Trends and Dilemmas in Green Financial Capacity Development*

Balázs Sárvári

At the global level, including in Hungary, green finance capacity building is key to ensuring that green efforts can contribute their full potential to achieving a sustainable economy. In this article, we review the current challenges of green finance from the perspective of the scarcity of expert capacity, and then look at the present international good practices in capacity development and the related activities of the Magyar Nemzeti Bank. We conclude with a summary of future outlooks for green financial capacity building in relation to the key players.

1. Introduction

In past decades, humanity has been making increasing efforts to set its development on a sustainable path, taking into account environmental aspects. Weighing up the results so far, we can see that the environmental burden of the global economy has not been substantially reduced. This realisation can lead us to a number of underlying reasons. These may include the lack of financial resources and technological solutions. Perhaps the coalition for climate protection is not deep enough and not enough time has passed since the measures were put in place in order for the positive developments in environmental change to be recognised (*Kutasi 2022; Zöldy et al. 2022*). There is a lack of expertise in many areas, including the young and dynamic field of green finance. The shortage of expert capacity here is due to a lack of knowledge and experience in relation to sustainability among people working in banks, companies and households to effectively pursue green goals in their decisions. The lack of capacity is also reflected in the research and methodological development that underpins the preparation of decisions.

Green finance is a way to increase the level of financial flows (banking, micro-credit, insurance and investment) from the public, private and not-for-profit sectors into sustainable development priorities (*Desalegn – Tangl 2022*). Thus, the only essential difference between a traditional and a green financial instrument is that the latter is in line with environmental protection objectives (*Nyikos 2022*). Green finance, as part of the green transition of the economy, represents a new era of

* The papers in this issue contain the views of the authors which are not necessarily the same as the official views of the Magyar Nemzeti Bank.

Balázs Sárvári is a Senior Researcher at the Magyar Nemzeti Bank and a Senior Lecturer at the Corvinus University of Budapest. Email: sarvarib@mnb.hu

finance that is now in line with ESG considerations, i.e. environmental, social and governance sustainability. Because of its novelty, green finance still faces a number of challenges, not least the need to build the right expertise.

2. Green finance challenges in light of capacity constraints

Viewed from a practical point of view, we can see the complexity of the problem of capacity constraints in green finance. The main areas of green financial capacity constraints are summarised below.

1. *Methodological challenges.* Detailed knowledge of green financial products and the willingness to carry out the associated environmental measurements are widespread in only a few financial institutions (*Kolozsi et al. 2022*). Even in pioneering institutional systems, this expertise is confined to the centres. For projects with an environmental focus, it is methodologically challenging to carry out cost-benefit analyses, while the uptake of green financial products would also require moving beyond this dichotomy itself. One key factor is that economic actors should not only interpret their projects in the traditional return/risk-based approach, but also from a sustainability perspective.

2. *Financial innovation.* To develop green financial products[1] and analyse the impact of new initiatives, securities and fund managers, as well as banks and insurers, need considerable expertise before they can bring new products to market. As green technologies are typically capital intensive (*Papp et al. 2022*), the way to achieve the necessary robust resource allocation is through the development of novel financial instruments. This requires cooperation between investors, lenders and developers, which assumes the presence of green finance experts on all sides.

3. *Government strategy formulation.* The financial system alone is not enough for the green transition of the economy. The government's economic policy and the preparedness of central and local structures are all essential. To illustrate how complex the problem of progress is, take the example of local governments. This organisational level is itself directly involved in achieving energy efficiency. At the same time, it is likely that different motivations and barriers influence their decisions at the national level. To promote green financing, municipalities need targeted incentive packages and calls for proposals. Their development can hardly be confined to the state administration, and this requires the development and involvement of local expert bases in the preparation of programmes. Green finance capacity, therefore, needs to be developed at different government levels.

[1] A prominent group of green financial products is green bonds. The studies by *Bécsi et al.* (*2022*) and *Mihálovits and Paulik* (*2022*) provide a valuable overview of the related steps emphasising their innovative aspects.

4. *Transparency.* As long as we cannot classify economic activities according to a universally accepted classification into sustainability-enhancing or sustainability-threatening clusters (of course, this dual approach can be extended to include additional clusters), there is a risk of profiteering and misleading (*Lee 2020*). There can be many financial benefits to labelling a project as green – this is "greenwashing",[2] which can lead to the misallocation of capital and also reduce confidence in green finance solutions. Currently, verifying the "greenness" of green financial products is mainly done through external expertise (SPO, External review). The European Union's Green Taxonomy (*EU 2020*) represents an important milestone on the long road to addressing this challenge. The development and harmonisation of such standards at the national and international levels cannot be done without expert capacity (*Papp et al. 2022*).

In recent years, we have identified a number of good practices in green finance capacity building. Building on these experiences, effective training and information practices can be developed to provide the necessary background for the development of green finance. In the following sections, we first look at international examples and then at the activities of the Central Bank of Hungary (Magyar Nemzeti Bank, MNB).

3. Good practices in capacity building

In November 2020, the United Nations Framework Convention on Climate Change (UNFCCC) Secretariat launched a series of events under the name Capacity-Building Talks.[3] It is meaningful that out of the four rounds of negotiations so far, one focused on developing countries and one on small and medium-sized enterprises. These thematic choices also illustrate the need to develop green finance capacity at many different levels.

The example of small and medium-sized enterprises is a useful lesson in itself. As these companies are small, they face serious capacity constraints in greening their operations. Like the majority of economic operators, they can be said to already have a lot of information on the topic of sustainability, but they are not ready to apply it and often not even to interpret it. It is up to the experts to outline how the specific institution will be affected by environmental processes at different time scales, and what green finance, specific technologies or partner organisations they can turn to for solutions. Without such expertise, companies become increasingly vulnerable and then uncompetitive. Government funds may be needed to stop this downward spiral. The Dubai Green Fund, managed by the UAE government, is

[2] Frequent translations of the word greenwashing in Hungarian mean "painting green" or "washing green".
[3] Detailed information on the events is available on this page: https://unfccc.int/Capacity-building%20Talks and capacity building in the UNFCCC process organised by the UNFCCC here: https://unfccc.int/topics/capacity-building/the-big-picture/capacity-in-the-unfccc-process

a benchmark initiative in this field. Universities are also important capacity-building institutions, and thus they can also play an important role, even at the local level. In this area, the example of the Kenya Climate Innovation Centre is a case in point. In the international discourse, women-led companies receive special attention. Successful programmes dedicated to them include the Women in Agriculture Impact Investment Facility (*UN 2022*).

Other good practices from international organisations include the Principles for Responsible Investment, an investor network supported by the United Nations (*Lee 2020*). In several cases, the development of voluntary regional standards has been effective in promoting the development of green finance in a given area. Examples of such regional cooperation are the EU Green Bond Standards and the ASEAN Green Bond Standards. The Sustainable Banking and Finance Network (SBFN), supported by the World Bank, is an informal network of banking supervisors and industry associations that promotes green finance knowledge transfer and capacity building. In February 2022, the International Monetary Fund announced its capacity development strategy for the period 2022–2025 (*IMF 2022*) to contribute to the work of central banks and financial supervisors.

One important actor in international green financial capacity building is the Network for Greening the Financial System (NGFS), established in December 2017. In January 2019, the MNB was the first Central European institution to join the network, whose membership has been steadily growing since its creation. Members seek to support environment-related projects by sharing experience and good practices and developing new risk-management tools as well as to support the functioning of central banks and financial supervisors by developing professional skills (*NGFS 2018; Chang 2019*). Members of the network include the Bank for International Settlements and the Sustainable Insurance Forum created by the UN, and the IMF has joined the NGFS as an observer as well.

4. The role of the Magyar Nemzeti Bank in domestic green finance capacity development

Green finance in Hungary does not yet have a strong track record. This new development is reflected in clear capacity gaps in four areas: the existing expert base, the research background, the system for training new experts, and the general awareness of specific financial instruments; all of these four areas need to be developed further. In this context, the MNB is aware of its responsibility to contribute to overcoming these capacity gaps and thus also to promote the development of green finance in Hungary. *Csaba Kandrács* (*2021*), Deputy Governor of the MNB, put it this way: “We need excellent professionals to deliver our programme. It is important to develop young experts in the various sectors and

research centres, in addition to the regulatory and public administration areas, to ensure that sustainability and the links between the financial sector and the real economy are addressed with sufficient staff numbers."

This commitment was first set out in the Green Programme published by the central bank in 2019 (*MNB 2019*).[4] This document organises the MNB's efforts to link environmental sustainability and finance into three pillars. As part of the second pillar, which focuses on capacity building, the MNB has launched and supported a number of education, research and awareness-raising initiatives to contribute to the development of expertise and to exploit synergies between academia and the central bank. The MNB's training and research programmes emphasise interdisciplinary approaches in order to promote the current renewal of the financial profession, and within this, intensive cooperation between economics and natural sciences is particularly encouraged. These good practices are summarised below (*Matolcsy 2022*).

4.1. The MNB's green financial education activities

The green finance education activities implemented by the MNB aim to support the development of green finance courses that fit the educational profile of each partner institution.

- In collaboration with the Budapest University of Technology and Economics (BME), the focus is on the financial approach to sustainability. The concrete steps include the preparation of a green financial and accounting specialisation and participation in the implementation of the sustainability programme of the Liska Tibor College.

- The partnership with the John von Neumann University (NJE) is based on the objective of cooperation opportunities and applicability for the green transition, with a range of interdependent green finance courses[5] and student competitions.

- The partnership with the Research Centre of the Faculty of Economics of the University of Szeged (SZTE) and the Institute of Finance and International Economic Relations approaches sustainability from an economics perspective and introduces students to this field through a range of interrelated courses.

- An intensive green finance course is also part of the Budapest Metropolitan University's continuing professional development programme for financial regulators and supervisors.

[4] The MNB also contributes to the achievement of the sustainability goals via a number of other initiatives. These include, among others, the MNB's Green Monetary Policy Toolkit Strategy, the FGS Green Home Programme, and the addition of green reporting requirements to the MNB's collateral management system.
[5] These include the Green Finance course which is part of the newly announced MNB Institute's Master of International Economics and Business.

- The course "Sustainable Economics of the Future" at the University of Debrecen (DE) demonstrates how green finance can be applied involving a range of disciplines. The mandatory literature for the course includes the textbook The Sustainable Economics of the Future (*Virág 2019*), also by MNB authors.

The MNB's non-university training partners include the Budapest Institute of Banking (BIB), which provides training for experts with experience in the financial institution sector. The MNB and its partner organisations help the public to become knowledgeable about green financial products through a variety of channels.

4.2. The MNB Green Research Workshops and the Green Finance Science Awards

The results of green finance research are important shapers in the development of the field. As this is a new area, special incentives can be provided to speed up the process to give green finance the focus it deserves in academic research. Such incentives include support for the launch of new research and recognition of talented researchers with outstanding impact.

4.2.1. Research Workshops

One of the ways in which the central bank supports the start-up of new research is by establishing partnerships with existing research communities.

One of these is the Green Finance and Green Economy Research Workshops, realised jointly with BME. In some topics, the researchers focus on the policy context, in others on the development of the waste management market or on possible business strategies for a circular economy. Research projects such as the development of an electric vehicle calculator,[6] the production of a Smart Map of Hungary[7] and the MNB Solar Energy Forum[8] have already been implemented.

Building on the previous educational collaboration, in 2021 the MNB and SZTE signed a formal cooperation agreement, which also provides opportunities for joint research projects. In addition to its existing research networks, the MNB seeks to maintain active links with other research groups and foreign institutions.

[6] The calculator supports the estimation of the total cost of vehicle ownership and thus helps to compare the unit and total costs of different vehicle types and modes of operation. The calculator is available on the following websites: https://www.mnb.hu/fogyasztovedelem/csaladi-zold-penzugyek/zold-gazdalkodas-otthon/kozlekedes/zoldkerek-alkalmazas, https://kozlekedes.bme.hu/2022/08/15/elindult-a-zoldkerek/.
[7] The aim of the project was to transform the geospatial data of Hungary into a unified data system, which prepared the ground for further research.
[8] The aim of the programme was to develop a complex set of indicators to measure the market integration of weather-dependent power generation.

4.2.2. Scientific awards and research funding

The Green Finance Science Awards and the Green Finance Research Initiative were established by the MNB in 2021 to recognise the achievements of international and domestic researchers with outstanding impact and promising young talent, and to enhance new research initiatives. The scientific awards also include the International Green Finance Lifetime Achievement Award, which the MNB awards to researchers who have made a global impact. The prize was awarded in 2021 to Naoyuki Yoshino, Professor Emeritus at Keio University in Tokyo, and in 2022 to Sean Kidney, Co-Founder and CEO of the Climate Bonds Initiative and Professor at the SOAS Centre for Sustainable Finance. To incentivise new research, available grants include the Green Finance Research Initiative, for which researchers can submit research proposals.

4.3. MNB action for wide dissemination of information

General information for households is also an important segment of green finance capacity building, as demand for financial products is stimulated by increased consumer awareness and confidence. To this end, the MNB has launched the Family Green Finance Programme[9] initiative, which shows how to make environmentally conscious choices by linking them to everyday life situations. The Green Financial Product Finder service, which is currently under development, aims to provide information on domestic green financial products in a comparable format and accessible to the general public, thus helping to promote these products and increase the knowledge of retail customers.

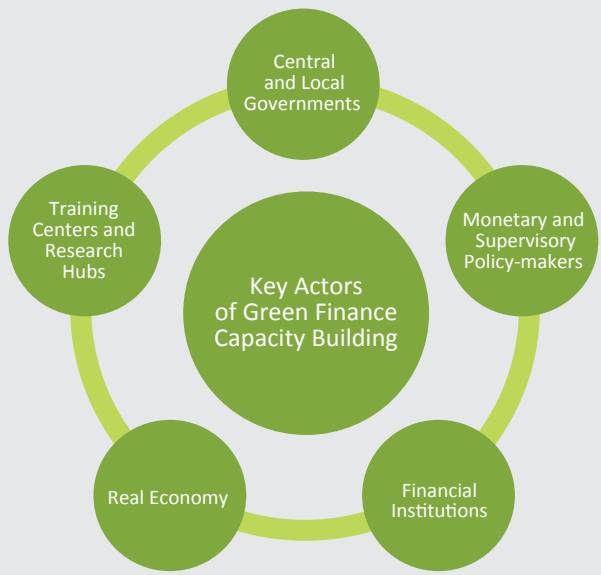
5. Reflections on the next steps for green finance capacity building

In recent years, green finance initiatives have already demonstrated their potential for significant impact in terms of putting the economy on a sustainable path. To capitalise on this, further green finance development is needed, and one of the keys to this is well-designed capacity development. According to *Ma Jun*, Chair of the NGFS Microprudential and Supervisory Working Group, capacity building should serve a dual purpose: on the one hand, it is necessary to develop the levels of decision-makers and preparers to take proper account of the green finance dimension, and on the other hand, it requires a broader expert base to develop methodologies and procedures for analysing environmental risks (*Wedell 2017*). These objectives outline a whole institutional web, as decision-making takes place at different levels of the government, banking and real economy, and both financial institutions and academia are essential actors in methodological developments.

[9] Family Green Finance Programme: https://www.mnb.hu/fogyasztovedelem/csaladi-zold-penzugyek

It should also be added that the growth of the green finance market goes hand in hand with the need for an expanding pool of experts, i.e. training new generations of experts is essential for the development of the field. In the following, we look at the key players in capacity development, as shown in *Figure 1*, and their responsibilities and opportunities in this area.

Figure 1
Key players in green finance capacity development



Central and local governments have a strong influence on green finance capacity development at the level of strategy development and the regulatory environment via the formulation of policy guidelines and regulations, and supporting various collaborations. The way in which governments engage in international negotiations and provide incentives to different organisations, including NGOs,[10] is of particular importance. Government involvement is also crucial in the accreditation of different levels of training in general and in the definition of curricula and objectives,[11] especially because training in each country needs to be tailored to its own environmental risks, its industrial structure, its role in supply chains or its existing

[10] The National Clean Development Strategy specifically highlights that in line with the National Core Curriculum, the Hungarian Society for Environmental Education, a non-governmental organisation, also contributes to the implementation of the training guidelines.
[11] This is reflected in the fact that a separate sub-chapter on education and training has been included in the National Clean Development Strategy (2020–2050) (*ITM 2021*).

building stock. It is a canonical statement from green finance experts that the most important factor for a breakthrough in the field is the political will to do so (*Lee 2020*).

Institutions with monetary and supervisory roles also act as a guiding force through strategic guidelines, new protocols and data reporting procedures (*Horváth – Lehmann 2021*). The opportunities associated with these institutions were discussed in *Section 4*.

Financial institutions still lack the proper number of green financial advisors to develop new financial products and measurement methodologies (*Lee 2020*). In addition, their existing capacity is disproportionately distributed and typically concentrated in central offices, leading to regional differences in the popularity of green financial products. The general lending periods are also an important factor in the uptake of this product scope. The longer the time horizon for financial services and internal strategies and back tests, the more scope there is for sustainability-oriented solutions.

In-house training structures in the *real sector* are also increasingly looking at how to protect firms from environmental impacts and turn opportunities to their advantage. At the corporate governance level (business planning, strategy development), sustainability and green finance expertise will become increasingly important. To accumulate expertise in this area, it is important to consider to which specialised organisation (e.g. consultancy firms) or experts (e.g. professional/technical consultants in the real estate and energy sectors) green finance issues are delegated and where they are located on the organigram.

As *training centres and research workshops*, private companies and civil society organisations, in addition to academic actors, can also generate significant added value in the field of capacity development, as they can all be involved in the delivery of courses, training, workshops, curriculum development (from introductory courses to dedicated vocational training) and research. But developing capacity at the academic level is an extremely long process (*Sterner et al. 2012*). Dedicated individuals in the relevant departments of each institution need to study green finance for many years on a continuous basis in order to build up sufficient green finance academic capacity and standardised curricula in a country.

Recognising the challenges and good practices emerging globally, several institutions in Hungary are already training green finance experts. The strategic question before us is what kind of green finance capacity development plan can serve Hungary's interests and the domestic green finance sector. For such a plan to be successful, it is essential to clarify, among other things, whose responsibility it is to develop it, in which areas (from municipalities to insurers), in what numbers and with what

exact skills will be needed, and what international standards should be followed in the process. Answering these questions is beyond the scope of this article, but the search for answers must surely be built on collaboration. This cooperation should combine government, central bank and supervisory approaches, the preferences of the real economy and financial market participants, and the results of natural science and economics.

References

Bécsi, A. – Varga, M. – Lóga, M. – Kolozsi, P.P. (2022): *First steps – the nascent green bond ecosystem in Hungary*. Cognitive Sustainability, 1(1). https://doi.org/10.55343/cogsust.11

Chang, Y. (2019): *Green Finance in Singapore: Barriers and Solutions*. ADBI Working Paper Series No. 915. https://www.adb.org/publications/green-finance-singapore-barriers-and-solutions. Downloaded: 1 September 2022.

Desalegn, G. – Tangl, A. (2022): *Enhancing Green Finance for Inclusive Green Growth: A Systematic Approach*. Sustainability 2022, 14, 7416. https://doi.org/10.3390/su14127416

EU (2020): *Regulation* (*EU*) *2020/852 of the European Parliament and of the Council of 18 June 2020 on the establishment of a framework to facilitate sustainable investment, and amending Regulation* (*EU*) *2019/2088* https://eur-lex.europa.eu/legal-content/HU/TXT/PDF/?uri=CELEX:32020R0852&from=EN. Downloaded: 12 September 2022.

Horváth, L. – Lehmann, K. (2021): *Central Bank Activities Supporting Education and Research in Eurasia*. In: Patai, M. – Horváth, M. (eds.): Age of Eurasia – Future directions of knowledge, technology, money and sustainable geoeconomics. Magyar Nemzeti Bank, Budapest, pp. 429–455. https://www.mnb.hu/en/publications/mnb-book-series/age-of-eurasia-future-directions-of-knowledge-technology-money-and-sustainable-geoeconomics

IMF (2022): *Capacity Development Strategy 2022-2025*. https://www.imf.org/en/Publications/Technical-Assistance-Annual-Reports/Issues/2022/02/04/mcm-technical-assistance-annual-report-2022-25. Downloaded: 6 August 2022

ITM (2021): *Nemzeti Tiszta Fejlődés Stratégia* (National Clean Development Strategy). Ministry for Innovation and Technology, https://cdn.kormany.hu/uploads/document/5/54/54e/54e01bf45e08607b21906196f75d836de9d6cc47.pdf. Downloaded: 6 August 2022.

Kandrács, Cs. (2021): *A sustainability approach in central banking – The example of the MNB.* Speech delivered in Pécs on 23 September 2021, at the plenary lecture of the jubilee conference titled Change, Redesign and Development, organised by the Faculty of Economics of the University of Pécs, Hungary.

Kolozsi, P.P. – Ladányi, S. – Straubinger, A. (2022): *Measuring the Climate Risk Exposure of Financial Assets – Methodological Challenges and Central Bank Practices.* Financial and Economic Review, 21(1): 113–140. https://doi.org/10.33893/FER.21.1.113

Kutasi, G. (2022): *How Does Economics Approach Nature?* Cognitive Sustainability, 1(2). https://doi.org/10.55343/cogsust.21

Lee, J.W. (2020): *Green Finance and Sustainable Development Goals: The Case of China*. Journal of Asian Finance, Economics and Business, 7(7): 577–586. https://doi.org/10.13106/jafeb.2020.vol7.no7.577

Matolcsy, Gy. (2022): *The Appearance of Economic, Social, Financial and Environmental Sustainability Aspects in the Practices of the National Bank of Hungary.* Public Finance Quarterly, 2022(3): 315–334. https://doi.org/10.35551/PFQ_2022_3_1

Mihálovits, Zs. – Paulik, É. (2022): *Are green covered bond impact reports reliable?* Cognitive Sustainability, 1(3). https://doi.org/10.55343/cogsust.30

MNB (2019): *Green Program* (2019). Magyar Nemzeti Bank. https://www.mnb.hu/en/supervision/green-program

NGFS (2018): *First Progress Report*. https://www.ngfs.net/sites/default/files/medias/documents/818366-ngfs-first-progress-report-20181011.pdf. Downloaded: 6 August 2022.

Nyikos, Gy. (2022): *Fenntartható finanszírozás és fejlesztés* (*Sustainable finance and development*). Akadémiai Kiadó. https://doi.org/10.1556/9789634547853

Papp, D. – Sárvári, B. – Varga, M. (2022): *Zöld pénzügyek és piaci megoldások a környezeti fenntarthatóságért* (*Green finance and market solutions for environmental sustainability*). In: Baksay, G. – Matolcsy, Gy. – Virág, B. (eds.): Új közgazdaságtan a fenntarthatóságért (New economics for sustainability). Magyar Nemzeti Bank, Budapest, pp. 591–620. https://www.mnb.hu/web/sw/static/file/az-uj-fenntarthato-kozgazdasagtan-hun.pdf

Sterner, T. – Damon, M. – Köhlin, G. – Visser, M. (2012): *Capacity Building to Deal With Climate Challenges Today and in the Future*. The Journal of Environment & Development, 21(1): 71–75. https://doi.org/10.1177/1070496511435672

UN (2022): *4th UNFCCC Capacity-building Talk – Strengthening the capacities of small and medium-sized enterprises* (*SMEs*) *to engage in climate action and seize new opportunities*. Report, online conference, 19 April https://unfccc.int/sites/default/files/resource/4th%20CB%20Talk%20summary%20report.pdf. Downloaded: 1 September 2022.

Virág, B. (ed.) (2019): *Long-term sustainable econo-mix*. Magyar Nemzeti Bank. https://www.mnb.hu/en/publications/mnb-book-series/long-term-sustainable-econo-mix

Wedell, L. (2017): *Building the Capacity to Finance Green in China – Leveraging Finance for Green Policy Briefs*. Paulson Institute, Chicago, Illinois, USA. https://www.paulsoninstitute.org/wp-content/uploads/2017/12/Capacity-Building-Policy-Brief_Sm.pdf. Downloaded: 1 September 2022.

Zöldy, M. – Szalmáné Csete, M. – Kolozsi, P.P. – Bordás, P. – Török, Á. (2022): *Cognitive Sustainability*. Cognitive Sustainability, 1(1). https://doi.org/10.55343/cogsust.7