

Two blue electronic components, likely integrated circuits, are shown resting on a large, vibrant green leaf. The components have multiple pins and the IEC logo is visible on their top surfaces. The background is a soft-focus green, suggesting a natural environment.

# IEC TC 111 Environmental standardization for electrical and electronic products and systems

**TC 111 Secretary: Alfonso Sturchio**

**TC 111 Assistant Secretary: Andrea Legnani**

**TC 111 Vice Chair: Miyuki Takenaka**

# IEC TC 111 Overview



International  
Electrotechnical  
Commission

Environmental standardization for electrical and electronic products and system

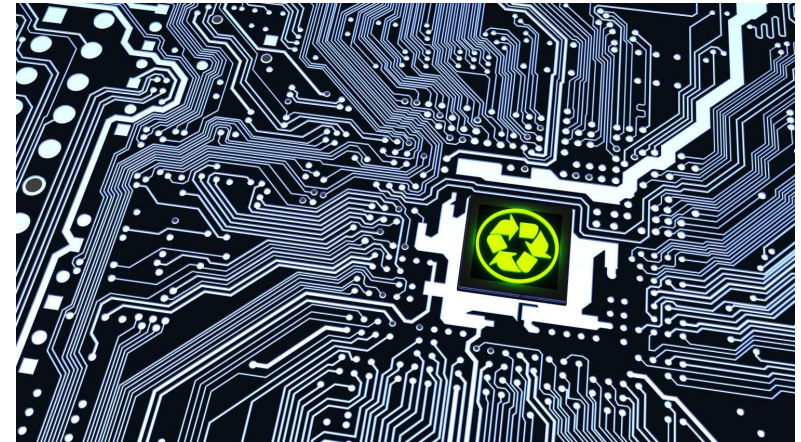
- **Established in October 2004**
- **Countries: 28 members + 10 observer**
  - Nigeria became P-member in 2022
- **TC 111 Officers**
  - Secretary: Alfonso Sturchio (IT),
  - Assistant Secretary: Andrea Legnani (IT)
  - Vice Chair: Miyuki Takenaka (JP)
- **Experts**
  - 251 from 28 countries
- **Liaisons**
  - 23 IEC, 10 ISO, 2 ORG (ECMA, ECOS)
- **Publications**
  - 35
- **Active groups**
  - 15



# Scope of IEC TC 111

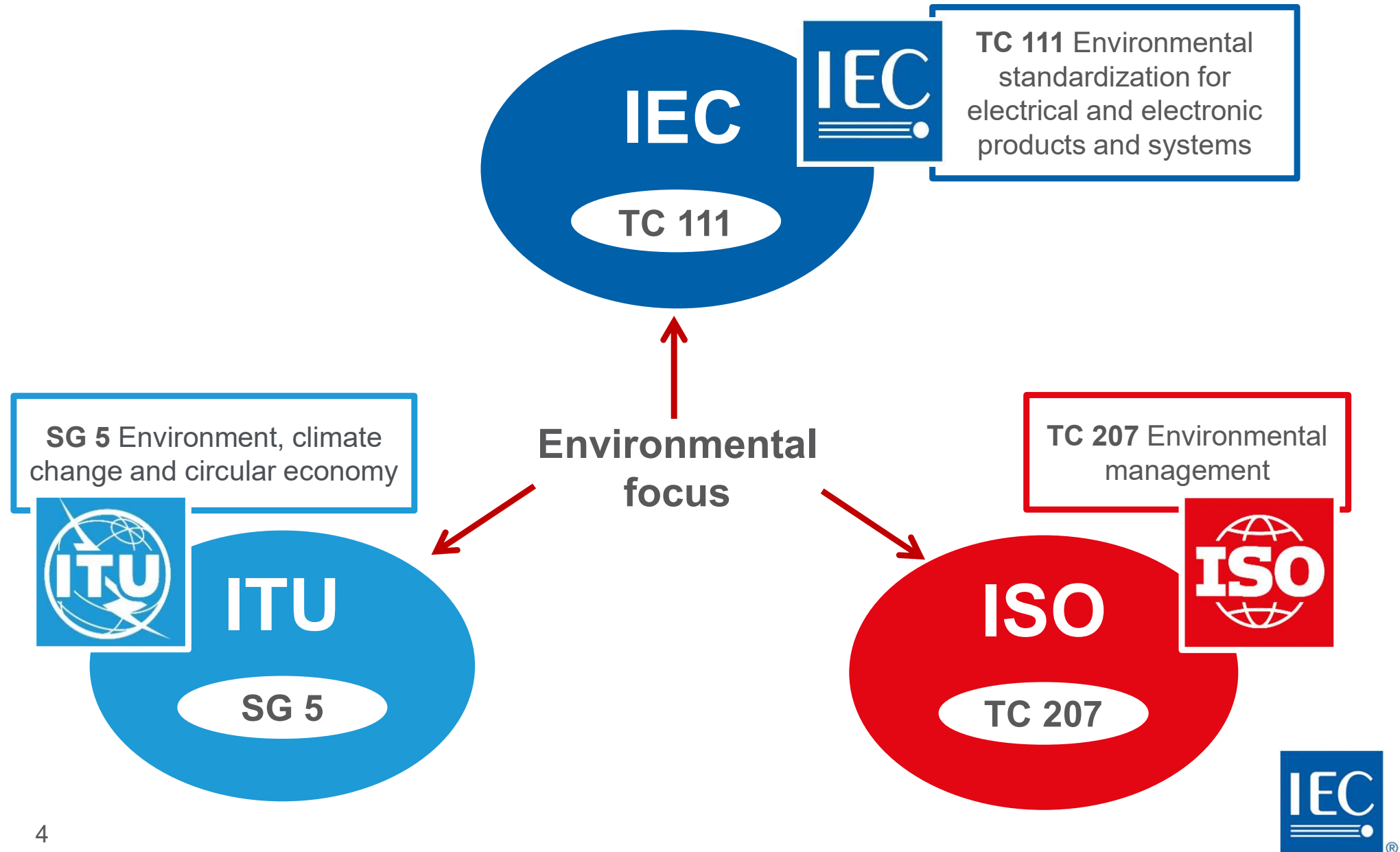
## Standardization of Environmental Aspects

- Prepare guidelines, basic and horizontal Standards, incl. technical reports
  - Cooperation with IEC product committees to ensure consistency in IEC Standards
- Monitor regional standardization and regulatory activities to become focal point for discussion in that area



# Environmental TCs

Three major standards development bodies (SDBs) and environmental TCs





# TC 111 structure

## Working Group

WG 3	Test methods of certain substances
WG 5	General method for assessing the proportion of reused components in products
WG 15	Product category rules for LCA of electrical and electronic products and systems.
WG 17	Greenhouse gas (GHG)
WG 18	E-waste
WG 19	Material declaration for products of and for the electrotechnical industry: Guidance for the implementation of IEC 62474.
WG 20	Guidance on material circularity considerations in environmentally conscious design

## Maintenance Teams

MT 21	Terminology
MT 63000	Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances

## Joint Working Groups

JWG 14	Test methods of certain substances in plastics <a href="#">ISO/TC 61/ SC 5</a>
JWG 16	Material Declaration linked to <a href="#">ISO/TC 207</a>
JWG ECD - 62430	Environmental Conscious Design (ECD) - Principles, requirements and guidance linked to <a href="#">ISO/TC 207</a>

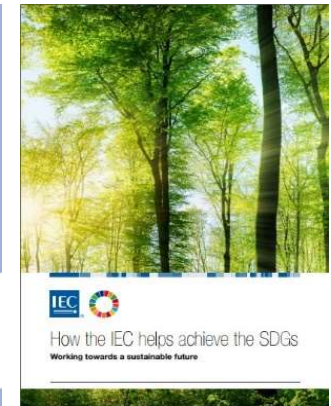
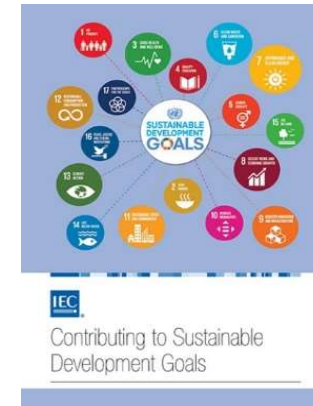
## Advisory Groups

AG 2	Strategic Business Plan
AG 3	Chair's Advisory Group

# Environmental issues in EEE

- Chemical substances
- Environmentally conscious design (ECD)
- Life cycle evaluation of greenhouse gas (GHG) emissions
- Circular economy, incl. waste management
- Environmental performance assessment of products

# Relationship between SDGs and TC 111 Environmental Standards



A number of IEC TC 111 Standards are relevant to achieving the **SDG 3, SDG 6, SDG 8, SDG 11, SDG 12, SDG 13, SDG 14, SDG 15 e SDG 16.**

- IEC 62474 on substances declaration allows to identify the hazardous substances, contained in electric and electronic equipment (EEE), including substances banned or restricted in medical devices;
- IEC 62321 series provides test methods to use a standardized method to measure the content of 10 different substances.
- IEC 62430 on environmentally conscious design of products.
- IEC 62635 on end-of-life information of EEE allows for a clean and environmentally friendly and optimized end of life treatment.
- IEC 63000 provides technical documentation to assess conformity with substances declaration.
- IEC 62725, IEC 62726 on greenhouse gas emissions.

# Chemical Substances Area

## *IEC 62474: Material declaration for products of and for the electrotechnical industry*



- Defines the requirements for reporting the substances and materials used in electronic and electrical products
- Database updated on a regular basis
- Free access: <http://std.iec.ch/iec62474/iec62474.nsf/>
- Edition 2.0 published in November 2018
- Balloting for a joint collaboration with ISO TC 207/SC1 to develop a material declaration standard



Target audience:

Regulators, industry and the whole supply chain



Supply chain  
management





# Chemical Substances Area

# ***IEC 62321 Series: Determination of certain substances in electrotechnical products***

- **The development of screening and verification test methods of certain substances supported by Institute for Interlaboratory Studies (IIS's)**
- **Developing New part of JWG with ISO/TC 61 (Plastics)**

## Target audience:

## Industry and the whole supply chain, test & certification bodies, recyclers



## Hazardous substances management



# Eco-design Area

## *IEC62430: Environmentally conscious design for electrical and electronic products*

- Edition 2.0 of IEC 62430 published by JWG ECD with ISO/TC 207 in October 2019
- Plans for the development of a new standard that includes circularity aspects on environmental conscious design are ongoing

Target audience:

Designers and developers of EE products and their supply chain



Environmental  
conservation



# Green House Gas Area



## *IEC 63336 CDV: Product category rules (PCR) for life cycle assessment of electrical and electronic products and systems.*

- Specifies the process and requirements on how to conduct life cycle assessment in the context of environmental declarations.
- Provides guidance on how to develop PSR (product-specific rules) in corresponding technical committees. Applicable to any type of EE products
- Expecting Publish Date: 2024-04

Target audience:

Designers and developers of EE products and their supply chain



Life cycle  
impact



Greenhouse gas  
reduction



# Green House Gas Area



## *IEC 63372 CD: Quantification and communication of Carbon Footprint and GHG emission reductions/avoided emissions from electric and electronic products and systems – Principles, methodologies, requirements and guidance*

- Provide requirements and guideline on the following points about Carbon Footprint of Products (CFP), emission reductions and avoided emission\*
  - Framework to low carbon society toward decarbonization
  - Quantification methodology to be used in common in EE industry
  - Communication
- **Expecting Publish Date: 2024-01**

\* Avoided GHG emission is GHG reduction that occurs outside the organization boundaries of the reporting organization as a direct consequence of the use of its product, system or project. [ISO 14050:2020 3.9.16 modified]

**Target audience:**  
**Designers and developers of EE products and their supply chain**



Life cycle  
impact



Greenhouse gas  
reduction



# Circular Economy Area

## *TR 62874: Guidance on material efficiency considerations in environmentally conscious design of electrical and electronic products*

- Support Ecodesign
- Focus on optimal and efficient use of material within products
- Ensures sustainability of natural resources

Target audience:

Designers and developers of EE products and their supply chain



Pollution  
prevention



Waste  
management





# Circular Economy Area

## ***IEC TR62635: Guidelines for end-of-life information provided by manufacturers and recyclers and for recyclability rate calculation of electrical and electronic equipment***

- allows recyclers to safely recycle and to improve their processes
- common format and method to document and report on end-of-life aspect of resource efficiency for ecodesign

Target audience:  
Manufacturers, recyclers



Waste  
management



# ***IEC 63395 WD: Sustainable management of waste electrical and electronic equipment (e-waste)***

- Specifies the requirements for the sustainable management of waste electrical and electronic equipment (e-waste).
- New WG 18 established 2021

This proposed horizontal standard aims to facilitate the systematic, sustainable management of e-waste. Among its objectives, it seeks to reduce the amount of e-waste sent for disposal through reuse and recovery, prevent the inappropriate disposal of e-waste and restrict operators who do not comply with the standard or comparable requirements from receiving e-waste shipments.

Interest in this work is high and efforts are now underway to ensure the involvement from all parts of the world.



# Conclusion



About us

## We are IEC TC 111

IEC Technical Committee (TC) 111 prepares horizontal International Standards which are key in helping to ensure electrical and electronic products are designed with the environment in mind. They are essential tools in the fight against e-waste, while aiding

## IEC TC 111

The one-stop shop for environmental standards that helps you keep your products and systems clean!

**Public website**

**PLEASE visit it !!**

<https://dev-tc111.ieccloud.com/>

For any questions or doubts please do not hesitate to contact us at the following e-mail addresses:

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**ONLY ONE EARTH**







**Thank you!**

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