



## Report to WTO TBT Committee

March 2019

# IEC activities in developing and industrializing countries

September 2018 - March 2019

This report to the WTO Technical Barriers to Trade Committee highlights the activities of the IEC, its members, affiliates and regional centres related to increasing the participation of developing and industrializing countries in IEC international standardization and conformity assessment activities.

### IEC standardization work to facilitate access to electricity

The IEC is active in developing international standards and technical specifications relating to rural electrification and electricity access. There are three committees working in this area: the systems committee on low voltage direct current and low voltage direct current for electricity access (SyC LVDC), the technical committee on solar photovoltaic energy systems (TC 82), and the technical committee on electrical installations and protection against electric shock (TC 64).

The following publications related to rural electrification were issued by TC 82 in 2018:

- → IEC TS 62257-7-3:2018, edition 2.0, Recommendations for renewable energy and hybrid systems for rural electrification — Part 7-3: Generator set — Selection of generator sets for rural electrification systems
- → IEC TS 62257-8-1:2018, edition 2.0, Recommendations for renewable energy and hybrid systems for rural electrification — Part 8-1: Selection of batteries and battery management systems for stand-alone electrification systems — Specific case of automotive flooded lead-acid batteries available in developing countries
- → IEC TS 62257-9-5:2018, edition 4.0, Recommendations for renewable energy and hybrid systems for rural electrification
  − Part 9-5: Integrated systems – Laboratory evaluation of standalone renewable energy products for rural electrification

TC 64 also issued publications in 2018 that related to electrification:

- → IEC 60364-8-2:2018, edition 1.0, Low-voltage electrical installations Part 8-2: Prosumer's low-voltage electrical installations
- → IEC TS 61200-101:2018, edition 1.0, Electrical installation guide – Part 101: Application guidelines on extra-low-voltage direct current electrical installations not intended to be connected to a public distribution network

#### **IEC Regulator forum**

More than 150 stakeholders from across the renewable energy sector have attended the first IEC Regulator forum in October 2018. The ground-breaking meeting took place during the 2018 IEC General Meeting, in Busan, South Korea. Energy producers, suppliers and transmission and distribution system operators joined representatives of regulatory bodies and standardization and conformity assessment experts for an engrossing exchange of ideas. The consensus was that standards organizations and regulators needed to find ways to work together more closely in order to achieve key societal and economic goals. Participants identified a number of important objectives shared by standards organizations and regulators from both the executive and legislative branches. Shared objectives include facilitating international trade, bolstering economic competitiveness and enhancing safety and efficiency. A short report, available on the IEC website, includes an overview of the meeting with representative quotes and a list of key recommendations from participants.

### IEC Regional Centre activities and regional collaboration

#### **IEC Africa Regional Centre**

The IEC Africa Regional Centre (IEC-AFRC), located in Nairobi, Kenya, is the focal point for the IEC in Africa, helping to promote awareness of the IEC in the region, increase the use of IEC International Standards and IEC Conformity Assessment Systems, and enhance participation and membership of countries in the region.

Since our previous report, IEC-AFRC participated in the General Assembly of the African Organization for Standardization (ARSO) held in South Africa and the General Assembly of the African Electrotechnical Standardization Commission (AFSEC) in Côte d'Ivoire with the objective of updating their members on IEC activities and sensitizing them to actively participate in the IEC work.

In September 2018 the IEC systems committee on low voltage direct current (SyC LVDC) held its meeting on 11-13 September in Côte d'Ivoire, previously an affiliate and now a member of the IEC. It was the opportunity to dialogue with stakeholders on how standardization, coordination and guidance in the areas of LVDC can facilitate access to electricity. The meeting was hosted by the IEC National Committee of Côte d'Ivoire and followed by a national workshop that brought together over 80 participants. Ivorian experts got informed on IEC work in the field of LVDC and how this new technology can meet the needs of a developing country.

IEC-AFRC participated in the 3<sup>rd</sup> Africa Smart Grid Forum held on 1-4 October 2018 in Rwanda, an IEC affiliate. The forum brought together more than 250 delegates, 30 international experts and 10 exhibitors. IEC was represented by AFRC Directors, the Chair of SyC LVDC and the Chair of the SyC Smart energy and PC 118: Smart grid user interface.

The event was formatted to offer

- free pre-conferencing workshops with institutions like the African Energy Commission (AFREC), the US-Africa Clean Energy Programme, IEC and CIGRE;
- meetings of AFSEC mirror technical committees of the IEC (ATC 8, ATC 13, ATC 57, ATC 82);
- the forum itself with an opening ceremony, plenary sessions, parallel technical sessions and closing session;
- $\,\,\rightarrow\,\,$  an exhibition for international and national companies.

The participants were exposed to the IEC work and its importance for smart grid to provide sustainable solutions for Africa. A set of recommendations were developed for submission to the African Union; and the ministers in charge of energy were requested to develop appropriate policies and strategies to be implemented.

IEC-AFRC team continues to support IEC affiliate countries throughout Africa. In January 2019 they participated in a workshop in Senegal on the quality of photovoltaics (PVs) and how IEC International Standards and Conformity Assessment Systems can assist in providing solutions. AFRC also visited Cabo Verde and provided training in order to raise the awareness of stakeholders in the electrotechnological field.

#### **IEC Asia-Pacific Regional Centre**

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The IEC Asia-Pacific Regional Centre (IEC-APRC), located in Singapore, has a twofold mission: to promote awareness of the IEC in the region, increase the use of IEC International Standards and Conformity Assessment Systems as well as enhance participation of all countries in the region in the IEC work; and to provide additional staff support to IEC technical committees and subcommittees in the same way the IEC Central Office does at present.

To create further awareness on the standardization activities supporting energy access, a roundtable discussion on low voltage direct current (LVDC) and rural electrification was organized in collaboration with the IEC National Committee of Indonesia. The event attracted about 30 stakeholders from government bodies and industry in Jakarta, Indonesia on 15 October 2018. Following this workshop, Indonesia has agreed to host a meeting of IEC SyC LVDC. It will be an important opportunity to further create awareness and encourage participation from Indonesia's stakeholders in this IEC activity.

On 30-31 October 2018 IEC participated at the International Off-grid Renewable Energy Conference and Exhibition (IOREC) organized by the International Renewable Energy Agency (IRENA) in Singapore. IOREC is a global platform dedicated to sharing experience, best practices, identifying synergies and forging partnerships in off-grid renewable energy. IEC shared at the panel discussion which focused on innovation and off-grid renewable energy as well as a discussion session on quality infrastructure to support access to electricity for rural areas that are not connected to the main power grid.

IEC-APRC addressed the Association of Southeast Asian Nations (ASEAN) regulators of electrical and electronic equipment in Sandakan, Malaysia, 13-15 November 2018, During the meetings IEC provided regulators with updates on the latest developments in IEC activities in the region and also on the above mentioned first IEC Regulatory forum. The IEC President also visited Malaysia on 4-5 December to deliver a keynote address at the Institution of Engineers, Malaysia (IEM) - Standards Malaysia -Energy Commission ASEAN Electrotechnical Symposium and Exhibition held in Kuala Lumpur. The event on standards driving global value chains attracted about 600 participants. Apart from a workshop for key stakeholders, the IEC National Committee of Malaysia and Department of Standards Malaysia took the opportunity to organize live interviews with the IEC President on both popular TV and radio broadcasting to share about IEC and the 4<sup>th</sup> industrial revolution.

#### **IEC Latin America Regional Centre**

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The IEC Latin America Regional Centre (IEC-LARC), located in São Paulo, Brazil, is the focal point for the IEC in Latin America, helping to promote awareness of the IEC in the region, increase the use of IEC International Standards and IEC Conformity Assessment Systems, and enhance participation and membership of countries in the region.

Since our last report the IEC National Committee of Peru had its first training as a new full member of the IEC. Participants included members of the national committee, mirror technical committees, stakeholders, amongst others. The following topics were covered in detail: the structure of the IEC, rules and procedures, standardization process, conformity assessment, structure of the national committee, participation in technical committees and subcommittees.

IEC-LARC also participated in the Second Electrical Motors Energy Efficiency summit held in Santiago, Chile, with presentations on IEC energy efficiency standards, regulations and conformity assessment for the Chilean market.

At the invitation of UNIT, the Uruguayan Institute of Technical Standards, and PTB, the German National Metrology Institute, IEC participated as speaker on the Border Control and Market Surveillance seminar in Montevideo, Uruguay, 11-14 September 2018. Very deep discussions were held about the quality system for electrical equipment and systems market in America. The event brought together 96 participants from 24 countries representing sectors as standards development, conformity assessment, regulators, customs and border control authorities.

On 10-12 October 2018, the Forum of IEC National Committees of the Americas (FINCA) held its annual meeting and workshop in Mexico City. IEC-LARC reported on its annual activities to the national committees (IEC members) and the national electrotechnical committees (IEC affiliates) and also presented the IEC smart manufacturing and cyber security activities in a workshop open to the public.

On 29-30 November 2018, IEC-LARC was invited by the Honduran Standards Organization (OHN) and PTB, to participate in an event on the quality infrastructure for energy efficiency and renewable energy in Latin America and Caribbean. IEC addressed standardization and conformity assessment issues and how to be using and referencing IEC International Standards in national or regional regulations.

On 3 December 2018, the Asia-Pacific Economic Cooperation (APEC) and Mexico Gender Equality seminar was held in Mexico

City with the participation of international delegates. IEC-LARC presented how IEC initiatives contribute to gender equality and empowerment of women and girls, not only reducing their vulnerability but also encouraging them to be more present and more active in the world of the IEC.

#### Collaboration with the WTO

Through its regional centres the IEC pursued its close collaboration with the WTO TBT Committee.

IEC-AFRC participated in the WTO Regional workshop on the Technical Barriers to Trade Agreement for English-speaking African countries held 29-31 January 2019 in Dar es Salaam, Tanzania, and made presentations on the role of IEC standardization and conformity assessment activities related to the TBT Agreement.

IEC-APRC attended the WTO workshop on Technical Barriers to Trade targeting companies and exporters in Singapore, 31 October 2018. During the event IEC shared on the roles played by international standards and conformity assessment relative to the TBT Agreement as well as its importance and benefits to industry and government bodies. APRC also actively participated in the WTO Philippines National workshop on Technical Barriers to Trade, 27-29 November 2018. The intensive 3-day workshop was attended by about 75 participants from government bodies and industry stakeholders in Philippines.

In Guatemala City, on 28 November 2018, IEC-LARC participated in the WTO National workshop which discussed topics such as the participatory structure of the IEC and the importance of technical standardization and conformity assessment for the quality of the electrical products and systems. The workshop also addressed regional cooperation, new technical areas under development and more specifically how the IEC standardization work can help countries with electrical system disaster recovery. It was also the opportunity to meet with the IEC National Electrotechnical Committee of Guatemala, an IEC affiliate, exchanging information and discussing how IEC can better support its activities.

#### **IEC Affiliate Country Programme**

The IEC Affiliate Country Programme is aimed at developing countries that do not yet have the necessary infrastructure and technical expertise to participate in IEC activities as a member. Participants join the programme free of charge on invitation by the IEC General Secretary and CEO.

#### Bangladesh upgraded to associate membership

Since our last report, Bangladesh has become an associate member of the IEC. After joining the Affiliate Country Programme in 2001, Bangladesh has, over the years, fully benefited from the programme by ordering 330 IEC publications free of charge and declaring the national adoption of some 300 IEC International Standards.

→ 171 countries are now part of the IEC family: 62 full members, 24 associate members and 85 affiliates.

#### **Update on participation**

In October 2018, the Syrian Arab Republic started to benefit from the Affiliate Country Programme by ordering 191 IEC International Standards free of charge under the terms of the programme. The selected standards cover the wide range of 37 IEC technical committees.

In January 2019, following its training with IEC-APRC, Nepal ordered its first batch of 16 IEC International Standards. The selection from Nepal covers mainly the technical fields of lamps and luminaires, degrees of protection provided by enclosures as well as optical radiation safety and laser equipment.

Since our last report, Tanzania has taken part in the commenting process of the programme by submitting three technical comments on IEC International Standards. Tanzanian comments related to the safety of household and similar electrical appliances, in particular refrigerators. All three comments were forwarded for consideration to the secretariat of the respective IEC technical committees.

Affiliated since 2017, Cabo Verde made its first selection of three technical fields: grid integration of renewable energy generation (SC 8A), electric cables (TC 20) and low voltage direct current and low voltage direct current for electricity access (SyC LVDC). The IEC National Electrotechnical Committee of Cabo Verde will now have access to the working documents of these technical or

systems committees with the possibility of submitting comments on the technical documents while they are still under development.

The national adoption trend continues in developing countries which are part of the IEC Affiliate Country Programme. Six new countries took the step to declare their first national adoptions of IEC International standards: Antigua and Barbuda, Eswatini, Gabon, Kyrgyzstan, Myanmar, and Niger.

While selecting IEC International Standards in view of adoption, Gabon has also shown interest in the following technical fields: rotating machinery (TC 2), overhead electrical conductors (TC 7), power transformers (TC 14), plugs, socket-outlets and switches (SC 23B), circuit-breakers and similar equipment for household use (SC 23E), electrical installations and protection against electric shock (TC 64), EMC-low frequency phenomena (SC 77A), solar photovoltaic energy systems (TC 82), low-voltage switchgear and controlgear (SC 121A) as well as low-voltage switchgear and controlgear assemblies (SC 121B).

Niger has selected the following technical fields: system aspects of electrical energy supply (TC 8), electrical energy measurement and control (TC 13), power transformers (TC 14), insulators (TC 36), electrical installations and protection against electric shock (TC 64), lightning protection (TC 81), solar photovoltaic energy systems (TC 82), measuring equipment for electrical and electromagnetic quantities (TC 85).

Both Gabon and Niger have been granted the Affiliate Plus status.

Suriname is the third country to have met the criteria to be granted the Affiliate Plus status during the reporting period. With the adoption of 170 IEC international standards, the country has shown interest in various technical fields, mainly safety of household and similar electrical appliances (TC 61), electrical installations and protection against electric shock (TC 64) and low-voltage switchgear and controlgear (SC 121A).

Out of the 85 IEC affiliate countries, 33 have now been granted the Affiliate Plus status. They benefit from 400 free copies of IEC International Standards for adoption instead of 200 and are given priority if they wish to participate in the IEC Affiliate Mentoring Programme.

Other countries have continued their adoption process since our last report: Botswana, Dominican Republic, Eritrea, Ghana and Suriname. To date, over 7 800 national adoptions of IEC International Standards have been declared under the terms of the IEC Affiliate Country Programme since it was launched in 2001.

#### IEC conformity assessment activities

As an organization the IEC has two core pillars: IEC International Standard development and IEC conformity assessment (CA). From its origins in 1906, IEC is well known for its standardization work in the electrotechnology sectors. However, in support of standardization, IEC has also been operating conformity assessment activities for over 40 years by providing the framework and systems that support an internationally accepted standardized way of conducting testing, inspection and certification of equipment, components, processes and assessment of competent persons. This is facilitated by the operation of conformity assessment schemes being run within dedicated IEC Conformity Assessment Systems. Current IEC CA Systems include:

- → IECEE (IEC System of Conformity Assessment Schemes for Electrotechnical Equipment and Components) covering equipment, components, EMC, via the well-known CB scheme
- → IECEx (IEC System for Certification to Standards Relating to Equipment for Use in Explosive Atmospheres) covering Ex equipment, components, services and personnel certification
- → IECQ (IEC Quality Assessment System for Electronic Components) covering electronic components and process associated with the supply chain
- IECRE (IEC System for Certification to Standards Relating to Equipment for Use in Renewable Energy Applications) covering equipment, components and systems for the renewable energy sectors

IEC CA Systems and the services they provide are gaining greater attention and use among developing and industrializing countries.

### IEC Affiliate Conformity Assessment Status ACAS

As part of its commitment to involve developing countries in all aspects of IEC work, including conformity assessment, the IEC is pleased to report that, since our last report, seven new affiliate countries have signed the ACAS Pledge: Barbados, Bolivia, Dominican Republic, Gambia, Malawi, Namibia and Suriname. This will allow users in these countries to benefit from capacity building resources in the field of IEC conformity assessment, including access to the ACAS e-learning course.

### 82<sup>nd</sup> IEC General Meeting in Busan, South Korea, 22-26 October 2018

The IEC annual gathering is not only a general assembly with management meetings such as Council, SMB and CAB. It is also a vast technical platform for IEC international experts to meet and work on their ongoing projects. In 2018, over 300 technical meetings took place in Busan at committee, subcommittee or working group levels. Affiliate delegates were able to attend any technical meeting of their choice as observers. The IEC General Meeting gives affiliates the opportunity to become more familiar with the development of IEC International Standards and to meet IEC international experts.

The IEC GM 2018 was held on the topic *Smart cities and sustainable societies*. Some events were dedicated to IEC membership. This was the case of the National Committee (NC) Presidents forum, the NC Secretaries workshop and the Technical Committee/Subcommittee (TC/SC) Officers forum. These meetings are held at each General Meeting and give IEC NC and TC/SC Officers the opportunity to exchange and to share their experience. To encourage the participation of the next generation of experts in IEC activities the IEC Young Professionals Programme organizes a workshop during the General Meeting. In Busan, 86 young professionals had the opportunity to meet with IEC experts and to get an insight in IEC standardization and conformity assessment activities. It was also the opportunity for networking with professionals from all over the world.

Events mainly for affiliate country delegates were the Affiliate forum and the Affiliate NEC Secretary and Chair workshop. Other workshops such as the Workshop for industrializing countries were open to all delegates.

In total over 2 600 delegates from 85 countries participated in the 82<sup>nd</sup> IEC General Meeting. Amongst those, 42 delegates came from 15 affiliate countries.

#### **Affiliate forum**

Affiliate delegates and IEC members from France, India and Norway participated in the 2018 edition of the Affiliate forum in Busan. The new IEC Affiliate Leader, Rojas Manyame, President of the IEC National Electrotechnical Committee of Namibia, reported on new developments of the Affiliate Country Programme. The forum then focused on the IEC Conformity Assessment Systems and how affiliate countries can benefit from IEC CA Systems

through their special status (ACAS). Bhutan and Ghana presented how ACAS was implemented in their respective countries.

Following the presentations and ensuing discussion, participants broke into three groups for the last session in order to focus on specific regional issues and exchange with IEC Regional Centres.

All presentations made during the Affiliate forum are available in the presentations section of the Affiliate website.

#### Workshop for industrializing countries

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The 2018 Workshop for industrializing countries was on *Low voltage direct current (LVDC)* and saw the participation of 72 delegates from 32 countries. After a presentation from the IEC SyC LVDC, the International Renewable Energy Agency (IRENA) was invited to speak on microgrids, showing how renewable energy facilitates energy access and focusing on LVDC mini-grids. The presentations were followed by a Q&A session and individual exercises. After the break a young professional from Kenya presented the role of LVDC for rural development in Africa and an IEC expert emphasized the importance of LVDC standards for newly industrializing countries.

All presentations made during the Workshop for industrializing countries are available in the presentations section of the Affiliate website.

#### **Affiliate NEC Secretary and Chair workshop**

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As a national electrotechnical committee (NEC) represents the electrotechnical standardization field of an IEC affiliate country, the NEC Secretary's role is of particular significance in effectively coordinating activities for the benefit of all its stakeholders. Recognizing the importance of this coordination, the Affiliate NEC Secretary and Chair workshop is arranged as a session during which more time can be allocated towards exploring the dynamics of an IEC affiliate NEC.

For this edition of the NEC Secretary and Chair workshop, 22 delegates from 10 countries participated in a session dedicated to NEC strategies and challenges. They discussed the reinforcement of the existing NECs which includes technical and working procedures, the interface with the IEC but also the financial aspect and how to involve more stakeholders. During a Q&A session they were able to exchange with IEC members and learn from their experience as national committees which are members of the IEC.

#### IEC Academy activities

The IEC Academy is the central unit regarding training and capacity building in the IEC for national committees, technical committees, affiliate countries, young professionals and conformity assessment.

In order to enable a broad participation of countries, 33 publicly available webinars have been organized in 2018 for different time zones. A survey has shown that the webinars received a high interest also from local experts developing knowledge on international standardization and helped increase their participation. Many of these webinars have been recorded for a future use and are available at <a href="https://www.iec.ch/academy">www.iec.ch/academy</a>. The 2019 webinar programme is under development and will soon be available.

National training and capacity building events have been organized in several countries.

New secretaries of national committees as well as chairs and secretaries of technical committees have been trained in the IEC offices in Geneva and Singapore. The IEC Academy is currently creating a learning management system (LMS) to offer a time-and location-independent training for all IEC members.

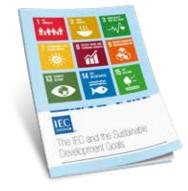
In October 2018, during the IEC 82<sup>nd</sup> General Meeting in Busan, South Korea, the IEC Academy organized a prize giving ceremony. Prizes were awarded to the winning papers of the academic competition *Future Challenges in Standardization* organized together with the US Institute of Electrical and Electronics Engineers (IEEE) and the Korean Agency for Technology and Standards (KATS).

#### Useful brochures/flyers

### The IEC and the Sustainable Development Goals

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Often behind-the-scenes but nevertheless crucial, the work of the IEC directly impacts 12 of the 17 Sustainable Development Goals set by the UN. The brochure *The IEC and the Sustainable Development Goals* provides a summary, goal-by-goal, of how IEC International Standards and Conformity Assessment Systems are making a difference.





#### Secrets of effective participation

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The aim of this pocket guide is to give you general pointers that can accelerate your learning curve and hopefully increase the efficiency of your participation.





### IEC Affiliate Mentoring: a gateway to new markets

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The purpose of the IEC Affiliate Mentoring Programme is to enhance participation at all levels (standards development, management, conformity assessment) by encouraging national committees to share their expertise with developing countries who participate in the IEC Affiliate Country Programme.





#### Welcome to the IEC

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A useful flyer to help communicate about IEC. It gives a basic overview of IEC structure, work and partnerships. Do not hesitate to download or ask for hard copies.





### About the IEC

The IEC, headquartered in Geneva, Switzerland, is the world's leading publisher of international standards for electrical and electronic technologies. It is a global, independent, not-for-profit, membership organization (funded by membership fees and sales). The IEC includes 171 countries that represent 99% of world population and energy generation.

The IEC provides a worldwide, neutral and independent platform where 20 000 experts from the private and public sectors cooperate to develop state-of-the-art, globally relevant IEC International Standards. These form the basis for testing and certification, and support economic development, protecting people and the environment.

IEC work impacts around 20% of global trade (in value) and looks at aspects such as safety, interoperability, performance and other essential requirements for a vast range of technology areas, including energy, manufacturing, transportation, healthcare, homes, buildings or cities.

The IEC administers four conformity assessment systems and provides a standardized approach to the testing and certification of components, products, systems, as well as the competence of persons.

IEC work is essential for safety, quality and risk management. It helps make cities smarter, supports universal energy access and improves energy efficiency of devices and systems. It allows industry to consistently build better products, helps governments ensure long-term viability of infrastructure investments and reassures investors and insurers.





A global network of 171 countries that covers 99% of world population and electricity generation



Offers an Affiliate Country Programme to encourage developing countries to participate in IEC work free of charge



Develops international standards and runs four conformity assessment systems to verify that electronic and electrical products work safely and as they are intended to



IEC International Standards represent a global consensus of state-of-the-art know-how and expertise



A not-for-profit organization enabling global trade and universal electricity access



#### **Key figures**

86

National committees with full members (62) and associate members (24)

85

Affiliates with adoption (58), with NEC (57)

204

Technical committees (104) and subcommittees (100)

20 000

Experts from industry, test and research labs, government, academia and consumer groups

10 771

International standards in catalogue (as per 2018-12-31)

4

Global conformity assessment systems

>1 million

Conformity assessment certificates issued

### Annex A

#### 86 IEC national committees (as per 2019-02-28)

Albania Associate member Korea, Republic of Full member Algeria Full member Full member Kuwait Argentina Full member Latvia Associate member Australia Full member Lithuania Associate member Austria Full member Luxembourg Full member Bahrain Associate member Malaysia Full member Bangladesh Associate member Malta Associate member Belarus Full member Mexico Full member Belgium Full member Moldova Associate member Bosnia & Herzegovina Associate member Montenearo Associate member Brazil Morocco Associate member Full member Bulgaria Full member Netherlands Full member Canada Full member New Zealand Full member Chile Full member Full member Nigeria China Full member Associate member North Macedonia Colombia Full member Norway Full member Côte D'Ivoire Associate member Oman Full member Croatia Full member Pakistan Full member Cuba Associate member Peru Full member Cyprus Associate member Philippines, Rep. of the Full member Czech Republic Full member Poland Full member Denmark Full member Portugal Full member Egypt Full member Qatar Full member Estonia Associate member Romania Full member Finland Full member Russian Federation Full member France Full member Saudi Arabia Full member Georgia Associate member Serbia Full member Germany Full member Singapore Full member Slovakia Greece Full member Full member Slovenia Hungary Full member Full member Iceland Associate member South Africa Full member India Full member Spain Full member Indonesia Full member Sri Lanka Associate member Iraq Full member Sweden Full member Iran Full member Switzerland Full member Ireland Full member Thailand Full member Israel Full member Tunisia Associate member Italy Full member Turkey Full member Japan Full member Ukraine Full member **United Arab Emirates** Jordan Associate member Full member Kazakhstan Associate member **United Kingdom** Full member Kenya Associate member United States of America Full member Korea, DPR of Associate member Vietnam Associate member

### Annex B

### 85 IEC affiliates (as per 2019-02-28)

Afghanistan	January 2007	Kyrgyzstan	December 2003
Angola	July 2002	Lao PDR	June 2002
Antigua and Barbuda	May 2002	Lebanon	October 2001
Armenia	October 2001	Lesotho	July 2005
Azerbaijan	June 2011	Liberia	November 2016
Bahamas	July 2012	Madagascar	April 2005
Barbados	October 2001	Malawi	October 2001
Belize	April 2002	Mali	October 2001
Benin	October 2001	Mauritania	June 2002
Bhutan	July 2006	Mauritius	October 2001
Bolivia	August 2001	Mongolia	January 2002
Botswana	October 2001	Mozambique	March 2003
Brunei Darussalam	October 2001	Myanmar	November 2007
Burkina Faso	October 2001	Namibia	October 2001
Burundi	April 2002	Nepal	October 2001
Cabo Verde	January 2017	Niger	October 2006
Cambodia	October 2001	Palestine	April 2009
Cameroon	March 2005	Panama	April 2003
Central African Republic	April 2008	Papua New Guinea	June 2004
Chad	May 2008	Paraguay	December 2001
Comoros	October 2001	Rwanda	October 2001
Congo	May 2008	Saint Kitts and Nevis	September 2013
Congo (Dem. Rep. of)	October 2001	Saint Lucia	April 2002
Costa Rica	October 2001	Saint Vincent and	
Dominica	May 2002	the Grenadines	February 2008
Dominican Republic	August 2005	Sao Tome and Principe	March 2018
Ecuador	April 2003	Senegal	April 2002
El Salvador	February 2008	Seychelles	November 2001
Eritrea	October 2001	Sierra Leone	March 2003
Eswatini (Kingdom of)	October 2007	South Sudan	April 2013
Ethiopia	June 2002	Sudan	April 2004
Fiji	November 2001	Suriname	November 2008
Gabon	February 2007	Syrian Arab Republic	July 2016
Gambia	March 2008	Tanzania	October 2001
Ghana	October 2001	Togo	April 2006
Grenada	October 2001	Trinidad and Tobago	January 2007
Guatemala	October 2001	Turkmenistan	December 2001
Guinea	January 2007	Uganda	October 2001
Guinea Bissau	November 2006	Uruguay	October 2001
Guyana	October 2001	Uzbekistan	October 2015
Haiti	May 2002	Yemen	April 2002
Honduras	August 2007	Zambia	March 2002
Jamaica	October 2001	Zimbabwe	October 2001





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