mandate letter is signed at this stage by the EBRD and the client; it is to outline project plan plus expenses or responsibilities for its development.

**Final reviews:** After the basics of a business deal has been negotiated (incl. a term sheet signed) and every investigation has been substantially finished, a project receives their final reviews by the OpsCom.

**Board reviews:** Presidents of EBRD & EBRD's operations teams present this project for approval to their Board of Directors.

**Signing:** Client and EBRD sign this deal and thus it is binding legally.

**Disbursement:** After the conditions for repayment are agreed upon and EBRD's conditions are met, these funds are transferred to client's account from EBRD's account.

**Repayment:** Under an agreed schedule, client will repay to EBRD the amount of loan.

**Sale of equity:** On a non-recourse basis, EBRD sells its equity investments.

**Final maturity:** The amount of final loan is due for being repaid to EBRD.

**Completion:** The full loan is entirely repaid or EBRD's equity investment is divested.

<sup>20</sup> EBRD (2021) EU: EBRD shareholder profile. URL: <https://www.ebrd.com/who-we-are/structure-and-management/shareholders/european-union.html> (accessed on 21.03.2021).

<sup>21</sup> EBRD (2017a), The European Bank for Reconstruction and Development. Environmental project criteria. URL: <http://www.ebrd.com/who-we-are/history-of-the-ebrd.html>, <http://www.ebrd.com/news/publications/institutional-documents/basic-documents-of-the-ebrd.html>, <http://www.ebrd.com/news/2016/ebrd-investment-in-central-asia-reaches-record-14-billion-in-2015.html> (accessed on 21.03.2021).

<sup>22</sup> EBRD (2017b), The European Bank for Reconstruction and Development. URL: <http://www.ebrd.com/work-with-us/project-finance/funding-process.html%20> (accessed on 21.03.2020).

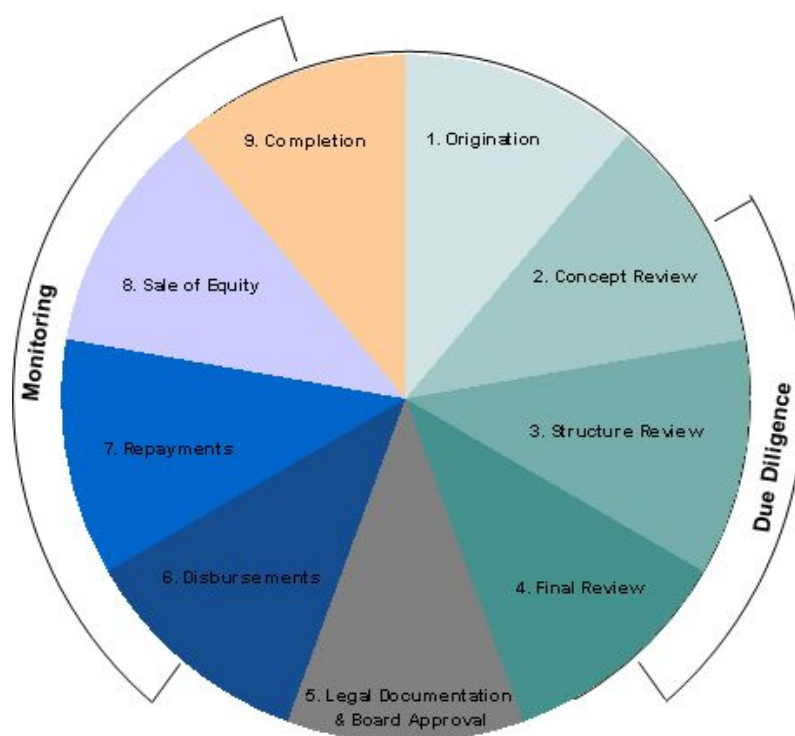


Fig. 5. The EBRD project cycle

Source: EBRD (2016), The European Bank for Reconstruction and Development. URL: <http://www.ebrd.com/work-with-us/project-finance/funding-process.html%20> or <https://www.slideshare.net/CentralEuropeanInitiative/ebrd-presentation-october-2015-innovation-bootcamp-1> (accessed on 21.03.2020).

### THE FRENCH DEVELOPMENT AGENCY (AFD)

The “French Development Agency” (*Agence française de développement* AFD) is France’s public national FI, “contributing to implementation of state ODA policy abroad” and working for fighting poverty and promoting sustainable development.

**A Common World:** The AFD adopted such a new slogan for inspiring all its teams. To build both a more sustainable and fairer world that leaves no one behind — a “world in common” — is seen to imply five key transitions, in both France and target countries, regarding energy, social, digital, territorial or civic spheres. Achievement of SDGs depends on mastering such structural shifts [47, 48] and transitions.

**Priority fields:** In these areas, AFD works for the above targets: FI and supporting the private sector (the vast majority); Agriculture & food security; Biodiversity; also minor fields within Climate; Water; Local communities and urban development; Sustainable energy; Education and training; Transportation; and Health. In general, its projects refer to Sustainable consumption and production, Climate, Employment and shared prosperity, Water and sanitation, Forests and biodiversity, Hunger and

food, Inequality, Infrastructures, Peace and justice, Oceans, Health, Global partnerships, Sustainable cities, Education, Poverty, Energy, and Gender equality.

With 14.1 billion euros committed in 2019, AFD Group (with its subsidiary Proparco and in connection with the French technical cooperation agency Expertise France) finances and supports development projects in 115 countries, while 815M€ come from financial resources allocated by the state, 706 M€ are delegated resources (of which 506€ come from the EU), and more than three quarters, namely 6400 M€ are borrowed from markets.<sup>23</sup>

Within France, main ODA stakeholders are the French Ministries for Europe, for Foreign Affairs, Education and Research, and Economy, as well as French public actors like CIRAD or IRD.<sup>24</sup>

The motto of its **project cycle** (Fig. 6): *Report, inform, dialogue*.<sup>25</sup>

<sup>23</sup> AFD (2020).

<sup>24</sup> AFD (2018). Agence Française de Développement. URL: <https://www.afd.fr/en/development-aid-whats-it-all-about> (accessed on 21.03.2020).

<sup>25</sup> AFD (2015), Agence Française de Développement. URL: [https://issuu.com/objectif-developpement/docs/csr\\_gri\\_report\\_2015\\_afd\\_group](https://issuu.com/objectif-developpement/docs/csr_gri_report_2015_afd_group) (accessed on 21.03.2020).



Beneficiaries of financing States, companies, local authorities, NGOs	Agence Française de Développement contributes to financing projects
<b>1 – Project idea</b> Submitted to AFD for financing	<b>2 – Analysis of proposals</b> Especially of the project's objectives and conformity with AFD's priorities for operations in the country in question
<b>3 – Feasibility study</b> Generally entrusted to external consulting firms	<b>4 – Analysis of feasibility studies and financing requests</b> Analysis of the economic, social and environment effects of projects, their compliance with France's aid policy, the financing plans, corruption, environmental, social, economic risks...
<b>5 – Negotiation on the financing terms</b>	<b>7 – AFD makes decision on the financing</b>
<b>6 – Financing requests sent to AFD</b> Agreement on project content and financing terms	
<b>8 – Signing of loan or grant agreements</b>	<b>9 – Disbursements of financing</b> Control of compliance with the clauses set out in the agreement. Vigilance over the risks of money laundering, terrorist financing and corruption. Technical and financial monitoring of the project.
<b>9 – Physical implementation of projects</b> Selection of companies in accordance with local law and in compliance with AFD's procurement principles (competitive bidding in particular)	
<b>10 – Repayment to AFD in the case of loans</b>	
<b>Ex post evaluation of the project</b> Evaluation of the achievements, their viability and their economic, social and environmental impact. 30 project evaluations	

Fig. 6. The AFD project cycle for group financing

Source: AFD (2015), Agence Française de Développement, p. 21. URL: [https://issuu.com/objectif-developpement/docs/csr\\_gri\\_report\\_2015\\_afd\\_group](https://issuu.com/objectif-developpement/docs/csr_gri_report_2015_afd_group) (accessed on 21.03.2020).

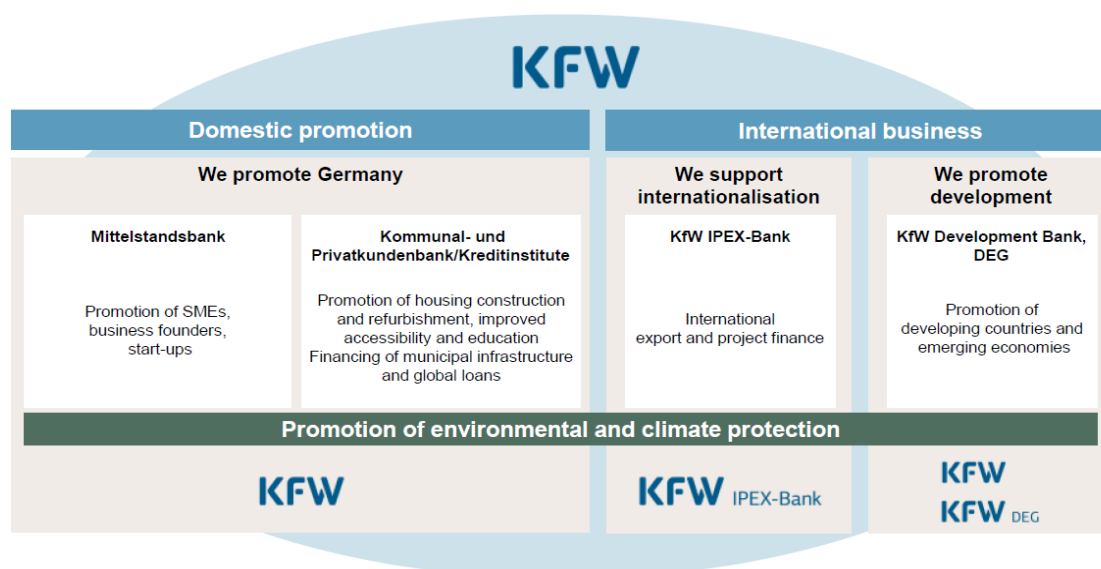


Fig. 7. KfW's internal structure; it was also called KfW Group or KfW Bankengruppe

Source: KfW (2018), Kreditanstalt für Wiederaufbau. URL: <https://www.kfw.de/KfW-Group/About-KfW/Auftrag/Entwicklungsfinanzierung/> (accessed on 21.03.2020).

## THE GERMAN DEVELOPMENT BANK (KfW)

The German “Kreditanstalt für Wiederaufbau” (Reconstruction Credit Institute) located in Frankfurt/Main represents German government-owned developmental banks and is owned by the Federal Republic of Germany (80%) plus its Federal States (20%). After WWII in 1948, the Marshall Plan formed this institution. KfW meanwhile covers > 90% from the capital markets what it needs for borrowing; and this allows KfW advantageous funds raising conditions.

The KfW is promoting social and economic progress in emerging or developing countries in order towards improved lives for people. KfW Group defines their task as to provide advice or support for reformatory procedures or in investing for emerging or developing states. Thus, KfW defines the following targets:

- Improving social or economic conditions sustainably.
- Reduce impoverishment.
- Protect climate and environment.

- Promoting the financial sector.

KfW's partners can be both (non-)governmental institutions or governments, including multilateral or bilateral donors.

### KfW's priority areas

KfW Development Bank (KfW Entwicklungsbank, in German) supports many developing areas worldwide by promoting economies, reducing poverty and providing population with education, health care and a future. Meanwhile, KfW did turn into one of the globally biggest developmental banks. DEG, as a KfW subsidiary, is financing companies investing and creating jobs for developing regions. KfW's preferred activity areas comprise **economic development and poverty decrease, education, health care, good governance, plus protection of the environment and the climate**. Thus, the bank supports the Federal Government of Germany to achieve its political development targets.

### KfW's project cycle

KfW's **preparatory phase** means *analysing and conceiving*, while in line with updated countries' strategies by the responsible German Federal Ministry of Economic Development and Cooperation (BMZ). Undertaking *on-site audit* analyses on-site conditions.

KfW's **executing phase** comprises a *financial agreement* and the executing on a technical level, if a partner country's ownership is to be reinforced, for example by local agencies performing the project, in responsibility for all actions.

KfW's **inspecting phase** means *final KfW inspecting* (i.e., checks if a population does accept the offered services), *ex-post evaluating* performed by the independent KfW administrative departments and finally *transparently informing* via KfW's transparency portal,<sup>26</sup> including informing about the origin, impact and use of provided funds.

KfW generally searches intergovernmental agreements for projects. It is checked by KfW if projects proposed are both realisable and developmentally sound (for criteria see the annex of 45). Specialised consulting firms work jointly with partners and feasibility studies are drawn up, thus providing answers to all key questions in a project, such as developmental impacts, economic efficiency,<sup>27</sup> and possible risks.

<sup>26</sup> KfW-T (2018), KfW's transparency portal. URL: <http://transparenz.kfw-entwicklungsbank.de> (accessed on 21.03.2020).

<sup>27</sup> KfW (2019), Kreditanstalt für Wiederaufbau. URL: <https://www.kfw-entwicklungsbank.de/International-financing/KfW-Development-Bank/Tasks-and-goals/Unsere-Arbeitsweise/> (accessed on 21.03.2020).

KfW developmental projects were evaluated to have been successful to a level higher than 80%.<sup>28</sup>

## THE WORLD BANK (WB)

As an IFI, the World Bank (WB) is providing loans to the world's countries for capital programs. WB contains two institutions: IBRD, the "International Bank for Reconstruction and Development", and IDA, the "International Development Association", and itself is a component of WBG, the World Bank Group.

WB officially states its aim to be **poverty reduction** and **promotion of shared prosperity**. WB's Article I of Agreement defines as one of its aims (a) encouraging to develop productive resources and facilities in less developed countries; (b) providing own capital or promoting foreign investment and (c) promoting international trade's growth balanced in the long run of.

### Countries' Strategic Documents

WBG's "**Country Partnership Framework**" (CPF) targets making WB's country-oriented model ever better systematically selective, based on evidence, and focused on the WB's double aims: increasing shared prosperity in a **sustainable** manner and ending extreme **poverty**. CPF is replacing the earlier Country Assistance Strategies (CAS), and jointly used with WB's Systematic Country Diagnostics (SCD), the CPF directs WBG's support to member countries.

Each new CPF is informed by a **Systematic Country Diagnostic** (SCD). A target of the SCD is identifying the most relevant opportunities and challenges faced by a country in advancing towards the twin goals. A thorough analysis provided this, and consultations inform a wide range of stakeholders.

### WB's Project Criteria

The **Sustainable Development Goals (SDGs)** and the eight Millennium Development Goals (MDG) targets are valid for 2000–2015 (MDGs, see the list below) or 2016–2030 (SDGs). To realise MDG goals, **six criteria** must be met: more effort in **health and education**, stronger and **growing more inclusively** in fragile states, more as well as **better aid**, integration of the **development and environment** agendas, improvements in trade

<sup>28</sup> KfW (2020), Kreditanstalt für Wiederaufbau. URL: <https://www.kfw.de/microsites/Microsite/transparenz.kfw.de/en/wirkungen/> (accessed on 21.03.2020).



Fig. 8. The WB's project cycle

Source: WB (2017), The World Bank. URL: <http://treasury.worldbank.org/cmd/htm/GreenProjectCycle.html> (accessed on 21.03.2020).

negotiations, plus more **focused** and stronger support from multilateral institutions such as WB.

1. Eradicating Hunger and Extreme Poverty.
2. Ensuring Environmental Sustainability.
3. Promoting Gender Equality.
4. Achieving Universal Primary Education.
5. Child Mortality Reduction.
6. Maternal Health Improvements.
7. Combatting AIDS/HIV, Malaria, or Other Diseases.
8. Developing a Global Developmental Partnership.

To ensure that WB-financed operations would not counteract these aims but rather add on to realising them, a so-called **Environmental and Social Framework (ESF)** was defined in 2016.

**The WB and climate change:** WB doubled its support on CC adaptation amounting to 2,300 M\$ in 2011 to 4,600 M\$ in 2012 plus a **Climate Change Action Plan** was produced. As we know, our planet now is more than +0.8 °C warmer as compared to the pre-industrial epoch; and its warming could reach +2 °C within 2 to 3 decades.

#### The World Bank project cycle: how does it function?

Given that there is no unequivocal vocabulary and definition, the 6 key phases in any WB project cycle comprise to: *identify; prepare; appraise; negotiate & present to the board; implement & supervise; evaluate* (Fig. 8). While many project suggestions do not even pass an early identification phase, others undergo improvements during preparing or appraising phases which makes them look very differently as compared to original design. Over 200 projects are approved by WB in the course of a typical year.<sup>29</sup>

1. **Identification:** To identify and propose a project for WB financing is a task for governments borrowing. During this early phase, questions are answered by planners: Who is intended to benefit from this project? Could the same objective be achieved by other options? Will the project's

<sup>29</sup> WB (2016), The World Bank. Taking Kazakhstan as example for an achieved iterative process. URL: <http://documents.worldbank.org/curated/en/576651477533678239/Kazakhstan-Performance-and-learning-review-of-the-country-partnership-strategy-for-the-period-FY-12-17>.

benefits be greater than the costs? A project must also successfully pass a test against WB priorities.

2. **Preparation:** Even if the WB might help often, a borrowing country always carries the responsibility to examine all aspects of their project: technical, social, environmental, and economic ones. It has to define and analyse existing and available options to this project, all their degrees of feasibility including their benefits and costs.

3. **Appraising:** A dedicated assessment of the project, now independently undertaken by WB, is named appraisal. Over 150 appraisal missions on-site, each during 3–4 weeks, are performed annually performed by consultants and WB staff envisaging technical, economic, financial or institutional questions.

4. **Negotiating and Presenting to Board:** A WB appraisal report summarises recommendations on how the loan's conditions form a basis to negotiate with the borrower. Negotiations involve the borrower and WB staff in for an agreement on necessary measures for the final success of the project. At this point in time, the WB Board of Directors is presented with the project.

5. **Implementing and Supervising:** Around 10 WB weeks of staff annually will be used to supervise each single project; also visiting the project site identifies problems and supports finding solutions.

6. **Evaluating:** OED, the Operations Evaluation Department within the World Bank, carries responsibility as an independent department for the ultimate assessment of project results in an impartial manner.

## ADB, THE ASIAN DEVELOPMENT BANK

The Asian Development Bank ADB is an FI and in 1966 established as a regional development bank, having headquarters in Mandaluyong, Metro Manila, Philippines, more precisely located in the Ortigas Centre. Around the world, ADB additionally maintained over 30 field offices for promotion of economic and social development within the Asia and the Pacific regions. In spite of the many successes in this region, a large share of the world's poor lives there: over 300 million still dispose of less than \$ 1.90 daily and an astonishing 1.2 billion earn less than \$ 3.10 daily.

### ADB's Focus Areas

These include:

- Infrastructure at large, including energy, water supply, water sanitation, transport, urban development, communications.

- CC, Environment, DRM (Disaster Risk Management). For 2008–2020, ADB's long-term strategic framework defines environmental sustainability as a prerequisite to poverty reduction and economic growth in the Pacific and Asia.

- Regional Integration and Cooperation (RCI): by this process, economies and states turn more regionally interconnected, poverty-reduced, and with less economic disparity, accelerate economic growth, strengthen institutions in Asia, and raise productivity and employment. With the Wecoop2 [46] project's regional approach and encouragement [14], RCI matches strategically well.

- Developing the Finance Sector. This means that a finance system is an economic lifeline to a country.

- Lending to the private sector.

### ADB's Co-financing

ADB's private sector operations (considered apart from its own funds) generated also a record-high of 5,840 M\$ of co-financing — thus increasing by 1,200 M\$ from 2015 — also including 238 M\$ of co-financing to officially support operations by non-sovereign actors.

The CPS (country partnership strategy) represents the primary ADB platform used when designing operations for delivering developmental results on a country level. ADB works to map out a developmental strategy (medium-term) plus a 3-year business plan for country operations (COBP) for its implementation in each developing member country.

### The ADB project cycle: How does it work?

Financing is provided for such projects that effectively will contribute to further social and economic development in the given country and will have a highly strong poverty alleviation impact while conforming to the ADB and country strategies. Fig. 9 shows ADB's project cycle.

1. **Countries' Partnership Strategies:** For each member country developing, ADB works by defining a development strategy (medium-term) and an operating program named CPS (country partnership strategy), aligned with this country's poverty reduction goals and development plan, and prepared coherently with a DMC planning cycle.

2. **Projects' Preparation and Identification:** Often, ADB provided a grant entitled project or program preparatory TA technical assistance (technical assistance) to help for identification and preparation by government of a feasible project, which could include initial social &



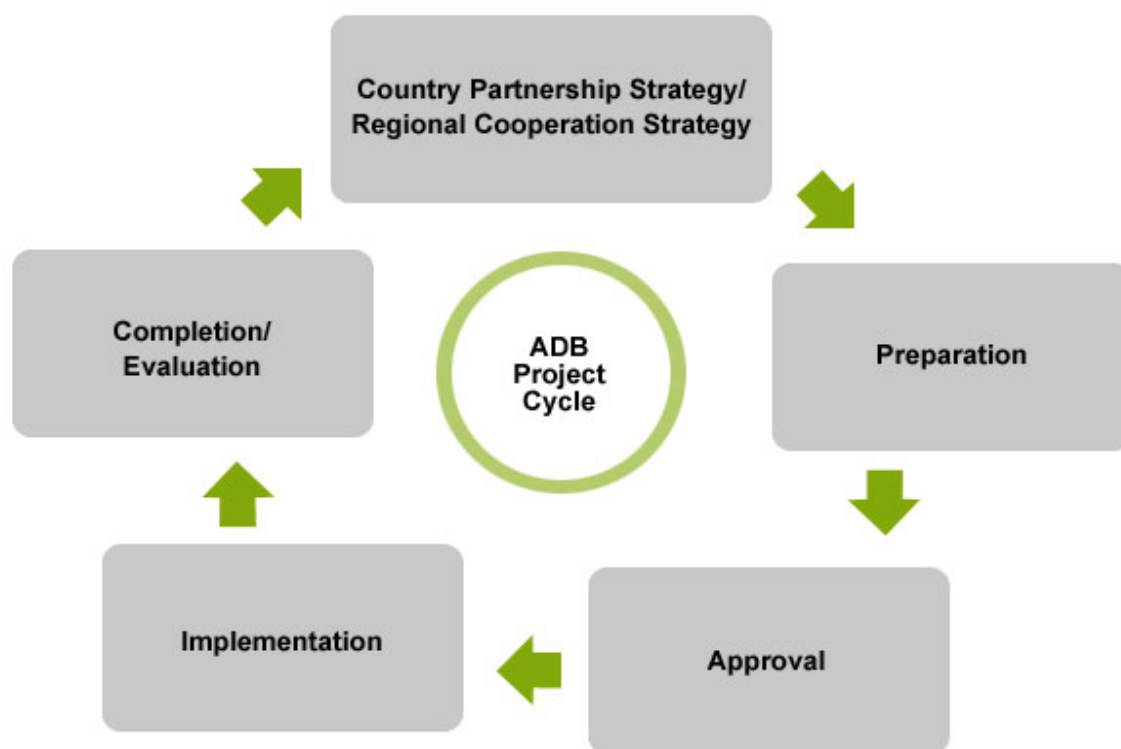


Fig. 9. The ADB project cycle

Source: ADB (2017), Asian Development Bank. URL: <https://www.adb.org/site/disclosure/public-communications-policy/cycle>; <https://www.adb.org/sites/default/files/page/82563/project-cycle.pdf> (accessed on 21.03.2020).

poverty analysis or a TA report. While examining the project, ADB examines project feasibility in a fact-finding mission.

3. **Approving:** consists of the sub-phases: (i) **Loan Negotiation:** submission of draft loan agreements or project proposals; (ii) **Board's Approval:** approval by ADB's Directors' Board through the Recommendation and Report of the President; (iii) **Signing the Loan:** signing by cabinets of the borrowing countries' Governments and ADB President; (iv) **Loan Effectiveness:** After conditions (cross-effectiveness of co-financing, legal requirements, and other agreements) are met, the loan takes effect.

4. **Implementation:** Implementation by an executive agency (usually 2–5 years), then recruitment of project consultants to assist the Government, as needed.

5. **Evaluation after Completion:** When the TA activities and project facilities are completed, ADB prepares a project completion report to document the overall experience.

### AIIB, THE ASIAN INFRASTRUCTURE INVESTMENT BANK

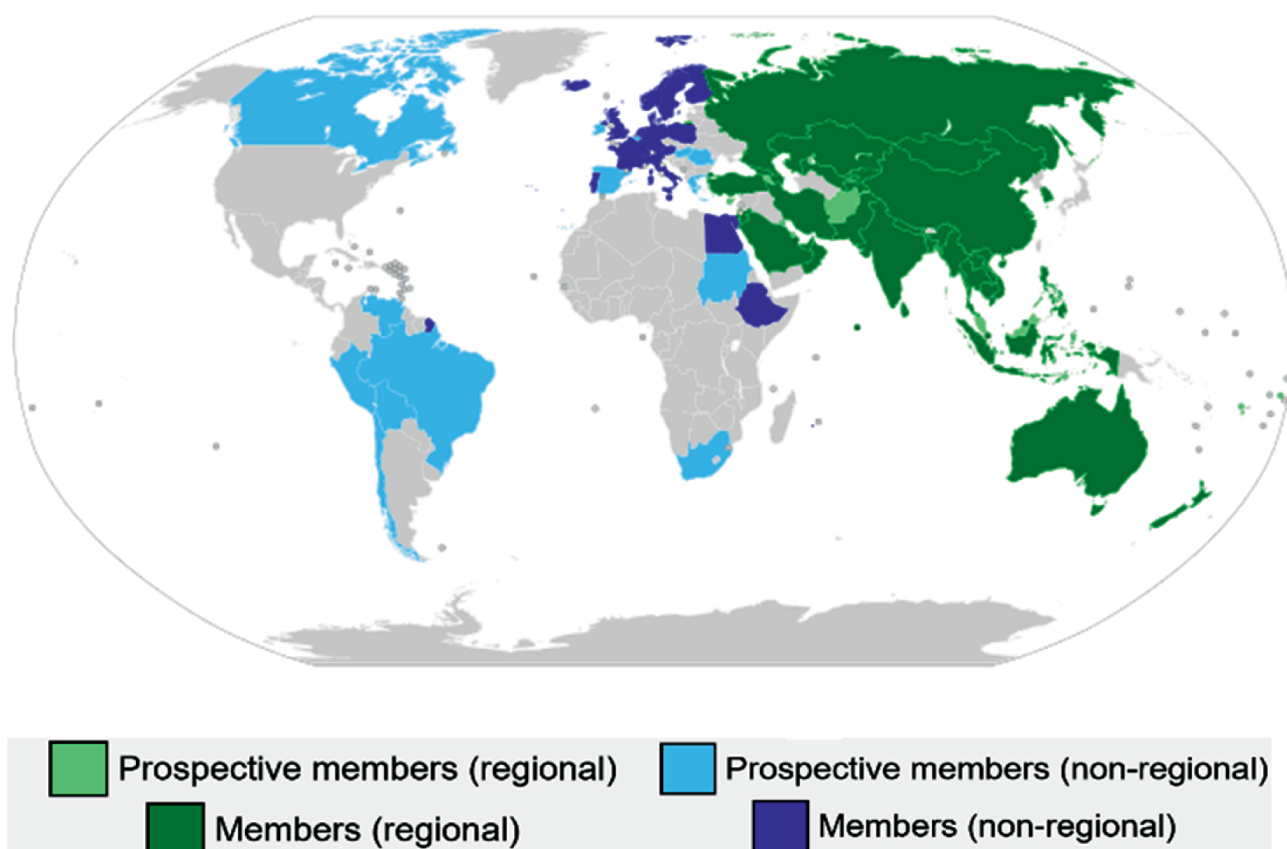
As a new multilateral FI, AIIB was founded with the declared intention of bringing countries

together across Asia for addressing daunting infrastructure necessities. By enhancing economic development and interconnectivity in this region through advancements within infrastructural or other productive sectors, the Asian Infrastructure Investment Bank seeks to improve access to basic services and to help stimulate growth.

AIIB sets out to offer (non-)sovereign finance for sustainable and sound projects in power and energy, rural infrastructure and agriculture development, transportation and telecommunications, environmental protection, water supply and water sanitation, and urban development & logistics.

AIIB started to operate on 25 December 2015 the foundational agreement entered into force, having its headquarters in China's capital Beijing. AIIB was proposed as China's governmental initiative and has 56 member states as of 2017 (Fig. 10), plus another 24 prospective members. Its capital has a value of 100,000 M\$, thus equivalent to two thirds of ADB's capital and about half that of WB.

Following AIIB's AOA (Articles of Agreement), it will "provide or facilitate financing for any member, agency, instrumentality or political subdivision thereof, or any entity or enterprise operating in the territory of a member, as well as to international



**Fig. 10. Member states of AIIB**

Source: AIIB (2017), Asian Infrastructure Investment Bank. URL: <https://www.aiib.org/en/projects/process/index.html> (accessed on 21.03.2020).

or regional agencies or entities concerned with the economic development of the Asia region”.<sup>30</sup>

#### Goals and Priorities

The creation of the AIIB shows the greater economic level of Emerging Markets in China and in general – AIIB might act as a game-changer.

#### Priority Themes

In its 1<sup>st</sup> operating year, both stakeholder engagements and client demand were validating AIIB’s original rationale of creation, emphasising 3 particularly relevant areas, now evolving into AIIB’s thematically emerging priorities:

- Infrastructure Sustainability: to support countries in meeting their developmental and environmental goals as well as promoting green infrastructure.
- Cross-country Connectivity: across Central Asia, prioritising transnational infrastructure, namely

energy pipelines and telecoms, roads and rail, ports, and reopening marine routes in South and South East Asia, the Middle East and beyond.

- Mobilising Private Capital: with other MDBs in partnership, private financiers, governments, and other partners devise innovative solutions that catalyse private capital.

#### Sector Strategies

AIIB’s Asia Strategy for Sustainable Energy establishes a new framework for energy projects investments that will increase access for safe, reliable and clean electric energy to millions across Asia. For such strategy implementation, AIIB supports members when they perform their obligations as defined in the Paris Agreement, namely “holding an increasing average global temperature to well below 2 °C (beyond pre-industrial levels) and pursuing efforts for limiting this increasing temperature to 1.5 °C”. AIIB plans to achieve such aim and aligns support with national energy investment plans of their members, and also their NDCs (Nationally Determined Contributions).

<sup>30</sup> AIIB (2017), Asian Infrastructure Investment Bank. URL: <https://www.aiib.org/en/projects/process/index.html>.

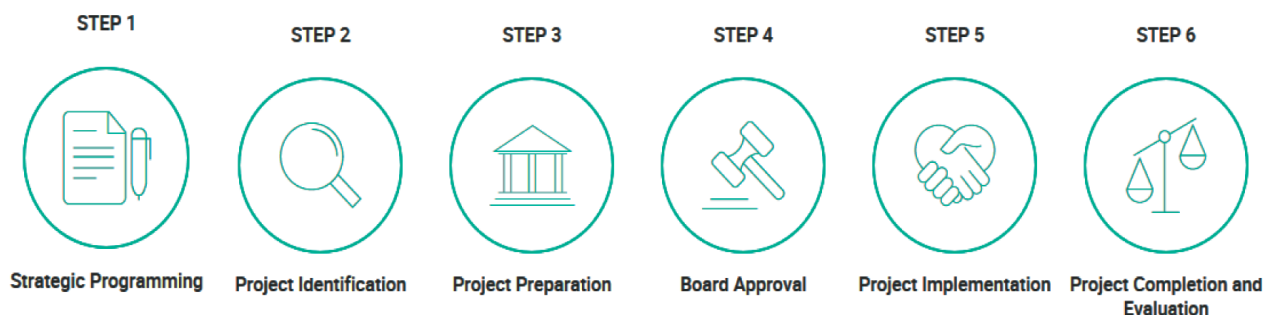


Fig. 11. AIIB's principal project cycle

Source: AIIB (2017), Asian Infrastructure Investment Bank. URL: <https://www.aiib.org/en/projects/process/index.html> (accessed on 21.03.2020).

### Project cycle

This bank's project process (Fig. 11) is guided by AIIB's thematic priorities and strategic goals: sustainable infrastructure, private capital mobilization and cross-country connectivity. First, AIIB analyses ideas for projects and proposals from its partners, clients and other stakeholders, and then seeks to attain appropriately balancing between sectors, borrowers and (non-) sovereign projects. Subsequently, those projects meeting all preliminary screening criteria will be included in a rolling investment program.

## RECOMMENDATIONS AND CONCLUSIONS

This article's target is twofold: (1) it shows in which way international financial institutions (IFIs) can contribute to climate protection projects and (2) how the method for application and implementation (= the so-called project cycle) works for the most relevant IFIs. Moreover, EU's IFCA (Investment Facility for Central Asia) was laid out as a case study for the generally used "blending" tool.

All mentioned IFIs, namely the entirety of

- GCF (Green Climate Fund),
- EIB (European Investment Bank),
- EBRD (European Bank for Reconstruction and Development),
- AFD (French Development Agency),
- KfW (German Development Bank),
- WB (World Bank),
- ADB (Asian Development Bank), and
- AIIB (Asian Infrastructure Investment Bank)

established social and environmental project criteria by which efficiency and suitability of submitted projects are evaluated.

Thus, this article provides introductory practical guidance on how to cooperate with IFIs for responsible climate protection projects.

Moreover, this article answers the question posed in the title, namely *how IFIs' procedures can contribute to climate protection*:

1. Already at present, IFIs require a dense set of environmental and social project criteria.

2. Driven by the increasing need for blended financing, however, these environmental and social project criteria should be harmonised among IFIs in order to (i) facilitate proposal submission for involving several IFIs and (ii) establish a planet-wide and consistent regulatory body of interlinked criteria.

3. By redirecting their financial volumes into climate-compatible projects (as discussed on these pages), IFIs re-shape the framework of action among the industry of infrastructure projects: success means to obey criteria of climate compatibility.

4. The effect of such redirection of global project financing towards climate protection will support recently declared EU policy supporting the needed "Green Deal", as proclaimed by the new Presidency of the European Commission.<sup>31</sup>

Therefore, this article spans from IFIs' rationales to the rational of climate protection, while keeping a viewpoint of *societal learning*. Thus, the question formulated in the title is answered.

<sup>31</sup> EU (2019), Innovative Financial Instruments (blending). Brochure and information. URL: [https://ec.europa.eu/europeaid/policies/innovative-financial-instruments-blending\\_en](https://ec.europa.eu/europeaid/policies/innovative-financial-instruments-blending_en).

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## REFERENCES

1. de Chardin P.T. Der Mensch im Kosmos. Hamburg: Piper; 1955. 311 p.
2. Vernadsky V.I. The biosphere (An abridged version based on the French edition of 1929). Oracle, AZ: Synergetic Press; 1986. 82 p.
3. Ahamer G. Mapping Global Dynamics: Geographic perspectives from local pollution to global evolution. Cham: Springer Verlag; 2019. 436 p. URL: <https://link.springer.com/book/10.1007/978-3-319-51704-9>. DOI: 10.1007/978-3-319-51704-9
4. Acemoglu D., Aghion P., Zilibotti F. Distance to frontier, selection and economic growth. *Journal of the European Economic Association*. 2006;4(1):37–74. DOI: 10.1162/jeea.2006.4.1.37
5. Amsden A.H. The rise of “the rest”: Challenges to the West from late-industrializing economies. Oxford, New York: Oxford University Press; 2001. 416 p.
6. Beck T., Laeven L. Institution building and growth in transition economies. *Journal of Economic Growth*. 2006;11(2):157–186. DOI: 10.1007/s10887-006-9000-0
7. Berglof E., Bolton P. The great divide and beyond: Financial architecture in transition. *Journal of Economic Perspectives*. 2002;16(1):77–100. DOI: 10.1257/0895330027120
8. Bevan A.A., Estrin S. The determinants of foreign direct investment into European transition economies. *Journal of Comparative Economics*. 2004;32(4):775–787. DOI: 10.1016/j.jce.2004.08.006
9. Cherif R., Hasanov F. The return of the policy that shall not be named: principles of industrial policy. IMF Working Paper. 2019;(74). DOI: 10.5089/9781498305402.001
10. Atlas of economic complexity. Center for International Development. URL: <https://atlas.cid.harvard.edu/rankings>
11. Dutta S., Lanvin B., Wunsch-Vincent S., eds. Global innovation index 2019: Creating healthy lives — the future of medical innovation. Cornell University; INSEAD; WIPO. 2019. 451 p. URL: [https://www.wipo.int/edocs/pubdocs/en/wipo\\_pub\\_gii\\_2019.pdf](https://www.wipo.int/edocs/pubdocs/en/wipo_pub_gii_2019.pdf)
12. David P.A. Path dependence: A foundational concept for historical social science. *Cliometrica*. 2007;1(2):91–114. DOI: 10.1007/s11698-006-0005-x
13. Dunning J.H. Toward an eclectic theory of international production: Some empirical tests. *Journal of International Business Studies*. 1980;11(1):9–31. DOI: 10.1057/palgrave.jibs.8490593
14. Ahamer G. Investor guide for regional investment projects regarding environment, climate change and water in Central Asia. In: 6<sup>th</sup> Meet. EU-Central Asia Working Group on Environment, Climate Change and Water. Astana: Expo 2017. URL: [https://www.researchgate.net/publication/318420907\\_Investor\\_Guide\\_-\\_for\\_regional\\_investment\\_projects\\_regarding\\_Environment\\_Climate\\_Change\\_and\\_Water\\_in\\_Central\\_Asia](https://www.researchgate.net/publication/318420907_Investor_Guide_-_for_regional_investment_projects_regarding_Environment_Climate_Change_and_Water_in_Central_Asia)
15. Aleshkovski I. Bondarenko V., Ilyin I. Global values, digital transformation and development strategy for global society: Conceptual framework. *International Journal of Foresight and Innovation Policy*. 2020;14(2–3–4):120–134. DOI: 10.1504/IJFIP.2020.111243
16. Böhmer H.J. Nachhaltigkeit und Geographie. Eine autobiographische Notiz. In: Dickel M., Böhmer H.J., eds. Die Verantwortung der Geographie: Orientierung für eine reflexive Forschung. Bielefeld: Transcript Verlag; 2021.
17. Buchner B., Carswell C., Meattle C., Oliver P., Wang X. et al. Global landscape of renewable energy finance 2018. Abu Dhabi: International Renewable Energy Agency; 2018. 44 p. URL: [http://www.indiaenvironmentportal.org.in/files/file/IRENA\\_Global\\_landscape\\_RE\\_finance\\_2018.pdf](http://www.indiaenvironmentportal.org.in/files/file/IRENA_Global_landscape_RE_finance_2018.pdf)
18. Despotović D., Cvetanović S., Nedić V., Despotović M. Economic, social and environmental dimension of sustainable competitiveness of European countries. *Journal of Environmental Planning and Management*. 2016;59(9):1656–1678. DOI: 10.1080/09640568.2015.1085370
19. Duraković E., Feigl B., Fischer B., Fleck C., Galler L.-M., Heinrich J., Kulmer K., Kurzweil B., Scholze M., Sperl R.S., Unterköfler R., Matzenberger J.; Remele K.; Ahamer G. Dialogic global studies for multicultural technology assessment. *Multicultural Education & Technology Journal*. 2012;6(4):261–286. DOI: 10.1108/17504971211279527



20. Oliver P., Clark A., Meattle C. Global climate finance: An updated view 2018. Climate Policy Initiative. URL: [https://www.climatepolicyinitiative.org/wp-content/uploads/2018/11/Global-Climate-Finance\\_-An-Updated-View-2018.pdf](https://www.climatepolicyinitiative.org/wp-content/uploads/2018/11/Global-Climate-Finance_-An-Updated-View-2018.pdf)
21. Gevorkyan A. V. The legends of the Caucasus: Economic transformation of Armenia and Georgia. *International Business Review*. 2015;24(6):1009–1024. DOI: 10.1016/j.ibusrev.2014.12.002
22. Gevorkyan A. V. Transition economies: Transformation, development, and society in Eastern Europe and the former Soviet Union. Abingdon, New York: Routledge; 2018. 292 p.
23. Globerman S., Shapiro D. Global foreign direct investment flows: The role of governance infrastructure. *World Development*. 2002;30(11):1899–1919. DOI: 10.1016/S 0305–750X(02)00110–9
24. Hausmann R., Klinger B. The structure of the product space and the evolution of comparative advantage. CID Working Paper. 2007;(146). URL: <https://www.hks.harvard.edu/sites/default/files/centers/cid/files/publications/faculty-working-papers/146.pdf>
25. Havas A., Izsak K., Markianidou P., Radošević S. Comparative analysis of policy mixes of research and innovation policies in Central and Eastern European countries. GRINCOH Working Paper. 2015;(3.12). URL: [http://www.grincoh.eu/media/serie\\_3\\_knowledge\\_innovation\\_technolog/grincoh\\_wp\\_3.12\\_havas\\_izsak\\_markianidou\\_radosevic.pdf](http://www.grincoh.eu/media/serie_3_knowledge_innovation_technolog/grincoh_wp_3.12_havas_izsak_markianidou_radosevic.pdf)
26. Hidalgo C., Klinger B., Barabasi A.-L., Hausmann R. The product space and its consequences for economic growth. In: APS March Meeting (Mar. 5–9, 2007). Ridge, NY: American Physical Society; 2007: A22–006.
27. Kyriazis N. Z., Zouboulakis M. S. Modelling institutional change in transition economies. *Communist and Post-Communist Studies*. 2005;38(1):109–120. DOI: 10.1016/j.postcomstud.2005.01.004
28. Novak J. et al. The rise of digital challengers: How digitization can become the next growth engine for Central and Eastern Europe. New York: McKinsey; 2018. 51 p. URL: [https://digitalchallengers.mckinsey.com/files/McKinsey%20CEE%20report\\_The%20Rise%20of%20Digital%20Challengers.pdf](https://digitalchallengers.mckinsey.com/files/McKinsey%20CEE%20report_The%20Rise%20of%20Digital%20Challengers.pdf)
29. Mitra P. K. Innovation, inclusion and integration: From transition to convergence in Eastern Europe and the former Soviet Union. Washington, DC: The World Bank; 2008. 165 p. URL: <https://openknowledge.worldbank.org/bitstream/handle/10986/6475/446480PUB 0ECA0101OFFICIAL0USE 0ONLY 1.pdf?sequence=1&isAllowed=y>
30. Narula R., Guimón J. The contribution of multinational enterprises to the upgrading of national innovation systems in the EU new member states: Policy implications. In: Global Forum on International Investment (Dec. 7–8, 2009). Paris: OECD; 2009. URL: [https://www.researchgate.net/publication/237219544\\_The\\_contribution\\_of\\_multinational\\_enterprises\\_to\\_the\\_upgrading\\_of\\_national\\_innovation\\_systems\\_in\\_the\\_EU\\_new\\_member\\_states\\_policy\\_implications](https://www.researchgate.net/publication/237219544_The_contribution_of_multinational_enterprises_to_the_upgrading_of_national_innovation_systems_in_the_EU_new_member_states_policy_implications)
31. Piatkowski M. The impact of ICT on growth in transition economies. TIGER Working Paper Series. 2004;(59). URL: [https://mpira.ub.uni-muenchen.de/29399/1/MPRA\\_paper\\_29399.pdf](https://mpira.ub.uni-muenchen.de/29399/1/MPRA_paper_29399.pdf)
32. Radošević S. Transformation of science & technological systems into systems of innovation in Central and Eastern Europe: The emerging patterns and determinants. *Structural Change and Economic Dynamics*. 1999;10(3–4):277–320. DOI: 10.1016/S 0954–349X(99)00016–8
33. Radošević S. The knowledge-based economy in Central and East European countries — an overview of key issues. In: Piech K., Radošević S., eds. Knowledge-based economy in Central and Eastern Europe: Countries and industries in a process of change. Basingstoke, New York: Palgrave Macmillan; 2006.
34. Radošević S. Upgrading technology in Central and Eastern European economies: Existing policies in Eastern Europe will not sufficiently promote technological innovation. IZA World of Labor. 2017. URL: <https://wol.iza.org/uploads/articles/338/pdfs/upgrading-technology-in-central-and-eastern-european-economies.pdf?v=1>
35. Richter K., Witkowski B. Does growth generate jobs in Eastern Europe and Central Asia? Policy Research Working Paper. 2014;(6759). URL: <https://openknowledge.worldbank.org/bitstream/handle/10986/16818/WPS 6759.pdf?sequence=1&isAllowed=y>
36. Romer P. M. Endogenous technological change. *Journal of Political Economy*. 1990;98(5): S 71–S 102.
37. Sachs J., Schmidt-Traub G., Kroll C., Lafortune G., Fuller G. Sustainable development report 2019: Transformations to achieve the sustainable development goals. New York: Bertelsmann Stiftung and Sustainable Development Solutions Network; 2019. 478 p. URL: [https://s3.amazonaws.com/sustainabledevelopment.report/2019/2019\\_sustainable\\_development\\_report.pdf](https://s3.amazonaws.com/sustainabledevelopment.report/2019/2019_sustainable_development_report.pdf)

38. Sahay R., Zettelmeyer J., Borensztein E., Berg A. The evolution of output in transition economies: Explaining the differences. IMF Working Paper. 1999;(73). URL: <https://www.imf.org/external/pubs/ft/wp/1999/wp9973.pdf>
39. Tidrico P. Institutional change and human development in transition economies. Dipartimento di Economica, Universita Degli Studi Roma Tre. Working Paper. 2006;(59). URL: [https://www.researchgate.net/publication/24125358\\_Institutional\\_change\\_and\\_human\\_development\\_in\\_transition\\_economies](https://www.researchgate.net/publication/24125358_Institutional_change_and_human_development_in_transition_economies)
40. Zeghni S., Fabry N. Building institutions for growth and human development: An economic perspective applied to the transitional countries of Europe and CIS. Munich Personal RePEc Archive. MPRA Paper. 2008;(9171). URL: [https://mpa.ub.uni-muenchen.de/9171/1/MPRA\\_paper\\_9171.pdf](https://mpa.ub.uni-muenchen.de/9171/1/MPRA_paper_9171.pdf)
41. Sub-regional innovation policy outlook 2020: Eastern Europe and the South Caucasus. Geneva: UNECE; 2020. 414 p. [https://unece.org/fileadmin/DAM/ceci/icp/Capacity\\_building/IPO\\_launch/IPO\\_2020\\_FULL.pdf](https://unece.org/fileadmin/DAM/ceci/icp/Capacity_building/IPO_launch/IPO_2020_FULL.pdf)
42. Ahamer G., Jekel T. Make a change by exchanging views. In: Mukerji S., Tripathi P., eds. Cases on transnational learning and technologically enabled environments. Hershey, New York: Information Science Reference; 2020:1–30. DOI: 10.4018/978-1-61520-749-7
43. Ahamer G. Virtual structures for mutual review promote understanding of opposed standpoints. *Turkish Online Journal of Distance Education*. 2008;9(1):17–43.
44. Lang L., Ofek E., Stulz R. M. Leverage, investment, and firm growth. *Journal of Financial Economics*. 1996;40(1):3–29. DOI: 10.1016/0304-405X(95)00842-3
45. Ahamer G. International cooperation on climate protection is promoted by IFIs. *Finansy: teoriya i praktika = Finance: Theory and Practice*. 2020;24(3):30–44. DOI: 10.26794/2587-5671-2019-24-3-30-44
46. EU-Central Asia enhanced regional cooperation on environment, climate change and water (WECOOP2). EU project, co-organising the EU-Central Asia Working Group on Environment and Climate Change. URL: <http://wecoop2.eu/>
47. Ahamer G. Kon-Tiki: Spatio-temporal maps for socio-economic sustainability. *Journal for Multicultural Education*. 2014;8(3):207–224. DOI: 10.1108/JME-05-2014-0022
48. Ahamer G. Applying student-generated theories about global change and energy demand. *International Journal of Information and Learning Technology*. 2015;32(5):258–271 DOI: 10.1108/IJILT-01-2015-0002

### ABOUT THE AUTHOR / ИНФОРМАЦИЯ ОБ АВТОРЕ



**Gilbert Ahamer** — Dr. Sci. (Eng.), Advisory Board Global Studies, Graz University, Institute for Economic and Social History, Graz, Austria; Environment Agency Austria, Vienna, Austria

**Гилберт Ахамер** — доктор технических наук, Консультативный совет по глобальным исследованиям, Университет Граца, Институт экономической и социальной истории, Грац, Австрия; Агентство по окружающей среде Австрии, Вена, Австрия  
gilbert.ahamer@umweltbundesamt.at

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