

In the framework of

SESEI



In association with



Confederation of Indian Industry

3rd Indo-European Conference on Standards and Emerging Technology

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LVDC IN THE IEC

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Normalisation

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SyC LVDC - What, Why, Why now and How



International
Electrotechnical
Commission



We already live in a DC World!





Greenhouse - Solar PV Farm



Electromobility: revolution in motion



Cost down

Consumption
Devices

Energy efficiency up

UN SDGs and major
government programs
creating a market

Regulations



Cost down

Solar
Powered
Generation
& Storage



- 2009- IEC commences LVDC review
- 2014 – SEG 4 in LVDC was created
- 2017 - SyC formed
 - 170 experts, 8 meetings across four continents, and numerous emails, web meetings and conversations
 - Standardization work has begun!

Systems Committee Low voltage Direct Current and Low voltage Direct Current for Electricity Access (SyC LVDC)



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graph TD; SyC[Systems Committee Low voltage Direct Current and Low voltage Direct Current for Electricity Access (SyC LVDC)] --- CAG1[CAG 1 Market review and use case development]; SyC --- CAG2[CAG 2 Coordination and implementation]; SyC --- WG1[WG 1 LVDC Standards for electricity access]; CAG1 --- LVDCForum[LVDC Open Forum]; CAG2 --- LVDCForum; WG1 --- LVDCStandards[LVDC Standardizers Forum];
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CAG 1

Market review and use case development

CAG 2

Coordination and implementation

WG 1

LVDC Standards for electricity access

LVDC Open Forum

Contributing Experts and individuals. Capturing ideas, innovations and experiences. Promoting IEC's standardization work

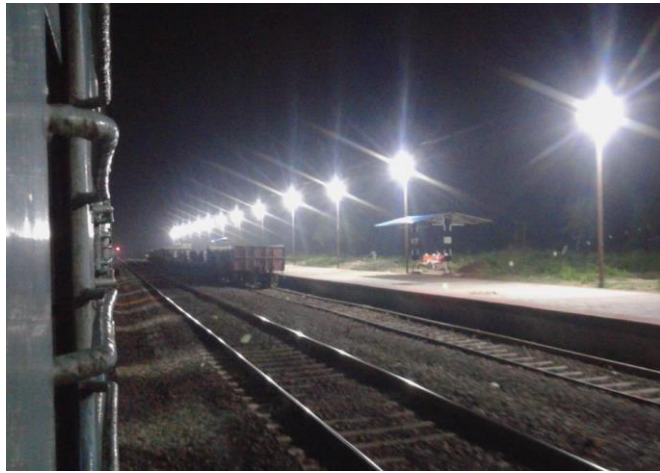
LVDC Standardizers Forum

Contributing Experts, IEC TCs/SCs and Non-IEC standardizers. Open exchange on ongoing and possible future standardization work

IEC priorities



- At the moment 2 priorities in SyC LVDC
 - The last mile
 - Energy access
- Ongoing work in several IEC TCs/SCs
 - TC 23 – appliance couplers, SC 23B – plugs and SO, SC 23E – circuit breakers and RCDs
 - TC 64 – DC Data Centers
 - TC 82 – PV
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**Last Mile Public
Installations**

A person wearing a blue and white striped shirt and dark pants is cooking over an open fire. They are using a long-handled spoon to stir a large pot. The fire is burning brightly in a metal stove, and a large amount of white smoke is rising from it. The background is dark and blurry.

1 in 5 has no access to electricity

2 in 5 have no access to clean cooking



1 NO POVERTY



IEC

2 ZERO HUNGER



3 GOOD HEALTH AND WELL-BEING



4 QUALITY EDUCATION



5 GENDER EQUALITY



6 CLEAN WATER AND SANITATION



IEC

7

AFFORDABLE AND CLEAN ENERGY



ATION
TURE

10 REDUCED INEQUALITIES



IEC

11 SUSTAINABLE CITIES AND COMMUNITIES



IEC

12 RESPONSIBLE CONSUMPTION AND PRODUCTION



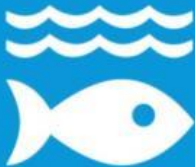
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13 CLIMATE ACTION



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14 WATER



15 ON LAND



16 STRONG INSTITUTIONS



17 PARTNERSHIPS FOR THE GOALS



IEC



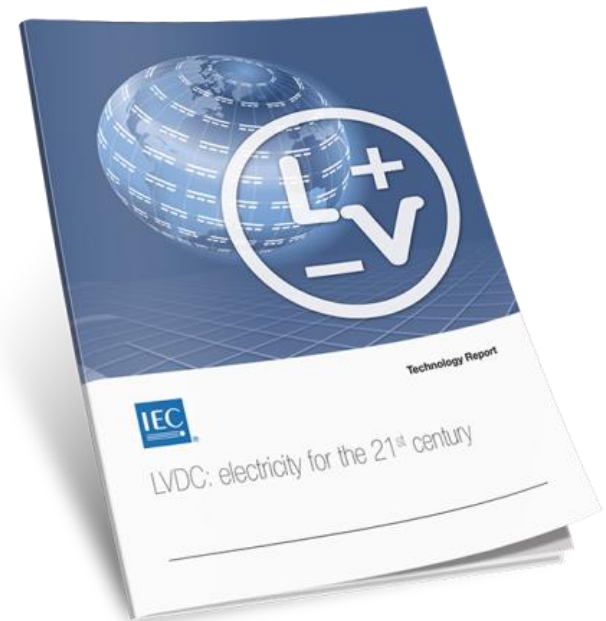
Measuring energy access: the multi-tiers



World Bank Multitier Framework for Energy Access (<https://www.esmap.org/node/55526>)

The LVDC Zone @ IEC

- IEC LVDC Zone (www.iec.ch/LVDC)
 - Includes content from past conferences
 - Downloads area (brochures, mnemonic, public content)
 - e-tech articles on LVDC
- SyC LVDC Open Forum (OF1)
- SyC LVDC [LinkedIn Group](#)
- The [IEC LVDC Technology Paper](#)
LVDC: electricity for the 21st century



Why system's work in LVDC standardization?



- In both cases (last mile & energy access – Tier 2->5) the solution contains more than 1 product
 - Need for a coherent set of standards to guarantee safety, compatibility and interoperability
=> need for coordination between technical bodies
 - Need for a good understanding of the market demand
=> use case needs to contain clear and relevant information on the market need
=> use case is only to be written when people with knowledge about the market needs discuss deeply and **together** with people with knowledge about the possible applications

**Cenelec is very happy to contribute to this enormous task
providing experience and expertise**

In conclusion

- » LVDC is happening and it will touch all areas of electricity.
- » LVDC makes sense for developing and developed economies
- » For making standards, we need
 - » a good cooperation between all stakeholders
 - » relevant detailed information about the market needs





Cenelec looks forward to working with IEC and BIS for holistic development of Standards for Emerging Technologies

Thank you