

Economic Commission for Europe

Committee on Environmental Policy

United Nations Economic Commission for Europe

Steering Committee on Education

for Sustainable Development

Fifteenth meeting

Geneva, 19-20 (am) October 2020

Item 3(a) of the provisional agenda

Implementation of the United Nations Economic Commission for Europe Strategy for Education for Sustainable Development: summary of outcomes of the progress report on the fourth phase of implementation

Information paper no. 2

Learning from each other: achievements, challenges and ways forward

Fourth evaluation report of the UNECE Strategy for Education for Sustainable Development^{*1}

Summary

The present document provides a summary of progress made by the United Nations Economic Commission for Europe (ECE) member States in implementing the UNECE Strategy for Education for Sustainable Development during the implementation phase 2017-2019 which, for easier reference to overall number of completed reporting cycles, is referred to as the fourth implementation phase. The present synthesis report is based on the analysis of 32 national implementation reports submitted by member States for that phase.

The national implementation reports reveal that many countries have policies in place to support education for sustainable development (ESD) but the challenge remains of coordinating those policies and increasing the number of countries with national implementation plans for ESD, as observed during the previous phases of implementation. Many countries have expanded policies to the non-formal and informal levels, encouraged synergies and involved various stakeholders in ESD. However, the whole institution approach needs to be re-examined and further implemented in the context of some countries, mainly in relation to incentives and policies. In almost all countries, educators have reported having received training on ESD competences during pre- and in-service training. Tools and materials for ESD are widely produced through the encouragement of national strategies and investment of public money, but more needs to be done in terms of dissemination and accessibility of materials and the establishment of quality control criteria. Many governments recognize the need to connect research to ESD policy and practice. In terms of promotion of research and development, the weakest element is the evaluation of the Strategy's outcomes. Only a limited number of countries place particular emphasis on recognizing indigenous components across the curriculum. Among reported challenges in carrying out national implementation plans on ESD, countries mainly refer to financial and time constraints, the need to disseminate good practices and experience and the establishment of synergies.

* The present report was prepared by expert Dr. Stella Hadjiachilleos, Cyprus Ministry of Education, Culture, Sports and Youth, Unit of Education for the Environment and Sustainable Development, as an in-kind contribution of the Republic of Cyprus in support of activities held under the UNECE Strategy for ESD.

¹ This document was not formally edited.

The findings of this report will be taken into consideration in drafting the future implementation framework of the UNECE Strategy for ESD up to 2030 and will be discussed at the high-level meeting of education and environment ministries at the Environment for Europe Ministerial Conference in Nicosia, Cyprus, to be held in spring 2022.

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Abbreviations

ECE	United Nations Economic Commission for Europe
ESD	Education for sustainable development
MS	Member states
NIR	National implementation reports
SC	Steering Committee
SD	Sustainable development
SDGs	Sustainable development goals
VET	Vocational education and training
WIA	Whole institution approach

I. Introduction

1. The following report provides a review of the progress of the United Nations Economic Commission for Europe (ECE) member States in implementing the UNECE Strategy for Education for Sustainable Development (Strategy for ESD or Strategy) during the fourth implementation phase running from 2017 to 2019, with reference to the summary progress and notable achievements made by ECE member States during the first three phases of implementation and reporting, set within the initial 10-year timeframe running from 2005 to 2015.

A. Background

2. Since the adoption of the UNECE Strategy for ESD (CEP/AC.13/2005/3/Rev.1) in 2005 by the High-level Meeting of Environment and Education Ministries (Vilnius, 17–18 March 2005), the ECE member States have worked together to promote ESD across the ECE Region and to undertake a regular assessment of the Strategy's implementation on the national level that is overseen by the ECE intergovernmental Steering Committee on ESD, by its terms of reference charged with monitoring progress in the implementation of the Strategy (ECE/CEP/BATUMI.CONF/2016/11, annex II, para. 4 (d)).

3. The framework for assessment is based on the unified reporting format and a set of indicators, developed by the ECE Expert Group on Indicators for ESD, set up by the Vilnius High-level Meeting of Environment and Education Ministries. The first three national implementation reporting cycles have been carried out in 2007, 2010 and 2014 within the initially agreed 10-year span of implementation and in accordance with the work plans of implementation for each of the corresponding phases, which had been setting out the timelines for the reporting exercises. This national implementation reporting takes stock of the progress achieved and identifies the main successes and challenges of the Strategy's implementation at the national level in terms of implementing all the objectives of the Strategy and its priority action areas. Moreover, such reporting offers a unique opportunity for countries to learn from each other regarding the implementation of ESD, as it provides in-depth information about experiences and challenges encountered region-wide.

4. The progress in implementing the UNECE Strategy for ESD during the first decade running from 2005 to 2015 was acknowledged by the last High-level Meeting of Education and Environment Ministries held on 8 June 2016 within the framework of the Eighth Environment for Europe Ministerial Conference (Batumi, Georgia, 8-10 June 2016), where the ministers and heads of delegation supported the continuation of the Strategy's implementation at the regional level beyond its first decade, its alignment with the 2030 Agenda for Sustainable Development and Sustainable Development Goals and also the first five-year phase of the Global Action Programme on Education for Sustainable Development led by UNESCO. Participants at the High-Level Meeting in Batumi extended the mandate of the ECE Steering Committee on ESD until 2030, and requested it to prepare, with the support of the secretariat, a workplan and budget for the Strategy's implementation for a period covering the next four years (2016-2019). As the draft workplan could not be had been approved before the next meeting of the Steering Committee held in 2017, it was agreed to consider the first phase of the new implementation period as starting from 2017 which is referred in the present document as the fourth implementation phase.

5. The fourth mandatory reporting cycle was carried out in 2018 by the end of the fourth phase of the Strategy's implementation. The original deadline for the submission of national implementation reports of 1 November 2018 had been extended to mid-June 2019 following requests for more time from a number of member States. Preliminary results of the report were presented at the 14th meeting of the Steering Committee in 2019 and also during the online consultation meeting held on 7 May 2020, which replaced the 15th SC meeting which was postponed for October 2020 due to the Covid-19 pandemic. The pre-final results will be presented in the official 15th SC meeting for approval in October 2020.

B. Methodology

Format of reporting-data collection instrument

6. The fourth evaluation report of the Strategy for ESD reviews the data collected through national implementation reports (NIRs) submitted by member States at the end of the fourth phase of the Strategy’s implementation as well as supplemental information provided by member States to the secretariat through informal annual national reports, and reports of the ECE Steering Committee on ESD working groups.

7. The framework for assessment used in this evaluation report is the same framework used for the 2007, 2010 and 2015 reports and follows the “Criteria to assess successful implementation of the UNECE Strategy for Education for Sustainable Development” set out by the ECE Expert Group on Indicators, as well as the Guidance on Reporting on the Implementation of the UNECE Strategy for Education for Sustainable Development (ECE/CEP/AC.13/2009/5). The format for reporting on implementation of the Strategy during the fourth implementation phase (2017–2019) was developed based on the procedure for the review of implementation contained in the draft workplan for 2017–2019 (ECE/CEP/AC.13/2018/3). The reporting format also took into account the two previous reporting exercises in 2010 and 2014, the related reporting templates (ECE/CEP/AC.13/2009/10 and ECE/CEP/AC.13/2014/5, respectively) and the feedback from countries following those exercises on the workability and feasibility of the indicators and the requested information for reporting. In 2014 and 2018, the reporting format (ECE/CEP/AC.13/2018/4) was updated by the secretariat in consultation with the Bureau and Expert Group on Indicators, to reflect the requirements of the previous third phase (2011–2015) and priorities of the 2017–2019 implementation phase, outlined in the framework for the future implementation of the Strategy (ECE/BATUMI.CONF/2016/11).

8. As complementary sources for the preparation of the fourth evaluation report, the following documents were used in addition to the national implementation reports:

- (a) The UNECE Strategy for Education for Sustainable Development (CEP/AC.13/2005/3/Rev.1);
- (b) The format for reporting (ECE/CEP/AC.13/2018/4);
- (c) The guidance for reporting on the implementation of the UNECE Strategy for Education for Sustainable Development (ECE/CEP/AC.13/2009/5);
- (d) The first progress report on the implementation of the Strategy (2005–2007), “Learning from each other: achievements, challenges and the way forward” (ECE/BELGRADE.CONF/2007/INF/3-ECE/CEP/AC.13/2007/2 and Add.1 and Corr.1);
- (e) The second evaluation report on the implementation of the Strategy (2008–2010), “Learning from each other: achievements, challenges and ways forward” (ECE/CEP/AC.13/2012/3);
- (f) The third evaluation report on the implementation of the Strategy (2011–2015), “Learning from each other: achievements, challenges and ways forward” (ECE/CEP/AC.13/2016/3);
- (g) The publication: Ten Years of the UNECE Strategy for Education for Development — Evaluation Report on the Implementation of the UNECE Strategy for Education for Sustainable Development from 2005 to 2015 (ECE/CEP/179).

Participation and analysis approach

9. Out of the 56 ECE member States, 32 submitted a NIR to the ECE secretariat for the fourth reporting period. In order to gain insight into issues that are specific to sub-regions of ECE, the data has also been analyzed by groupings of countries. This level of comparative analysis was used very cautiously because of the disparity in group sizes, with six countries reporting in the Eastern Europe, the Caucasus and Central Asia group (Azerbaijan, Belarus, Georgia, Kyrgyzstan, Tajikistan, The Russian Federation), five countries in the South-Eastern Europe group (Bosnia-Herzegovina, Croatia, Montenegro, Serbia, Turkey), one

country from Western Asia (Israel), whereas 20 countries reported in the European Union, other Western European countries and North America group (Andorra, Austria, Belgium, Bulgaria, Cyprus, Estonia, Finland, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Malta, the Netherlands, Romania, Slovakia, Slovenia, Switzerland).

10. Even if participation of member States has slightly decreased over the previous reporting periods with 35 member States submitting reports in 2007, 36 in 2010 and 38 in 2015, it is very important to point out that 6 countries that had not participated in the third reporting cycle, successfully participated in the current (fourth) evaluation. Specifically, the member States referred to include Azerbaijan (Eastern Europe, Caucasus and Central Asia (EECCA) region), Belarus (EECCA region), Tajikistan (EECCA region), the Russian Federation, (EECCA region), Italy (European Union (EU) Region) and Israel (Western Asia (WA) region). Eleven (11) countries that had submitted NIRs for Phase III of reporting did not submit NIRs for Phase IV of the reporting.

II. Progress towards meeting the Strategy's objectives

A. Issue 1: Policy and regulatory framework

11. Issue 1 is aimed at diagnosing member States' status on whether they ensure that policy, regulatory and operational frameworks support the promotion of ESD through pre-requisite measures (sub-indicator 1.1.), through policy, regulatory and operational frameworks supporting the promotion of ESD (sub-indicator 1.2.) and through national policies that support synergies between processes related to the SDGs/SD/ESD (sub-indicator 1.3.).

12. The most widely implemented pre-requisite measure taken to support the promotion of ESD (sub-indicator 1.1.) was the appointment of National Focal Point(s) (28 member States, 87.5 percent), followed by the availability of the UNECE Strategy for ESD in the national language (24 member States, 75 percent). Other pre-requisite measures include synergies at the national level on policy processes related to ESD (22 member States, 68.75 percent), the existence of coordinating bodies for the implementation of ESD (21 member States, 65.62 percent) and national implementation plans (20 member States, 62.50 percent). Figure 1 presents data pertaining to sub-indicator 1.1.

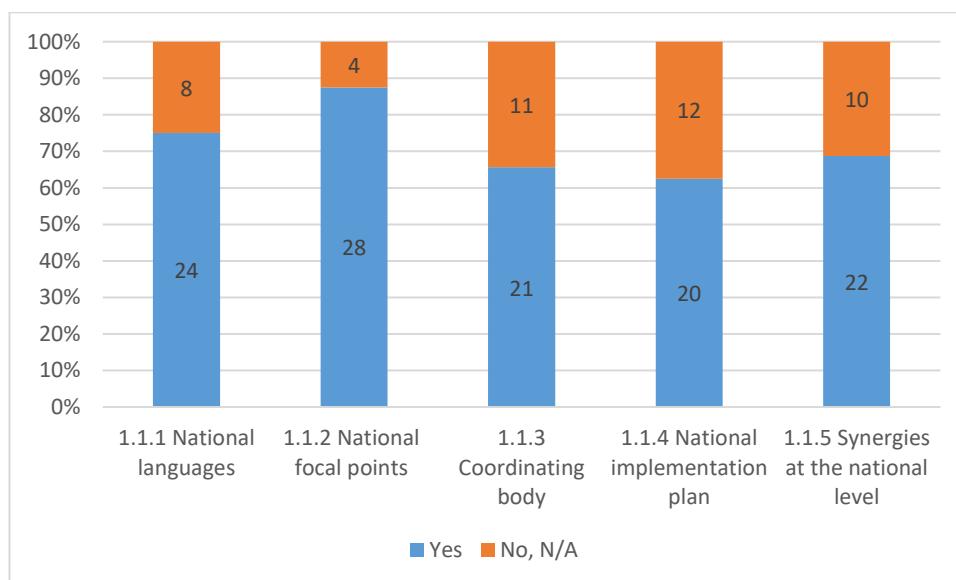


Figure 1. Pre-requisite measures for the promotion of ESD (sub-indicator 1.1.)

13. Even if national focal points are appointed by most countries, more work needs to be done regarding the coordinating bodies. Focal points come from a variety of backgrounds and are mostly appointed through ministries related to education and/or the environment and/or science. Despite the fact that for a number of member States adopting national

implementation plans for ESD remains a challenge, it is important to note that the majority of countries have sought synergies between policy processes in ESD in their national context.

14. A variety of policy, regulatory and operational frameworks that support the promotion of ESD is in place in member States with national policy documents (30 member States, 93.70 percent) and national curricula, standards, ordinances and requirements (29 member States, 90.62 percent) as the most popular ones (indicator 1.2.). Evidently, these frameworks are included in national education or legislation documents and national curricula at all levels of education, however, through the reports, a lack of adequate information about higher education is reported (e.g. Romania, Slovenia).

15. Other relevant frameworks include non-formal and informal national policies/documents and public awareness addressed in national documents, as well as public budgets, each reported by 24 member States (75 percent), followed by the establishment of formal structures of interdepartmental cooperation related to ESD and of mechanisms for multi-stakeholder cooperation on ESD, each reported by 22 member States (68.75 percent). For example, in Cyprus, a Permanent Unit for Education for the Environment and Sustainable Development, the Environment and ESD was established in 2018, responsible for implementing ESD in a systematic, comprehensive and long-term manner in formal, non-formal and informal education. The Unit is part of the new organizational chart of the Ministry of Education Culture, Sports and Youth and is a horizontal structure not only in relation to the Directorates of Education, but also in relation to the other Ministries and Services of the Public and Private Sector. It therefore cooperates with all parties involved and is responsible for drafting, updating and implementing Cyprus' ESD national policy. The creation of the Unit has contributed to tackling the chronic problems that existed in the field, such as the fragmentation of issues within each Directorate, the overlap, the absence of a unified policy in the field of ESD at all levels of education.

16. In Belgium, the Government has established a multi-sectoral public administration working group on SD that has to guarantee that comprehensive, coordinated SD policy objectives are formulated, so that a converging policy approach can be applied at the public administration level.

17. National policies support synergies between processes related to the SDGs/SD/ESD (indicator 1.3) through either the existence of a national, standalone SD policy (25 member States, 78.2 percent) or through ESD being part of SD policies (24 member States, 75 percent).

18. National policy documents are often correlated with the SDGs (e.g. Andorra, Montenegro, Iceland, Cyprus, Romania, Slovenia, Belarus, Belgium, Latvia, Kyrgyzstan, Hungary, the Netherlands, Switzerland, Turkey, Germany), with the UNESCO Global Action Plan for ESD (e.g. Malta, Ireland, the Netherlands, Switzerland, Latvia) and with other governmental policies referring, for example, to climate change (e.g. Cyprus, Iceland, Greece, Montenegro), to energy efficiency (e.g. Belarus, Latvia), to biodiversity (e.g. Israel, Serbia, Greece, Cyprus, Hungary) and to the sea (e.g. Latvia, Greece, Cyprus).

19. An interesting example is that of Germany, where the National Action Plan established in 2017 defines 130 objectives and 349 measures to scale up ESD in local areas and at all levels of the German education system. The adoption of this National Action Plan triggered federal States and local authorities in Germany to initiate or further develop their own ESD strategies or strategic documents.

20. ESD is gaining attention in terms of its implementation at the pre-school level, with more countries establishing regulatory frameworks as to how it can be addressed. For example, in Georgia, there is a strong effort to introduce changes in the pre-school education level promoting ESD, under which more than 400 kindergartens are provided with guidebooks and ESD-oriented trainings for educators. Similarly, in Slovenia, Finland, Iceland, Croatia, Hungary, Switzerland, Serbia, Russia and Greece, national implementation plans are extended to or particularly address pre-school education.

21. Challenges ensuring that policy, regulatory and operational frameworks support the promotion of ESD include aligning state targets with SDG implementation (Estonia, Iceland),

lack of evaluation systems to measure achieved outcomes (e.g. Finland, Belgium) or coordination of initiatives or sectors within the state (e.g. Slovakia).

B. Issue 2: Promoting SD through formal, non-formal and informal learning

22. Issue 2 referred to promoting SD through formal, non-formal and informal learning and was comprised by six indicators (2.1. to 2.6.). Specifically, indicator 2.1. referred to whether key themes of SD are addressed explicitly in the curriculum/programme of study at various levels of formal education, 2.2. referred to whether and how strategies to implement ESD are clearly identified, 2.3. referred to the whole institution approach, 2.4. referred to quality assessment systems, 2.5. referred to ESD methods/instruments for non-formal education aimed to assess changes in knowledge, attitude and practice and 2.6. referred to ESD implementation as a multi-stakeholder process.

23. Indicator 2.1. aimed to diagnose whether key themes of SD are addressed explicitly in the curriculum/programme of study at various levels of formal education. This was diagnosed through reports pertaining to SD themes in formal education (2.1.1.), learning outcomes (2.1.2.) and teaching and learning methods (2.1.3.). Twenty-nine (29) member States (90.62 percent) reported that key themes of SD are addressed explicitly in the curriculum/programme of study at various levels of formal education (2.1.1.). However, the way in which SD themes are defined depends on the context of each country and thus more emphasis could be placed on environmental (e.g. Slovakia, Serbia), social (e.g. Estonia, Turkey, Belarus), economic issues (e.g. Romania, Tajikistan) or to a mixture of the three (e.g. Belgium, Finland, Hungary, Latvia, Croatia, Switzerland, Cyprus, Greece, Kyrgyzstan, Russian Federation).

24. Member States provided a number of examples regarding how themes of SD are addressed, based on a variety of factors (e.g. environmental, social, economic), through curriculums/programs of study at the formal education level.

25. For example, Greece incorporates key themes of ESD in the curriculum and timetable of special education schools (primary, secondary). Special emphasis is placed on activities related to Cultural Diversity and cultural preservation, through a vast number of activities in the non-formal setting, making Culture in Greece both an enabler and a driver of the economic, social and environmental dimensions of sustainable development.

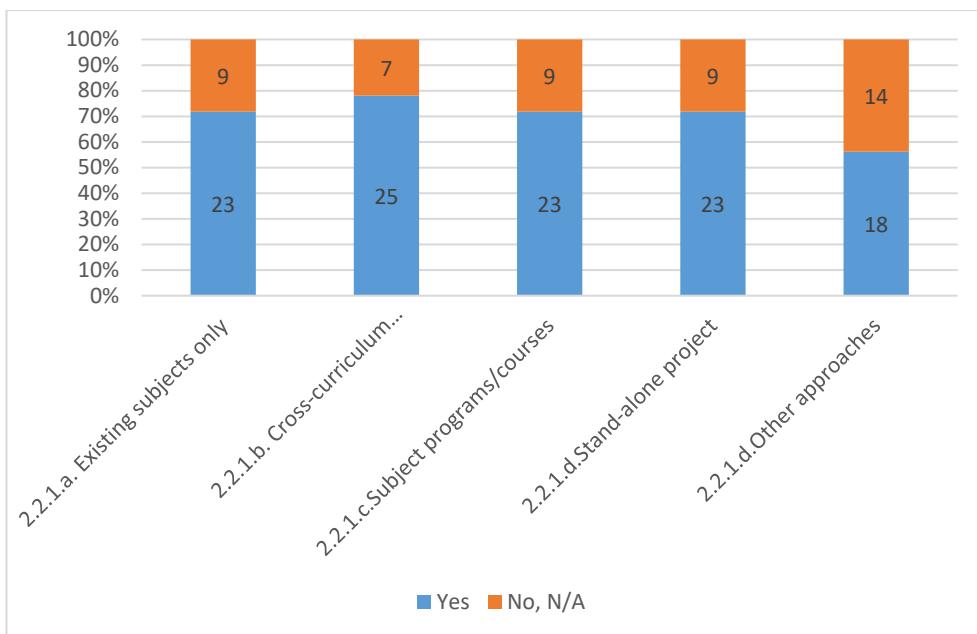
26. In relation to the current refugee crisis, several activities have been carried out by the Estonian Refugee Council, the Ethics Centre of Tartu University, and local NGOs. For example, the Ethics Centre has developed a migration and refugee-related edition to the students' game "Discoverers of Values", NGO Mondo has also created a students' game on the same topic. Both, Mondo and Ethical Links have created study material and organized teacher trainings and other events on different topics related to globalization, multiculturalism, religion etc.

27. In the Romanian VET system, Local Development Curriculum (LDC) is part of the curriculum adapted to local development needs. It is developed by the school in partnership with companies, taking into account the labor market trend and the local needs.

28. In Montenegro, the VET Centre developed 26 modularized curricula, out of which 10 have been implemented since academic year 2017/2018. All modules in Montenegrin curricula ensure the attainment of key competences, as well as the manner in which to develop certain key competences in specific modules. The curricula contain a range of modules through which the students are able to familiarize with SD.

29. Sub-indicator 2.1.2. examined whether learning outcomes (skills, attitudes and values) that support ESD are addressed explicitly in the curriculum/programme of study at various levels of formal education. Twenty-nine (29) member States (90.62 percent) responded positively. Some countries referred to thinking skills, problem solving and group work skills (e.g. Greece, Kyrgyzstan, Bulgaria, Estonia, Switzerland, Cyprus, Belarus, Russian Federation).

30. In Latvia and in Romania, learning outcomes are standardized. Specifically, in Latvia, there is an 8-level Latvian Qualifications Framework, established in 2012. The developed level descriptors, which address national education and occupational standards, as well as the European Qualification Framework level descriptors, are based on learning outcomes, and formal education qualifications are linked with these levels.
31. In the Swiss NIR there is a description of transversal competences referring to ESD, such as systems thinking, anticipatory, normative, strategic and interpersonal competences.
32. In Kyrgyzstan, The State Educational Standard of the Secondary General Education identifies three key competences: Information, social/communicative, and self-organization and problem solving.
33. In Bulgaria, acquiring competences for implementing SD principles is one of the main objectives of pre-school and school education set out in the Pre-school and School Education Act of 2015.
34. Sub-indicator 2.1.3. referred to whether teaching and learning methods that support ESD are addressed explicitly in the curriculum or programme of study at various levels of formal education. Twenty-four (24) member States (75 percent) responded positively. Member States referred to a variety of approaches implemented both at the formal and non-formal levels. For most countries, the choice of learning methods supporting ESD is usually up to the teacher.
35. For example, in Finland, schools, education institutions and teachers have autonomy regarding the learning methods they use.
36. In the Netherlands, under the ‘freedom of Education’ law, the national curriculum only describes the ‘WHAT’ (content) in highly global/abstract terminology. The “HOW” and “WHEN” is a responsibility of individual schools.
37. Some countries refer to specific teaching methods in the curricula, the majority of which promote learner-centered learning (e.g. Finland, the Netherlands, Hungary, Latvia, Romania, Estonia, Slovenia). Approaches of particular significance include excursions and outdoor learning (e.g. Bosnia- Herzegovina, Greece, Cyprus, Romania), learner-driven projects (problem solving, surveys, simulations, role playing, games, conceptual and perceptual mapping, ICT, case study, campaigning, etc. (e.g. Russian Federation, Malta, Croatia, Montenegro, Ireland, Slovakia).
38. Indicator 2.2. referred to whether strategies to implement ESD are clearly identified. Therefore, member States were required to provide information as to whether ESD is addressed through: (a) existing subjects only; (b) a cross-curriculum approach; (c) the provision of specific subject programs and courses; (d) a stand-alone project; or (e) other approaches. Figure 2 presents data pertaining to indicator 2.2.

**Figure 2.** Identified strategies to implement ESD

39. Specifically, as indicated in Figure 2, twenty-three (23) member States (71.87 percent) reported that ESD is addressed through existing subjects. Twenty-five (25) (78.12 percent) member States reported that ESD is addressed through a cross curriculum approach, twenty three (23) (71.87 percent) member States reported that ESD is addressed through subject programs or courses. In 23 member States (71.87 percent) ESD is implemented as a standalone project and 18 member States (56.25 percent) reported that other approaches are in use.

40. Whole institution approaches (WIAs) to ESD were reported in indicator 2.3. As pointed out in the outcomes of the last Evaluation Report (ECE/CEP/AC.13/2016/3), the WIA is “a highly effective means to instill the knowledge, skills and choices for learners to live and work sustainably” (p.9). Thus, WIAs have been acknowledged by the ECE Steering Committee by putting forward the adoption of ESD school plans as a priority action area for the third phase of the implementation of the Strategy. WIAs involve all stakeholders within the school and the community environment (e.g. the learners, the institution, the community) working collaboratively to embed sustainability in the curriculum, in the pedagogical approaches implemented, in the facilities and in the interactions with the community.

41. Data were collected regarding whether a WIA is adopted by institutions (2.3.1.), whether incentives that support a whole-institution approach to SD/ESD are in place, including the implementation of ESD school plans (2.3.2.) and whether institutions develop their own SD/ESD indicators (2.3.3.). A WIA is adopted by institutions at the majority of member States (20) (62.50 percent) in which there are incentives supporting it, including ESD School Plans (21 member States).

42. ESD school plans are adopted in a number of member States such as Austria, Finland, Cyprus, Hungary, Slovenia, Latvia, Romania, Belarus, and Azerbaijan and are used basically as means for school self-monitoring and assessment. However, the way in which ESD School Plans are viewed by governments varies. For example, in Cyprus, since 2011, Schools’ Sustainable-Environmental-Educational Policy (SEEP), based on WIA is a mandate by the Ministry of Education Culture, Sports and Youth in pre-primary and primary education.

43. In Austria there are legal regulations on school quality management in general whereas in countries such as the Netherlands or Switzerland, a more open-ended approach towards WIA is adopted. Specifically, in the Netherlands, as ESD is a voluntary task under the constitutional right of “freedom of education”, there are numerous good-practices in all levels of education on how ESD is implemented in the school system and organizations, reflecting the WIA.

44. As predicted in the 3rd Evaluation Report (ECE/CEP/AC.13/2016/3), it seems that more countries are placing emphasis on implementing WIA at the kindergarten level, such as Finland, where the Finnish National Agency for Education has required that all schools should draw up a SD plan. In Germany, Hungary, Ireland and Slovenia the Green Kindergarten Network has been established. A number of member States (e.g. Austria, Hungary, Estonia, Latvia, Romania, Switzerland), as also observed in the 3rd Evaluation Report (ECE/CEP/AC.13/2016/3) implement the WIA at the tertiary level through various actions undertaken. However, due to the autonomy of institutions at the tertiary level, member States report a lack of data in this field.

45. Incentives for promoting the WIA (2.3.2.) are varied. In most of the member States (e.g. Andorra, Austria, Finland, Greece, Hungary, Estonia, Italy, Slovenia, Malta, Cyprus, Netherlands, Belarus, Russian Federation) incentives for implementing WIA are mostly in the form of guidelines and support material, education material, guidance to enter ESD programs and recognition schemes. For example, in Slovenia, there are quality criteria for schools, which are divided into three sets, referring to the quality of the learning process, to the school policy/organization, and to school relations with the environment. Other forms of incentives include award schemes (e.g. Austria's Sustainability Award for Higher Education or various awards schemes offered in Germany). Finally, funding is another form of incentive reported to implement ESD-related WIA (e.g. Austria, Latvia, Romania, Croatia, and Montenegro).

46. Regarding institutions developing their own SD/ESD indicators, most member States report that this occurs on a voluntary basis. The number of member States in which institutions develop their own SD/ESD indicators is evidently low (17 member States, 53.12 percent).

47. Indicator 2.4 was aimed at diagnosing quality assessment systems for ESD. The importance of incorporating ESD in quality assessment for formal education has been acknowledged by the ECE Steering Committee and addressed in the previous reporting cycle (ECE/CEP/AC.13/2016/3, par.30), as a means to strengthen what is considered to be a quality education and ESD.

48. Specifically, under 2.4.1., 27 (twenty-seven) member States (84.37 percent) reported that education quality assessment/enhancement systems exist in their country, 20 of which explicitly address ESD. It is therefore evident that quality assessment/enhancement systems are generic in most countries and do not explicitly address ESD, as only 17 (seventeen) member States (53.12 percent) reported that education quality assessment/enhancement systems that address ESD exist in their national systems (e.g. Azerbaijan, Israel, Belarus, Tajikistan, Russian Federation, Andorra, Austria, Bulgaria, Belgium, Greece, Ireland, Hungary, Iceland, Malta, Romania, Slovakia).

49. Member states plan to reinforce a series of parameters in student assessment/examinations in the next five years, in relation to ESD, specifically Knowledge (27 member States, 84.37 percent), skills and competences (20 member States, 62.5 percent), values and attitudes (21 member States, 65.62 percent) and behaviors (17 member States, 53.12 percent). Therefore, in terms of student assessment, it seems that member States place more emphasis on knowledge and less on values, attitudes and behaviors.

50. Under 2.5., data was collected regarding whether ESD methods and instruments for non-formal and informal learning are in place to assess changes in knowledge, attitude and practice. The importance of non-formal and informal learning in ESD is a strand emphasized throughout the UNECE Strategy for ESD and reflected upon previous reporting cycles (ECE/CEP/AC.13/2016/3, par. 32). Thus, member States have long recognized the insufficiency of addressing ESD only through formal education and have emphasized non-formal and informal learning as a means to orient societies towards SD.

51. In the previous (3rd) Reporting Cycle (ECE/CEP/AC.13/2016/3, par. 35) the emergent need pointed out by member States was to establish mechanisms to track and evaluate non-formal and informal ESD initiatives, either at national or regional levels. The evaluation and monitoring of such efforts is a means to strengthen and improve them. Evidently, member States had since started to address this parameter as 15 member States (46.87 percent) report instruments to assess ESD outcomes as a result of non-formal and

informal learning. In the present Reporting Cycle, 25 (twenty-five) member States (78.12 percent) reported that SD issues addressed in informal and public awareness-raising activities, 24 (twenty-four) member States (75 percent) reported that there is support for work-based learning (e.g., for small companies e.g. Malta, Hungary, Greece, farmers e.g. Bosnia-Herzegovina, unions e.g. Kyrgyzstan, Croatia, associations/organizations e.g. Kyrgyzstan, Switzerland, employers e.g. Russian Federation) which addresses SD issues. Only 15 (fifteen) member States (46.87 percent) reported that instruments (e.g., research, surveys, etc.) are in place to assess the outcomes of ESD as a result of non-formal and informal learning (e.g. Russian Federation, Georgia, Croatia, Turkey, Slovenia, Malta, Latvia, Netherlands, Ireland, Iceland, Hungary, Greece, Estonia, Cyprus).

52. Multi-stakeholder cooperation has been an integral part in the promotion of ESD and strongly encouraged throughout the Strategy. Under sub-indicator 2.6., 28 (twenty-eight) member States (87.5 percent) reported that ESD implementation is a multi- stakeholder process.

53. Countries report a number of particularly successful actions and initiatives in the promotion of SD through formal, non-formal and informal education. For example, in Greece, the organization “Center of the Earth” was awarded as the best initiative worldwide for connecting people to nature by the International Union for Conservation of Nature. In Latvia, the World’s Largest Lesson was initiated, an international campaign supported by UNESCO, bringing together around 50 education institutions and 3000 children, young people and teachers.

54. Challenges in this issue refer to the use of specific pedagogies, such as transformative action oriented pedagogies, as pointed out in the Romanian NIR, along with opportunities to share examples of good practices. Specifically, Switzerland points out the need for learning strategies that allow transdisciplinary approaches as well as projects of active participation and suggests further exploration of synergies on ESD implementation both within the country as well as among member States.

55. In short, key themes addressed in education mostly refer to SD and learning outcomes and less to teaching and learning methods in ESD. Strategies to implement ESD are more clearly identified in existing subjects and as cross-curricular approaches for most countries and are less clearly identified as stand-alone projects or subject programs or courses. There is a lot to be done regarding the adoption of WIA by institutions. Incentives supporting it, including ESD school plans, are lacking from a number of countries, whereas in a number of countries institutions develop their own SD/ ESD indicators. For example in Belarus, the training program of preschool education, determines development indicators for each age group (e.g. junior and senior preschoolers) and, analogously, there are indicators for vocational, secondary, higher and tertiary education. In Finland, schools and other educational institutions can create indicators if they find it useful. Therefore, in higher education, many institutions have embedded ESD in their own internal strategies. The implementation varies from whole institution certification, to faculty and/or subject-wise systems. For example, the SD Certificate System offers a framework, which supports the staff and learners of the non-formal adult education institutions in forming indicators to suit their specific context, values, type of activities etc.

56. Although in most member States there are education quality assessment/ enhancement systems, in many member States these systems do not address ESD and in even more countries there are no education quality assessment/ enhancement systems addressing ESD at the national level. In terms of dimensions of learning that plan to put more emphasis in exams in the future, these mainly refer to skills/competences, less to knowledge, values and attitudes and even less to behaviors. Additionally, although member States seem to emphasize the role of non-formal and informal learning in promoting knowledge, attitudes and practices in ESD, there is a need to create instruments to assess ESD as a result of work in informal and non-formal settings.

C. Issue 3: Equip educators with competences to include SD in their teaching

57. Indicator 3.1 refers to the ways in which member States address the development of educators' competences to include SD in their teaching. Under this framework, two major areas were examined, referring firstly to educator training (3.1.) and to opportunities for educators to cooperate on ESD (3.2.). When referring to educator training (3.1.), parameters such as initial training (3.1.1.), in-service training (3.1.2.) and training of leaders/administrators (3.1.3.) were examined. Opportunities for educators to cooperate on ESD (3.2.) were examined through a diagnosis of whether networks/platforms of educators and/or leaders/administrators who are involved in ESD exist in member States (3.2.1.) and whether and in which ways governments support ESD networks and platforms (3.2.2.).

58. The role of the educator is central to ESD implementation and requires interventions at both the initial, pre-service stage as well as through in-service and continuous learning opportunities. The SC established the ECE Expert Group on Competences, to define more clearly the ESD competences for educators and policy recommendations for promoting those competences across the education system. The resulting Expert Group report, "Learning for the Future: Competences in ESD" (ECE/CEP/AC.13/2011/6) has served to guide a number of ECE member States as they seek to strengthen the competences of educators, and has had significant influence globally. Most member States report that ESD is now part of initial training (26 member States — 81 percent) and in-service training (28 member States- 87.5 percent), with twenty-two (22) member States (68 percent) also addressing ESD competences in training programs for education leaders and administrators.

59. ESD is widely part of educators' initial training (26 member States- 82.2 percent). Caution is required when attempting to interpret this finding as pre-service is mainly offered by tertiary level education institutions which have autonomy over their curricula. Therefore, information regarding how ESD competences are incorporated in educators' initial training are fragmented and further systematic analysis of such study programs is needed, as suggested by Slovenia. Interestingly, some member States have established regulatory or legislative changes including certification changes requiring ESD competences to be an integral part of initial teacher training (e.g. Greece, Austria, Hungary, Finland, Malta, Romania, Switzerland, Georgia, and Tajikistan). In some countries (e.g. Ireland, Slovakia, Slovenia, Bosnia, Russian Federation), ESD competences at the initial stages of teacher training are addressed but not explicitly referred to as ESD. For example, The Faculty of Education (University of Malta) is the main teacher training institution in the country. CEER (through the Faculty) offers mandatory and optional study units in ESD as part of the undergraduate MTL (Master in Teaching and Learning) for students to become early childhood, primary and secondary school teachers (Malta NIR).

60. Although addressing ESD competences at the initial stages of teacher training is reported to occur in percentages similar to Reporting Cycle III (ECE/CEP/AC.13/2016/3) it appears that there has been progress in ways in which ESD competences are explicitly addressed through initial teacher training. This has mainly been achieved through modifications in certification requirements in some member States, which have promoted coordination between university programs and requirements for teacher employment. This has also enforced in some member States (e.g. Finland, Germany), multi-professional collaboration to change initial teacher training regarding ESD competences and to connect initial and continuing teacher training programs in this sector.

61. Approaches to in-service training in ESD competences vary from country to country and are offered as part of teacher professional development education in twenty-eight (28) member States (87.5 percent). This high percentage should be interpreted with caution as in some of the member States ESD in-service training is offered on a voluntary basis, such as with the approach of Austria where a number of lectures, courses and seminars on SD and ESD topics are offered, among others, through summer academies, or through specific programs offered by local universities. Similarly, in Estonia relevant training courses are offered by the main education universities implementing holistic learning approaches. Despite their optional nature, such training courses have been attended by an impressively high number of in-service educators. For example, in Israel, the Ministries of Environmental

Protection and Education train more than 2700 teachers per year on how to incorporate ESD in their teaching.

62. In-service training in ESD is offered on a mandatory basis in several member States and through specific, accredited courses (e.g. Bulgaria, Romania, Slovenia, Montenegro, Cyprus, Belarus and Tajikistan). This is the first time such a finding is reported, which is an indication of the importance placed on developing in-service teachers' ESD competences.

63. Therefore, even if the percentage of countries in which ESD competences are addressed through in-service training is at a similar level with the previous reporting cycle (ECE/CEP/AC.13/2016/3), it seems that member States are emphasizing more this aspect of ESD Strategy implementation and are delivering such trainings in various forms. Teacher ESD competence training is offered through university courses, NGOs, synergies between various Ministries, in-service training providers, etc. Moreover, these trainings involve different approaches such as lectures, seminars, online modules, in-classroom teaching, as well as providing approaches to ESD teaching outside of the classroom setting.

64. As stated in the Irish NIR, competences addressed involve generating and passing on new knowledge and insights and promoting critical thinking, identifying values and the emotional dimensions associated with education for global citizenship and ESD, taking appropriate action consistent with a value stance that is congruent with an articulated sense of social justice and sustainable development goals, and promoting participatory and active teaching and learning methodologies to engage young people in ESD. Meanwhile, Georgia's NIR states that in-service training develops analytical, critical, creative thinking and collaboration; furthermore, it promotes student-centered teaching to develop 21st century thinking skills through interactive methods.

65. ESD competences in the training of education leaders and administrators has increased significantly as reported during Phase IV compared to reporting Phase III (ECE/CEP/AC.13/2016/3) from just above half member States offering such education opportunities in the period 2011-2015 to 22 (68.7 percent) in the period 2015-2018. This is indicative of the emphasis placed by member States in implementing the ESD Strategy. Through such courses, the organizational structure of ESD strategy implementation is communicated, facilitating its application in a top down manner. For example, in Cyprus and in Germany the concept of ESD is integrated in the basic training of new and established school principals. In other member States, relevant training of school leaders and policy makers is offered on a voluntary basis (e.g. Bulgaria, Hungary, Latvia, Malta).

66. Reporting on opportunities provided to educators to cooperate on ESD (3.2.) was based on two parameters, firstly on diagnosing whether networks and/or platforms of educators and/or leaders/ administrators in ESD exist (3.2.1.) and secondly on whether such networks are supported by local governments (3.2.2.).

67. Twenty-six (26) member States (81.2 percent) affirmed that networks/platforms of education leaders and/ or administrators are established in their country. Specifically, such networks exist in almost all (18 member States) EU and Western European countries, in almost all South and East European countries (4 member States) and in 4 member States located in Eastern Europe, the Caucasus and Central Asia. Especially for the South and East European region this finding is particularly important since before 2015 such synergies were reported to not exist.

68. Governmental support for ESD networks and platforms comes mainly in the form of coordination and/ or financing. Specifically, 22 (68.7 percent) member States reported that such support exists for specific initiatives. Fifteen (15) member States of the EU and West European countries, 5 countries of the Caucasus and Central Asia Region and 2 member States from South and East Europe. This is indicative of the fact that countries of South and East Europe are in need of developing governmental structures to support ESD Strategy implementation especially in equipping educators with ESD competences either in terms of guiding and/or coordinating such efforts or in terms of funding.

69. Challenges in equipping educators with ESD competences refer to the fact that training opportunities are offered on a voluntary basis (e.g. Iceland, Netherlands). Although the number of courses is on the increase, the challenge is to attract teachers to attend (e.g.

Latvia, Malta). Funding and time constraints are also of significance. Another challenge is that ESD is only referred to implicitly in many courses. It needs to be a more “visible” topic (e.g. Slovenia). The Structure of Education Systems provide for different policies within each country (e.g. Switzerland). Finally, a challenge indicated by Cyprus is to provide adequate training for school inspectors on ESD integration, enabling them to better monitor it at the school unit.

D. Issue 4: Tools and materials for ESD

70. Issue 4 was aimed at diagnosing the status quo in member States regarding aspects related to tools and materials for ESD, particularly production (4.1.), quality control (4.2.) and accessibility (4.3.). Similarly to Phase III report (ECE/CEP/AC.13/2016/3) a variety of tools and materials were described by member States, such as student textbooks, curriculum and learning outcomes guidance materials, training materials etc., reflecting the importance placed by the UNECE Strategy on the availability and quality of teaching tools across the region. Although progress has been achieved since the last report, National Strategies in several member States seem to not have provisions for support of development/production of tools and materials for ESD. Specifically, only 21 member States (65.6 percent) reported that there are national initiatives to encourage the development and production of ESD tools and materials, whereas in 23 (71.8 percent) countries public money is invested in this sector.

71. Quality control mechanisms for tools and materials vary widely across countries. However, although ESD tools and materials are widely produced, a lot still needs to be done in terms of establishing quality control criteria. Specifically, 17 member States (53.1 percent) reported that they have quality criteria and/or control guidelines for ESD-related teaching tools and materials that are supported by public authorities, in 15 member States (46.8 percent) quality criteria and/or guidelines are approved by public authorities and in 13 member States (40.6 percent) these criteria and/or guidelines are tested and recommended for selection by educational institutions (4.2.1.).

72. ESD teaching tools/materials are available in the national languages in 26 member States (81.2 percent) and in 22 member States (68.7 percent) they are available for all levels of education (4.2.2.).

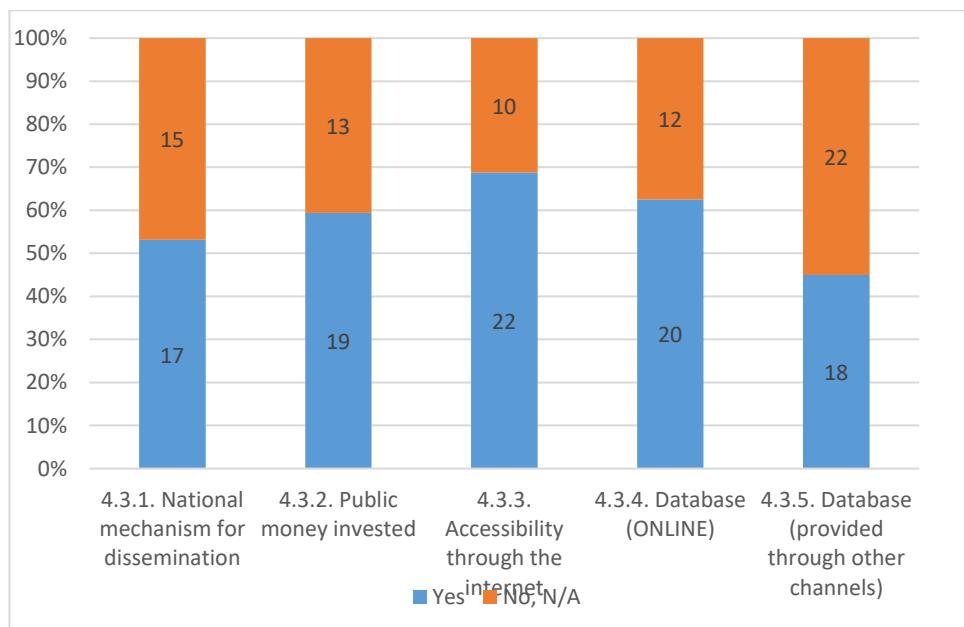


Figure 3. Dissemination and accessibility of teaching tools and materials for ESD

73. Specifically, as indicated in Figure 3 above, seventeen (17) member States (53.1 percent) reported that there is a national mechanism for dissemination (4.3.1.), whereas in 19 member States (59.3 percent) public money invested for making materials and tools available (4.3.2.). In 22 (68.7 percent) member States ESD-related tools and materials are available

online (4.3.3.). Databases of ESD-related tools and materials in national languages are available online in 20 member States (62.5 percent) and in 18 member States (56.2 percent) databases are provided through other channels (4.3.4.).

74. Indicatively, as stated in the German NIR, one key avenue for the dissemination of ESD materials is the major internet portal on ESD funded by the Federal Ministry of Education and Research. Other ministries at Federal and State level run additional activities, such as the “Portal Global Learning” funded by the Federal Ministry for Economic Cooperation and Development. In Greece, dissemination is performed mainly through the funding of environmental education centers, through online educational programs and through special educational kits distributed to school units. In Finland, the government does not “approve” the teaching materials, there is no inspection system in Finland. Teachers are fully involved in textbook production.

75. Challenges refer to the need for the establishment of assessment of programs and materials (identifying learning outcomes and possible mechanisms) as well as an evaluation mechanism of material for all levels of education (Hungary, Netherlands, Slovenia). Additionally, there is an issue of not only disseminating material but also of training educators on how to use it (Montenegro, Cyprus). Another challenge identified is that in the future, the formal system of education should be connected to the informal system and the NGO system more than it is now, since the production of the latter two in the field of the ESD is strong, often very innovative and of high quality (Slovenia).

E. Issue 5: Research and development of ESD

76. Issue 5 was aimed at diagnosing ESD Strategy implementation in terms of Research and Development. Specifically, the issue was divided in three indicators, namely promotion of research on ESD (5.1.), development of ESD in terms of innovation and capacity building (5.2.) and in terms of dissemination of research results (5.3.).

77. The promotion or research on ESD (indicator 5.1.), was examined through four aspects, specifically research on contents and methods of ESD (5.1.1.), on evaluation of Strategy implementation outcomes (5.1.2.), post-graduate programs (5.1.3.) and scholarships (5.1.3.). Implementation of research on contents and method of ESD has been reported in 17 member States (53.1 percent). Research on evaluation of Strategy implementation outcomes was reported by 7 member States (21.8 percent). Therefore, there is an evident lack of evaluation systems on Strategy implementation outcomes.

78. Post graduate programs on ESD at the Masters level are offered in 20 member States (62.5 percent), whereas post graduate programs on ESD at the PhD level are offered in 15 (46.8 percent) member States. Post graduate programs addressing ESD are offered in 22 (68.7 percent) member States whereas at the PhD level, such programs are reported by 17 (53.1 percent) member States. Interestingly, in Reporting Phase III (ECE/CEP/AC.13/2016/3) it was pointed out that advancing research in ESD at the tertiary level faced challenges related to the nature of ESD itself, such as, firstly, its interdisciplinary nature which comes in contrast with evaluation panels at the grant agencies requiring researchers to submit disciplinary-oriented projects and, secondly, the fact that ESD is a multi-stakeholder endeavor often with NGOs in lead roles, but lacking academic credentials and channels to access research granting agencies. In Reporting Phase IV, these challenges are addressed through the creation of programs which are need-based, such as the cases of Romania, Ireland and Tajikistan, where such programs are focused more on vocational education.

79. Scholarships for students attending Masters Programs are offered in 9 member States (28.1 percent), whereas for the PhD level the number is increased to 11 (34.3 percent) member States. Evidently, member States offering scholarships for programs in- or addressing- ESD are limited. member States widely recognize the need for more research on ESD, especially addressing monitoring, assessment and evaluation of ESD actions and learning outcomes. An indicative example of government support in ESD research and development is that of Serbia, where the Ministry of Education, Science and Technological Development supported the project SEEDLING-Meeting the new Millennium: Presenting the UN SDGs in Schools in Southeast Europe. Its publication “ESD- Knowledge, attitudes

and habits of pupils at the end of Secondary Education" (2017) provides an insight into the ESD themes in Serbia.

80. Evidently, the weakest part in terms of promotion of R&D in ESD is the evaluation of Strategy outcomes. A number of countries report weaknesses in available scholarships on- and addressing ESD, especially at the Master's level. The limited funding provided for scholarships in ESD-related fields prevents young specialists from engaging with research on a full-time basis and probably is an obstacle from promoting ESD-related research.

81. Research on ESD is mostly focused on the methods and contents of ESD. Especially in countries of East Europe and the Caucasus, scholarships in ESD-related fields are scarce, however it is reported that in some countries (e.g. Belarus, Georgia, Tajikistan), state budget funding for scholarships for SD-related issues is increasing with particular reference to ESD. For example, in Belarus, where there was a national competition for scholarships of the President of the Republic for talented young researchers.

82. Development of ESD (indicator 5.2.) was examined through innovation and capacity building (5.2.1.). Many governmental Departments responsible for ESD acknowledge the importance of Development of ESD through research and recognize the need to connect research to ESD policy and practice. 20 member States (62.5 percent) reported actions taken in this direction.

83. Emerging networks or researchers are gaining attention. Such an example is the support program "U-Change" (2017-2020) implemented in Switzerland, which fosters initiatives and projects for SD. A series of student projects are allocated in two categories, namely student development and action-based projects (14 projects) and web-based support platforms for student projects (7 projects).

84. In Georgia the number of joint educational programs with participation from Georgian Universities has increased. Since 2015, San Diego State University has been offering Bachelors of Science in collaboration with three universities in Georgia, enabling Georgian students to receive a high quality STEM education along with internationally accredited degrees.

85. In other instances, ESD innovation and capacity building is adjusted to the needs and specificities of the area, such as in Croatia where there are programs aimed to improve the knowledge and competences of travel agents in order to ensure the successful implementation of CSR in their day-to-day business practices.

86. Dissemination of research results (indicator 5.3) was examined through two parameters, specifically public authority support (5.3.1.) and scientific publications (5.3.2.). The need to share good practices in ESD among authorities and stakeholders has been pointed out in Reporting Phase III through addressing specific aspects of dissemination, which were materialized during the present reporting cycle. Specifically, public authority support for dissemination of research results was reported by 16 member States (50 percent). Similarly, scientific publications on ESD were reported by 16 member States (50 percent) and publications addressing ESD were reported by 17 member States (53.1 percent).

87. As indicated in the Latvian NIR, one of the major challenges is introducing Research and Innovation policy as a horizontal activity in other national sectoral policies such as energy, transport, agriculture, forestry, etc. to reach a broader understanding of the added value of research as well as to attract more public and private funding for developing research capacity. Another challenge is to bridge theoretical and academic knowledge with practice and to make theoretical knowledge more accessible and understandable for the broader implementation of ESD concepts in education (Latvia NIR). Finally, a gap between policies and utilization of research outcomes to improve practice has been identified by both Malta and Cyprus.

F. Issue 6: Strengthening of cooperation on ESD at ECE region

88. Issue 6 referred to strengthening cooperation on ESD at the ECE region. Therefore, the Issue was diagnosed through four parameters pertaining to international cooperation,

namely public authority support for international networks on ESD (6.1.1.), education institutions' participation in international networks (6.1.2.), cooperation mechanisms with ESD components (6.1.3.) and government actions promoting ESD forums outside the ECE region (6.1.4.). Across the ECE region, the ECE ESD secretariat has played a central role in promoting ESD among member States and maintaining the focus on the Strategy over the original 10-year implementation period. The Steering Committee on ESD has kept member States engaged and accountable; has championed research into key issues, such as ESD indicators and teacher competences; has provided essential guidance to member States in the implementation of the three phase IV priority areas; and has fostered the sharing of information among member States (ECE/CEP/AC.13/2-16/3/para.49).

89. Public authority support was reported to exist in 22 member States (68.7 percent). Specific mechanisms were described for organization and support of international networks by public authorities such as established quality assurance mechanisms with funding provided by Ministries such as the Ministry of Foreign Affairs in Finland. International cooperation actions reported include UNESCO ASP (Malta, Germany, Andorra, and Latvia), Global Education Network Europe (GENE) (Slovakia, Germany, and Slovenia), ENSI (Austria, Croatia).

90. In Bosnia- Herzegovina, the ADRION Transnational Programme is described as an indicative example. By bringing together eight Partner States (Albania, Bosnia and Herzegovina, Croatia, Greece, Italy, Montenegro, Serbia and Slovenia), ADRION aims to act as a policy driver and governance innovator for the benefit of more than 70 million people in the Adriatic and Ionian region using rich cultural and natural heritage, environmental resilience, sustainable transport and mobility as well as capacity building which contributes to ESD goals. Danube Transnational Programme 2014-2020 Projects and activities aim to promote an interactive and responsible region, environmental protection and cultural heritage, as well as better connectivity and energy efficiency.

91. Education institutions' participation in international networks was reported in 24 member States (75 percent). member States mostly referred to NGO and university networks. International cooperation is highly promoted through university partnerships. Higher education networks are helping to advance ESD within the higher education sector in the region, with common objectives to mainstream environment and sustainability practices into curricula and learning, and to undertake sustainable development research (ECE/CEP/AC.13/2-16/3/para.53).

92. Cooperation mechanisms with an ESD component were referred to by 18 (56.2 percent) member States. Evidently, there is a lack of data in the field for some of the reporting countries. Indicative examples are bilateral agreements between Greece and other countries and the Pestalozzi program (referred to by Croatia and Bosnia-Herzegovina). The Swiss Academy for Development and Cooperation (SDC) has co-funded the project "Education for Sustainable Development" (2013- 2018) in a bilateral agreement with the government of Mongolia. In Kyrgyzstan several organizations and initiatives establish cooperation mechanisms with an ESD component such as CA WG ESD, CAREC, CAI, IACSD, EECCA and IBE. There are also Bilateral Agreements amongst Countries. Cyprus reported ESD bilateral cooperation between Greece, Austria, Italy, Georgia for promoting training and exchange of good practices, personnel and expertise on ESD.

93. Government actions promoting ESD forums outside the ECE region were reported by 20 member States (62.5 percent), with some countries again reporting the lack of data on this issue. However, there was extensive reference by member States to the work of UNESCO (e.g. Finland, Germany, Switzerland, Belarus, and the Russian Federation) and Education 2030 Agenda. Additionally, member States made reference to the Mediterranean Action Plan on ESD (e.g. Cyprus, Greece).

94. In general, as also pointed out in the last report cycle member States call for an increase of networking opportunities and the sharing of knowledge across the ECE region as an opportunity to advance Issue 6. Many member States suggest that there is a need for strengthening regional and international connections further, through the provision of more opportunities to meet and related financing. Such networking opportunities would help to

increase access to knowledge and the sharing of experience (ECE/CEP/AC.13/2016/3, para.55).

G. Issue 7: Fostering conservation, use and promotion of knowledge of indigenous people, as well as local and traditional knowledge in ESD

95. Issue 7 referred to fostering cooperation, use and promotion of knowledge of indigenous people, as well as local and traditional knowledge in ESD. Reference to this issue was made by 18 member States (56.2 percent).

96. It seems that knowledge of indigenous people and traditional knowledge on ESD is viewed in a holistic way and extends to indigenous languages, traditional lifestyles, folk art, dancing and nature. Particular emphasis is placed on recognizing indigenous components across the curriculum. Addressing the issue of fostering cooperation, use and promotion of knowledge of indigenous people was particularly of high importance to countries of Eastern Europe, the Caucasus and Central Asia, where 4 out of 6 reporting member States (66.6%) referred to actions taken in this field.

97. For example, in Belarus, there is a State policy in the field of education based on both national and cultural education principles endorsing and environment where education is acquired with a due consideration for national tradition.

98. The Kyrgyz Republic conducts the World Nomad Games since 2014, every two years. The basis of the competition is the folk games of the historically nomadic people of Central Asia.

99. In the Russian Federation, in order to create the appropriate conditions for the preservation and study of the native languages of people in the Russian Federation, which comprise the national wealth and the historical and cultural heritage of the Russian State, the Fund for the Preservation and Study of the Native Languages of the People of the Russian Federation was created in 2018 under a Decree of the President of the Russian Federation.

100. In Hungary, ESD programs build on integrating the traditional knowledge of indigenous people (e.g. an ethnobotany program also involving intergenerational learning of plant use), whereas in Finland, the ministry of the Environment has set a working group to promote the implementation of the article 8j of the United Nation Convention on Biological Diversity (CBD) that handles the conservation, use and promotion of knowledge of indigenous people related to biodiversity.

H. Issue 8: Challenges and obstacles encountered in the implementation of the Strategy

101. The main challenges and obstacles encountered in the implementation of the Strategy reported refer to the coordination between stakeholders in the field of ESD (Montenegro, the Netherlands, Slovenia), the lack or insufficiency of evaluation mechanisms (Montenegro, Hungary), funding (Slovakia, Switzerland, Latvia, Kyrgyzstan, Montenegro), and deficits in expertise, counselling, exchange of good practices and personnel (Kyrgyzstan, Latvia, Slovakia).

102. Lack of research outcomes on ESD Strategy implementation has been also pointed out (Switzerland, Hungary). As reported in the Swiss NIR, based on this lack of outcome analysis, the legitimization or added value of applying ESD approaches in schools and educational institutions remains vague and experimental, whereas evidence-based links between ESD-implementation on different educational levels and changing attitudes and behavior related to ESD after compulsory education can hardly be found, which additionally challenges the broad implementation of ESD.

103. The Netherlands pointed out as major challenges firstly the lack of coordination and overview of small initiatives and secondly the description of social criteria that need to be incorporated in lessons and project plans.

104. Tajikistan documents low coverage at the early childhood level especially in terms of infrastructure and human resources.

105. Through the analysis of the reports, it is evident that countries recognize the role of leadership and political will as critical factors contributing to advancing ESD and the Strategy implementation. As was also reported during reporting Phase III (ECE/CEP/AC.13/2016/3/para.83) sustaining long-term leadership and political will on ESD going forward is one of the foremost challenges facing ECE member States. This also refers to the need for economic and finance departments to recognize the importance of investing in ESD.

I. Issue 9: Future implementation of ESD

106. Issue 9, an open-ended item, offered suggestions regarding future implementation or the Strategy. 10 member States (31.2 percent) reported on this item. Main parameters of assistance required included capacity building for government institutions (Georgia), and mobilizing financial and human resources in ESD initiatives (Georgia, Kyrgyzstan, Latvia, Malta, Slovakia). Furthermore, quality monitoring of ESD implementation has been suggested, especially to ensure the full commitment of education institutions and to further promote ESD action plans in schools (Malta) with particular reference to VET (Malta, Switzerland). Future implementation of ESD could be also be promoted through the dissemination of experience and materials, enforcement of synergies and exchange of good practices, but also through the strengthening or internal cooperation (Latvia, Belarus).

107. For example, in Kyrgyzstan, to promote ESD more effectively, as well as to achieve SD goals, it is necessary to apply new approaches at the global and regional levels (UN and UNECE), as well as to implement target financing of the ESD initiatives and activities.

108. In Cyprus, a proposal to the Council of Ministers is in progress, to approve the update of the National ESD Strategy until 2030. Although the priorities at this stage have not been set, the recommendations set by UNECE SC on ESD, the UNESCO post-GAP ESD position paper, the SDGs Agenda, ESD Med Action Plan and the Regional and National Challenges will be taken into account.

109. In Malta, although ESD is gaining momentum, other priorities result in ESD having to compete for scarce human and financial resources. The primary challenge in the implementation of the Strategy in the future, lies in the setting up of the NCESD that will provide the adequate coordination infrastructure needed to support and develop the multiple efforts currently undertaken at a national level in the various sectors. The target of full commitment by schools/educational institutions necessitates further development.

110. Currently SD/ESD outcomes are still sporadic. In Slovakia assistance with the dissemination of best practices in ESD worldwide is needed, in order to showcase them and have them serve as an inspiration for educators and managers of education. A dissemination of educational materials would also be of great help (books, portals, videos that could be translated, for example). One of the biggest obstacles in Strategy implementation in Slovakia remains the establishment and long-term maintenance of a multi-stakeholder group, a cooperating body that would serve more than just a formal role. Slovakia would appreciate opportunities to learn from the models of other countries on this matter.

III. Conclusions

111. The present report aims to give an overview of the ESD Strategy implementation in the countries of the ECE Region. This fourth evaluation cycle report, as mentioned in the introduction, was based on the analysis of the 32 national reports submitted by the MS. It is worth mentioning that the quality of the reports submitted was generally high as, apart from quantitative data, countries also provided a number of qualitative data such as examples and explanations. Also, despite the slight decrease in the MS that submitted national reports (32 compared to 35 in the third evaluation phase), it is important to mention that 6 countries, the majority of which come from the EECCA region, that had not participated in the 3rd phase

of the evaluation, submitted a report, which might be an indication of the increased attention placed on ESD by the countries of the EE/ECCA regions. Compared to the previous reporting cycles, there seems to be an increase in political commitment to assure successful implementation of ESD. Policy, regulatory and operational frameworks promoting ESD are present in the majority of member States. This is demonstrated mainly through the appointment of national focal points in most countries and in the availability of the Strategy in national languages. A significant number of member States promote policy-oriented synergies at the national level, establish coordinating bodies for ESD implementation and have national implementation plans in place. Further effort needs to be invested in coordinating policies promoting ESD in member States and in facilitating implementation of the relevant policies through national plans.

112. Operational frameworks promoting ESD in MSs come in various forms, such as national curriculum standards, legislation documents etc., mainly addressing school education. However, a lack of information was reported for higher education due to the institutions' high degree of autonomy. ESD-related policies are not always under the umbrella of SD policies and are often encountered as stand-alone policies in member States. One of the major challenges reported was to coordinate various policies at the national level. National plans are generally in place but further effort is needed in facilitating their implementation.

113. Interestingly, a number of member States correlate national policy documents to the SDGs which has not been reported in previous reporting cycles. Regulatory and operational frameworks for ESD implementation refer mostly to national policy documents, present in almost all reporting countries, national curricula, standards and requirements.

114. In formal education, key ESD themes are explicitly addressed in national curricula in all levels of education in most MS. However, the emphasis placed on their environmental, social and economic aspects varies and depends on the local context. Formal education curricula place more emphasis on learning outcomes (skills, values, attitudes) compared to teaching and learning methods that support ESD, which are generally learner-centered. ESD is addressed equally through a cross-curricular approach, as a stand-alone project or through specific subject programs.

115. WIA is gaining attention, with more countries adopting ESD school plans compared to the previous reporting cycles. School plans are highly regarded as a means for school self-monitoring and assessment. WIA is more widely incorporated at the pre-school level in the current reporting cycle. member States offer different forms of incentives for implementing WIA such as guidelines, support and education material, and funding. Guidance is needed on how WIA could be implemented in institutions in a valid and well-structured way as institutions generally prefer to use already established SD/ESD indicators rather than to develop their own.

116. Quality assessment/ enhancement systems are generally in place in most member States, however these are often generic and do not explicitly address ESD. Nevertheless, in the next 5 years, most member States plan to reinforce student assessment in relation to ESD, mostly addressing knowledge, less addressing skills and competences and even less addressing behaviors.

117. Member states emphasize the importance of non-formal and informal learning in ESD. Evaluation and monitoring initiatives in the non-formal and informal levels are starting to gain attention.

118. Developing educators' competences to include ESD in their teaching is mainly addressed through pre- and in-service training for teachers. Training programs for education leaders/administrators are offered in more than half of the reporting countries, a significant increase since the last reporting cycle.

119. Further systematic analysis is recommended regarding the content of pre-service training programs as information coming from higher education institutions is often fragmented or insufficient. However, there seems to be some progress in ways in which ESD competences are explicitly addressed in the initial stages of teacher training as there have been modifications in teacher certification requirements in some member States after the last

reporting cycle. Caution is required on how ESD competences are addressed during in-service teacher training. In most countries participation in such programs is voluntary, however, for the first time, it seems that in some member States practicing teachers are required to attend courses/programs on a mandatory basis, showing the need acknowledged by member States to reorient their in-service training to ESD competence-based courses.

120. Tools and materials are widely produced in member States, however there is a lack of governmental support to encourage this process. Additionally, even if some member States indicate that they have some forms of types of quality criteria, the majority of the member States point out the lack of control criteria as well as accessibility tools.

121. Research on ESD conducted in member States is mostly focused on the content and methods of ESD and less on evaluation of Strategy implementation outcomes. For the first time research programs oriented towards the needs at the national context are implemented in some member States. One of the main challenges reported is to introduce research policies horizontally within state sectors/departments. Also, there is currently a gap between theory and practice.

122. There is an emergent need for strengthening regional and international cooperation on ESD further, by providing networking opportunities and by fostering cooperation mechanisms both within and among member States.

123. Knowledge of the specific historical, linguistic and cultural characteristics of indigenous populations are viewed holistically across member States' curriculums, extending to indigenous languages, traditional lifestyles, folk art, dancing and nature.

124. Member states report that main challenges in strengthening the implementation of the Strategy include coordination between stakeholders in the field of ESD, lack or insufficiency of evaluation mechanisms, funding and expertise and suggest the promotion of mentoring, practices and personnel on ESD.

125. Parameters of assistance required include capacity building for government institutions, mobilizing financial and human resources, research to document outcomes of Strategy implementation, dissemination of experience and materials, synergies and exchange of good practices.

126. In general, countries recognize the role of leadership and political will as crucial factors advancing ESD and promoting Strategy implementation. Major challenges and obstacles in implementing the Strategy refer to coordination between stakeholders, lack of evaluation mechanisms and quality control criteria and deficits in expertise, mentoring and exchange of good practices.

IV. Main Recommendations

127. This section of the report includes main recommendations based on the analysis of the data obtained through NIRs. The list of recommendations is by no means exhaustive. Main recommendations are presented in priority order per issue and are grouped in five main categories, namely policy, regulatory and operational frameworks to support the promotion of ESD, promotion of ESD through formal, informal and nonformal learning, educators' competences, tools and materials for ESD and research and development.

Policy, regulatory and operational frameworks to support the promotion of ESD

128. At the level of policy, regulatory and operational frameworks supporting the promotion of ESD, the most important recommendation is to invest more effort in establishing coordinating policies within countries for promoting ESD. For example, horizontal structures responsible for implementing ESD in an organized, systematic way among different departments of the public, private and voluntary sectors could prevent fragmentation or overlapping of policies regarding ESD at the national level.

129. Secondly, there could be national mechanisms established for monitoring progress achieved regarding policies implemented or to measure outcomes. More specifically, the need to shed light on how ESD is implemented in higher education has been pointed out by a number of member States.

130. In the near future, it is evident that countries plan to reinforce student assessment focusing more on knowledge, skills and competences and less on values and attitudes. Therefore, a third recommendation is that quality assessment systems need to be further evolved so as to explicitly address ESD. Furthermore, more emphasis should be placed on assessing how values and attitudes are affected by the implementation of the Strategy in the future so as to not only focus attention on cognitive outcomes of ESD Strategy implementation but also on affective outcomes that possibly have an effect on learners' beliefs on ESD related issues. If a dramatic change of mindset is targeted for students and future citizens regarding SD issues, more emphasis should be placed on forming their values and attitudes, as currently the emphasis is placed more on developing their knowledge, skills and competences.

131. Although non-formal and informal education are gaining attention in ESD, as also predicted in previous evaluation cycles, there is an emergent need to establish mechanisms to monitor and assess non-formal and informal initiatives.

132. Standardization of learning outcomes pursued is needed, especially addressing attitudes and values. There is also an emergent need to address attitudes and values on SD issues more explicitly through formal education.

133. Quality criteria could be created for WIA, addressing various parameters of ESD implementation such as learning outcomes, school policy, the learning process, collaboration with local stakeholders etc. Alternatively, stakeholders involved in education institutions could be trained to plan and implement WIA so that they can create better suited WIAs to fit their organization's needs and particularities.

Educators' competences to address ESD

134. ESD is incorporated in teachers' initial training, however, further research is required on the content of programs offered at the tertiary level. Teachers' competence development is further enforced by legislative changes regarding teacher certification and in some countries ESD is required to be part of teacher training. There is also an emergent need to enforce government support to create synergies addressing leaders and administrators, equipping them with competences to facilitate ESD implementation, enabling them to better monitor it at school level.

Tools and materials

135. Regarding tools and materials for ESD, there is a need to establish universal quality control mechanisms across countries and to coordinate evaluation mechanisms across member States. Also, there is a need to further train educators to use these materials.

Research and Development

136. More research should be conducted on the evaluation of Strategy outcomes and more funding allocated on both research as well as for dissemination of good practices. Towards this direction, member States point out the need for increased networking opportunities and sharing of knowledge across the ECE region.