

China's Energy and Climate Registry and LED Light Standard in China

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Innovation Center for Energy and Transportation
(iCET)



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Cancun, Mexico

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iCET Side Event

Low-carbon development in China:
Clean technologies and GHG
accounting



中国能效与碳注册

ENERGY AND CLIMATE REGISTRY

China-US Challenges and Opportunity

中美两国的挑战和机遇

World's biggest industrial country: USA
World's largest developing country, China.
中美作为最大的发展中国家和发达国家

Together: 起共有:
25% of the world's population, 25% 的世界人口

33% of the world's economic output
33% 的世界经济总产量

33% of the world's energy consumption
33% 的世界能源总消耗

45% of global CO₂ emissions from fossil fuel use
45% 的温室气体的总排放



Source: World Bank, IEA, EIA

China launches low-carbon pilot in select cities, provinces

- The National Development and Reform Commission (NDRC) launched a national low-carbon province and low-carbon city experimental project in Beijing on Aug. 18, 2010
- The project will be implemented in five provinces, namely Guangdong, Liaoning, Hubei, Shaanxi and Yunnan, and in eight cities, namely Tianjin, Chongqing, Shenzhen, Xiamen, Hangzhou, Nanchang, Guiyang and Baoding.



Building Carbon Accounting – Key Players



CNIS: International Standard Adaptation/Application

ERI: MRV Mechanism/Emission Factors

Universities and Research Institutes: Research and Analysis on the GHG emissions



WRI: Research on protocols at different sectors

iCET: Methodology\Tool\Reporting

CBCSD: Industrial Standards (cement, steel, etc.)

ISC/BSR/WWF: Business social responsibility training

WBCSD: Cement industry GHG reporting

Companies for developing standard: BSI

Leading Companies for internal preparation

Consulting companies, including law and accounting firm, such as PWC, ICF, IES

What is the Energy and Climate Registry (ECR)?

- A voluntary GHG calculation tool for companies, with 3 components:
 1. **The ECR Protocol** -- a users guide with step x step instructions to build your footprint
 2. **The ECR Calculation Tool** – software to help companies generate GHG inventories efficiently
 3. **Third-Party Verification** –independent assurance of stated GHG inventories, optional

Progress Made Since Last Year

1. Finished Background Paper;
2. Launched China-based Protocol;
3. Recruited and consulted with potential members
4. Published peer reviewed papers in both English and Chinese;
5. Hosted first China Conference for International Carbon Action Partnership;
6. Conducted technical conference meetings;
7. Performed stakeholders and member training;
8. Joined R-20 Initiative.

Climate Registry Information System developed by MISYS

CRIS: Climate Registry Information System

The Climate Registry

Robyn Camp - Primary Entity Administrator

Home | Physical Inventory | Emissions Inventory | Analysis and Reports | Resources

Entity Details | Campco

Program Guidelines [Hide](#)

TCR: On this page, you can edit and manage your Entity information. Use the "Related Items" links on the right hand side to quickly navigate to other aspects of your inventory.

Program

TCR

Verification Body

Zorovich Verification Services

Entity Name *

Campco

Description

Provider of camping equipment including tents, cookware and sleeping materials using only the highest quality, lightweight

Entity Type *

Commercial & Industrial

Entity Active From Date *

March 23 2010

☐ Entity Active To Date

Company URL

www.campco.com

Phone Number

213-821-1444

Confidential Business Information

No

Related Items

[Facilities](#)

[Contacts](#)

[Emissions Years](#)

[Additional Information](#)

[Documents](#)

[Submission](#)

[Address History](#)

Address Information

[Less](#)

Physical Address

☐ Private ☒ Public

Address Line 1 *

523 W. 6th St

Address Line 2

Address Line 3

City *

Los Angeles

Country

United States

State/Region

California

Mailing Address

☐ Same as Physical Address

☐ Private ☒ Public

PO Box 71444

Los Angeles

United States

California

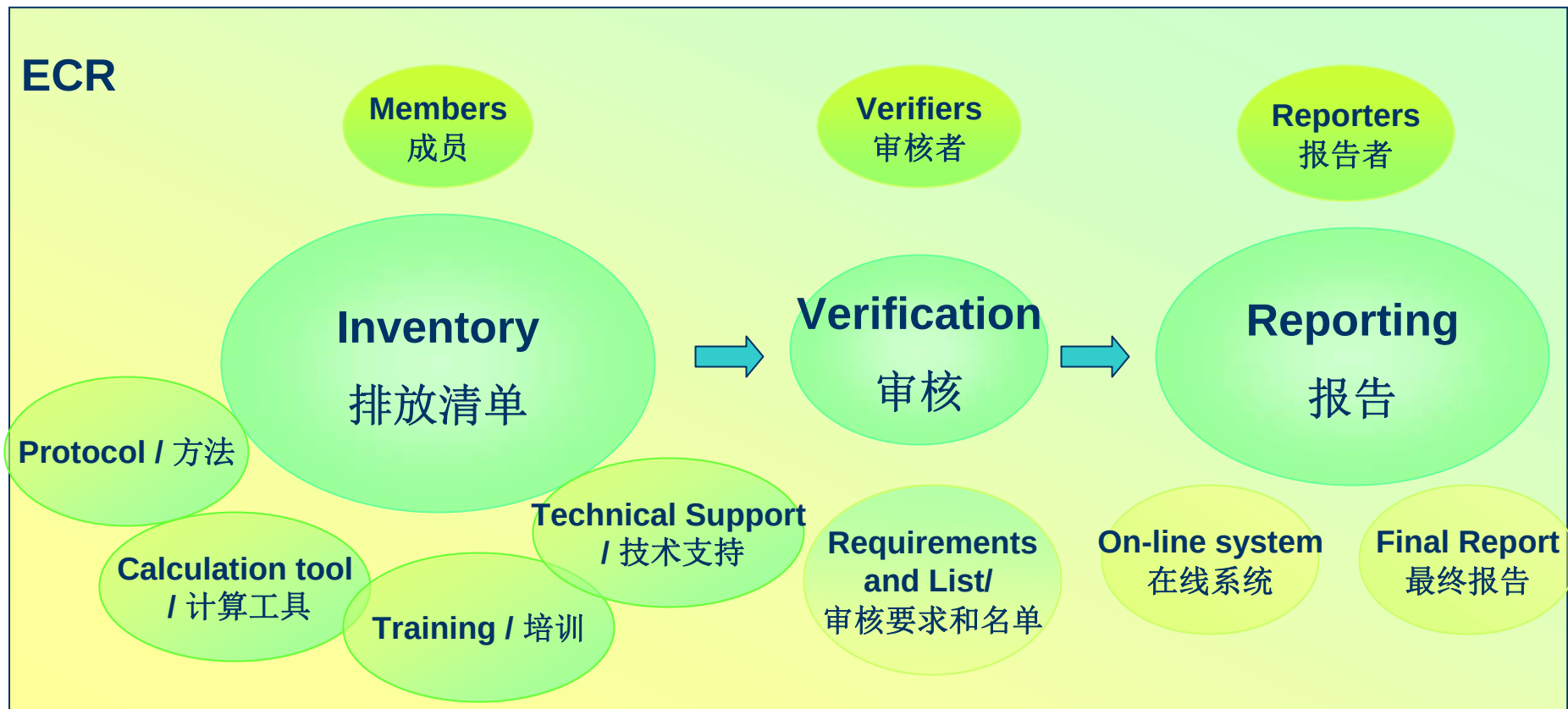
Public Relations Address

☒ Same as Physical Address

☐ Private ☒ Public

Done

The Reporting Process:



Value of Reporting to the ECR

- You can't manage what you don't measure!
- Understand the impact of your operations
- Enhance your company's brand image with customers, employees and NGOs
- Access ECR's expert training, tools
- Build capacity and join a growing community
- Be ahead of the curve

Who Should Join?

- **Environmental Leaders**
- **Companies that feed supply chains of Walmart, other companies**
- **Any entity – .com, .edu, .org**
- **Any Industry:** Telecommunication, renewable energy, utility, electronics, chemicals, steel, manufacturing, etc.

Next Steps

1. Continue recruit members;
2. Finalize the reporting software;
3. Road test of the software with the companies;
4. Work with R-20 members and China Low Carbon Pilot Provinces and Cities on Carbon Accounting;
5. Conduct seminars and training for members and potential members;
6. Guide members on the carbon accounting steps;
7. Work with Chinese partners to promote ECR nationwide.



How to Join

1. Sign ECR membership contract
2. Confirm membership level, reporting level and timeline
3. Participate in ECR training sessions
4. Complete first year inventory

Join today!

www.chinaclimateregistry.org



中国能效与碳注册
ENERGY AND CLIMATE REGISTRY

Energy Crisis: Opportunities in Lighting

能源危机-照明发展机遇

- Energy consumption for all lighting is estimated to be about 22% of the total electricity generated.

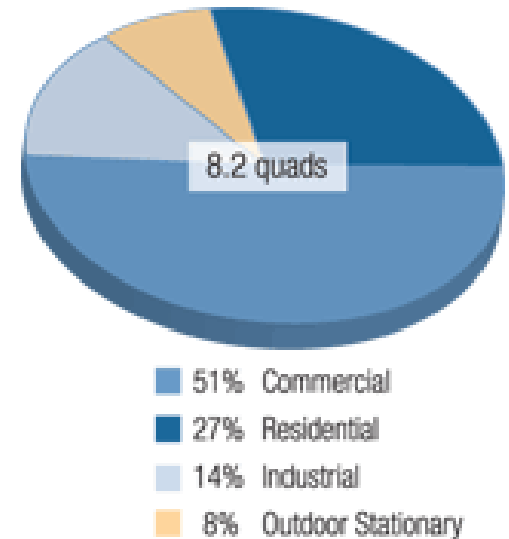
照明所用和能源大约占总能源使用的22%

- Consumers and businesses spend approximately \$58 billion a year to light their homes, offices, streets, and factories in USA.

在美国用户和商业在家庭， 办公室， 街道和工厂照明所用的资金大约是580亿美金。

- More than half of the energy is consumed in the commercial sector, where lighting coincides with peak electrical demand and contributes to a building's internal heat generation, increasing air-conditioning load.

超过一半的电费是花在商业上， 而这时的照明的使用刚好与空调使用同时发生， 照明所产生的热量会增加空调的使用量。



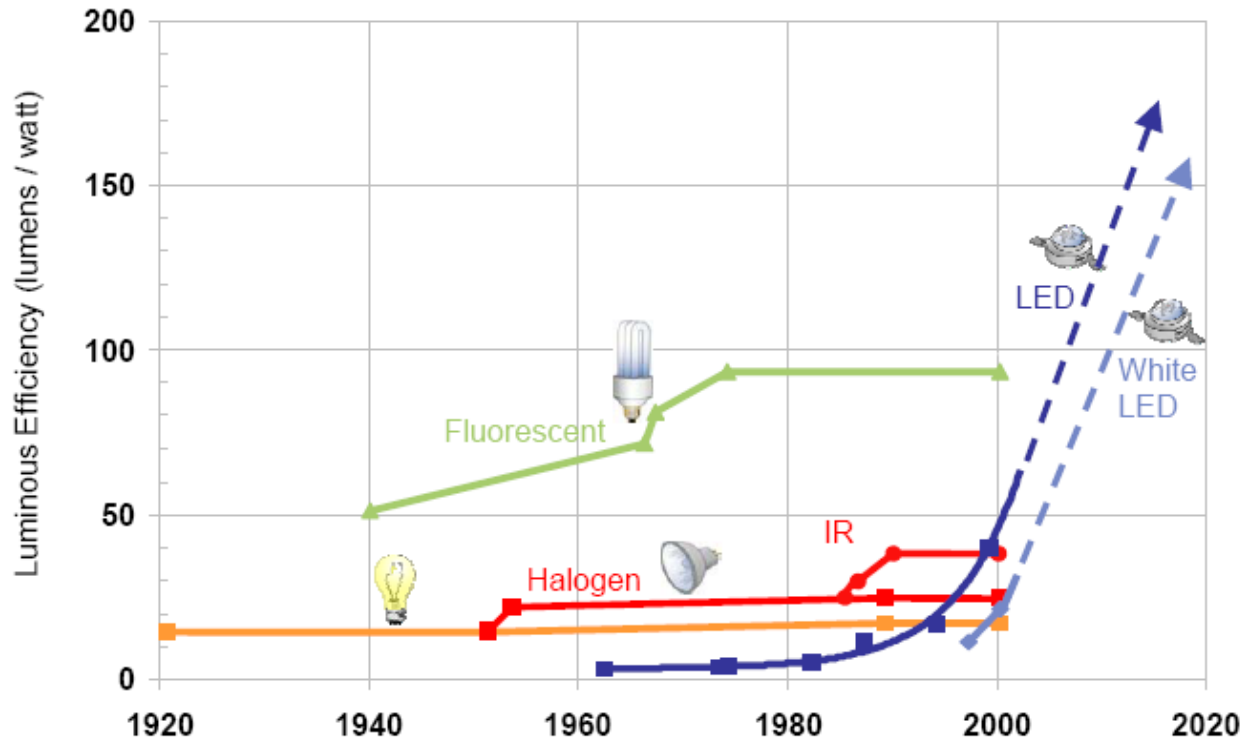


LED Lights: Challenge ahead

LED 灯：面临的挑战

- LEDs vary over the forms and functions, poor designed LED product may hurt its reputation for LED lightings;
LED 灯的种类很多，种类和功能不同。质量较差的LED产品对于LED产业声誉影响巨大；
- There is a lack of policy support and financial subsidies on the LED, which are critical in promoting LED development;
在LED发展过程中尚缺少明确的政策和经济的鼓励；
- LEDs are currently more expensive than most conventional lights and thus have more difficulty entering the market;
LED 灯一般比普通的灯价格偏高，在进入市场时的挑战较大；
- There are still some technological issues that need to be improved upon in terms of competing with conventional lighting.
LED 灯在技术方面仍然有很大的空间提高。

LED Lights: Opportunities



The rapid increase of the light efficacy in LED lighting. (Source: Lumileds)

The LED Technology is developing towards good direction, but LED industry Development needs to be guide by good standards, policies and incentives.



LED Lights: iCET project

LED 灯：能源与交通创新中心项目

- Funded by Energy Foundation, partnered with China Solid State Lighting Alliance and Beijing Light Research Institute.
- Global market and R&D research and analysis on LED lighting products
- Establishing an International Working Group and Technical Advisory Committee
- Strategies and economic incentives suggestion to promote LED R&D and application



Why Energy Efficiency?

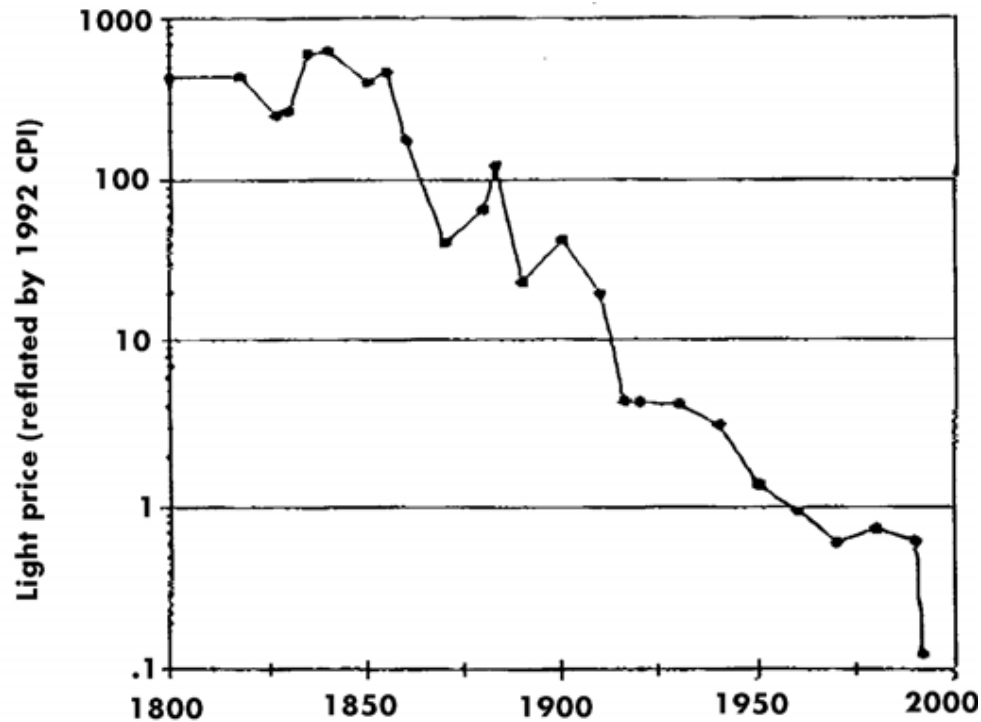
能源效率的重要性

- **“The EPA estimates that if the energy efficiency of commercial and industrial buildings improved 10%, Americans would save about \$20 billion and reduce greenhouse gas emissions equal to the emissions from almost 30 million vehicles.”**

美国国家环保局估计如果商业界和工业界能源效率提高10%，美国就会节省两百亿美元的花费，其降低的温室气体的排放相当于3千万汽车的当量。

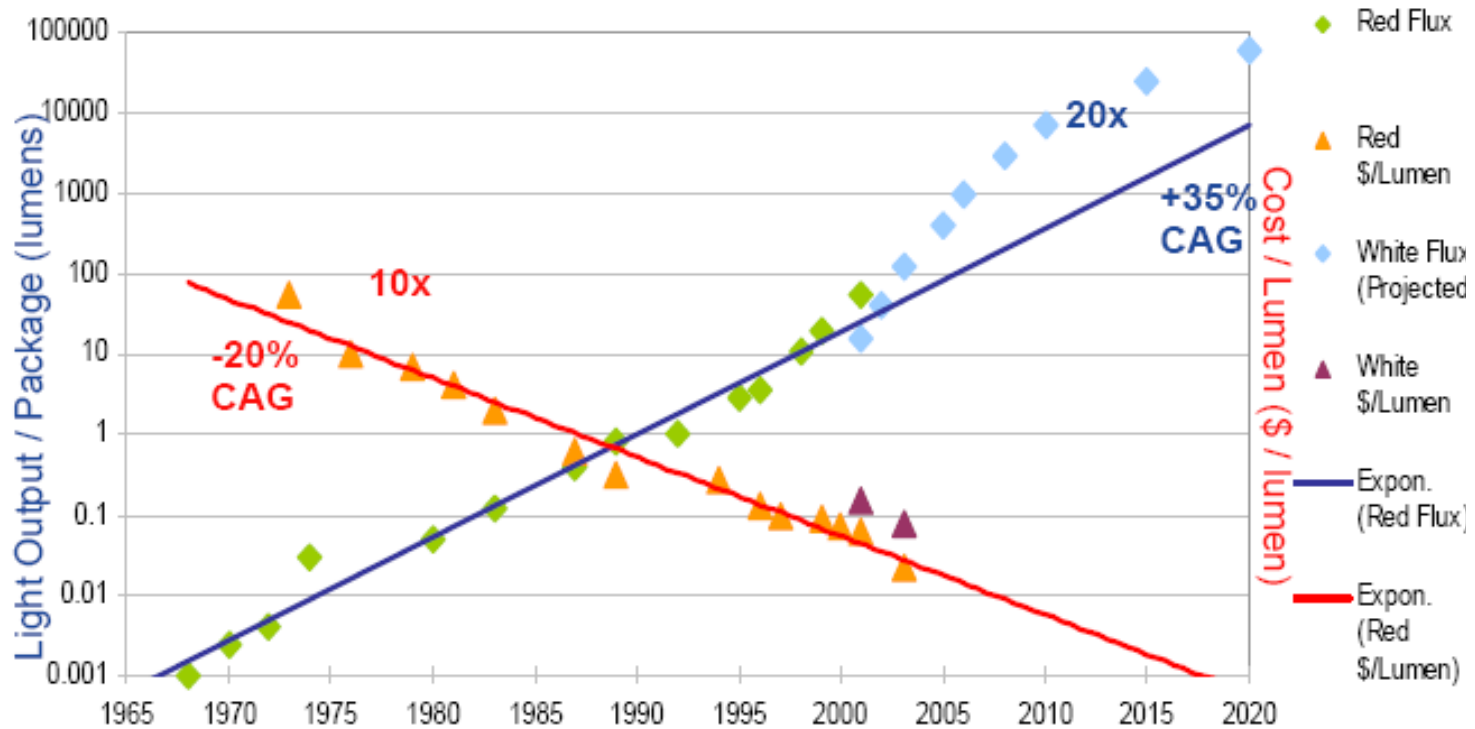
Source: EPA

Cost of Light 照明的费用



The cost of light as a service is shown in dollars per lumen for the last 200 years. (Source: Nordhaus)

Cost of Light 照明的费用



Improvements in LED output and pricing have been substantial over several decades (source: Lumileds).



Why Standards and Regulation

为什么要标准和政策

– Lighting Industry's purpose – standardization

- Consistence and competitiveness
- Reduction of complicity
- Market competition
- Consumer's protection

– Governments' purpose – regulation

- Risk management
- Consumers protection
- Energy consumption saving
- Energy saving and Environmental protection



Standard bodies on LEDs

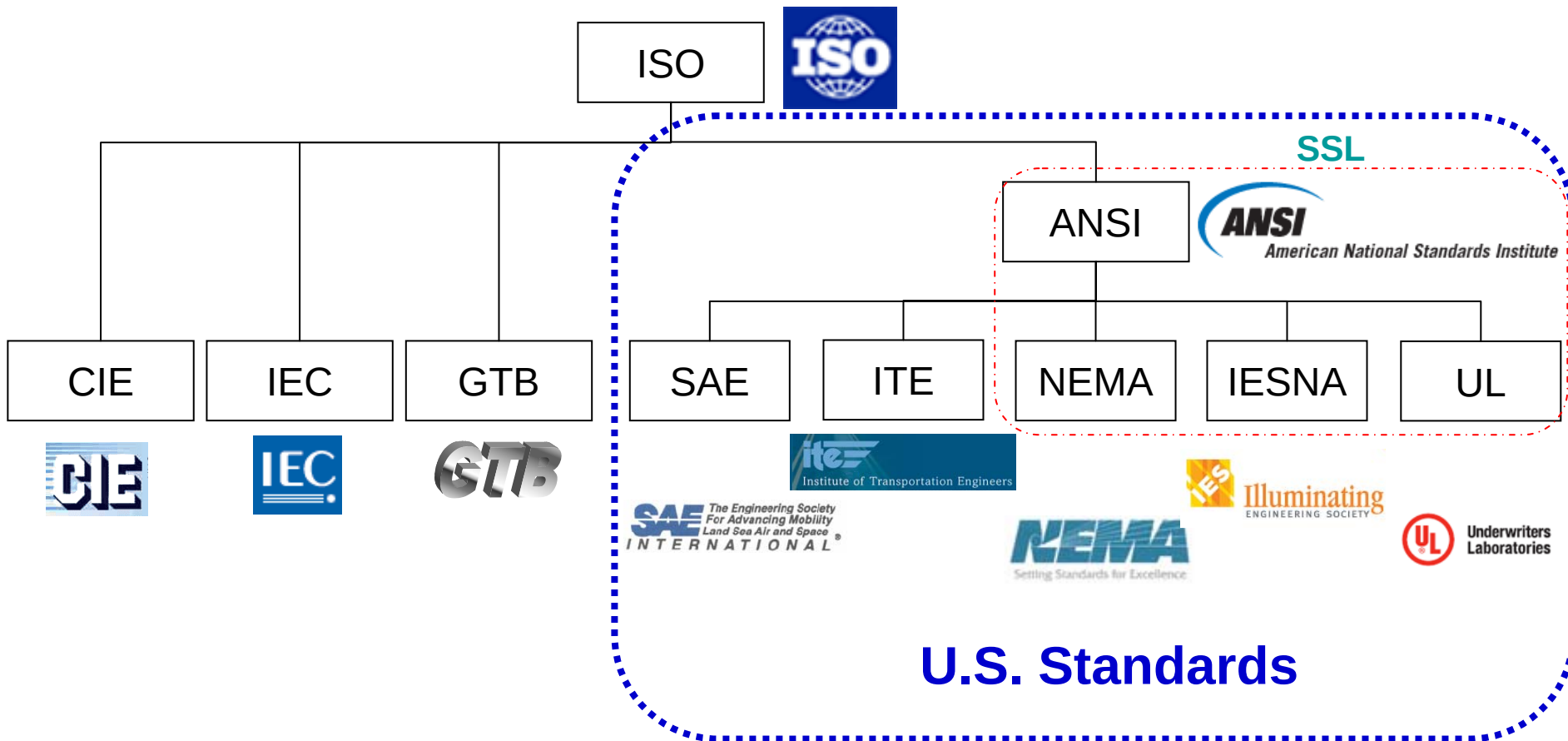
LED 的标准机构

- **Industry's Bodies for Standardization for LEDs**
 - Professional association
 - SAE (Society of Automotive Engineers)
 - ITE (Institute of Transportation Engineers)
 - IESNA (Illumination Engineering Society North America, connect to CIE)
 - IEEE (Institute of Electrical and Electronics Engineers)
 - Standard organization
 - UL (Underwriter Laboratories, product safety certification)
 - ANSI (American National Standard Institute, connect to ISO)
 - Trade association
 - NEMA (National Electrical Manufacturers Association)
- **Government Regulations for LEDs (DOE, EPA..)**
 - Energy Star
- **Others :**
 - ASSIST: Alliance for Solid-State Illumination Systems and Technologies
 - NIST: National Institute of Standards and Technology

Source: Orsram

Standard bodies on LEDs

LED 的标准机构



Source: Orsram



Training and Outreach

教育和宣传

- The Latest in LED Technology developments worldwide;
- LED basic information and LED luminaries principals;
- Not all LED Lighting is created equal: the knowledge to identify the high qualified products from bad ones;
- Criteria for eligible products lists for LED lighting;
- LED rebating system;
- LED lights energy consumption and monetary cost.

Suggestions

建议

- **Development of a step-by-step process for establishing the methodology of harmonization with test procedures for LED products.**
- **Communication with the key international agency such as the ISO or IEC (or both) on the new methodology with harmonized test procedures and/or recommend to standards-setting agency, such as Standard Administration of China (SAC).**
- **Setting up robust data sets including comparison test data in each test facilities for all the related LED products using the test procedure.**
- **Accrediting regional test facilities in major LED products development zone, such as Shenzhen, Shanghai, Yangzhou, Tianjin and Dalian.**

Thank you!!

鸣谢!!

- Current Project Financial Supporters/目前项目资金支持:



United Kingdom
Foreign & Commonwealth Office



Rockefeller
Brothers Fund
Philanthropy for an Interdependent World

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