

*Project “Applying the G20 Training Strategy:
A Partnership of the ILO and the Russian Federation” (2nd Phase)*

**ALIGNMENT OF STRATEGIC OBJECTIVES AND PERFORMANCE INDICATORS FOR SKILLS DEVELOPMENT TO THE INTERNATIONAL HRD POLICY RECOMMENDATIONS AND EXPERIENCE
(Stock-taking technical report)**

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Responsibility for the content and views expressed in the Report are those of the author and do not necessarily reflect the official opinion of the ILO

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ABBREVIATIONS

AQTF	Australian Quality Training Framework
CEDEFOP	European Centre for the Development of Vocational Training
EU	European Union
EQARF	European Framework for Quality Assurance in Education and Training
ETF	European Training Foundation
G20	An international forum for the governments and central bank governors from 20 most industrially developed nations founded in 1999
HE	Higher Education
HRD	Human resources development
ILO	International Labour Organization
LICs	Low-income countries
OECD	The Organisation for Economic Co-operation and Development
SDG	Sustainable Development Goals
SD	Skills development
STEP	Skills toward Employment and Productivity. Skills measurement survey by the World Bank
UNESCO	United Nations Educational, Scientific and Cultural Organization
VET	Vocational education and training
WAP	Working age population
WISE	World Indicators of Skills for Employment database by OECD

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1. Scope of the Report

This Report is produced within the “Output 1.1. National skills development policies and strategies and related performance indicators in countries-beneficiaries reviewed and aligned with requirements of G20 Training Strategy, international HRD policy instruments, and the UN 2030 Sustainable Development Goals” of the ILO-executed project “Applying the G20 Training Strategy (2nd Phase)”. Education, training and life-long learning is one of the fundamental instruments of personal development, social inclusion, attaining full employment and decent work, and sustaining enterprises and economic growth.¹ It aims to provide people with the competencies they need for life as well as for successful entering the workforce and progressing in their work careers. Vocational education and training (VET) is a structured learning involving the study of technologies and related sciences, and the acquisition of practical knowledge, skills and capabilities to apply those in defined contexts in line with workplace requirements. In this Report, the terms “skills development” and “vocational education and training” (VET) will be used interchangeably.

The ILO constituents provide support to “promoting employment by creating a sustainable institutional and economic environment in which individuals can develop and update the necessary capacities and skills to be productively occupied.”² The ILO also stands for “equality of opportunity and treatment” regarding employment and occupation³, “increasing equal access and opportunities for skills development and education”⁴.

Governments and the social partners are expected to formulate their national VET policies to provide guidance for targeted, coordinated, and planned development of skilled workforce. The long-term development of skilled workforce is to be implemented towards national strategic objectives (covering economic development, employment promotion and human resources development) through national strategic plans. The results of skills development are to be monitored on the basis of certain performance indicators.⁵

The G20 leaders included human resource development (HRD) as one of nine pillars in the Group’s Multi-Year Action Plan on Development adopted at its Seoul Summit in November 2010. For the HRD pillar, the G20 Action Plan envisages two actions: (1) create internationally comparable skills indicators; and (2) enhance national employable skills strategies.⁶

This Report aims to:

- Identify the requirements to skills development policies and related performance indicators of the international HRD policy instruments such as the ILO HRD Recommendation 195 (2004) and other ILO relevant instruments, the Recommendation Concerning Technical and Vocational Education and Training, UNESCO (2015), the UN Sustainable Development Goals (SDG), the G20 Training Strategy and other relevant policy documents (the international policy requirements for skills development are summarised in **Table 10**);

¹ Recommendation concerning human resources development: Education, training and lifelong learning (No. 195), ILO. 2004

² ILO Declaration on Social Justice for a Fair Globalization. ILC, 2008

³ C111 Discrimination (Employment and Occupation) Convention, 1958; ILO Employment Policy Convention and Recommendation (C122), 1964. Since the requirement of equality of opportunity makes sense only for skilled occupations, the ILO Convention C111 also supports equality of access to occupational training.

⁴ Recovering from the crisis: A Global Jobs Pact. ILO, 2009

⁵ Key elements of evaluation process may include: feedback from employers and trainees on performance of training institutions and outcomes of training, etc. (A Skilled Workforce for Strong, Sustainable and Balanced Growth: A G20 Training Strategy, International Labour Office, Geneva. ILO, 2010).

⁶ It builds upon the work of the Inter-Agency Group on Technical and Vocational Education and Training (IAG-VET) which has established guidelines for the development of indicators for VET.

- Review indicators for measuring “skills for employment” designed by the international agencies (OECD, The World Bank, ILO, UNESCO, CEDEFOP, etc.) to assess their applicability to strategic planning and monitoring of skills development;
- Analyse the experience of selected G20 countries of strategic planning of skills development including their strategic objectives and related performance indicators;
- Review skills development objectives and related indicators applied in CIS countries- beneficiaries of the G20 project (Armenia, Kyrgyzstan, Russian Federation and Tajikistan);
- Produce a summary of the international HRD policy benchmarks vis-à-vis major strategic objectives and performance indicators as a basis for improving planning and measuring of progress in skills training in the countries beneficiaries of G20 Project.

This Report has reviewed the following indicators proposed by the international agencies for skills development and employment and their applicability to strategic planning of skills development:

- World Indicators of Skills for Employment (WISE) database (OECD, the World Bank in collaboration with ETF, ILO and UNESCO)⁷;
- Skills for jobs indicators (OECD)⁸;
- Torino process indicators (European Training Foundation)⁹;
- European Framework for Quality Assurance in Education and Training (EU)¹⁰;
- STEP Skills measurement approach (the World Bank)¹¹.

The major conclusions of this Report were discussed in October 2017 at the national technical consultations with experts from Armenia, Kyrgyzstan, and Tajikistan drawn from a broad range of national agencies, ministries, statistical offices, and ongoing projects. Shortages of national expertise in VET strategic planning and performance measurement have been recognized and interests expressed in sharing the practices of G20 nations as well as of the countries beneficiaries.

This stock-taking Report aims to serve as a knowledge base for developing expertise for the critical review of strategic objectives and related indicators for skills development in the countries beneficiaries of G20 Project. The Project aims to encourage countries to share or agree on certain conceptual categories, and improve capabilities for setting strategic objectives, develop and apply related performance indicators allowing for knowledge sharing and inter-country comparability of skills development.

2. Skills development policies and strategies

Definitions

A "policy" means the high-level principles (or broad objectives) which are intended to guide the strategic objectives and related strategies (operational and resource allocation decisions). National policies are expected to be supported by laws and regulations. Policies can be set for any area of practice – trade, foreign investment, demographic processes, employment and labour markets, as well as

⁷ World indicators of skills for employment (WISE) and productivity: A conceptual framework and approach for low-income countries. Report for the human resource development pillar of the G20 Multi-Year Action Plan on Development. 2013; The WISE database contains 64 indicators in five broad areas and provides a statistical snapshot of skills development in 214 countries. (<http://www.oecd.org/employment/skills-for-employment-indicators.htm>)

⁸ Getting skills right: Skills for jobs indicators. OECD 2017

⁹ Measuring Progress in VET: The European Training Foundation (ETF) approach. ETF. 2017

¹⁰ EQARF indicators, reviewing and agreeing definitions. European Framework for Quality Assurance in Education and Training (ENQA-VET). 2009

¹¹ G.Pierre, M.L.Sanchez Puerta, A.Valerio and T. Rajadel. STEP Skills Measurement Surveys. Innovative Tools for Assessing Skills. STEP.WB. Discussion paper 1421. July 2014

for education and training. For instance, the HRD Conventions and Recommendations of the ILO promote certain skills development policies such as: equitable access to training and employment, demand-driven provision of skills training, life-long learning, etc. as the internationally agreed principles of skills development.¹² These policies are supposed to be adopted nationally and put to work through strategic planning, funding, etc. mechanisms.

Skills development policies mostly aim to determine “what to do?” and provide guidance to setting strategic objectives. Strategies are about “how to do?” In this Report, “strategy” is defined in a common managerial sense as “a broad course of action and a specific way to combine and deploy strategic resources of all kinds – funds, institutions, time, staff, laws and regulations, etc. - to implement strategic objectives.¹³” Skills development objectives and, to a certain extent, strategies are to be guided by skills development policies and should aim to implement those.¹⁴

The ILO HRD instruments also promote certain ways (strategies) for attaining skills development objectives: social dialogue between governments and social partners on skills development, analysis of current and forecasting of future skills development needs, incentives to invest in skills training, focus on training in technology related subjects and science, etc. The “G20 Training strategy” also suggested several generic strategies (“building blocks”) for skills development such as: anticipation of demand for skills, sectorial approaches to skills training, etc.¹⁵ In any case, development of skills strategies appropriate for the conditions existing in a country should be preceded by formulation of clear strategic objectives (and related performance indicators) which strategies will aim to achieve.

Skills development policies are more generic than strategies and may not change frequently. Policies may in principle not refer to any time period as long as they remain valid. By contrast, strategies should indicate time horizons when strategic objectives should be achieved and are dependent on the availability of financial and staffing resources, institutional capabilities, etc. Therefore, strategies may need to change in certain periods of time. Finally, there could be several ways (strategies) to achieve, the same policies and related strategic objectives. Strategies are to be implemented through activities, time periods, resources involved, and responsibilities. Same activities may contribute to different strategic objectives.

Monitoring progress towards strategic objectives

For each strategic objective, a progress should be monitored through indicators measuring difference between the baseline data describing the initial situation with skills development in a country/region, and the targets to be attained. Indicators should preferably be quantitative but could also be qualitative serving as proxies¹⁶ of implementation of each objective.¹⁷ Notwithstanding the long-time presence of the ILO international standards, there is no agreed interpretation of such standards resulting in the absence of proxies (operational indicators) for measuring progress on fundamental policy objectives such as: quality of vocational education, participation in lifelong learning, equality

¹² ILO Convention 142 on Human Resources Development (1975); ILO Recommendation on human resources development: Education, training and lifelong learning (No. 195), 2004.

¹³ See: G. Steiner: Strategic Planning. Free Press, 1979; H. Mintzberg: The Rise and Fall of Strategic Planning. Basic Books, 1994; K. Andrews: The Concept of Corporate Strategy, 2nd Edition. Dow Jones Irwin. 1980; M. Porter: "What is Strategy?" In: Harvard Business Review (Nov-Dec 1996).

¹⁴ HRD Recommendation 195 (2004). ILO: In Section II. Development and implementation of education and training policies, countries are advised to “define a national strategy for education and training”.

¹⁵ A skilled workforce for strong, sustainable and balanced growth. A G20 training strategy. ILO (2010)

¹⁶ Proxies are indicators for representing processes or results. For instance, if “gender equality of opportunity” is measured as a share of girls in high-tech programs this will be the proxy of equality of opportunity. There are no agreed proxies for most or all HRD policy principles.

¹⁷ Conclusions on skills for improved productivity, employment growth and development, Item 51. ILC, ILO (2008)

of opportunity to access VET, relevance of training delivery, etc. Different countries and agencies use different proxies for the same. Many countries do not measure progress at all as they only quote policies and monitor activities. Measuring progress by activity, however, may not be useful since the implementation of many activities does not necessarily ensure attainment of a certain strategic objective.

Structuring of skills development policies

- national skills policies may have different “scope”: some of them attempt to guide a broad range of areas, such as a formal VET, industry-based training, paid educational leave for employees, structured apprenticeship, proprietary (private) training provision, teaching, etc., while some countries have very narrow sets of skills policies;
- national policies may target certain groups such as youth aged 15-24, women, the underprivileged, the unemployed, etc. or may not mention any target groups at all. In many developing countries, skills policies commonly do not target skills development of the unemployed and employed workers but may describe informal apprenticeship in detail.

A clear scope of skills policies and the target groups help making skills development objectives and strategies more precise. For instance, if industry training is covered by policies, then the possible strategic objectives may aim to: “increase participation of youth and employees in industry -provided training”, “ensure access for employees with low skills and literacy to skills upgrading through specially designed industry funds”, etc. If a country aims to ensure equitable access to fee-financed skills training, the strategies may involve introduction of income-tested education grants and loans, etc.¹⁸

In principle, there can be separate documents describing skills policies as well as “pure” strategy documents. Many national skills development plans contain, however, both, policies and strategies. The more practical details are worked out on how the policy objectives will be achieved and monitored the more the document becomes a skills strategy.

Benchmarking

Policy benchmarking is a process of mapping of national policies and objectives to compare with the same which are internationally recognized or considered as good practice, enabling to identify, explain and overcome weaknesses in policy making and implementation. This report will compare national skills strategic objectives in the countries beneficiaries of G20 project with the internationally agreed policies described in the high-level documents of the ILO, UNESCO, UN and some other international agencies as well as with the policies applied by selected G20 economies.

Operational benchmarking aims to compare performance indicators with that in the countries considered as good practice. It involves:

- identifying the processes and intermediate results which are key to successful attainment of objectives;
- recognizing the links between certain processes and results;
- establishing performance indicators;
- finding countries/organizations which perform better in term of those indicators;
- identifying factors which can explain differences between countries/organizations (such as legislation/regulations, policies, technologies, processes applied, resource levels, staffing structures, etc.);
- learning lessons from the comparison¹⁹.

¹⁸ V.Gasskov. Government interventions in private financing of training. ILO. 2001 (manuscript) (<http://www.voced.edu.au/content/ngv:35940>)

¹⁹ Wyatt T. International benchmarking of vocational education and training. ANTA. NCVET. 2004

It needs to be emphasized that skills development cannot automatically lead to productivity gains, employment generation and better jobs unless there are further conditions in place enabling to utilise acquired skills effectively. For this reason, the introduction of productivity improvement and employment growth as strategic objectives for skills development systems is not justified. Nevertheless, skills training remains the key factor of the labour force development and should accept a fair share of responsibility for the employment situation in the labour markets.

The account of international skills development policies and related strategic objectives supported by the international policy documents (of the ILO, UNESCO, EU, G20, etc.) is summarised in **Table 10**. **Table 10** also shows the performance indicators proposed or applied by international agencies and individual nations for measuring progress of skills development.

3. Policy requirements of the international HRD instruments

3.1. ILO International labour standards for HRD

Since 1919, the International Labour Organization (ILO) has been involved in developing international labour standards (ILS) aimed at promoting opportunities for women and men to obtain decent and productive work in conditions of freedom, equity, security and dignity. Such standards exist in various subject areas including skills development, vocational guidance and training, employment, etc. ILS are expressed in the form of Conventions and Recommendations with the former being legally-binding international treaties that may be ratified by member States, whereas Recommendations serve as non-binding guidelines. ILS are developed and adopted by representatives of governments, employers and workers from the ILO member states. They represent the international policy consensus on how labour-related issues could be treated.²⁰

The ILO International policy requirements for skills development are mostly described in the following documents:

- ILO Convention on Human Resources Development, (142), 1975²¹;
- ILO HRD Recommendation (No. 195), 2004²²;
- Conclusions on skills for improved productivity, employment growth and development. ILC. ILO (2008).

The above ILO standards promote the following fundamental skills development **policies**:

- Vocational guidance and skills training should aim at *developing knowledge, skills and employability* of individuals for social inclusion, *employment, personal and professional development*²³;
- Skills training systems should secure *equal opportunities*²⁴ for all persons (involving groups with identified training and employment needs) to access career guidance, skills training and occupation;

²⁰ Adapted from: Rules of the Game: A brief introduction to International Labour Standards, Geneva. ILO, 2009

²¹ Convention concerning vocational guidance and vocational training in the development of human resources (142). ILO 1975

²² Recommendation concerning human resources development: Education, training and lifelong learning (No. 195), ILO. 2004

²³ Employability is an individual's capacity to secure and retain decent job, to progress at work and cope with changing technologies and conditions. Possession of portable skills strengthens employability. (HRD Recommendation, ILO, 195 (2004).

²⁴ Equality aims to promote fairness and means treating everyone the same. Equality can only work if everyone starts from the same place and needs the same help. Equity is the process; equality is the outcome.

" Equity is what is fair and just may not, in the process of educating and training, reflect strict equality—what is applied, allocated, or distributed equally. For instance, the students who are not yet proficient in English, may

- Skills supply should *match to current demand for skills* and should build competencies for *future long-term labour market needs* through linkages between the world of work and the world of learning;
- *Participation in skills training* should be encouraged;
- Development of *core skills*²⁵, learning ability and *higher-level* skills should be encouraged;
- *The quality of training, skills assessment, certification and teaching should be assured through introduction of various standards* for strengthening portability of qualifications and their recognition across industries and educational institutions;
- Skills development should be *connected to broader growth, employment, national and sectoral development strategies*²⁶;
- Skills training systems should offer *continuous and seamless pathways of learning* progression through education and training levels;
- Skills training systems should support *employability throughout life* enabling persons to access education and training when they need it and at all levels of skills (*lifelong learning*) (for a summary of the international skills training policies, see **Table 10**).

3.2. Policy requirements of the UNESCO Recommendation concerning technical and vocational education and training (TVET) (2015)²⁷

The UNESCO Recommendation introduced goals, general principles and guidelines to VET to be applied in each country according to its needs and resources. According to the UNESCO Recommendation, the *goals of VET* are:

- to contribute to the social, cultural and economic development of countries and to enhance the potential of individuals to actively participate in such a development;
- to allow everyone, whatever their prior qualifications, to access and continue both, general and professional education and participate in life-long learning.

The UNESCO Recommendation defines *major policies* of skills development so that it should:

- be freely-chosen as a means for developing peoples' capabilities;
- allow access to various areas of education and offer pathways for transition between educational and vocational training programs of VET;
- be readily available to all and for all appropriate specializations (it means that there should be an "appropriate choice of programs");
- be inclusive and equally available without any discrimination to men and women and to people with disabilities and other socially and economically disadvantaged;
- ensure integration of vocational and general education by reducing barriers between levels of education, between education and the world of work;
- recognize all previous learning and relevant work experience;
- prepare individuals for entering jobs and participation in lifelong learning through development of their capacity for understanding, judgement, critical thinking, decision making, active participation, teamworking and leadership, and for coping with rapid advances of ICT (meaning that the "core skills should be included in vocational education and training").

be disadvantaged in English-only classrooms or when taking tests and assessments in English. <http://edglossary.org/equity/> (Accessed on 17.06.2017). Equality of opportunity is a condition for exercising "the universal right for education and training" (ILO HRD Recommendation, 195).

²⁵ Core skills (literacy, numeracy, problem solving, and other skills) are referred to as one of major factors of employability enabling to apply acquired experience to new jobs and industries

²⁶ Conclusions on skills for improved productivity, employment growth and development, ILC, ILO (2008)

²⁷ Based on UNESCO Recommendation concerning technical and vocational education and training (TVET) (2015)

According to the UNESCO Recommendation, *the general strategies* of VET implementation involve:

- partnership between governments, industry, social partners, and professional associations;
- implementation of training by both, public and private providers to facilitate choice of programs;
- sharing funding of VET between government, industry, community and learners;
- delivering VET in response to identified learners' interests, current and long-term needs, national and regional demand for skills;
- combining long-term full-time programs with short-term specialist courses;
- developing national criteria and standards for defining quality education and VET;
- establishing a system of skills recognition through credits given for any completed qualifications and acquired work experience;
- approval by public authorities of all VET programs delivered by public and private providers;
- provision of VET institutions with adequate funding, and the administration and financial autonomy allowing maximum operational flexibility;
- achieving equality in VET through gender sensitivity of vocational guidance and training and relevant incentives as well as through targeting of needs of disadvantaged groups;
- integration of technical theory, science, mathematics and practical experience in learning;
- evaluation and improvement of effectiveness and efficiency of VET providers, etc.

3.3. Policy requirements arising from UN Sustainable Development Goals (SDG) until 2030

In 2015, countries adopted a set of goals for a new sustainable development agenda. Each of the 17 goals has specific targets to be achieved by 2030.²⁸ The new development agenda has important targets for national skills development systems to implement. The targets directly relevant to strategic planning of skills development systems include:

Goal 4: Ensure inclusive and quality education for all and promote lifelong learning so that by 2030 to:

- ensure that all girls and boys complete free, equitable and quality primary and secondary education leading to relevant and effective learning outcomes (may be interpreted as an operational target "to reduce the share of dropouts from primary and secondary education enabling to increase participation rates and completion rates of youth in VET and the HE");
- ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university (in practical terms meaning "ensuring equality of opportunity for gender groups to enrol in and complete professional education programs");
- substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship (in practical terms meaning "to increase VET participation rates and qualification completion rates of youth and adults in line with employment requirements");
- ensure equal access to all levels of education and vocational training for the vulnerable, including persons with disabilities, indigenous peoples and children in vulnerable situations (in practical terms meaning "ensuring equality of opportunity for the identified disadvantaged groups²⁹ to enrol in and complete professional education programs).

Elimination of disparities in access to and quality of education and training also has a lot to do with implementation of *SDG Goal 10*: «Reduce inequality within and among countries». In many countries, both industrialized and developing ones, there are considerable inter-regional disparities in

²⁸ <http://www.un.org/sustainabledevelopment/sustainable-development-goals/>

²⁹ Definitions of disadvantaged groups may vary across countries and involve, for instance, the rural populations who commonly lack adequate training infrastructure, teachers, people from economically disadvantaged backgrounds, aboriginal people, etc.

funding levels and availability of VET infrastructure which may disadvantage populations in some regions.

Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all so that:

- by 2030, to achieve full and productive employment and decent work for all women and men, including for young people and persons with disabilities, etc. (in practical terms it may be interpreted by the skills training system as a target of “developing and maintaining employability with all groups of working age population”);
- by 2020, substantially reduce the proportion of youth aged 15-24 years not in employment, education or training (NEET group).

3.4. Policy requirements in the Strategic framework for European cooperation in education and training (ET2020)³⁰

The Education and training 2020 (ET 2020) framework for cooperation in education and training adopted by the EC in 2009 introduced the EU-level policy guidance, strategic objectives and related indicators of the average performance to be attained by 2020 as well as some common strategies (see **Table 1**). In 2015, within these strategic objectives, it was decided to reduce the number of priority areas and means of action (strategies), each of which can contribute to one or more strategic objectives.³¹ At the meeting in Riga, the European benchmarks for EU2020 were confirmed while the new term of “deliverables” was introduced what mostly refers to the ways of action. During 2016-2020, the EU will apply only five VET strategies (deliverables) involving:

- promotion of work-based learning with special attention to apprenticeships;
- development of quality assurance mechanisms in VET in line with the European Quality Assurance Framework (EQAVET);
- enhancement of access to VET and qualifications to all through flexible systems, guidance services and validation of learning;
- further strengthening of key competencies in curricula and their development through initial and continuing VET;
- further development of VET teachers and trainers.³²

However, it is not always clear how these deliverables can be linked to EU strategic objectives and how the deliverables will ensure implementation of the benchmarks (levels of average performance).

The EU VET strategic development objectives and related benchmarks are not directly linked to the international policy objectives of skills development such as, for instance, increasing participation in VET, reducing the NEET rate, etc. which are established in the ILO, UNESCO recommendations and the UN SDG. For some of the policy objectives such as “to improve equality of opportunity for gender groups and disadvantaged persons”, no benchmark indicators have been developed.

³⁰ Council Conclusions on a strategic framework for European cooperation in education and training (“ET 2020”). Council of the European Union. Brussels, 12 May 2009

³¹ The “Joint Report of the EU Council and the Commission on the implementation of the strategic framework for European cooperation in education and training (ET 2020) (2015/C 417/04)”.

³² At the meeting in Riga in June 2015, Ministers from the European Union (EU) Member States confirmed their aim to raise the overall quality and status of VET in the context of the Copenhagen process. They also confirmed the education and training 2020 objectives but endorsed the new deliverables for vocational education and training (VET), known as the “Riga conclusions” (<http://www.cedefop.europa.eu/en/>).

Table 1. Common EU objectives, benchmark indicators and strategies for education and training by 2020

Common EU strategic objectives³³	Strategies (ways of action)	Reference levels of European average performance (European benchmarks)
1. Making lifelong learning and mobility a reality	<ul style="list-style-type: none"> - Develop national qualifications frameworks; - Develop flexible learning pathways; - Increase transparency and recognition of learning outcomes. 	- by 2020, at least 15% of adults (aged 25-64) participate in lifelong learning
2. Improving the quality and efficiency of education and training	<ul style="list-style-type: none"> - Implement the VET quality assurance system; - Ensure acquisition of key competencies by everyone; - Raise the level of basic skills-literacy and numeracy, math, science and technology; - Ensure high quality teaching; - Ensure efficient use of resources. 	<ul style="list-style-type: none"> - by 2020, the share of low-achieving 15-year-olds in reading, mathematics and science should be less than 15%³⁴; - by 2020, the share of 30-34 year olds with tertiary educational attainment (ISCED levels 5 and 6) should be at least 40% (headline target)³⁵.
3. Promoting equity, social cohesion, and active citizenship	<ul style="list-style-type: none"> - Promote inclusive education and learning so that all citizens irrespective of their circumstances would be able to acquire, update and develop job-specific skills and key competencies; - Ensure that all learners including those from disadvantaged backgrounds and persons with special needs, complete their education. 	- by 2020, the share of early leavers (18–24 year-olds) having attained at most lower secondary education and not receiving further education or training) should be less than 10% (headline target).
4. Enhancing creativity and innovation, including entrepreneurship, at all levels of education and training ³⁶	<ul style="list-style-type: none"> - Promote acquisition of key competences (digital competence, learning to learn, etc.); - Promote the triangle: education-research-innovation through partnerships between education and the world of work. 	

³³ Council conclusions of 12 May 2009 on a strategic framework for European cooperation in education and training (ET 2020).

³⁴ Failing to reach Level 2 in the OECD Programme for International Student Assessment (PISA) for reading, math and science (Torino Process.2016-2017.ETF)

³⁵ The university or university-like education (Torino Process.2016-2017.ETF)

³⁶ This objective does not seem to have a related EU benchmark target

3.5. “Building blocks” of G20 Training strategy and other HRD policy requirements of G20

The G20 countries have identified skills development as a strategic objective.³⁷ Educational attainment including technical and vocational skills is recognized as an important determinant of economic growth. The achievement of inclusive and balanced growth is dependent on *equality of opportunity* to access quality education and training by all.

The *common framework* for skills development supported by G20 countries consists of:

- matching supply to the current demand for skills through the relevant and quality VET;
- helping workers adjust to change through learning new skills and upgrading the existing ones;
- anticipating the skills needed in the future and building the required competencies.

The G20 Training Strategy suggested several generic strategies (called in the document “building blocks”) for skills development such as:

- anticipating future skills needs to align training provision with changing needs of the labour markets (aiming to improve relevance of training);
- application of the labour market information systems and employment services (aiming to improve relevance of training and employability of graduates);
- participation of social partners (aiming to improve relevance and quality of training);
- application of sectoral approaches to skills development (aiming to improve relevance and quality of training);
- developing quality systems in training;
- ensuring broad and equitable access for gender and under-represented groups to occupation and employment (resulting in improved labour force participation rates).³⁸ Removing barriers to participation of women in the labour markets and improvement of the quality of women's employment through skills training and other means.³⁹

Generic strategies also aim to develop:

- continuous and seamless pathways of learning (support for lifelong learning) and provision of the vocational and labour market guidance;
- core skills (literacy, numeracy, communication, etc.);
- higher level skills (resulting in higher levels of educational attainment);
- skills which are portable, standardized, certified and recognized across labour markets and employers (through quality-assured training and assessment).

The G20 Training strategy recognizes that improvement of youth labour market outcomes caused by the limited access to quality education and training, barriers to a successful school-to-work transition and a limited access to quality jobs remains a challenge. It is necessary to improve the quality of work for the young people already at work but under-employed or engaged in poor quality and low-paid jobs in the informal economy.⁴⁰ In line with G20 Training strategy, the OECD recommended to adopt a target on reducing the share of young people who are most at risk of being left permanently behind in the labour market by 15% by 2025 through focusing on young people with low skills and

³⁷ A skilled workforce for strong, sustainable and balanced growth. A G20 training strategy. ILO (2010)

³⁸ It was decided to take steps to reduce the gender gap between male and female labour participation rates by 25% by 2025. It was estimated that reducing this gap in G20 economies could bring more than 100 million women into labour force. (G20 Labour and Employment Ministerial Declaration: Preventing Structural Unemployment, Creating Better Jobs and Boosting Participation. Melbourne, September 11, 2014);

³⁹ Towards an inclusive future growth: Shaping the world of work. G20 Labour and Employment Ministers Meeting. Ministerial Declaration. Bad Neunahr, May 19, 2017.

⁴⁰ Promoting better labour market outcomes for youth. OECD and ILO background paper for the G20 Labour and Employment Ministerial meeting, Melbourne, 10-11 September, 2014

qualifications (those who are neither in employment, nor in education or training (NEET) or the low-skilled who are NEET or informally employed).⁴¹

The OECD Action Plan for Youth⁴² involves the following policies to be implemented by skills development systems, some of which could be quantified, targeted and reported on in strategic plans:

- expand quality apprenticeship and internship programmes and ensure that VET programmes have strong elements of work-based learning;
- reduce school dropout and offer training opportunities for those who have not completed upper secondary education level;
- ensure that all youth achieve a good level of foundation and transversal skills;
- ensure that VET programmes are more responsive to the needs of the labour market;
- ensure that the social partners are actively involved in developing VET programmes and support the effective transition of youth into work, career pathways in specific sectors and occupations;
- provide quality career guidance services.

There is a broadly shared interest in G20 countries to increase the share of the higher qualification level programs (Diploma or Degree qualifications) involving subjects such as science, technology, engineering, and mathematics (STEM) in the national skills provision. It was reported that females have a lower participation in STEM programs in comparison with male students what translates in the gender bias in STEM jobs. Some countries adopted plans aiming to encourage youth and women to pursue STEM related education and careers. Participation rate in STEM programs is measurable and offers the opportunity to plan and steer progress in this area.

4. Review of skills development indicators suggested by international agencies

4.1. World indicators of skills for employment and productivity (WISE)⁴³

A summary of international policy requirements and related generic strategic development objectives and performance indicators for skills development is provided in **Table 10**. Some international agencies and individual countries have developed and applied strategic planning indicators for measuring performance of skills development systems involving: a) inputs to such systems (such as resource allocation), b) participation in VET, c) graduation from VET programs, and d) outcomes of skills training for graduates and the labour force. Some of the relevant indicators which can be applied to strategic planning of skills development are reviewed below.

A set of *skills indicators for employment and productivity* (WISE) has been proposed for use in low-income countries (LICs). These indicators aim to measure the skills and employment development levels and compare them across nations. The WISE framework involves five sets of indicators, including:

- *contextual factors* which impact on both the supply of and demand for skills (level of economic development, demographics, maternal and child health, technology and work conditions, work organization, and education and labour market institutional set-up);
- *skill acquisition* (educational attainment, level of cognitive skills and skills formation);

⁴¹ Creating quality jobs for all, investing in skills and reducing inequalities to promote inclusive and robust growth. (G20 Labour and employment ministerial declaration. Ankara, 03-04 September 2015)

⁴² The OECD Action Plan for Youth: Giving Youth a Better Start in the Labour Market, Paris, 2013. <http://www.oecd.org/newsroom/Action-plan-youth.pdf>

⁴³ Indicators of skills for employment and productivity: A conceptual framework and approach for low-income countries. Report for the human resource development pillar of the G20 Multi-Year Action Plan on Development. OECD and the World Bank in collaboration with ETF, ILO and UNESCO. 2013

- *skill requirements* (employment by education, employment by occupation, job-task measure of skills);
- the *degree of matching of skills* obtained to the skills required in the labour market (education mismatch, occupational mismatch, skill gaps, hard to fill vacancies); and
- *outcomes* which reflect the impact of acquired skills on economic performance, employment and social outcomes (growth and productivity, employment outcomes, earnings, health).

Altogether, 58 core indicators and 10 supplementary indicators have been suggested. The structure of proposed indicators is not directly linked to the above international HRD policy instruments agreed by the ILO, UNESCO, UN G20, etc. The suggested indicators of skills development outcomes such as GDP, labour productivity and employment rate are dependent on many inputs amongst which the level of skills development could be a minor factor. Selected WISE indicators which are potentially relevant for strategic planning and performance monitoring of skills development systems are listed in **Table 2**.

Table 2. Selected “world indicators of skills for employment and productivity (WISE)” and their applicability to VET strategic planning

Indicator name (as in the list of WISE indicators)	Indicator content	Intended purpose of the indicator	Assessment of applicability of indicators for VET strategic planning
C1.3. Employment shares by sector	Total employment in agriculture, mining and construction, industry (manufacturing and utilities) and service sectors, etc.)	Provides an economy-wide measure of the general type and level of skill demands for each country.	Employment by sector can only describe the allocation of labour force by sector of the (regional) economy. <i>This information can be used in constructing indicators of relevance of VET delivery to the sectorial structure of the workforce (see Table 10).</i>
C2.2. Relative size of youth population	Ratio of the youth population (aged 15-24) to the working-age population (15-64)	Provides a measure of the size of the potential group of new entrants to the labour market relative to the whole working-age population.	Size of the groups aged 15-24 and aged 15-64 (working age population) <i>can be used in measuring participation in VET and LLL as well as for constructing other indicators such as the NEET rate. (see Table 10).</i>
C2.3. Share of population living in urban areas	Share of the total population living in urban areas	Provides an indication of the concentration of demand for skills and accessibility to training services.	Data on the population aged 15-24 residing in rural and urban areas <i>can be used for constructing indicators measuring equality of opportunity to access VET (see Table 10).</i>
S1.1. Educational attainment of the adult population	Distribution of population aged 25 years and above by highest (ISCED) level of education attained	Provides a measure of the stock of skills (as proxied by educational attainment) that are potentially available to employers and which are a key driver of economic growth.	See comment on D1.1.
S2.6a. Tertiary level enrolment rate	Gross enrolment rate in tertiary education by gender	Participation in tertiary education is an indicator of the acquisition of “higher-level skills” and the potential future supply of workers with these skills. ⁴⁴	This indicator requires more certainty. Participation rates in both, the skilled worker Certificate courses (full-time and short courses) and tertiary programs should refer to the age group. <i>The VET participation rate of the youth aged 15-24 is an important indicator which is also used in measuring equality of access to education and training, by gender, other risk groups, and by region.</i>

⁴⁴ Meaning of the “higher level skills” may not be confined to tertiary education. Some countries define “high level skills” in the range of Certificate Level III and above what is broader than the tertiary education (ISCED Level 5 programs aiming to produce technicians/associate professionals)

Indicator name (as in the list of WISE indicators)	Indicator content	Intended purpose of the indicator	Assessment of applicability of indicators for VET strategic planning
S2.7a./S2.7b. Share of tertiary enrolments and graduates in STEM subjects	Share of all tertiary students who enrolled in and graduated in the field of science and technology (STEM subject programs)	Provides an indicator of the focus of the tertiary education system on a key area of skills demand which drives economic growth as well as on the potential supply of new labour market entrants with science and technology skills.	This indicator is new for many developing countries and applicable to planning of both, enrolments and graduations from mostly tertiary education. The scope of STEM subjects should however be clearly defined with descriptors.
D1.1. Educational attainment of employed persons	Proportion of all employed persons by gender at each level of ISCED	Provides a measure of demand for skills.	Distribution of the working age (WAP) population by VET (Certificates, etc.) and HE qualifications acquired (<i>but not by ISCED level</i>), by gender, is a very important indicator of the <i>national professional qualifications attainment of WAP or the labour force</i> (it is a direct outcome of skills development through both VET-based and workplace learning). ⁴⁵
D1.2. Employment shares by occupation	Proportion of all employed persons by ISCO occupation (1or 2-digit)	Provides a measure of the relative demand for different skill groups (as proxied by occupation) and, if there are time-series data available, may reflect changes in that demand over time.	This indicator could be of considerable importance provided, however, that the data of <i>employment by occupation and qualification</i> (Diploma versus Certificates) are available, what is commonly not the case.
D1.3. Incidence of self-employment	Share of self-employment in total employment	Provides a measure of need for entrepreneurial skills.	This indicator could be of some use for skills strategic planning provided that the occupational structure of <i>skilled jobs in self-employment is identifiable</i> .
S2.S2a./S2.S2b. Supplementary indicators: Participation in education and training by adults (including working adults)	Proportion of adult population (25-64) by gender who participated in education and training in the last quarter/year	A measure of lifelong learning	Measuring participation in lifelong learning is important. However, the indicator needs to be refined enabling to take account of <i>various duration of adult education courses, workshops</i> , and other LLL activities. The scope of what can be counted as LLL should be agreed as well.

⁴⁵ The indicator of combination of various VET qualifications acquired by the same person can also reflect a potential for labour mobility.

Indicator name (as in the list of WISE indicators)	Indicator content	Intended purpose of the indicator	Assessment of applicability of indicators for VET strategic planning
M1.1. Proportion of workers who are overqualified or underqualified	Proportion of workers whose educational attainment level is higher (lower) than the level required in their job	An indicator of the qualifications mismatch	The indicator of qualifications (rather than “educational”) mismatch could be important for measuring and planning of progress of VET relevance to the demand. However, the <i>concept of mismatch and its practical applicability requires review</i> . ⁴⁶
O2.4a. Youth at risk	Youth not in employment or education and training (NEET) ⁴⁷ as a proportion of the youth population (15-24)	Provides a measure of the youth population most at risk of being marginalised from the labour market and underutilising their skills.	NEET rate, by gender, is an important, however, <i>indirect indicator of VET system performance</i> . ⁴⁸
O2.5b. Youth at risk by school completion	Youth not in employment or education and training (NEET) as a proportion of the youth population (15-24) by whether completed primary school or not	Provides a measure of the youth population most at risk of being marginalised from the labour market and underutilising their skills by level of education.	Share of all youth aged 15-24 who failed to complete the primary school (in more economically advanced nations, those who failed to complete Grade 9 ⁴⁹) is a major risk group and needs to be targeted by training and other interventions.

⁴⁶ First, many employees particularly, workers, may not have any formal qualification and the qualifications mismatch cannot be accurately estimated. Second, the assessment of occupational mismatch (when a certified employee is doing the job for which he/she does not have a relevant occupational qualification) is another area of mismatch. Third, the cases when employees have qualification levels exceeding their jobs’ qualifications requirements pose absolutely no risk and should not be counted as a mismatch. Fourth, the cases when workers have a range of qualifications with various complimentary competences (but do not possess a directly relevant job-related qualification) should be interpreted differently (rather than a “mismatch”).

⁴⁷ NEET included those youth who are not in any form of education, the unemployed and the economically inactive (For instance, in France, in age group 20-24: economically inactive -7.8% and the unemployed-13.1% (total NEET 20.9%); for age group 15-19: economically inactive-3.5, unemployed -4.0 (total- 7.4%). Average for the 15-24 in France: economically inactive-5.65%, unemployed- 8.55%, total NEET: 14.2%.

⁴⁸ The NEET rate describes performance of VET only partially since it is strongly affected by the labour market conditions (availability of work and the people’s need for income. The better is the local demand for labour, the smaller should be the share of NEET group.

⁴⁹ In many countries, completion of Grade 9 is a prerequisite for enrolment in formal full-time VET.

4.2. Skills for jobs indicators (by OECD)⁵⁰

The goal of the most recent OECD Skills for Jobs Database is to provide international data on skill shortages/surpluses (resulting in identification of skills needs) and skills mismatch across European countries and South Africa. The OECD Skills for Jobs indicators are intended for design of education and training policies.

The OECD Database consists of two sets of indicators. The first set involves the *skill needs indicators* which include measures of *occupations* in shortage and surplus by country and year as well as the *skills* surpluses and shortages. The indicator is constructed in two consecutive steps. To draw a picture of the surplus and shortage of workers in specific *occupations* (as well as of the underlying skills associated with those occupations), the OECD skill needs indicator is made up of five complementary sub-indices. In the first step, sub-indices for *hourly wage growth*, *employment growth*, *the unemployment rate*, *hours worked*, and *underqualification*⁵¹ in each occupation are used to provide a quantitative indication of skilled workforce shortage or surplus. These skill needs indicators are mathematically integrated into a composite occupational shortage index which is interpreted as a relative shortage/surplus of occupations in the labour market (or skill needs) by country. The indicators used in sub-indices are not new but can play a role provided that such an information can be collected and processed.

The second step of producing a measure of skill needs indicator involves mapping of results of occupations in short supply to measures of skills required in each occupation considered. This mapping is carried out by attaching the information provided by O*NET⁵² on both, the level and importance of different skill dimensions, to occupational results for each one of the occupations analysed. *Skill mismatch* describes situations in which workers' skills exceed (over-skilling) or fall short (under-skilling) of those required for their individual job under current market conditions. This step goes beyond the content of standard occupational requirements and aims to capture requirements at individual jobs.

The second set of indicators of the OECD Database involves *the mismatch indicators* involving two types of mismatch:

- *Qualification mismatch* describes a situation for which a worker has a qualification level that exceeds (overqualification) or does not meet (underqualification) the one required for the job. The qualification mismatch index calculates the share of workers in each occupation that are under- or over-qualified to perform a certain job. Thus, an over-qualification (under-qualification) depicts a situation for which the highest level of education achieved by an individual worker in an occupation is above (below) the modal level for all workers in that occupation. In the assessment of qualification mismatch the OECD Database substitutes "the professional qualification" with "educational attainment".
- *Field-of-study mismatch* arises when workers are employed in a different field from what they have been educated and trained in.

Three comments can be made on applicability of the above OECD Database for planning and performance monitoring of skills development. First, in the assessment of skills shortage or surplus by occupation (demand for skills), the overall framework is very demanding on the availability and quality of data since most of countries do not collect information on hourly wage growth, employment growth, the unemployment rate, hours worked and underqualification in each sufficiently detail oc-

⁵⁰ Getting skills right: Skills for Jobs indicators. OECD 2017

⁵¹ increases in the share of workers with qualifications that are lower than those required by their jobs. Getting skills right: Skills for Jobs indicators. OECD 2017

⁵² Occupational requirements developed and managed by the US Department of Labour.

cupation. Moreover, these types of data would be very difficult to collect in countries with a considerable share of workers in the informal economy. This makes it difficult or impossible to use the employment-wage-hours-of-work-dynamics per occupation as an indicator of the national/regional demand for a certain occupation.

Second, the qualification and field-of-study mismatch related data are collected through labour force surveys and employers' surveys. Although labour force surveys are conducted in many countries, in many of them surveys are not regular. In any case the *indicators of occupational and qualification mismatch could be useful for assessment of the labour markets and, indirectly, for assessment of relevance of the training delivery*. This approach will however have limitations as far as the workers' jobs are concerned because most of workers are non-certified and this makes it difficult to assess their under or over qualification as well as their field-of-study mismatch in relation to the job's qualification and occupational requirements.⁵³ This approach will be most useful for assessment of situations with technician jobs when those are occupied by persons who do not have technician Diplomas (or HE Degrees). In any labour market, a share of technician jobs does not exceed some 5-15% of the total workforce, while workers are employed in 60-70% of jobs.

Third, it is incorrect to view *overqualification* of workers relative to their job requirements as a negative factor in the labour market. The application of the indicator of overqualification may be interpreted as a requirement to constrain delivery of qualifications in case this exceeds the requirements of the national labour markets. By contrast, it is an important development factor. The international HRD policies encourage to provide more professional education, acquire higher qualification attainment levels, increase share of STEM program enrolments which are not limited by job requirements and reflect the professional development needs of individuals.⁵⁴

As a result, the following indicators have been selected and added to the summary of indicators in **Table 10** (1.2: Improve relevance of VET to the market demand for skilled workforce) as they can help assess a contribution of skills development to the performance of labour markets:

- a) *under skilling* (when workers occupy jobs of technicians or technicians perform as engineers);
- b) *field of study mismatch* (when workers trained/certified in one occupation are employed in some other occupation or persons holding the technician Diploma in one field are employed as workers or technicians in some other field).

4.3. STEP indicators (by the WB)⁵⁵

The World Bank's Skills toward Employment and Productivity (STEP) Skills Measurement Study was launched in 2010 with the aim of collect information on the level and distribution of skills relevant to the labour market in the adult populations of developing countries. The study included both, a survey of individuals and an employer survey. STEP survey used a multi-dimensional concept of skills that goes beyond educational attainment to capture human capital more comprehensively.

⁵³ This can also be done through worker's self-assessment of over and under qualification in comparison to the current job requirements. However, self-assessment is not always a reliable instrument, while the same workers can occupy various jobs in the labour market in some of which their skills can match the job requirements.

⁵⁴ For instance, the international HRD instruments require that "Participation in skills training should be encouraged (ILO, 2005; ILO, 2008; ILO, 2010); "Increase participation in VET programs in STEM subject areas" (G20 Training Strategy, WISE), etc.

⁵⁵ Pierre, G., M.L.Puerta, A. Valerio, T. Rajadel. STEP Skills Measurement Surveys. Innovative Tools for Assessing Skills. In: Social Protection and Labour. Discussion paper No. 1421. The World Bank, July 2014

Three broad types of skills are measured:

- Cognitive skills are defined as the “ability to understand complex ideas, to adapt effectively to the environment, to learn from experience, to engage in various forms of reasoning, to overcome obstacles by taking thought, to solve abstract problems”. The survey also assessed *reading literacy* to identify levels of competence at accessing, identifying, integrating, interpreting, and evaluating information;
- Socio-emotional skills or soft skills covering multiple domains (social, emotional, personality, behavioural, and attitudinal). The following *personality traits and behaviour* were assessed: conscientiousness, extraversion, self-control, decision making, etc. as well as risk and time preferences;
- Job-relevant or task-related skills that the respondent possesses or uses in his or her job.

The STEP household survey collected information on households and individuals within the households (aged 15 -64) regarding his or her skills acquisition history, educational attainment, work status and history, family background, and health. Under the skills acquisition history, the survey gathers information on the individual’s field of study of all reported degrees and certificates and any other participation in apprenticeships, continuing education, or formal and informal training. The information on educational attainment involved variables such as, level of formal education academic/vocational, field of study for highest qualification (13-15 categories), reasons for dropping out or interrupting, apprenticeship studies and trade, any other training courses, literacy courses, etc. The survey included questions on “the highest level of formal education completed,” “fields of subjects associated with highest qualification,” and “type of school or institution attended.”

STEP employer survey measured both work requirements and reported skill difficulties as indicators of the employer demand for skills, potential skill shortages, and work performance for sampled sectors of activity. The employer survey used the same skills concepts and definition as those used in the household survey, aiming to identify skills gaps and mismatches in the above skill areas.⁵⁶

The VET systems are expected to develop job-related generic and employability competencies which may cover literacy, numeracy, problem solving, analytical skills, etc. However, the skills development systems are not supposed to develop personal traits many of which are culture-bound and are based on national/regional, ethnic and family-related values and patterns of behaviour. For these reasons, the *indicators developed by the STEP study have a low potential* for being used as performance indicators of skills development systems. One particularly useful element of the STEP study is a description of the education and learning history of individuals which results have not perhaps been adequately processed enabling to produce the integrated education and training profiles of individuals (and compare them with their job requirements, if need be).

4.4. The Torino Process indicators⁵⁷

The Torino Process was launched by the European Training Foundation (ETF) in 2010 as an evidence-based approach to the analysis of vocational education and training (VET). Torino process is said to be a vehicle for developing a medium-term vision, policies and strategies for VET. It involves a specific analytical framework for data collection and analysis. Through the three rounds of the Process already implemented (2010, 2012 and 2014), the focus of the Torino Process has moved from description of VET to measuring the progress of countries in VET. Its analytical framework involves five dimensions of data: vision and VET strategy, external and internal efficiency (understood as a responsiveness of VET to the socioeconomic context and needs, including those that emerge within the VET system), and governance. There is a very considerable overlap between the Torino Process

⁵⁶ Apparently, the employers surveyed by the study did not employ the individuals who were surveyed. Therefore, the identified mismatches may be generic only.

⁵⁷ Torino process. 2016–17. European Training Foundation.

indicators and the WISE indicators on some of which comments have already been made elsewhere in this Report.

Torino Process applies the EU VET strategic objectives and the benchmark indicators until 2020 which are listed in **Table 1** of this Report as well as the revised deliverables (strategies) recently approved in the Riga Conclusions.⁵⁸ The Torino Process guidelines detailed the EU benchmark indicators further to the 21 reporting indicators covering VET and employment, some of which more directly relevant to skills development systems are listed below:

Table 3. VET performance Indicators used in Torino process

Indicators used for benchmarking	Specifications
1. Early leavers from education and training (2020 headline target)	TPR16.010 Percentage of the population aged 18–24, by gender with at most lower secondary education who were not in further education or training during the four weeks preceding the survey. TPR16.11 Percentage of youth aged 15–24, by gender, who are not in employment, education or training (NEETs).
2. Tertiary education attainment (2020 headline target)	TPR16.08 Percentage of the population aged 30–34, by gender, who have successfully completed the HE institution (ISCED levels 5–8) TPR16.14 Educational attainment of economically active population with respect to the highest educational qualification achieved
3. Under-achievement in reading, maths and science (2020 target)	TPR16.09 The 15-year-olds, by gender, who are failing level 2 on the PISA scale for reading, mathematics and science.
4. Adult participation in lifelong learning (2020 target)	TPR16.07 Share of persons aged 25–64, by gender who stated that they received education or training in the four weeks preceding the survey.
5. Employment rate of recent graduates (2020 target)	TPR16.03. Employment rate of graduates aged 20–34, by gender, who successfully completed their VET study 1–3 years before the survey ⁵⁹
6. Employment rate (2020 headline target) ⁶⁰	TPR16.02 Employment rate of the age group aged 20–64, by gender ⁶¹ TPR16.04 Unemployment rate of the age group 15–64, by gender TPR16.05 Unemployment rate of youth aged 15–24, by gender TPR16.20 Incidence of self-employment as a proportion of total employment

Some of the above indicators which are strongly linked to the EU strategic targets such as the NEET related target and the tertiary education attainment remain important for VET strategic planning.⁶² These indicators are included in **Table 10**. The Torino Process indicators describing the employment rates of WAP and youth are also important. Although VET systems should not be held fully responsible for performance of the labour markets and of employers who decide on job openings, job content and conditions of work and pay, the skills development systems should accept a fair share of responsibility for the labour force and labour markets.

⁵⁸ <http://www.cedefop.europa.eu/en/>

⁵⁹ Formulation is revised by the author to align with requirements of VET systems

⁶⁰ This employment objective is drawn from Europe 2020 Strategy aiming to bring to 75% the employment rate for women and men aged 20–64. (Council conclusions of 19.11. 2010 2010/C 326/05)

⁶¹ “Employed” are persons who worked at least one hour for pay or profit during the reference period or were temporarily absent from such work.

⁶² See Table 1

The Torino Process however does not aim to measure progress on the:

- vocational participation of youth aged 15-24;
- equality of opportunity to access skills development, by target groups and regions;
- quality of VET;
- internal efficiency of VET institutions' performance expressed as a unit cost of training.

4.5. Quality assurance indicators of the European Quality Assurance Reference Framework for Vocational Education and Training (EQAVET)⁶³

Quality of skills development is an important strategic development objective for which relevant performance indicators need to be developed. The European Quality Assurance Reference Framework (EQAVET) has been designed to help EU countries plan and monitor improvement of their VET systems through *commonly agreed indicators*. The concept of quality assurance used in EQAVET combines, however, two rather different things: the quality of VET systems in some broad sense and the quality assurance of training delivery. EQAVET involves 10 indicators which are presented in **Table 4**. EQAVET quality assurance indicators do not involve some important ingredients such as the application of the quality assured national qualifications, the quality-assured assessment of skills, the quality measure of VET curricula, etc.

The Report of the Commission to the EU Parliament and Council in 2014⁶⁴ has urged to refine the EQAVET approach through:

- developing descriptors, indicators and related guidelines to better address the quality and the proficiency level of VET outcomes acquired by learners;
- developing guidelines for policymakers and providers, along with supporting checklists, descriptors and indicators adequately describing the diverse reality of continuing VET and work-based learning;
- making national quality assurance measures more transparent across countries including information for understanding of accreditation of VET providers, and describing quality assurance procedures.

The Report of the Commission emphasized the importance of VET providers' accreditation and of external and internal review of organizations and processes rather than promotion of national training quality standards. The EQAVET indicators do not provide specific guidance on quality assurance for work-based learning.

Table 4. EQAVET indicators of VET quality

Quality assurance indicator	Indicator specification	Applicability of indicators to VET strategic planning
1. Relevance of quality assurance systems for VET providers	<ul style="list-style-type: none"> - Share of providers applying internal quality assurance systems defined by law or at own initiative; - Share of accredited VET providers. 	"Share of accredited VET providers" is an important indicator of VET quality if quality systems are functional (providers which do not comply with the rules of accreditation should be deprived of their accreditation).

⁶³Recommendation of European Parliament and of the Council of 18 June 2009 on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training.

⁶⁴ Report of the Commission to the European Parliament and the Council on the implementation of the Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training. Brussels. 2014. http://ec.europa.eu/education/policy/vocational-policy/eqavet_en

Quality assurance indicator	Indicator specification	Applicability of indicators to VET strategic planning
2. Investment in training of teachers and trainers	<ul style="list-style-type: none"> - Share of teachers and trainers participating in further training; - Amount of funds invested. 	These indicators make sense but miss important dimensions of quality of teaching staff.
3. Participation rate in VET programmes	<ul style="list-style-type: none"> - Number of participants in VET programmes, according to the type of programme and individual criteria 	VET participation rate may have a weak link to the training quality.
4. Completion rate in VET programmes	<ul style="list-style-type: none"> - Number of successfully completed/ abandoned VET programmes, according to the type of programme and individual criteria 	Course completion rate may have a weak link to the training quality.
5. Placement rate in VET programmes	<ul style="list-style-type: none"> - Destination of VET learners after completion of training, according to the type of programme and individual criteria; - Share of employed learners after completion of training, according to the type of programme and individual criteria. 	Success of transition to labour market or further study could be interpreted as a measure of training quality.
6. Utilisation of acquired skills in the workplace	<ul style="list-style-type: none"> - Information on occupation obtained by individuals after completion of training, according to the type of training and individual criteria; - Percentage of employees who, within a period of 12-36 months; from completing the VET programme, find that their training is relevant for their current occupation; - Satisfaction rate of individuals and employers with skills/ competences. 	<ul style="list-style-type: none"> - In case this indicator can be interpreted as "a share of graduates employed in the occupation (and qualification) in which they have been trained", is an evidence of the relevant and quality VET; - Satisfaction of graduates and employers with training received is a VET quality (and relevance) indicator.
7. Unemployment rate	<ul style="list-style-type: none"> - According to individual criteria 	If applied over the sufficiently long period of time this indicator can be used as an indirect measure of VET quality.
8. Prevalence of vulnerable groups	<ul style="list-style-type: none"> - Percentage of participants in VET classified as disadvantaged groups (in a defined region or catchments area) according to age and gender; - Success rate of disadvantaged groups according to age and gender. 	These indicators allow to measure equality of opportunity to access VET programs by disadvantaged groups if compared to the same for all VET students.
9. Mechanisms to identify training	<ul style="list-style-type: none"> - Information on mechanisms set up to identify changing demands at different levels; 	This indicator is not about VET quality but rather about processes for identification of demand for skilled labour force

Quality assurance indicator	Indicator specification	Applicability of indicators to VET strategic planning
needs in the labour market	- Evidence of their effectiveness.	
10. Schemes used to promote better access to VET	- Information on existing schemes at different levels; - Evidence of their effectiveness.	This information can only help to identify availability of instruments for promoting equality in VET

5. Strategic planning frameworks and related skills indicators applied in selected advanced economies

5.1. Strategic planning framework for VET in Australia

The strategic planning objectives and related indicators for skills development in Australia are formulated in the National Agreement for Skills and Workforce Development.⁶⁵ The skills development system aims to accomplish the following strategic objectives:

1. The working age population (WAP)'s *gaps in foundation skills reduced* to enable effective educational, labour market and social participation (through improved employability);
2. The *skill levels of WAP are increased* to meet the changing needs of the economy (through improved employability and relevance of training);
3. National training system delivers the skills and capabilities of WAP needed to *meet changing labour market demand* and improve its economic participation (through improved relevance of skills development);
4. All working age Australians have the opportunity to develop skills (through ensuring equal access and participation in training for all).⁶⁶

The skills development objectives, outputs and related progress indicators applied in Australia are summarised in **Table 5**. For some of the objectives, base-line data (different years) are also shown as a matter of example. The scope of the strategic objective 4 aiming to ensure equal participation in skills development covers six "equity target groups" which in Australia include: Indigenous population, people from remote areas, people with disability, people speaking a language other than English (LOTE) at home, people from low socioeconomic status backgrounds, and women.

The Australian format of the strategic development plan showing policy objectives, related performance indicators, baseline data and the anticipated progress to be attained along with the data source applied is very convenient for the strategic planning of skills development systems.

⁶⁵ National Agreement for Skills and Workforce Development. Council of Australian Governments. 2011; National Agreement Performance Information 2011: National Agreement for Skills and Workforce Development. Steering Committee for the Review of Government Service Provision. Productivity Commission. Melbourne. Commonwealth of Australia 2012

⁶⁶ Interpretation in brackets are by the Report writer

Table 5. Strategic objectives and performance indicators for skills development in Australia⁶⁷

Strategic objectives (for 2009-2020)	Performance Indicators (progress measures)	Baseline data (2009)	Target for 2020	Data collection source
1. The WAP's gaps in foundation skills reduced to enable effective educational, labour market and social participation	1.1. Proportion of the WAP with adequate foundation skills (literacy level 3 or above)	44.7%.		Adult Literacy and Life Skills Survey (ALLS). Data were collected in 1996 and 2006 by ABS ⁶⁸
2. The skill levels of WAP are increased to meet the changing needs of the economy (relevance of training)	2.1. Halve the proportion of WAP aged 20–64 without qualifications at Certificate III level and above ⁶⁹	78.1%	39%	Survey of Employer Use and Views (SEUV). Data are collected every two years by NCVER ⁷⁰
	2.2. Double the number of higher qualification completions (Diploma and Advanced Diploma) per year			
3. National training system delivers the skills and capabilities of WAP needed to meet changing labour market demand and improve its economic participation	3.1. Proportion of graduates ⁷¹ with improved employment status ⁷² after training	Change from the status “not employed” before training to the “employed after training” - 10.7%		

⁶⁷ National Agreement for Skills and Workforce Development, Steering Committee for the Review of Government Service Provision. Commonwealth of Australia. 2012

⁶⁸ Australian Bureau of Statistics

⁶⁹ National Certificate III or above' including Certificate III, IV, Diploma, Advanced Diploma, Bachelor's degree and above

⁷⁰ National Council for Vocational Education Research, Australia

⁷¹ Graduate' is defined as: a past student who was awarded a qualification during the survey reference year. This excludes those students who left training before completing a qualification

⁷² 'Improved employment status' is defined as any one of the following:

- employment status changing from «not employed before training” (both unemployed and not in labour force) to “the employed after training” (both full time and part time employed)
- employed at a higher skill level after training (regardless of full time or part time employment status before and after training)
- received one of the following job-related benefits: set up or expanded their own business, got a promotion, increased earnings, or other job-related benefits after completing their training

Strategic objectives (for 2009-2020)	Performance Indicators (progress measures)	Baseline data (2009)	Target for 2020	Data collection source
	3.2. Proportion of graduates received benefits after training in current employment: "Percentage of graduates who received positive changes in current employment)"	- Employed at a higher skill level after training- 11.1%"; - Received a job-related benefit -59.3%" ⁷³		Student Outcomes Survey (SOS). Data are collected annually; National VET Provider Collection. Data are collected by NCVER
	3.3. Proportion of WAP with or working towards a non-school qualification (Certificates I-IV, Diploma, Advanced Diploma, Bachelor degree or above)	66.9% (2011)		Census of Population and Housing (Census). Survey of Education and Work (SEW)
	3.4. Proportion of VET graduates with improved <i>education/ training status</i> after training (share of VET graduates aged 20-64 who completed courses at higher level than the previously achieved highest education level out of all national qualifications completed per year)			
	3.5. The number of hard to fill vacancies			
	3.6. Proportion of employers satisfied that training meets their needs			
	4. All working age Australians have the opportunity to develop skills (equal access and participation in training)			
	4.1. Proportion of indigenous 20-64 year olds with or working towards post-school qualification in Certificate III and above			
	4.2. Number of course completions by indigenous Australians in vocational education and training			
	4.3. Number of enrolments by indigenous Australians in higher level vocational education and training qualifications			

⁷³ Only for publicly financed VET graduates who completed training in 2010

*Performance indicators for measuring equal access to skills development*⁷⁴

Equality of opportunity to participate in skills development and benefit from it in Australia are assessed through the indicators applied to the six “equity groups”. The overall strategic target is to achieve *VET participation, achievement and transitions* for disadvantaged learners which are at least as good as those for other VET learners. The “equity groups” involve:

- indigenous Australians
- people from remote and very remote areas⁷⁵
- people with disability
- people from a culturally and linguistically diverse (CALD) background, speaking a language other than English (LOTE) at home
- people from low socioeconomic status (SES) backgrounds; and
- women

For most of the equity groups, VET participation rates were generally higher than the national averages. Assessment of participation in VET was also implemented for the groups with less than a Year 12 or equivalent level of prior educational attainment. The data on the VET participation, achievement and transitions for equity groups are shown in **Table 6**.

Table 6. VET indicators in Australia for “equity groups”⁷⁶

VET Equity Indicators	Indigenous Australians	People with a disability	People from a CALD background	People from remote areas	Low SES background	Gender (women)	All VET students
1.VET participation measures							
Participation rate of 15-64 years olds in VET	21.9	N/A	6.9	19.0	N/A	9.8	10.1
Students from equity group as a % of total VET students	5.3	8.0	11.1	4.4	16.0	49.2	100.0
% of students enrolled in course at Certificate III and above	37.3	43.5	63.2	49.4	54.4	64.4	62.4
Full-year training equivalents per student	0.335	0.449	0.519	0.317	0.404	0.424	0.427
Student enrolments as a % of total apprenticeships	4.0	1.6	8.8	3.4	N/A	43.9	100.0

⁷⁴ National Report on Social Equity in VET. Transition and Post-School Education and Training Transitions and Post-School Education and Training. Australian Council for Educational Research ACEReSearch. National VET Equity Advisory Council (NVEAC). 2013

⁷⁵ Degree of remoteness is identified by postcode (major cities, small cities, remote areas)

⁷⁶ National Report on Social Equity in VET. Australian Council for Educational Research ACEReSearch. National VET Equity Advisory Council (NVEAC).2013

VET Equity Indicators	Indigenous Australians	People with a disability	People from a CALD background	People from remote areas	Low SES background	Gender (women)	All VET students
enrolments							
<i>Student enrolments by large economic sector as a % of total enrolments</i>							
Services	21.2	22.6	20.9	18.1	N/A	37.1	25.4
Innovation and business	21.4	18.6	20.6	17.6	N/A	33.8	24.7
2.Course completion measures							
Load pass rate (LPR) ⁷⁷	73.2	73.4	77.1	71.9	80.2	82.2	82.4
<i>Load Pass Rate (LPR) by qualification level</i>							
Diploma and above	78.2	75.7	79.4	86.6	80.4	84.1	82.8
Certificate III or IV	75.5	75.5	80.0	86.6	83.1	83.6	84.4
Certificate I or II	69.2	69.3	67.6	74.4	74.0	75.0	76.1
<i>Qualifications completion rate</i>							
Diploma and above	5.3	10.1	21.2	7.2	10.7	16.8	15.3
Certificate III or IV	44.2	50.1	54.2	53.5	55.1	60.3	59.7
Certificate I or II	50.4	39.8	24.6	39.3	34.1	22.9	25.0
<i>Qualification completion by industry sector as percentage of total completions</i>							
Services							
Innovation and businesses							
3.Graduate transition measures⁷⁸							
<i>Improved employment circumstances</i>							
Graduates	56.2	42.0	49.4	70.2	58.2	59.8	63.5
Module completers	37.8	30.5	49.2	53.2	45.0	42.5	47.1
<i>Employed after but not employed before training</i>							
Graduates	40.4	27.7	34.1	57.5	41.1	44.4	48.1

⁷⁷ A qualification (or course) completion rate is the proportion of VET qualifications (or courses) started in a given year that will eventually be completed. Completion rates are calculated through an agreed time period (usually 1 year) over which a cohort of students will be tracked. For qualification completion rates, qualifications are tracked for one year only and the behaviour observed during this year is extrapolated to predict the long-term completion rate. That is, the number of qualifications completed or withdrawn from in one year are supposed to continue in later years. This method of anticipating the qualification completion rates needs to be applied for measuring student performance in longer than one- year programs.

A subject load pass rate is the ratio of hours studied by students who passed their subject(s) to the total hours committed to by all students who passed, failed or withdrew from the corresponding subject(s). Subject completion rates are calculated from actual data of subject enrolments for a given year. (A.Bednarz. Lifting the lid on completion rates in the VET sector: how they are defined and derived. NCVER. 2012)

⁷⁸ The data show that the qualification completers were much more successful in the labour markets than the individual module completers.

VET Equity Indicators	Indigenous Australians	People with a disability	People from a CALD background	People from remote areas	Low SES background	Gender (women)	All VET students
Module completers	27.5	20.8	35.1	37.4	33.2	29.0	35.2
<i>Employed or in further study</i>							
Graduates	79.5	71.8	79.7	90.0	83.7	86.8	88.0
Module completers	52.3	45.1	64.7	79.2	66.4	67.2	72.4

The above VET performance indicators comparing “equity groups” with the entire body of VET students in Australia is a solid basis for measuring and planning progress on equality of VET participation and progression to the labour markets of VET graduates from the risk groups, benchmarking of regional VET performance, etc. These indicators are reflected in **Table 10**.

*VET quality indicators applied in Australia*⁷⁹

The Australian Quality Training Framework (AQTF) involves VET quality targets and related indicators which are based on the learner and employer satisfaction with skills training received, as follows:

- The Learner satisfaction questionnaire (LQ) is a tool to measure learners’ satisfaction with the quality of training, their engagement in high-quality learning and perceptions of competency development. The LQ aims to measure four broad domains: Training quality, work readiness, training conditions and learner engagement. Ten underpinning scales are measured: Trainer quality, overall satisfaction, effective assessment, clear expectations, learning stimulation, relevance of training, competency development, training resources, effective support and active learning.
- The Employer Questionnaire (EQ) is a tool to engage employers in providing feedback about the quality and outcomes of vocational education and training, and about the responsiveness of training organisations. The EQ provides measurement of three broad domains: Training quality, Work readiness and training conditions. Seven underpinning scales are measured: Trainer quality, overall satisfaction, effective assessment, training relevance, competency development, training resources and effective support.

The Employer questionnaire is comprised of 30 questions and related scales. The Learner Questionnaire is comprised of 35 questions and related scales. For instance, during 2011-12 season, the Australian Council for Educational Research (ACER) analysed data from 5,150 Employer Satisfaction surveys and 70,385 Learner Engagement surveys. Benchmark data (averages) provides a valuable source of information about the quality of education and training, student support services and staff engagement within institutions. Collecting and distributing benchmark data also sends a clear message to current and new students, employees and regulators that an RTO takes quality assurance and continuous improvement seriously. The quality improvement objectives are set to increase the related benchmarks (averages).

5.2. Strategic planning of skills development in the Netherlands⁸⁰

The national skills development objectives, the related labour market objectives and the means of achieving those through strengthening the skills development system in the Netherlands are shown

⁷⁹ AQTF quality indicator service. Report.2011-2012. Australian Council for Educational Research (ACER)

⁸⁰ Based on: OECD skills strategy diagnostic report: The Netherlands. 2017

in **Table 7**. The skills development objectives are explicitly linked to the three *labour market development* objectives:

- to “boost labour market participation and employment in *high quality jobs*” requiring *higher skills levels* rather than a simple increase of employment;
- “improve activation of under-represented groups in the labour markets” what requires achievement of more equal access to skills development mostly for people with immigrant background;
- “strengthen skills use in companies of all sizes” is seen as a justification of support for life-long learning mostly on the job.

The labour market development objective “to boost labour market participation and employment in high quality jobs” is supported by the two skills development objectives:

- “ensure that adults have the right combination of skills to strengthen innovation, productivity and social inclusion”; the “right combination of skills” also involves numeracy and literacy skills as well as the “cognitive, social and emotional skills”, and
- “develop higher levels of skills with the focus on occupations that require a tertiary education”.

The strategic plan for skills development in the Netherlands is based on thorough research which produced the baseline data for setting up strategic targets aligned with the aim to improve position of the country against the EU and OECD benchmarks. The plan includes several areas of key strategic improvements listed in **Table 7** in the areas of “recognition and validation of skills developed outside the formal education”, “effectiveness and efficiency of skills financing”, “skills analysis and anticipation to address current and future skills mismatch”, etc. Each of these planned improvements is supported by detailed proposals (mostly legislative and regulatory). It is not certain, however, that the implementation of these strategic changes will actually allow achievement of the strategic development objectives of the labour market.

Some of the labour market and skills development indicators applied in strategic planning of skills development in the Netherlands are quoted in the summary **Table 10**.

Table 7. Skills development objectives and related indicators in the Netherlands⁸¹

Labour market development objectives	Skills development objectives	Performance indicators for skills development system	Baseline data (different years)	The strategy of strengthening the skills system to attain objectives
1. Boost labour market participation and employment in <i>high quality jobs</i>	1. Ensure that adults have the <i>right combination of skills</i> to strengthen innovation, productivity and social inclusion	1.1. Share of employees reporting job-specific skills gaps	33% with upper secondary and post-secondary and vocational education reported skills gaps versus 28% on average in EU	1. Improving the recognition and validation of skills developed outside the formal education 2. Increase effectiveness and efficiency of skills financing 3. Strengthening skills analysis and anticipation information to address current and future skills mismatches 4. Broadening stakeholder engagement in policy dialogue to foster more equitable skills outcomes
		1.2. Number of adults with very low levels of occupational skills ⁸²	1.7 million	
		1.3. Number of adults 25-65 year-olds with low levels of proficiency (i.e. Level 1 or below) in literacy, numeracy or both ⁸³	Over 1.7 million (2012)	
		1.4. Share of tertiary students who commence STEM occupational programs annually	35% (2014/15)	
		1.5. Share of 25-34 year-olds holding a tertiary degree	44% (2014) (OECD average-34%)	
		1.6. Share of individuals with a proper balance of cognitive, social and emotional skills. ⁸⁴	Out of 24-39 year-olds, 34% reported a gap in their	

⁸¹ Drawn on the basis of: "OECD skills strategy diagnostic report: The Netherlands. 2017"

⁸² 65% of low-skilled adults are 16-54 year-olds

⁸³ Such individuals have trouble extracting information from longer and more complex texts or performing numerical tasks involving several steps. Data based on Programme for the International Assessment of Adult Competencies run by the OECD (PIACC)

⁸⁴ Cognitive skills imply the mental capacity to acquire knowledge, thoughts and experience, and interpret and reflect and extrapolate those based on the knowledge acquired. Social and emotional ("transversal") capacities involve: (a) Achieving goals (perseverance, self-control, passion for goals), (b) Working with others (sociability, respect, caring), and (c) Managing emotions (self-esteem, optimism, confidence). Assessment is based on self-reporting by employed persons. OECD calculations are based on the European skills and jobs survey. CEDEFOP. Thessaloniki. 2016

Labour market development objectives	Skills development objectives	Performance indicators for skills development system	Baseline data (different years)	The strategy of strengthening the skills system to attain objectives
			learning skills, compared to 24% in EU countries	
		1.7. Number of employees with an upper secondary or post-secondary qualification including vocational education who reported job-related skill gaps ⁸⁵	33% (2014) reported a gap in their job-specific skills (EU average of 28%).	
	2. Develop <i>higher levels of skills</i> with the focus on occupations that require tertiary education to seize the opportunities of tomorrow's economy	2.1. Share of WAP with completed tertiary qualifications		
2. Improve activation of under-represented groups in the labour markets	3. Foster <i>more equitable skills</i> outcomes since a sizable number of adults have very low levels of basic skills; certain groups have more limited opportunities to develop and fully use their skills	3.1. The NEET rate of youth aged 15-29	7.7% (considerably below the OECD average of 14.6%)	
		3.2. Proficiency level of WAP with immigrant background in literacy and numeracy ⁸⁶		
		3.3. Number of WAP with immigrant background with very low levels of occupational skills ⁸⁷		
3. Strengthen skills use in companies of all sizes	4. Enable workers to engage in <i>continuous skills development</i> so that they can compete with increasingly high skills levels in low-wage countries, etc.			

⁸⁵ OECD calculations based on: OECD (2017), Survey of Adult Skills database (PIAAC) (2012, 2015), www.oecd.org/skills/piaac/

⁸⁶ OECD calculations based on: OECD (2017), Survey of Adult Skills database (PIAAC) (2012, 2015),

⁸⁷ OECD calculations based on: OECD (2017), Survey of Adult Skills database (PIAAC) (2012, 2015)

5.3. Strategic planning of VET in Korea ⁸⁸

The following problems in skills development and labour force participation have been identified in Korea:

1. *Overemphasis of academic studies and university education* and neglect of vocational education and training (VET). Although university graduates have lower employment rates than graduates from some high-performing VET institutes, participation in VET programmes remains low. Boosting VET participation and promoting job-based learning is critical. Overemphasis of higher education results in the share of higher education graduates in the NEET group being almost double the OECD average (24% versus 13%) while the NEET participation rate among all youth is only slightly above the OECD average (19% versus 15%). Amongst the all paid workers, 19.5% said that they are over-educated against their job requirements, and only 1.5% said they are under-educated. The longer the youth stay in the NEET group, the higher is the loss of skills and opportunities for individuals, and for the economy.
2. The *labour market participation rate of Korean youth* has been decreasing over the past decade. Almost 32% of adults at proficiency Level 4 or 5 do not participate in the labour force. However, the labour force participation of persons with lower secondary education compared to other OECD countries with the same level of education is relatively high.
3. Korea has a *high gap in generic skills between young and older workers*. The literacy, numeracy and problem-solving skills of young adults are well above the average of countries participating in the OECD Survey of Adult Skills (PIAAC). However, the skills of adults over 45 years are well below the average.
5. The adults in Korea are less likely to participate in *lifelong learning*. Other groups with low participation rates in lifelong learning include women, workers with non-regular contracts and workers in small and medium-sized enterprises (SMEs). It is particularly relevant for non-regular workers which share in the labour force reached 36% in 2013. Incentives for provision of in-firm training have decreased among certain groups of workers. The commitment in Korea to the introduction of the National Competency Standards (NCSs) is the way to improve lifelong learning.
6. The *percentage of tertiary students who are studying humanities, arts and physical education, and social sciences* has been rising resulting in churning out large numbers of graduates with lower job-finding rates. It has been difficult to quickly increase the intake of students in engineering, medical sciences and pharmacy, and other technical fields.
7. At both secondary and post-secondary education levels, workplace-based learning has shown a very considerable potential for enhancing the labour market relevance of VET programmes, and yet 88% of vocational graduates at the upper secondary level *did not acquire adequate job-related skills*.
8. A significant share of workers in Korea has a *mismatch between the skills they possess and the workplace requirements*. Educational qualifications do not adequately reflect the actual skill levels of workers. For this reason, a possession of higher educational qualification does not improve chances of finding employment. Many skills acquired through on-job learning are not recognised by employers.

The objectives and performance indicators for skills development in Korea aiming to address the above problems of the labour market are listed in **Table 8**.

⁸⁸ OECD skills strategy diagnostic report: Korea. OECD. 2015

Table 8. Skills development objectives and related indicators in Korea⁸⁹

The labour force development objectives	Strategy: Strengthening the skills system to attain the labour force development objectives	Performance Indicators	Baseline data (different years)	Plan of activities
1. Increase labour force participation rate of youth	1. Boosting VET participation through reducing overemphasis on academic studies and university education and increased provision of job-related VET	1. VET participation rate		
2. Reduce mismatch between skills acquired and the job requirements ⁹⁰	2. Transform the system of secondary VET schools into skills-driven and Meister high schools and more specialist vocational schools based on industrial needs and sector-specific skills 3. At Meister high-schools, to tailor curriculum by industry needs and appoint principals with an industry background. 4. Introduce training options like apprenticeships	2. Number of vocational high-schools and general vocational schools re-structured towards becoming the more skills-driven providers 3. Number of apprenticeship contracts signed annually	1. In 2010, there were 691 vocational high-schools. 2. In 2013, there were 35 Meister high-schools with enrolment of 13,600 students. 3. In 2013, Korea introduced the dual system based on Germany's apprenticeship system.	1. By 2015, to restructure: - 691 vocational high-schools into more skills-driven schools; - 21 Meister high-schools, 168 specialised vocational high-schools, 275 general vocational and 227 other vocational high-schools into 50 Meister high-schools, 350 specialised vocational high-schools, and 291 general, comprehensive or other high-schools ⁹¹ . 2. Expand and improve the dual system. Align the dual system to the requirements of national competency standards. By 2017,

⁸⁹ Based on: OECD skills strategy diagnostic report: Korea. OECD. 2015

⁹⁰ More than half of VET graduates in Korea responded that subject knowledge learned at specialised vocational high-schools does not match requirements at work.

⁹¹ The Vocational High-School Advancement Plan (2010 May-2015). Ministry of Education website, <http://english.moe.go.kr/enMain.do>.

The labour force development objectives	Strategy: Strengthening the skills system to attain the labour force development objectives	Performance Indicators	Baseline data (different years)	Plan of activities
	combining work and study programmes 5. Introduce incentives for vocational high-school graduates to advance to the tertiary level education after working for 2-3 years			to reach 10 000 companies and create 70 000 apprentice positions.
3. Transform Korea into a competency-based and creative economy	6. Introduce National Competency Standards (NCS) and the standards-based qualifications assessment	4. Number of NCS completed and applied by the Ministry of Education in course development 5. Number of competency-based qualifications introduced 6. Number of qualifications assessment requirements completed and applied 7. Number of training standards corresponding the NCSs revised	4. Some 797 NCSs completed before 2015. 5. No NCS-based qualifications assessment exists. 6. Training standards are available but require revision. 7. NQF exists but requires update.	3. Develop 60 NCSs by 2017. 4. Develop qualifications assessment criteria based on some 850 NCS. 5. Transform 16 junior colleges into National Competency Standards (NCS)-based Lifelong Vocational Education Advancement Colleges (LEAD) ⁹² . 6. By 2017, review grading requirements of the National Technical Qualification (NTQ) system. To revise the 15 competency-based qualifications in mechanical fields and add 15 qualifications. 7. Revise existing training standards enabling their priority application in specialised vocational

⁹² Ministry of Employment and Labour Website, <http://www.moel.go.kr/english/main.jsp>.

The labour force development objectives	Strategy: Strengthening the skills system to attain the labour force development objectives	Performance Indicators	Baseline data (different years)	Plan of activities
				high-schools, Meister high-schools, and junior colleges 8. Introduce a new national qualification framework (NQF).
4. Reduce the NEET group and, in particular, the share of NEET group with HE qualifications		8. Share of group NEET amongst the 15-24 age group 9. Share of NEET's who has the HE qualifications	8. Group NEET amongst youth aged 15-29 accounts for 19% (versus the OECD average-15%) (2014). 9. Share of NEET's who possess tertiary education is much higher than the OECD average (24% versus 13%, the OECD average). 10. The share of NEET among Korean youth with an upper secondary education is about 23%, which is same as for youth with tertiary education. Korea has the lowest employment rate of labour force with more than a university degree.	9. By 2020, to reduce the group NEET by, at least, 10% ⁹³ .
5. Increase the intake of students in engineering, medical sciences and pharmacy, and other technical fields (STEM) and arrest the continuing increase of enrolment		10. Share of tertiary students enrolled in STEM programs	11. In 2012, a share of STEM tertiary graduates in Korea was 9.3% (OECD average - 9.15%), while in Germany it was 16.3% ⁹⁴ .	10. By 2020, to increase the share of STEM enrolments and §graduates.

⁹³ Assumption of the author based on the Korea's skills development strategy involving introduction of NCSs

⁹⁴ "STEM" is the acronym of science, technology, engineering, and mathematics. In this Report, the STEM program enrolment data were collected for the following areas:

The labour force development objectives	Strategy: Strengthening the skills system to attain the labour force development objectives	Performance Indicators	Baseline data (different years)	Plan of activities
of tertiary students in humanities, arts and social sciences programs which have lower employment rates				
6. Improve access to lifelong learning to adults over 45 years, women, workers with non-regular contracts and workers in small and medium-sized enterprises (SMEs)		11. Number of student- hours of lifelong learning programs implemented per year by: - adults aged 45 and over - women - workers with non-regular contracts, and -workers in SMEs	12. VET institutions do not offer adult education courses; no relevant curricula exist and teachers have no related experience. 13. Low motivation of less educated and skilled workers for LLL. Presence of LLL barriers for non-regular workers, workers in SMEs, women, and the unemployed. 14. Systems for assessment and recognition of skills of adults such as ACBS, Self-Study Degree Award System (SDAS), and Lifelong Learning Account System (LLAS) do function; however, employers are reluctant to recognize these qualifications.	11. By 2020, to increase the number of student-hours of lifelong learning programs implemented per year by: - adults aged 45 and over; - women; - workers with non-regular contracts, and workers in SMEs. 12. The systems for assessment and recognition of skills of adults (ACBS, Self-Study Degree Award System (SDAS), and Lifelong Learning Account System (LLAS) to be aligned to NCSs encouraging employers to recognize the adult workers' qualifications.

Life sciences (ISC 42), Physical sciences (ISC 44), Mathematics and statistics (ISC 46), Computing (ISC 48), Engineering and engineering trades (ISC 52), Manufacturing and processing (ISC 54). (<http://stats.oecd.org>. Accessed on 24.08.17)

6. Summary of objectives and related indicators for skills and workforce development in countries-beneficiaries of the Project⁹⁵

The reports were commissioned to experts from countries beneficiaries to identify national strategic objectives for skills and labour force development, the indicators applied for measuring progress on those objectives as well as major strategies proposed for their achievement. The reports revealed that the most frequently targeted areas of strategic development are limited to formal VET with only few exceptions being objectives which concern development of the labour force. The national skills development activities are supported by myriads of decrees, decisions, etc. aiming to increase, reduce, introduce or standardize selected elements of systems and processes involving duration of training of vocational teachers, delegation of authorities, etc. However, most of VET objectives are descriptive only and lack indicators for measuring their achievement, they also lack the baseline and planned targets by indicator.

VET systems' development plans mostly involve activities some of which do have planned targets but again lack baseline data. It remains uncertain to what extent the implementation of many various activities may have any considerable impact on performance of skills development systems such as production of skilled workforce with right proportions needed in the labour markets, ensuring equality of opportunity to access skills development, ensuring quality education, etc. Many countries beneficiaries lack VET objectives reflecting the requirements of the ILO, UNESCO, and other important HRD policy benchmarks as follows:

In *Armenia*, there is no national strategic development plan for skills development or any other document which sets measurable VET objectives, describes related indicators, as well as baseline data and achievement targets. The VET development objectives are mentioned in national development plans⁹⁶ and other documents and put forward the following priorities: quality of VET, alignment of VET quality with requirements of the labour markets, alignment of VET delivery to individual needs and capabilities of persons, ensuring continuity of education, provision of opportunities for LLL, efficiency of VET system's resources utilisation, development of social partnerships in VET, broadening access to technician Diploma and the HE programs (see **Table 9**).

In *Kyrgyzstan*, strategic objectives for VET are expressed mostly as policies or priorities and are not accompanied by related performance indicators, any baseline data and achievement targets. This does not permit following on assessment of progress of completion of the objectives. VET strategic planning documents do involve a number of performance indicators. However, the implementation of activities does not necessarily lead to any measurable progress on national VET strategic objectives since they have not been operationalized.

The following major objectives are featured in the National education strategy for 2012-2020⁹⁷ and some other national policy documents:

- Improvement of VET quality in line with requirements of the labour market (through introduction of the qualification system, independent accreditation, assessment and certification);

⁹⁵ This Section is based on the national reports produced by the following experts: for Armenia (Mr. Sevak Alekryan), Kyrgyzstan (Mme. Zaire Sydykova), Russian Federation (Dr. Vladimir Blinov), and for Tajikistan (Dr. Rustam Babajanov).

⁹⁶ Решение Правительства N122-Н от 27.03.2014г. "Об одобрении перспективного развития стратегической программы РА в 2014-2025 гг и об утрате силы решения N1207-Н, принятого 30-ого октября 2008г.

⁹⁷ Стратегия развития образования в КР 2012-20г.г.

- Development of workforce with communication skills, capable of acting autonomously and creatively, sharing commitment to human freedom and rights and gender equality, possess fundamental and specialist knowledge and skills making them employable and successful;
- Improvement of access to skills development;
- Improvement of gender equality and economic opportunities for women and improvement of their access to skills development⁹⁸; improvement of equality of access to VET across regions of the country⁹⁹;
- Development of partnerships in VET;
- Increase of participation in VET of youth aged 15-24 and reduction of the group NEET¹⁰⁰;
- Improvement of efficiency of VET resources utilisation;
- Improvement of relevance of skills development to the needs of o trainees in education and employment and to the demand of regional labour markets;
- Increased focus of skills development for specific sectors (agriculture and agro-processing, garments, etc.) and occupations (software developers¹⁰¹)¹⁰².

The essential VET performance indicators suggested in the National education strategy include the following (but the Strategy failed to introduce baseline data and achievement targets):¹⁰³

- Share of short-term course enrolments of the total enrolments;
- A number of registered and accredited VET programs;
- A number of VET programs which support inclusive education;
- Share of females in VET enrolments;
- Share of VET graduates who found employment through agreements between VET institutions and companies;
- Share of VET providers who signed contracts from companies for training of skilled workforce.

The most essential indicator linking VET results to the labour force development in Kyrgyzstan has been introduced by the 2nd ADB-financed Skills Development Project as follows: "Number of workers in labour force with formal TVET qualifications will have increased by 25% for male workers and urban workers and by 30% for female workers and rural workers during 2010-2020." Although this target has not eventually evolved as a national VET development objective, as a matter of example, it is worth quoting. The baseline data and attainment targets for this objective are shown in **Table 9**.

Russian Federation

In the Russian strategy for the development workforce training system for 2013-2020 the most important objectives involve:

- development of skilled workers and technicians' qualifications in line with needs of economy;
- provision of access for various population groups to LLL;
- creation of conditions for successful social integration and self-realization of trainees¹⁰⁴.

⁹⁸ Национальная стратегия КР по достижению гендерного равенства до 2020 года.

⁹⁹ Программа рационализации системы начального и среднего профессионального образования в 2017-2018 г. Приказ МОиН КР 29 июня 2017 г.

¹⁰⁰ Программа рационализации системы начального и среднего профессионального образования в 2017-2018 г. Приказ МОиН КР 29 июня 2017 г.

¹⁰¹ The target for training of the software developers is 30,000 by 2022 (Presentation by the Ministry of Education and Science at the workshop on national education priorities. September 2017. Bishkek).

¹⁰² Strategic national programme «40 steps to the future». http://www.gov.kg/?page_id=74383&lang=ru

¹⁰³ Стратегия развития образования в КР 2012-20г.г.

¹⁰⁴ Стратегия развития системы подготовки рабочих кадров и формирования прикладных квалификаций в Российской Федерации. 2013-2020. Приложение 2. Министерство образования и науки Российской Федерации

The range of important indicators and achievement targets related to the above strategic objectives are shown in **Table 9** and involve:

- To increase share of VET graduates who found employment in the occupation in which they had been trained during one year since graduation;
- To increase share of *formally trained workforce* in the labour force aged 25-65. This target however does not determine what qualifications are included (the skilled worker Certificates only or both, Certificates and technician Diplomas as well);
- Share of colleges and HE institutions offering training programs and lodging facilities to disabled persons;
- Share of population aged 25-65 who participated in skills or qualification upgrading course. It is however not clear whether the data are to be reported on annual participation in training or it is for the whole period of 2013-2018;
- Share of VET trainees in need of hostel places who reside in hostels;
- Share of college graduates and Applied Bachelor graduates (HE) registered as entrepreneurs within 3 years since graduation.

Tajikistan

Major priorities of skills development in Tajikistan are formulated in the range of documents and aim to ensure:¹⁰⁵

- -humanistic, democratic character of education and upbringing;
- -continuity of education;
- -accessibility and adaptability of vocational education to the levels, characteristics and skills of students;
- encouragement of education and talent;
- assistance to students of secondary vocational education;
- overcoming gender disparities in access to vocational education, as well as inequality in such an access between the urban and rural population;
- the quality of vocational education.

Statistical data in skills development involve:

- enrolment and graduation
- share of short-term students amongst all enrolments (it tends to increase)
- share of females in enrolments
- number of vocational students per 10,000 of population, etc.

A limited size and structure of the internal labour markets in the Republic requires consideration of migration flows which are of considerable importance and may impact on planning of enrolments and the occupational program offerings and related qualifications. Sectorial planning of skilled workforce is also important. The sector development programs, such as “Information security”, “Food security” and “Transport security” do not contain any mentioning of skilled workforce with the purpose of carrying out these programs. The ADB-financed “Skills development project” aims to develop certain areas of the skills development system but did not establish indicators for measuring its impact on national skills and labour force development.

¹⁰⁵ Закон Республики Таджикистан «О начальном профессиональном образовании» (в редакции Закона РТ от 30.07.2007г.№334, от 26.03.2009г.№491, от 03.07.2012г.№868, от 26.07.2014г.№1127; Закон Республики Таджикистан «О среднем профессиональном образовании» в редакции Закона РТ от 30.05.2017г.№1427. Постановление ММ МОПТ от 20 мая 2015 года, №87; Государственная программа реформирования и развития сферы начального и среднего профессионального образования Республики Таджикистан на 2012-2020 годы;

It was decided that the development programming of Tajikistan will after 2015 and until 2030 be based on the UN Sustainable Development Goals including Goals 4 and 8 which are of particular importance for strategic planning of skills development. For some of strategic objectives of skills development, Tajikistan is lacking base-line data what has caused the unrealistic and contradictory nature of a number of planned indicators. The adopted objectives and related indicators are listed in **Table 9**.

No major report on planning of VET system performance and the labour force has been identified in Tajikistan.

7. Conclusions: On the way to application of the international HRD policy requirements and experience of G20 economies in countries beneficiaries of the Project

Structuring areas of strategic planning

The requirements and recommendations arising from the international HRD policies, the skills and workforce development indicators proposed by international agencies and applied in G20 economies have pointed out to the need for review of the target setting and performance measurement in skills development systems. The following lessons have been learned from this stock-taking Report:

- The national, regional and sectoral programs of economic and social development should incorporate the skills development sections. Otherwise the risk of their implementation due to absence or shortage of relevant skilled workforce is considerable.
- The international HRD policy requirements and related performance indicators for skills development systems (summarised in **Table 10**) may be structured into seven policy areas enabling to agree on a generic template for strategic planning and performance measurement of skills development. These seven policy areas include the following generic skills development objectives:

Policy area 1. Participation in skills development

- 1.1. Strategic objective: Increase participation of youth in skills development
- 1.2. Strategic objective: Increase enrolments in (or graduations from) higher qualification level programs and STEM programs
- 1.3. Strategic objective: Reduce the NEET rate of youth

Policy area 2. Relevance of training to the needs of learners and labour markets

- 2.1. Strategic objective: Improve relevance of VET to training and employment needs of individuals: youth, adults, the employed, etc.
- 2.2. Strategic objective: Improve transition of VET graduates to the labour market
- 2.3. Strategic objective: Improve relevance of skills development to the needs of labour markets

Policy area 3. Equality of opportunity to access training and employment

- 3.1. Strategic objective: Ensure equality of opportunity to access education and training infrastructure across regions, rural and urban areas
- 3.2. Strategic objective: Reduce barriers for risk groups to access skill training and employment opportunities

Policy area 4. Quality of skills development

4. Strategic objective: Ensure quality of skills development

Policy area 5. Lifelong learning (LLL)

5. Strategic objective: Support access to skill training for employability throughout life

Policy area 6. Efficiency of resources utilization in skills development systems

6. Strategic objective: Ensure efficient use of resources in skills development

Policy area 7. Partnerships in training provision

7. Strategic objective: Increase partnerships in developing skills and employability

The need for improvement of strategic planning

Most of the countries beneficiaries do have strategic objectives for skills development such as “improve VET quality”, “improve relevance of training to the market demand for skills” which are however expressed solely as policy preferences and are not accompanied by operational indicators, baseline data and performance targets. This does not permit the labour force planning and monitoring of performance of skills development systems.

National skills development strategies in countries beneficiaries indicate their adherence to the above HRD policy principles such as “equality of opportunity”, “relevance of training to skill needs”, “education quality”, etc. However, due to lack of shared understanding of some of those categories, this policy alignment is not making any essential impact on skills development and the labour force. Only the application of technically sound performance indicators would allow making judgement on whether the training provision has become more responsive to skills needs of target groups or the training system provides more equal opportunities for risk groups to enrol in skills development. Therefore, further efforts should be made to improve technical clarity of the international HRD policy requirements such as “relevance”, “equality of opportunity”, “quality training”, “lifelong learning” and agree on related performance indicators to enhance strategic management of skills development.

Some strategic objectives like “improve relevance of VET to the education and employment needs of consumer groups”, “achievement of higher qualifications attainment levels” or the “increase of enrolment and graduation in the STEM subject areas”, which have been a strategic priority in advanced economies, are not yet applied in countries beneficiaries.

The skills development systems in countries beneficiaries apply a very limited range of performance indicators mostly involving enrolments by type of program and gender as well numbers of graduates what represents an *important gap* between what is declared in national skills development policies and strategies and what is actually targeted and monitored

The results of skills development in the countries beneficiaries are not viewed as a factor of the labour force improvement. The range of skills development targets and indicators, if any, is limited by the area of *vocational education and training* and does not have any clear linkages to the *employment situation* of the labour force. The good practice of the advanced economies demands that skills development systems should take a fair share of responsibility for the employment situation of labour force. If shares of the labour force who are underqualified or occupationally mismatched do not diminish for years, it is understood that the skills development system is not working properly.

Many of the seven areas of strategic planning and performance measurement identified in this Report are not yet reflected in skills development plans of countries beneficiaries of the project. The capabilities of individual countries to apply the broad range of skills and labour force development indicators may be limited by different national policy commitments, low availability of relevant data due to the cost and capacity of data collection, etc. In some countries-beneficiaries of the G20 project, the common meaning of, for instance, “relevance of training to the market demand” is also impacted by the very considerable out-migration of labour force to the countries with different or unknown demand for skills. The concept of relevance would require adaptation in line with dimensions

of the local and foreign labour markets. Equally, the presence of sizable informal economy with unknown occupational and qualifications structures would require adjustment of strategic targets and performance indicators for skills development and the labour force.

The identified seven broad areas of strategic planning and related objectives and indicators summarised in **Table 10** need to be discussed by countries-beneficiaries of the G20 Project to share and, possibly, agree on:

- a) applicability of the identified range of the policy areas and related strategic development objectives
- b) major indicators for each of the strategic objectives allowing for their measuring and monitoring what has a potential for improving the comparability of data between countries
- c) some basic strategies aiming to achieve the strategic objectives
- d) major approaches to data collection, applicable statistical instruments and utilisation of the information for making strategic planning and monitoring decisions for skills and workforce development what is one of the anticipated outcomes of G20TS Project

Table 9. Strategic objectives and performance indicators for VET in Armenia, Kyrgyzstan, Russia and Tajikistan

Objectives for skills and labour force development	Performance Indicators	Baseline data	Planned targets
Armenia			
1. Quality of VET 2. Alignment of VET quality to requirements of labour markets 3. Alignment of VET to individual needs and capabilities of persons 4. Continuity of education 5. Opportunities for LLL 6. Efficiency of VET system's resources utilisation 7. Development of social partnerships in VET 8. Broadening access to the technician and the HE programs	No indicators are applicable		
Kyrgyzstan			
1. Improvement of VET quality in line with requirements of the labour market	1.1. Number of registered and accredited VET programs		
2. Development of workforce with communication skills, capable of acting autonomously and creatively, sharing commitment to human freedom and rights and gender equality, with fundamental and specialist knowledge and skills			
3. Improvement of access to skills			
4. Improvement of <i>gender equality</i> and economic opportunities for women and of their access to skills	4.1. Share of females in VET enrolments		
5. Improvement of equality of access to VET <i>across regions of the country</i>			

Objectives for skills and labour force development	Performance Indicators	Baseline data	Planned targets
6. Development of partnerships in VET	6.1. Share of VET graduates who found employment through agreements between VET institutions and companies 6.2. Share of VET providers who signed contracts from companies for training of skilled workforce		
7. Increase of participation in VET of youth aged 15-24 and reduction of the group NEET	7.1. Share of short-term course enrolments of the total enrolments		
8. Improvement of efficiency of VET resources utilisation			
9. Improvement of relevance of skills development to the needs of trainees in education and employment	Number of VET programs which support inclusive education		
10. Increased focus on skills development for specific sectors (agriculture and agro-processing, garments, etc.) and selected occupations (software developers)	- number of workers in labour force with formal VET qualifications; - proportion of men and women with VET qualifications; - proportion of urban and rural population that received professional training.	2010: 10.1. Share of male workers with VET qualifications- 14% 10.2. Share of female workers with VET qualifications-15.8% 10.3. Share of urban workers with VET qualifications- 20.4%	Number of workers in labour force with formal VET qualifications will have increased by 25% for male and urban workers and by 30% for female and rural workers ¹⁰⁶ 2020: 10.1. Share of male workers with VET qualifications- 17.5% 10.2. Share of female workers with VET qualifications-21.0% 10.3. Share of urban workers with VET qualifications- 25.5%

¹⁰⁶ The 2-nd ADB-financed Skills Development Project. Kyrgyzstan.

Objectives for skills and labour force development	Performance Indicators	Baseline data	Planned targets
		10.4. Share of rural workers with VET qualifications- 12.5%	10.4. Share of rural workers with VET qualifications- 16.6%
Russian Federation			
1. Development of skilled workers and technicians' qualifications in line with needs of economy	1.1. To increase share of VET graduates who found employment in the occupation, in which they had been trained, during one year since graduation	2013: 44.4%	2018: 55.6%
	1.2. Share of VET graduates amongst total graduates from professional education	2013: 3.3%	2018: 20.4%
	1.3. Share of Applied Bachelor graduates (HE) amongst all graduates from professional education	2013: 14%	2018: 25.1%
	1.4. Share of the WAP aged 25-65 who completed professional education and training programs	2013: 5%	2018: 20%
	1.5. Share of high-skilled workers amongst skilled workers ¹⁰⁷	2015: 32.5%	2020: 33.4%
2. Access for various population groups to LLL	2.1. Share of colleges and HE institutions offering training programs and lodging facilities to disabled persons	2013: 8%	2018: 20%
	2.2. Share of population aged 25-65 who participated in skills or qualification upgrading course	2013: 30%	2018: 49%
	2.3. Share of VET trainees in need of hostel places who reside in hostels	2013: 40%	2018: 90%

¹⁰⁷ Постановление Правительства РФ от 15.04.2014 N 298 (30.03.2017) «Об утверждении государственной программы Российской Федерации "Содействие занятости населения» Подпрограмма "Развитие институтов рынка труда".

Objectives for skills and labour force development	Performance Indicators	Baseline data	Planned targets
3. Successful social integration and self-realization of trainees	3.1. Share of college graduates and Applied Bachelor graduates registered as entrepreneurs within 3 years since graduation	2013: 0%	2018: 20%
Tajikistan			
<i>Within SDG 4</i> 4.3. By 2030 to ensure access of all men and women to inexpensive and quality VET and Higher Education	No indicators	No baseline data	2030 (100%)
4.4. By 2030 to considerably increase the number of people who possess employable skills including vocational skills enabling to find and retain decent jobs and enter entrepreneurship	No indicators		Considerably
4.5. By 2030 <i>роды</i> to eliminate gender inequality in the area of education and ensure equal access to education and skills development at all levels for all disadvantaged groups including disabled, aboriginal people and children in difficult situations			100%
<i>Within SDG 8</i> 8.6. By 2020 to considerably reduce the NEET group			Considerably
Securing equal opportunity and improving quality of skills development ¹⁰⁸			<ul style="list-style-type: none"> - Ensure that at least 50% of children aged 5-18 years receive free supplementary education; - Ensure participation in continuous education of at least 30% of

¹⁰⁸ Национальная Стратегия Развития Таджикистана до 2030г.

Objectives for skills and labour force development	Performance Indicators	Baseline data	Planned targets
			<p>the working age population (WAP);</p> <ul style="list-style-type: none"> - In 2030, at least 50% of the employed labour force will have professional education; - The proportion of students who graduated from primary vocational education in the total number of unemployed will decrease by 5% annually; - By 2020, the proportion of adults in the 25-64 age group who received formal or non-formal education will be 5%¹⁰⁹.

¹⁰⁹ Государственная Стратегия развития рынка труда Республики Таджикистан до 2020 г.

Table 10. Summary of the HRD policy requirements and related generic objectives and performance indicators for skills development ¹¹⁰

International policy objectives in skills development	Performance indicators applied in practice
AREA OF STRATEGIC PLANNING 1: PARTICIPATION IN SKILLS DEVELOPMENT	
1.1. Objective: <i>Increase participation of youth in skills development</i>	
<p>- <i>Participation in skills training</i> should be encouraged (ILO, 2005; ILO, 2008; ILO, 2010)</p>	<p>1.1.1. Number of enrolments by occupation and qualification level¹¹¹</p> <p>1.1.2. <i>VET participation rate</i>: Share of 15-24 age group, by gender, enrolled in programs of professional education (National Certificate courses, Technician Diploma courses)¹¹²</p> <p>1.1.3. VET students as a % of total full-time students¹¹³</p> <p>1.1.4. Full-year training equivalents implemented per student¹¹⁴</p> <p>1.1.5. Share of secondary school graduates and drop-outs (eligible for vocational enrolment) who commenced VET programs in the year of graduation¹¹⁵</p>
1.2. Objective: <i>Increase enrolments in (or graduations from) higher qualification level programs and STEM programs</i>	
<p>- Substantially increase the number of youth and adults who have relevant skills, including technical and vocational skills, for employment, decent jobs and entrepreneurship (UN SDG Goal 4);</p>	<p>1.2.1. Number of course enrolments/ completions by occupation and qualification per year¹¹⁸</p>

¹¹⁰ Some of the HRD policy citations are drawn from: A. Aggarwal. V. Gasskov. Comparative Analysis of National Skills Development Policies: A guide for policy makers. Decent Work Technical Support Team for Eastern and Southern Africa, Pretoria, South Africa. Skills and Employability Department. Geneva. 2013

¹¹¹ National Agreement for Skills and Workforce Development. Commonwealth of Australia 2012

¹¹² Indicator proposed by the report writer

¹¹³ National Agreement for Skills and Workforce Development. Commonwealth of Australia 2012

¹¹⁴ Measure which allows to calculate a combined VET participation rate for full-year and short-time courses (National Agreement for Skills and Workforce Development. Commonwealth of Australia 2012)

¹¹⁵ Indicator proposed by the report writer (also suggested by EQAVET as a supplementary indicator: "Percentage of annual cohort completing lower secondary school/compulsory education participating in initial VET programmes at upper secondary level (which lead to a formal qualification);

¹¹⁸ National Agreement for Skills and Workforce Development. Commonwealth of Australia 2012

International policy objectives in skills development	Performance indicators applied in practice
<p>- Development of <i>core skills</i>¹¹⁶ and <i>higher-level skills</i> should be encouraged (ILO, 2005; ILO, 2008; ILO, 2010);</p> <p>- Increase participation in VET programs in STEM¹¹⁷ subject areas (G20 Training Strategy, WISE).</p>	<p>1.2.2. Number of higher qualification enrolments/completions (Diploma and Advanced Diploma) per year (enrolments leading to high skill qualifications)¹¹⁹</p> <p>1.2.3. Qualifications completion rate (or subject load pass rate) (LPR) attained per year¹²⁰</p> <p>1.2.4. Share of student VET commencements/completions by large economic sector (Manufacturing, Agriculture, Services, etc.) as a % of total annual VET course commencements¹²¹</p> <p>1.2.5. Share of all tertiary students who enrolled in (or graduated from) STEM subject programs¹²²</p>

¹¹⁶ Core skills (literacy, numeracy, problem solving, and other skills) is referred to as one of major factors of employability enabling to apply acquired experience to new jobs and industries

¹¹⁷ "STEM" is the acronym of science, technology, engineering, and mathematics

¹¹⁹ Between 2009 and 2020, double the number of higher qualification completions (Diploma and Advanced Diploma). (National Agreement for Skills and Workforce Development, Steering Committee for the Review of Government Service Provision. Commonwealth of Australia. 2012)

¹²⁰ A *qualification completion rate* (course completion rate) is the proportion of VET course commencements started in a given year that have been or will eventually be completed (this indicator is also proposed by EQAVET). A *subject load pass rate* is the ratio of hours studied by students who passed their subject(s) to the total hours committed to by all students (who passed, failed or withdrew from the corresponding subject(s). In Australia, in 2008, for the full-time VET students aged 25 years and below the qualification completion rate estimate was 37% and the subject completion rate was 78%. (A.Bednarz. Lifting the lid on completion rates in the VET sector: how they are defined and derived. NCVER.2012)

¹²¹ National Report on Social Equity in VET. Transition and Post-School Education and Training Transitions and Post-School Education and Training. Australian Council for Educational Research ACEReSearch. National VET Equity Advisory Council (NVEAC). 2013

¹²² World Indicators of Skills for Employment (WISE) database; The indicator "Student commencements in STEM programs" is applied in the Netherlands ("OECD skills strategy diagnostic report: The Netherlands. 2017" and in Korea (OECD skills strategy diagnostic report: Korea. OECD. 2015)

International policy objectives in skills development	Performance indicators applied in practice
1.3. Objective: <i>Reduce the NEET rate of youth</i>	
<ul style="list-style-type: none"> - Substantially <i>reduce the proportion</i> of youth not in employment, education or training (NEET¹²³) (UN SDG Goal 8); - Reduce the proportion of <i>early leavers</i> from education and training (A strategic framework for European cooperation in education and training. Council conclusions. 2009); - Reduce school dropout and offer training opportunities for those who have not completed upper secondary education level¹²⁴ (The OECD Action Plan for Youth). 	<ul style="list-style-type: none"> 1.3.1. Proportion of youth (aged 15-24), by gender who are not in employment, education or training (NEET)¹²⁵ 1.3.2. Unemployment rate of youth aged 15-24, by gender¹²⁶ 1.3.3. Share of young people who are low-skilled or who are informally employed¹²⁷ 1.3.4. Share of early school leavers (aged 18-24) having attained at most lower secondary education (Grade 8-9) and not receiving further education or training (a major risk group)¹²⁸ 1.3.5. Share of the group NEET (aged 15-24) who failed to complete the primary school (a major risk group)¹²⁹

¹²³ NEET included those who are not in education, the unemployed and the economically inactive (For instance, in France, for age group 20-24: economically inactive -7.8% and the unemployed-13.1% (total NEET 20.9%); for age group 15-19: economically inactive-3.5, unemployed -4.0 (total- 7.4%). Average for the 15-24 in France: economically inactive-5.65%, unemployed- 8.55%, total NEET: 14.2%.

¹²⁴ The OECD Action Plan for Youth: Giving Youth a Better Start in the Labour Market, Paris, 2013. <http://www.oecd.org/newsroom/Action-plan-youth.pdf>

¹²⁵ UN Sustainable Development Goals till 2030. Goal 8. (<https://sustainabledevelopment.un.org/>); Torino process. 2016–17. European Training Foundation. In the Netherlands, the NEET rate is estimated for the age group 15-29 (OECD skills strategy diagnostic report: The Netherlands. 2017, see Table 7 in this Report; OECD skills strategy diagnostic report: Korea. OECD. 2015, see Table 8)

¹²⁶ Torino process. 2016–17. European Training Foundation.

¹²⁷ By 2025, to reduce the share of young people who are in group NEET or the low-skilled who are NEET or informally employed, by 15%. (Creating quality jobs for all, investing in skills and reducing inequalities to promote inclusive and robust growth. (G20 Labour and employment ministerial declaration. Ankara, 03-04 September 2015); See also WISE database which suggested to assess the size of NEET group as a share of those aged 15-24.

¹²⁸ By 2020, the share of early leavers (18–24-year-olds) having attained at most lower secondary education and not receiving further education or training) should be less than 10%. A strategic framework for European cooperation in education and training. EU Council conclusions. 2009 (This indicator is also applied in Torino process: “Percentage of the group aged 18–24, by gender with at most lower secondary education who were not in further education or training during the four weeks preceding the survey” 2016–17. European Training Foundation.)

¹²⁹ Share of the group NEET (aged 15-24) who failed to complete the primary school (a major risk group) may be targeted by training and other interventions See: World Indicators of Skills for Employment (WISE) database. Depending on the country’s level of development, the share of NEET group who failed to complete the secondary school may also be targeted by training interventions as a particular risk group.

International policy objectives in skills development	Performance indicators applied in practice
	1.3.6. Share of 15-year-olds failing to reach Level 2 in the OECD Programme for International Student Assessment (PISA) in reading, mathematics and science ¹³⁰
AREA OF STRATEGIC PLANNING 2: RELEVANCE OF TRAINING TO THE NEEDS OF LEARNERS AND LABOUR MARKETS	
2.1. Objective: <i>Improve relevance of VET to training and employment needs of individuals: youth, adults, the employed, etc.</i>	
<ul style="list-style-type: none"> - Vocational guidance and skills training should aim at developing knowledge, skills and employability of individuals for social inclusion, employment, personal and professional development (ILO, 2005; ILO, 2008; ILO, 2010); - VET should be delivered in response to identified learners' interests, current and long-term needs, national and regional demand for skills (ILO, 2005; ILO, 2008; ILO, 2010); - Ensure that individuals can develop and update the necessary capacities and skills they need to be productively occupied for their personal fulfilment and the common well-being (ILO Declaration on Social Justice for a Fair Globalization, 2008) - Training should consider social, cultural and educational background and take account of individual's own educational and career aspirations (ILO, 1975); 	<ul style="list-style-type: none"> 2.1.1. Proportion of VET graduates with improved education/ training status after training¹³¹ 2.1.2. A share of VET graduates employed in the occupation (and qualification) in which they had been trained¹³² 2.1.3. Proportion of VET graduates who are placed either in the labour market, further education or training (including university) within 12-36 months after the end of programme¹³³ 2.1.4. Proportion of VET graduates within 12-36 months since completion of training who are satisfied with training received¹³⁴

¹³⁰ By 2020, the share of low-achieving 15-year-olds in reading, mathematics and science should be less than 15% (those who fail to reach Level 2 in the OECD Programme for International Student Assessment (PISA) for reading, math and science). (Torino Process. 2016-2017. ETF; A strategic framework for European cooperation in education and training. EU Council conclusions. 2009.)

¹³¹ National Agreement for Skills and Workforce Development. Commonwealth of Australia. 2012

¹³² EQAVET indicator (The European Quality Assurance Reference Framework for Vocational Education and Training). (http://ec.europa.eu/education/policy/vocational-policy/eqavet_en)

¹³³ EQAVET indicator

¹³⁴ EQAVET indicator

International policy objectives in skills development	Performance indicators applied in practice
<ul style="list-style-type: none"> - Knowledge and skills imparted must include recent developments in the field of study (UNESCO, 2015); - Training should enhance creativity and innovation (A strategic framework for European cooperation in education and training. Council conclusions. 2009). 	
2.2. Objective: Improve transition of VET graduates to the labour market	
<ul style="list-style-type: none"> - Skills supply should match to <i>current demand</i> for skills and should build competencies for <i>future long-term</i> labour market needs through linkages between the world of work and the world of learning (ILO, 2005; ILO, 2008; ILO, 2010); - Training should develop portable and employable workplace skills, including entrepreneurial skills, for a successful transition from school to work (ILO, 2005; ILO, 2008; ILO, 2010). 	<p>2.2.1. Proportion of VET graduates received one of the following job-related benefits:¹³⁵</p> <ul style="list-style-type: none"> - employment status changed from «not employed before training» (both unemployed and not in labour force) to the “employed after training” (employed full time or part time); - employed at a higher skill level after training (regardless of full time or part time employment status before and after training); - set up or expanded their own business, got a promotion, increased earnings, or other job-related benefits after completing training. <p>2.2.2. Employment rate of VET graduates aged 20-34, by gender, (who completed their study 1-3 years before the survey)¹³⁶</p> <p>2.2.3. Proportion of employers satisfied that graduates’ training meets their needs¹³⁷</p>

¹³⁵ National Agreement for Skills and Workforce Development. Commonwealth of Australia 2012

¹³⁶ Torino process. 2016–17. European Training Foundation.

¹³⁷ National Agreement for Skills and Workforce Development. Commonwealth of Australia 2012; This indicator is also proposed by EQAVET: “Percentage of employers of a given sector who are satisfied to find VET programme completers with relevant qualifications required for the work place. (http://ec.europa.eu/education/policy/vocational-policy/eqavet_en);

International policy objectives in skills development	Performance indicators applied in practice
2.3. Objective: <i>Improve relevance of skills development to the needs of labour markets</i>	
<p>- Skills supply should match to <i>current demand</i> for skills and should build competencies for <i>future long-term</i> labour market needs through linkages between the world of work and the world of learning (ILO, 2005; ILO, 2008; ILO, 2010);</p> <p>- Skills development should be connected to broader growth, employment, national and sectoral development strategies (ILO, 2008).</p>	<p>2.3.1. Employment rate of WAP (aged 20-64), by gender (share of WAP who are employed or self-employed)¹³⁸</p> <p>2.3.2. Unemployment rate of WAP (aged 15-64), by gender (share of WAP who during the reference period were not in paid employment or self-employment; currently available for work, and actively seeking work)¹³⁹</p> <p>2.3.3. Self-employment as a proportion of total employment¹⁴⁰</p> <p>2.3.4. Number of hard to fill vacancies as a share of the employed¹⁴¹</p> <p>2.3.5. <i>Under-skilling</i>: Share of the employed in the jobs requiring higher qualification than the one they possess (low skilled workers are employed in high-skill jobs or workers are employed as technicians)¹⁴²</p> <p>2.3.6. <i>Occupational (field-of-study) mismatch</i>: Share of the employed who, having been trained/certified in one occupation, are employed in some other occupation¹⁴³ (for instance, trained welders work as electricians, or the technician Diploma holders in one field are employed as workers or technicians in some other field)</p> <p>2.3.7. <i>Over-skilling</i>: Share of the employed below the level of their formal qualification¹⁴⁴</p>

¹³⁸ This employment objective is drawn from Europe 2020 Strategy aiming to bring to 75% the employment rate for women and men aged 20-64. (EC Council conclusions of 19.11.2010. 2010/C 326/05). "Employed" are persons who worked at least one hour for pay or profit during the reference period or were temporarily absent from such work. Torino process. 2016–17. European Training Foundation.

¹³⁹ Torino process. 2016–17. European Training Foundation.

¹⁴⁰ Torino process. 2016–17. European Training Foundation.

¹⁴¹ A modified indicator based on: National Agreement for Skills and Workforce Development. Commonwealth of Australia 2012

¹⁴² Getting skills right: Skills for Jobs indicators. OECD 2017

¹⁴³ Getting skills right: Skills for Jobs indicators. OECD 2017

¹⁴⁴ Getting skills right: Skills for Jobs indicators. OECD 2017

International policy objectives in skills development	Performance indicators applied in practice
	<p>2.3.8. Deviation of the share of VET graduates (Certificate and technician Diploma), by relevant sector of their future employment, from the relevant share of those sectors in the regional labour force¹⁴⁵</p> <p>2.3.9. Numbers of skilled workers and technicians produced annually in comparison with numbers of workers and technicians in regional labour forces (by major economic sector, where possible)¹⁴⁶</p> <p>2.3.10. (Professional) educational attainment of WAP by the highest (professional) educational qualification achieved, by gender¹⁴⁷</p> <p>2.3.11. Share of WAP with completed tertiary qualifications¹⁴⁸ (or share of 30-34 year-olds with completed tertiary education (ISCED levels 5 and 6), by gender¹⁴⁹</p> <p>2.3.12. Proportion of WAP (aged 20–64) with qualifications at national Certificate III level and above (high-skilled)¹⁵⁰</p> <p>2.3.13. Share of WAP who possess and can readily apply more than one professional qualification¹⁵¹</p>

¹⁴⁵ Indicator proposed by the Report writer. The broad economic sectors may involve: Agriculture, Manufacturing and mining, Construction, Services (health, education, water and electricity, hotels, restaurants, automobile repair, etc.), Transport, and ICT. The deviation of sectorial structure of graduates of future employment may be assessed: a) in the perspective of changes of regional employment structure in the last 5-10 years, and b) the current structures of VET graduates versus the sectorial employment

¹⁴⁶ Indicator proposed by Report writer

¹⁴⁷ Torino process. 2016–17. European Training Foundation (This indicator is also included in World Indicators of Skills for Employment (WISE) database)

¹⁴⁸ This indicator of performance is applied in the Netherlands ("OECD skills strategy diagnostic report: The Netherlands. 2017", see Table 7 in this Report).

¹⁴⁹ By 2020, the share of 30-34 year olds with tertiary educational attainment (ISCED levels 5 and 6) should be at least 40%. (A strategic framework for European cooperation in education and training. EU Council conclusions. 2009; Torino process. 2016–17. European Training Foundation.)

¹⁵⁰ Between 2009 and 2020, to halve the proportion of Australians aged 20–64 without qualifications at national Certificate III level and above. (National Agreement for Skills and Workforce Development. Commonwealth of Australia 2012. These qualifications include Certificate III, IV, Diploma, Advanced Diploma, Bachelor degree and above); A similar indicator is also applied in the Netherlands (OECD skills strategy diagnostic report: The Netherlands. 2017). See Table 7 in this Report.; Percentage of those having completed VET programmes (i.e. attained a formal qualification or recognition) compared to active population (15 to 74 years old) (EQAVET indicator).

¹⁵¹ Indicator proposed by Report writer

International policy objectives in skills development	Performance indicators applied in practice
	2.3.14. Proportion of WAP with adequate foundation skills (literacy level 3 and above) or by literacy Level (1,2, and 3) ¹⁵²
AREA OF STRATEGIC PLANNING 3: EQUALITY OF OPPORTUNITY TO ACCESS TRAINING AND EMPLOYMENT	
3.1. Objective: <i>Ensure equality of opportunity to access education and training infrastructure across regions, rural and urban areas</i>	
<p>- To expand education and training infrastructure and availability of skills development across regions, urban and rural areas (Conclusions on skills for improved productivity, employment growth and development, Item 56. ILC. (ILO, 2008)</p>	<p>3.1.1. Useful space of public VET providers (in m2) per 1,000 of youth aged 15-24, by region¹⁵³</p> <p>3.1.2. Number of VET institutions' teaching (and administrative staff separately) per 1,000 of youth aged 15-24, by region¹⁵⁴</p> <p>3.1.3. VET program diversity (number of full-time Certificate and Diploma programs per 100,000 of youth aged 15-24) by region¹⁵⁵</p> <p>3.1.4. Availability of VET student places in hostels (lyceums and colleges separately) per 1,000 of youth aged 15-24, by region¹⁵⁶</p>
3.2. Objective: <i>Reduce barriers for risk groups to access skill training and employment opportunities</i>	
<p>- Skills training systems should secure equal opportunities for all persons regardless of race, religion and age, especially people with special needs such as youth,</p>	<p>3.2.1. Disparities between all students and the identified risk groups (success rate of disadvantaged groups in comparison with that for all VET students) in the areas of¹⁵⁸:</p>

¹⁵² National Agreement Performance Information 2011: National Agreement for Skills and Workforce Development, Productivity Commission, Canberra. Commonwealth of Australia 2012; A similar indicator is also applied in the Netherlands (OECD skills strategy diagnostic report: The Netherlands. 2017). See Table 7 in this Report.

¹⁵³ Indicator proposed by the Report writer. Useful space of VET providers includes space of classes, workshops and laboratories. For institutions offering agricultural programs, useful space includes agricultural land used for training.

¹⁵⁴ Indicator proposed by the Report writer

¹⁵⁵ Indicator proposed by the Report writer

¹⁵⁶ Indicator proposed by the Report writer

¹⁵⁸ By 2030, eliminate gender disparities and ensure equal access to *all levels* of education and vocational training in the areas of: VET participation, course completion, and transition of graduates to labour market for the following risk groups (in comparison with all VET students): indigenous Australians; people with a disability; people from a culturally and linguistically diverse background; people living in remote areas; people from low socioeconomic status backgrounds; and women (National Report on Social

International policy objectives in skills development	Performance indicators applied in practice
<p>low-skilled people, people with disabilities, older workers, the unemployed, immigrants, indigenous people, ethnic minority groups and the socially excluded, and workers in small and medium-sized enterprises, the informal economy, in the rural sector and in self-employment (ILO, 1958; ILO, 1975; ILO, 2005; A strategic framework for European cooperation in education and training. Council conclusions. 2009);</p> <ul style="list-style-type: none"> - Ensure equal access for all women and men to affordable and quality technical, vocational and tertiary education, including university (UN Sustainable Development Goals till 2030); - Ensure “equality of opportunity and treatment” regarding employment and occupation (ILO, 1958); - Promoting gender equality in training and employment; Overcoming logistic, economic and cultural barriers to vocational training and apprenticeship, especially in non-traditional occupations. (ILO, 2005; ILO, 2008; ILO, 2010; UN SDG Goal 4); - Training should be readily available to all and for all appropriate specializations, be inclusive and equally available to men and women without any discrimination and to people with disabilities and other socially and economically disadvantaged (UNESCO, 2015; UN SDG Goal 4); 	<ul style="list-style-type: none"> - VET participation rate: Share of youth aged 15-24 studying in VET (Certificate and technician Diploma levels) in comparison with shares of VET participants in groups of risk; - Share of all VET students in comparison with students from risk groups who completed training successfully; - Share of all VET students in comparison with share of students from risk groups enrolled in higher level programs and STEM programs; - NEET group as a share of all youth aged 15-24 in comparison with the NEET group in each of the groups of risk (in the same age group); - Share of all VET graduates in comparison with the shares of graduates from groups of risk who successfully found employment and self-employment in the labour markets; - Educational and qualification levels attained by youth aged 15-24 in comparison with that attained by risk groups¹⁵⁹. <p>3.2.2. Disparities between the labour force participation rates for males and females and groups of risk¹⁶⁰</p> <p>3.2.3. Disparities in proficiency level in literacy and numeracy for the risk groups with that of WAP¹⁶¹</p>

Equity in VET. Transition and Post-School Education and Training Transitions and Post-School Education and Training. Australian Council for Educational Research ACER-Search. National VET Equity Advisory Council (NVEAC). Australia. 2013; This indicator is also part of EQAVET (The European Quality Assurance Reference Framework for Vocational Education and Training. http://ec.europa.eu/education/policy/vocational-policy/eqavet_en). For instance, on Australia’s risk groups, see Table 6 in this Report.

¹⁵⁹ The equity indicator applied in the Netherlands: Share of WAP with immigrant background with very low levels of occupational skills (OECD skills strategy diagnostic report: The Netherlands. 2017)

¹⁶⁰ To reduce the gender gap between male and female labour participation rates by 25% by 2025. (G20 Labour and Employment Ministerial Declaration: Preventing Structural Unemployment, Creating Better Jobs and Boosting Participation. Melbourne, September 11, 2014);

¹⁶¹ In the Netherlands, the following equity indicator is applied: Disparities in proficiency level in literacy and numeracy of WAP with immigrant background (OECD skills strategy diagnostic report: The Netherlands. 2017)

International policy objectives in skills development	Performance indicators applied in practice
<ul style="list-style-type: none"> - Broad and equitable access for gender and under-represented groups to occupation and employment should result in improved labour force participation rates (G20 Training Strategy)¹⁵⁷. 	
AREA OF STRATEGIC PLANNING 4: QUALITY OF SKILLS DEVELOPMENT	
4. Objective: <i>Ensure quality of skills development</i>	
<ul style="list-style-type: none"> - Quality of training, skills assessment, certification and teaching should be assured for strengthening portability of qualifications and their recognition across industries and educational institutions (ILO, 2005; ILO, 2008; ILO, 2010); - Improve the quality of education and training through implementing the VET quality assurance system (A strategic framework for European cooperation in education and training. Council conclusions. 2009); - Standards should be developed, in cooperation with employers and workers organisations, for all aspects of skills development: occupational qualifications, curricula, assessment and certification system, staff qualifications, teaching materials, safety precautions, physical facilities, and environmental protection and conservation (UNESCO, 2015); 	<ul style="list-style-type: none"> 4.1. Share of VET qualifications which are nationally accredited (preferably based on occupational standards)¹⁶² 4.2. Share of VET providers which are nationally accredited in line with VET quality regulations¹⁶³ 4.3. Share of VET providers applying internal quality assurance systems defined by law or at own initiative¹⁶⁴ 4.4. Share of VET programs which are nationally accredited (and preferably based on occupational standards) 4.5. Share of annual VET graduates who are assessed in line with national assessment procedures (preferably based on occupational standards)¹⁶⁵

¹⁵⁷ Removing barriers to participation in the labour markets of women and improvement of the quality of women's employment through skills training and other means is the core pre-occupation of G20 countries

¹⁶² In Korea, the following indicator is applied: Number of competency standards (NCS) completed and applied in VET course development. (OECD skills strategy diagnostic report: Korea. OECD. 2015)

¹⁶³ This EQAVET indicator can only be reliable if a national VET quality system is functional resulting in de-registration of providers which do not comply with quality assurance procedures. European Quality Assurance Reference Framework for Vocational Education and Training. http://ec.europa.eu/education/policy/vocational-policy/eqa-vet_en

¹⁶⁴ EQAVET indicator

¹⁶⁵ In Korea, the following quality indicator is applied: Number of qualifications assessment requirements completed and applied. (OECD skills strategy diagnostic report: Korea. OECD. 2015)

International policy objectives in skills development	Performance indicators applied in practice
<ul style="list-style-type: none"> - Quality standards and certification system for trainers should be established along with provision of opportunities for them to meet such standards (ILO, 2005; UNESCO, 2015); - There should be a framework for the certification of training providers and for quality assurance of training programmes delivered by them (ILO, 2005; UNESCO, 2015). Training institutions should have adequate funding and qualified staff; maintain high quality of training contents, methods, facilities, and materials; and update curricula and skills of staff to changing needs of the world of work (ILO, 2010); - A framework is required for assessment, recognition and certification of skills, including prior learning and previous experience. Skills assessment should be objective and non-discriminatory, and linked to standards (ILO, 2005; UNESCO, 2015). 	<p>4.6. Measure of satisfaction of <i>trainees</i> with quality of training- training conditions, quality of instructors, clarity of expectations regarding training, work readiness, etc.¹⁶⁶</p> <p>4.7. Measure of satisfaction of <i>employers</i> with quality of training- training conditions, quality of instructors, work readiness, etc.¹⁶⁷</p>
AREA OF STRATEGIC PLANNING 5: LIFELONG LEARNING (LLL)	
5. Objective: <i>Support access to skill training for employability throughout life</i>	
<ul style="list-style-type: none"> - Support employability <i>throughout life</i> enabling persons to access education and training when they need it and at all levels of skills (ILO, 2005; ILO, 2008; ILO, 2010); - Lifelong learning should be available throughout every individual's working life, <i>without restriction</i> regarding age, sex, prior education and training, both within and outside the formal education system. It should be delivered in a flexible mode, using part time and distance learning, and workplace learning to facilitate 	<p>5.1. Share of adults (aged 25-64), by gender who participated in vocational education and training programs annually (LLL)¹⁶⁸</p> <p>5.2. Number of student- hours of vocational programs implemented annually by:</p> <ul style="list-style-type: none"> - overall group of adults aged 25-64; - women (in same age group);

¹⁶⁶ See Section 5.1 of this Report (AQTF quality indicator service. Report.2011-2012. Australian Council for Educational Research (ACER))

¹⁶⁷ See Section 5.1 of this Report (AQTF quality indicator service. Report.2011-2012.)

¹⁶⁸ By 2020, at least 15% of adults (aged 25-64) participate in lifelong learning. (A strategic framework for European cooperation in education and training. Council conclusions. EC. 2009). A similar indicator is proposed in: World Indicators of Skills for Employment (WISE) database and in the Torino Process: "Share of persons aged 25–64, by gender who stated that they received education or training in the four weeks preceding the survey" (Torino process. 2016–17. European Training Foundation.)

International policy objectives in skills development	Performance indicators applied in practice
<p>continuous entry, exit and re-entry points for learners (ILO, 2005; UNESCO, 2015);</p> <p>- Make lifelong learning and mobility a reality. Improve progression of students <i>between qualifications levels</i> (A strategic framework for European cooperation in education and training. Council conclusions. 2009); Skills development should recognize all previous learning and relevant work experience (UNESCO, 2015); it should offer <i>continuous and seamless pathways of learning</i> progression through education and training levels (ILO, 2005; ILO, 2008; ILO, 2010);</p> <p>- Lifelong learning <i>in industry</i> should be promoted to help workers to learn new skills, upgrade existing ones and maintain their employability, and enterprises to remain competitive; (ILO, 2008; ILO, 2010; UNESCO, 2015).</p>	<p>- groups of disadvantaged (low-skilled, unemployed, etc.).¹⁶⁹</p> <p>5.3. Share of employees reporting job-specific skills gaps¹⁷⁰</p> <p>5.4. Share of WAP who possess and can readily apply more than one VET qualification¹⁷¹</p>
AREA OF STRATEGIC PLANNING 6: EFFICIENCY OF RESOURCES UTILIZATION IN SKILLS DEVELOPMENT SYSTEMS	
6. Objective: <i>Ensure efficient use of resources in skills development</i>	
<p>- Improve the <i>efficiency</i> of education and training (A strategic framework for European cooperation in education and training. Council conclusions. 2009)</p>	<p>6.1. Number of student-months (or student-weeks) of training delivered annually per 1.0sq.m. of useful space of VET providers (per one VET teaching staff member (separately by type of VET providers)¹⁷²</p>

¹⁶⁹ The indicator of LLL applied in Korea: Number of student- hours of LLL programs implemented by adults aged 45 and over, women, workers with non-regular contracts, and workers in SMEs. (OECD skills strategy diagnostic report: Korea. OECD. 2015)

¹⁷⁰ The following indicator is applied in the Netherlands: Share of employees with an upper secondary or post-secondary qualification who reported job-related skills gaps. (OECD skills strategy diagnostic report: The Netherlands. 2017)

¹⁷¹ Indicator proposed by Report writer

¹⁷² Indicator proposed by the Report writer

International policy objectives in skills development	Performance indicators applied in practice
AREA OF STRATEGIC PLANNING 7: PARTNERSHIPS IN THE TRAINING PROVISION	
7. Strategic objective: Increase partnerships in developing skills and employability	
<ul style="list-style-type: none"> - Improve social dialogue and the practice of tripartism between governments and organizations of workers and employers to building up social cohesion (ILO Declaration on Social Justice for a Fair Globalization. ILO, 2008); - Encourage involvement of employers and workers in a <i>social dialogue</i> and Public Private Partnership in skills development (ILO, 2008; ILO, 2010; UNESCO, 2015); - Institution-based training should be combined with workplace learning (ILO, 2005); - At <i>the workplace</i>, employers have the responsibility to provide training, while employees have a responsibility to pursue opportunities for lifelong learning (ILO, 2010); Governments support skills development at the workplace through: quality assurance of on- the-job training and certification of skills and relevant incentives (ILO, 2008); - An appropriate mix of <i>public and private providers</i> of skills development should be encouraged, the responsibility of government being to facilitate choice of providers while ensuring quality (UNESCO, 2015). - Promote community-based training, in which training is provided in line with the identified economic and employment opportunities of local areas, as an approach to reach out to disadvantaged and marginalized groups (ILO, 2010). 	<ul style="list-style-type: none"> 7.1. Share of major VET and employment promotion decisions developed and implemented through tripartite dialogue¹⁷³ 7.2 Number of national, sectoral and regional tripartite bodies on skills development established and function¹⁷⁴ 7.3 Share of VET providers who concluded training agreements or skills assessment agreements with industry bodies¹⁷⁵ 7.4. Number of apprenticeship contracts signed annually¹⁷⁶

¹⁷³ Indicator proposed by the Report writer

¹⁷⁴ Indicator proposed by the Report writer

¹⁷⁵ Indicator proposed by the Report writer

¹⁷⁶ OECD skills strategy diagnostic report: Korea. OECD. 2015

REFERENCES:

International HRD policy instruments of the ILO

1. 1958, ILO Discrimination (Employment and Occupation) Convention, C111
2. 1975, ILO Convention 142 on Human Resources Development
3. ILO Declaration on Social Justice for a Fair Globalization. 2008. ILC, ILO
4. 1964, ILO Employment Policy Convention and Recommendation (C122)
5. 2004, ILO Recommendation on human resources development: Education, training and lifelong learning (No. 195)
6. 2008, Conclusions on skills for improved productivity, employment growth and development, ILC, ILO
7. 2009, Recovering from the crisis: A Global Jobs Pact. ILO

Some other International HRD policy instruments

8. 2015, UNESCO Recommendation concerning technical and vocational education and training (TVET)
9. UNESCO Recommendation on adult learning and education (2015)
10. A strategic framework for European cooperation in education and training. EC Council conclusions. 2009
11. UN Sustainable Development Goals till 2030. (<https://sustainabledevelopment.un.org/>)

G20 documents

12. A skilled workforce for strong, sustainable and balanced growth. A G20 training strategy. ILO (2010)
13. G20 Job quality framework. Ankara LEMM Declaration. 2015
14. G20 Labour and Employment Ministerial Declaration: Preventing Structural Unemployment, Creating Better Jobs and Boosting Participation. Melbourne, September 11, 2014
15. Lifelong learning strategy- G20 meeting. IOE. BIAC. March 2010.
16. Promoting better labour market outcomes for youth. OECD. ILO. August 2014 (Report on youth employment and apprenticeships prepared for the G20 Labour and Employment Ministerial Meeting Melbourne, Australia, 10-11 September 2014)
17. Towards an inclusive future. Shaping the world of work. Ministerial Declaration. G20 Labour and Employment Ministers meeting. Germany. 19 May of 2017

Research reports and documents

18. Aggarwal A., V. Gasskov. Comparative Analysis of National Skills Development Policies: A guide for policy makers. Decent Work Technical Support Team for Eastern and Southern Africa, Pretoria, South Africa. Skills and Employability Department, Geneva. 2013
19. Andrews K.: The Concept of Corporate Strategy, 2nd Edition. Dow Jones Irwin. 1980; M. Porter: "What is Strategy?" In: Harvard Business Review (Nov-Dec 1996)
20. AQTF quality indicator service. Report.2011-2012. Australian Council for Educational Research (ACER)
21. Bednarz A. Lifting the lid on completion rates in the VET sector: How they are defined and derived. NCVER. 2012
22. EQARF indicators, reviewing and agreeing definitions. European Framework for Quality Assurance in Education and Training (ENQA-VET). 2009
23. Getting skills right: Skills for Jobs indicators. OECD 2017
24. Guidelines for VET Policy Review. Draft. UNESCO. ED/ESB/VET/2010/02. March 2010
25. Indicators of skills for employment and productivity: A conceptual framework and approach for low-income countries. Report for the human resource development pillar of the G20 Multi-Year Action Plan on Development. OECD and the World Bank in collaboration with ETF, ILO and UNESCO.2013; (<http://www.oecd.org/employment/skills-for-employment-indicators.htm>)

26. King.K: A Technical and Vocational Education and Training Strategy for UNESCO. A Background Paper. 2009
27. Lipinska.P, E.Schmid and M. Tessaring: Zooming in on 2010. Reassessing vocational education and training. Cedefop. 2007
28. Measuring Progress in VET: the European Training Foundation (ETF) approach. ETF.2017
29. National Agreement for Skills and Workforce Development, Productivity Commission, Canberra. Commonwealth of Australia 2012
30. National Agreement Performance Information 2011: National Agreement for Skills and Workforce Development, Productivity Commission, Canberra. Commonwealth of Australia 2012
31. National Workforce Development Strategy. Australian Workforce and Productivity Agency. C National Report on Social Equity in VET.
32. National Report on Social Equity in VET. Transition and Post-School Education and Training Transitions and Post-School Education and Training. Australian Council for Educational Research. ACEReSearch. National VET Equity Advisory Council (NVEAC).
33. OECD Skills Strategy Diagnostic Report: The Netherlands.2017
34. OECD Skills Strategy Diagnostic Report: Korea. 2015
35. Pierre G., M.L.S. Puerta, A.Valerio and T. Rajadel. STEP Skills Measurement Surveys. Innovative Tools for Assessing Skills STEP.WB. Discussion paper 1421. July 2014
36. Rules of the Game: A brief introduction to International Labour Standards, Geneva. ILO, 2009
37. Recommendation of European Parliament and of the Council of 18 June 2009 on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training.
38. Report of the Commission to the European Parliament and the Council on the implementation of the Recommendation of the European Parliament and of the Council of 18 June 2009 on the establishment of a European Quality Assurance Reference Framework for Vocational Education and Training. Brussels. 2014
39. Steiner.G: Strategic Planning. Free Press, 1979; H. Mintzberg: The Rise and Fall of Strategic Planning. Basic Books, 1994;
40. Transition and Post-School Education and Training Transitions and Post-School Education and Training. Australian Council for Educational Research ACEReSearch. National VET Equity Advisory Council (NVEAC). Commonwealth of Australia 2013
41. WISE database (<http://www.skillsforemployment.org/KSP/en/SearchResults/index.htm>)
42. Wyatt T. International benchmarking of vocational education and training. ANTA. NCVER. 2004