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United Nations
Educational, Scientific and
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Organisation
des Nations Unies
pour l'éducation,
la science et la culture

Organización
de las Naciones Unidas
para la Educación,
la Ciencia y la Cultura

Организация
Объединенных Наций по
вопросам образования,
науки и культуры

منظمة الأمم المتحدة
للتربية والعلم والثقافة

联合国教育、
科学及文化组织

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37 C/20

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PROCLAMATION OF 2015 AS THE UNITED NATIONS INTERNATIONAL YEAR OF LIGHT

OUTLINE

Source: 190 EX/Decision 47.

Background: At the request of Ghana, Mexico, the Russian Federation and New Zealand, an item on the proclamation of 2015 as the United Nations International Year of Light was included in the agenda of the 190th session of the Executive Board. 190 EX/Decision 47 invites the Director-General to support all efforts leading the United Nations General Assembly to proclaim 2015 as the International Year of Light, and recommended that the General Conference adopt, at its 37th session, a resolution concerning this subject.

Purpose: This document provides information on the rationale, objectives and other important information regarding the proposal to proclaim 2015 as the United Nations International Year of Light.

Decision Required: Paragraph 6.

Explanatory Note

1. Light plays a central role in human activities. On the most fundamental level through photosynthesis, light is at the origin of life itself, and the many applications of light have revolutionized society through medicine, communications, entertainment, art and culture. The industries based on light are major economic drivers, and light-based technologies directly respond to the needs of humankind by providing access to information, allowing the preservation of cultural heritage, promoting sustainable development and increasing societal health and well-being. Light-based technologies are increasingly providing solutions to global challenges in *inter alia* energy, education, agriculture, and community health. Applications of light-based technologies improve the quality of life in the developing world, and are key enablers to achieving and going beyond the Millennium Development Goals.

2. As physics of light becomes a key cross-cutting discipline of science and engineering in the twenty-first century, it is essential that the importance of the scientific study of the physics of light and the application of light-based technologies for global sustainable development is appreciated by everyone. It is vital that the best young minds continue to be attracted to science and engineering careers. It is also important to pursue worldwide educational capacity-building through activities targeted on science and engineering for young men and women, addressing issues of gender equality, and focusing in particular on developing countries and emerging economies, especially in Africa.

3. At its 190th session, the Executive Board endorsed the proposal to proclaim 2015 as the International Year of Light, as introduced by the Governments of Ghana, Mexico, the Russian Federation and New Zealand, with additional sponsorship and support by Angola, Bangladesh, Brazil, Burkina Faso, China, Congo, Cuba, Djibouti, Ecuador, Ethiopia, Gabon, Gambia, Kenya, Indonesia, Italy, Malawi, Nigeria, Peru, Republic of Korea, Saudi Arabia, Spain, Thailand, Tunisia, United Arab Emirates, United States of America, Venezuela and Zimbabwe.

4. The year 2015 commemorates a remarkable series of important milestones in the history of the physics of light dating back 1,000, 200, 150, 100 and 50 years. In 1815, Fresnel in France introduced the theory of light as a wave; in 1865, Maxwell in England described the electromagnetic theory of light; in 1915, Einstein in Germany developed General Relativity which confirmed the centrality of light in both space and time; and in 1965, Penzias and Wilson in the United States discovered the Cosmic Microwave Background, an echo of the origin of the universe. In addition the year 2015 represents 1,000 years since the publication of the great works on optics by Ibn al-Haytham, during the Islamic Golden Age. Celebrating the scope of these milestones in 2015 will provide a tremendous opportunity for educational and capacity-building activities worldwide, especially in Africa.

5. An International Year of Light will offer to UNESCO a novel and important opportunity to fulfill its mission of promoting international cooperation in science, technology and engineering for sustainable development, as well as in science education and capacity-building. This International Year will also trigger a wide range of cooperative undertakings within follow up of the 2005 International Year of Physics and the 2014 International Year of Crystallography. The participation of UNESCO in the celebration of the International Year of Light will be detailed in document 37 C/5 document and financed mainly from extrabudgetary funding.

6. In the light of the above, the General Conference may wish to adopt a decision along the following lines:

The General Conference,

1. Recognizing the importance of light and optical technologies in everyone's life, and for the future development of society on many levels,

2. Stressing that enhanced global awareness of, and increased education in, the science and technologies of light is vital to address challenges such as sustainable development, energy, and community health, and to improve the quality of life in both developed and developing countries,
3. Considering that the applications of light science and technology are essential to existing and future advances in medicine, communications, entertainment and culture, and that light-based technologies directly respond to the needs of humankind by providing access to information and increasing societal health and well-being,
4. Noting that 2015 celebrates a series of important milestones in the history of the physics of light, specifically the great works on optics by Ibn-al-Haytham 1,000 years ago, the notion of light as a wave proposed by Fresnel in 1815, the electromagnetic theory of light propagation by Maxwell in 1865, the embedding of light in cosmology through general relativity in 1915, and the discovery of the Cosmic Microwave Background in 1965,
5. Being aware that celebrating these discoveries in 2015 provides an unparalleled opportunity to highlight the continuous nature of scientific discovery in different contexts, with particular emphasis on promoting basic sciences education and capacity-building among young men and women, particularly in developing countries and emerging economies, including in Africa,
6. Being further aware that UNESCO will play a lead role in coordinating, promoting and implementing science and technologies of light activities at the national and regional levels around the world, during this International Year,
7. Invites the Director-General to support all efforts leading to the proclamation of 2015 as the International Year of Light;
8. Recommends that the United Nations General Assembly, at its sixty-eighth session, adopt a resolution declaring 2015 as the United Nations International Year of Light.