

Lighting for more with less @ BEC

Ir CHEUNG Yuen-fong, Patrick, Chief Engineer
Ir WONG Wai Kwong, Senior Engineer,
Ir CHIU Chun Ting, Senior Engineer
Ir LOH Yew Leong, Engineer

CIE (Hong Kong)
6th International
Lighting Symposium
2015

Lighting
Development and
Application
– The Next Direction



1. Buildings Energy Efficiency Ordinance (BEEO)

香港都市 節能藍圖

2015~2025+



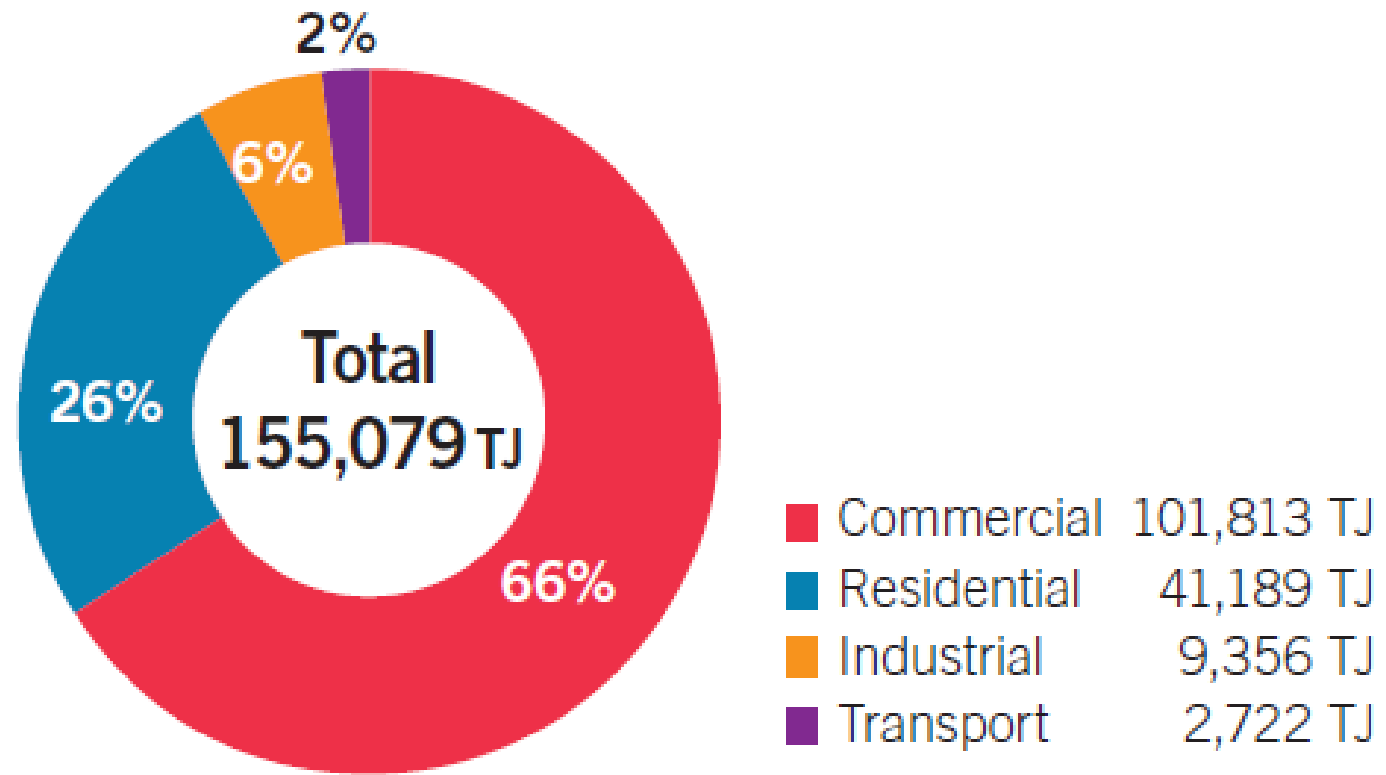
環境局
發展局
運輸及房屋局 合力支持

2015年5月





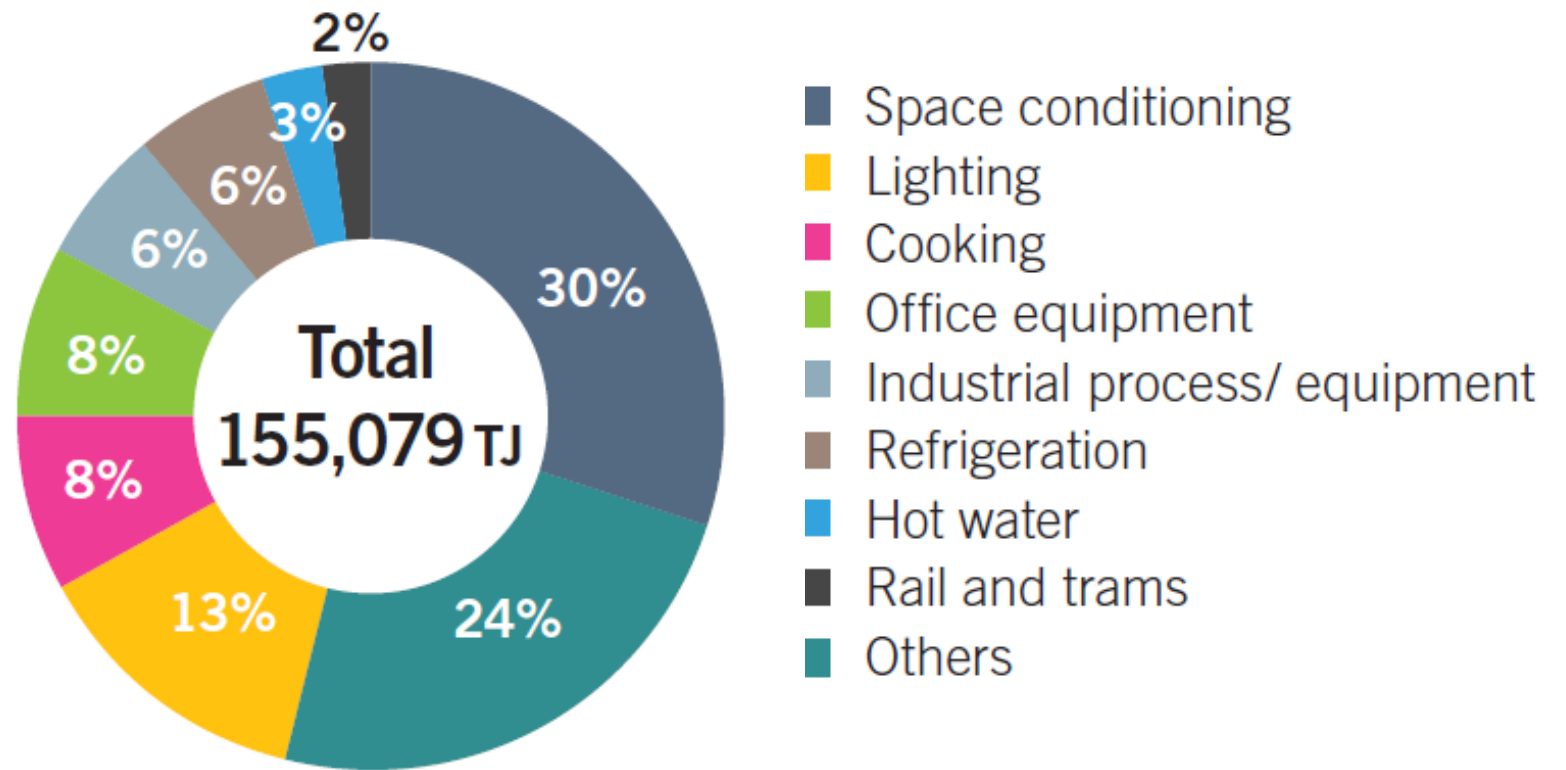
1. Buildings Energy Efficiency Ordinance (BEEO)



Electricity consumption by sector, 2012



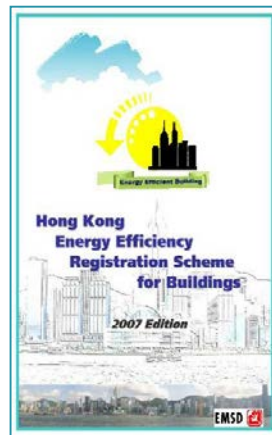
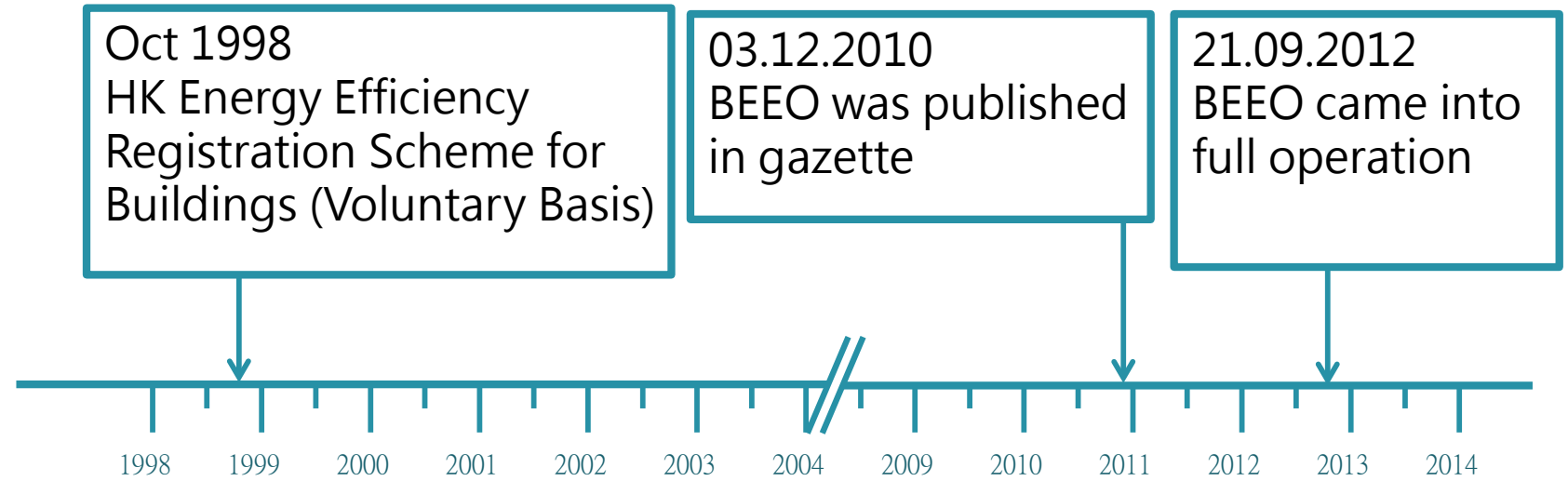
1. Buildings Energy Efficiency Ordinance (BEEO)



End-uses of electricity in Hong Kong, 2012

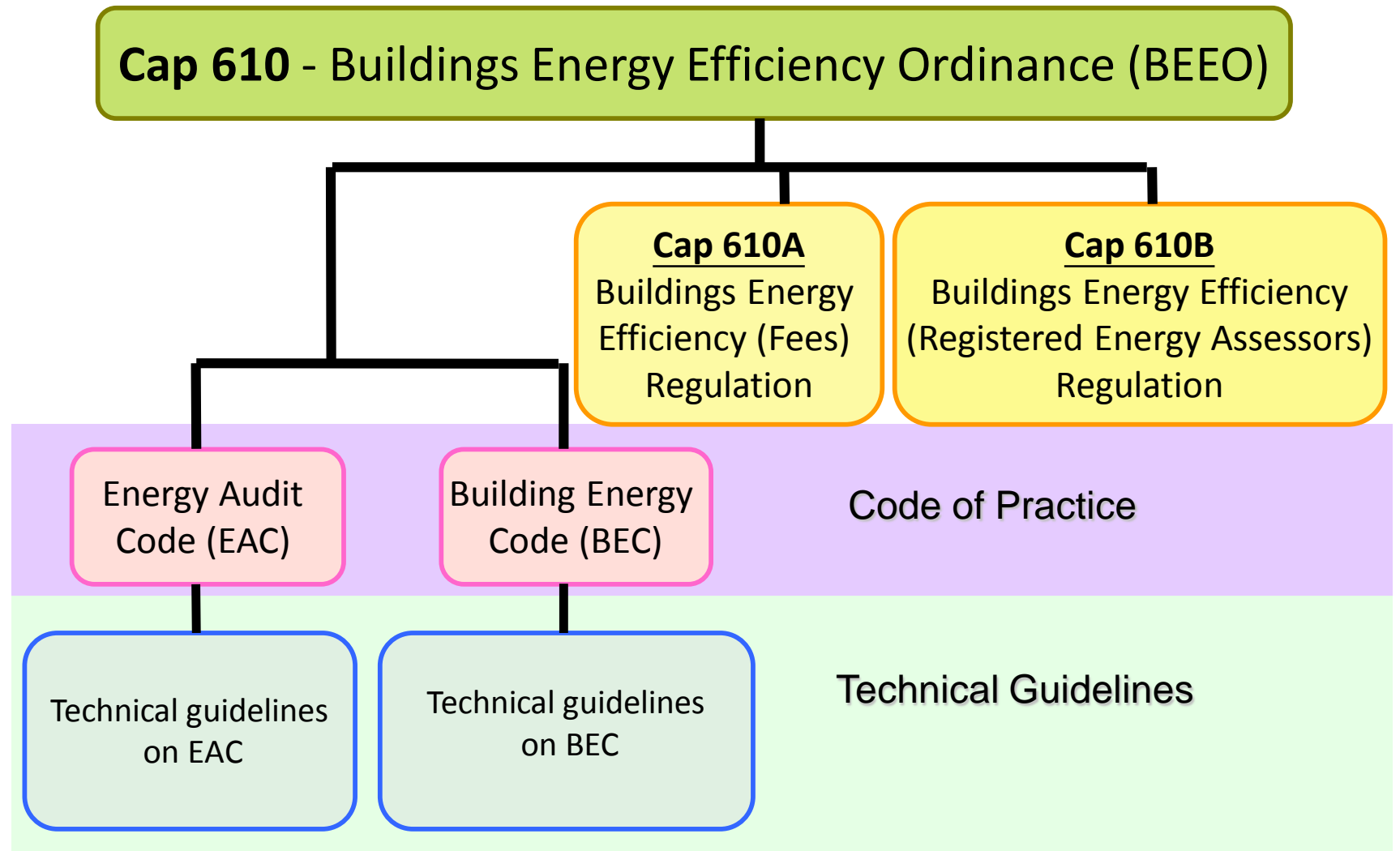


1. Buildings Energy Efficiency Ordinance (BEEO)



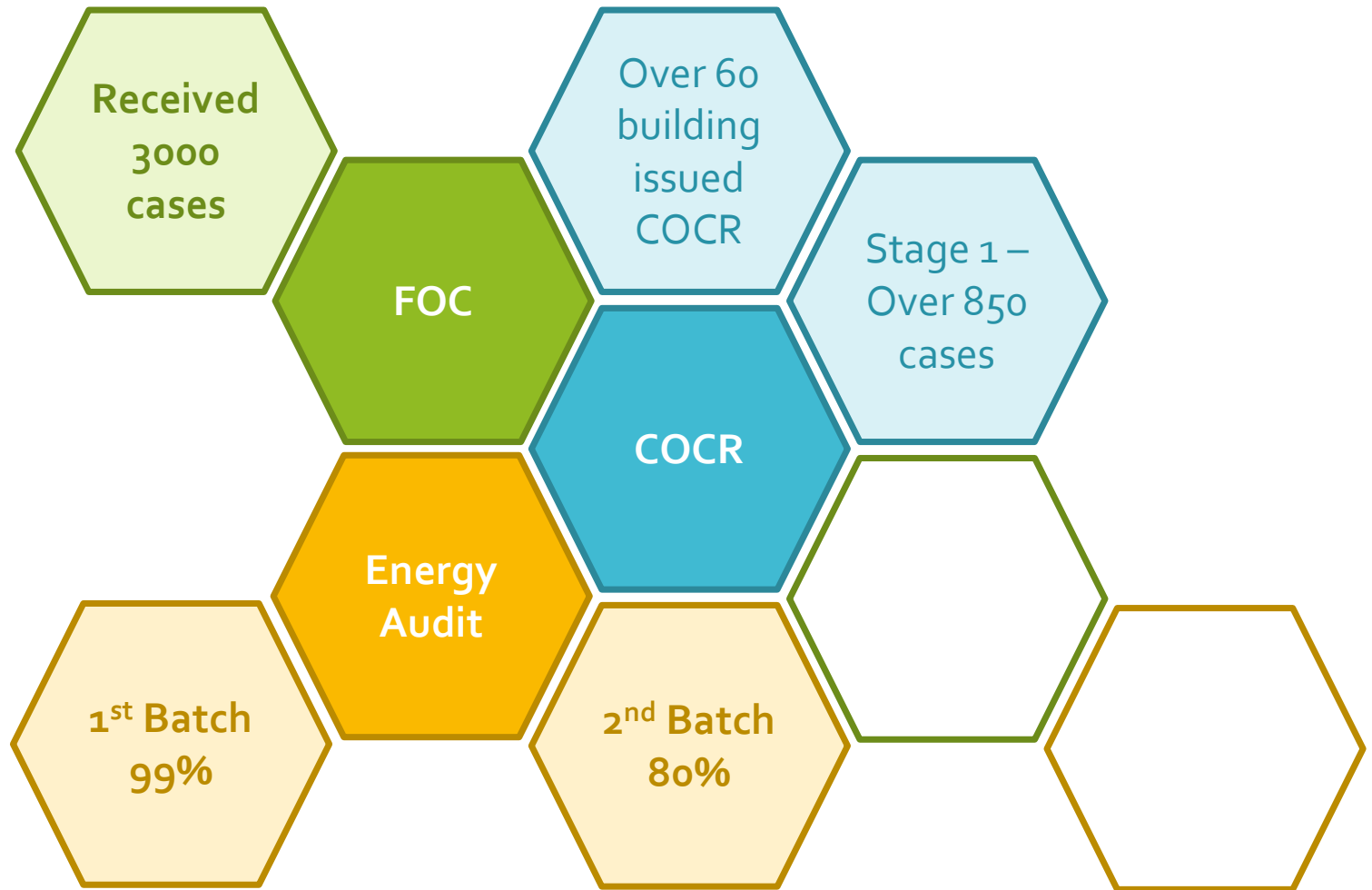


1. Buildings Energy Efficiency Ordinance (BEEO)





1. Buildings Energy Efficiency Ordinance (BEEO)



Recorded Cases up to Aug-2015



2. New Light to Illuminate the World



康業服務有限公司
Hong Yip Service Company Ltd.



新鴻基地產集團成員
Member of Sun Hung Kai Properties Group



個案(1) - 采葉庭 安裝或更換設備

照明系統
樓層大堂 -- 普通燈胆轉為慳電胆，平均節省達4倍
(例如由60w普通燈胆轉為13w慳電胆)




Presentation Powerpoint “能源節約(電力)個案分享” by Hong Yip Service Company Ltd. for Energy Efficiency and Conservation in Experience Sharing Workshop 2004 organized by EMSD



2. New Light to Illuminate the World

Engineering Solutions

- **Use of High Efficient Lighting System**
- T5 fluorescent lamps with electronic ballasts and Compact Fluorescent Lamps (CFLs) were used in the venue



10

Municipal Sector Services  EMSD

Presentation Powerpoint "Energy Efficiency and Conservation in Hong Kong Squash Centre" by EMSD for Energy Efficiency and Conservation in Experience Sharing Workshop 2004 organized by EMSD

2. New Light to Illuminate the World

The screenshot shows the Nobel Prize website for the 2014 Physics laureates. The page features a navigation menu with categories like Home, Nobel Prizes and Laureates, Nomination, Ceremonies, Alfred Nobel, Educational, and Events. The main content area is titled "The Nobel Prize in Physics 2014" and lists the laureates: Isamu Akasaki, Hiroshi Amano, and Shuji Nakamura. Each laureate has a portrait and a "Prize share: 1/3" label. The page also includes a sidebar with links to "About the Nobel Prize in Physics 2014" and "All Nobel Prizes in Physics". On the right, there are promotional banners for "Join us on Facebook", "NOBEL QUIZ 2014", "Who do you think deserves a Nobel Prize?", and "Explore the Nobel Prize Talks Podcast". The footer contains contact information and social media links.

http://www.nobelprize.org/nobel_prizes/physics/laureates/2014/

Nobelprize.org
The Official Web Site of the Nobel Prize

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Nobel Prizes and Laureates

Physics Prizes < 2014 >

▼ About the Nobel Prize in Physics 2014

- Summary
- Prize Announcement
- Press Release
- Advanced Information
- Popular Information
- Greetings
- Award Ceremony Video
- Award Ceremony Speech

► Isamu Akasaki

► Hiroshi Amano

► Shuji Nakamura

All Nobel Prizes in Physics

All Nobel Prizes in 2014

The Nobel Prize in Physics 2014
Isamu Akasaki, Hiroshi Amano, Shuji Nakamura

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The Nobel Prize in Physics 2014

Photo: A. Mahmoud
Isamu Akasaki
Prize share: 1/3

Photo: A. Mahmoud
Hiroshi Amano
Prize share: 1/3

Photo: A. Mahmoud
Shuji Nakamura
Prize share: 1/3

The Nobel Prize in Physics 2014 was awarded jointly to Isamu Akasaki, Hiroshi Amano and Shuji Nakamura *"for the invention of efficient blue light-emitting diodes which has enabled bright and energy-saving white light sources"*.

Join us on Facebook

NOBEL QUIZ 2014

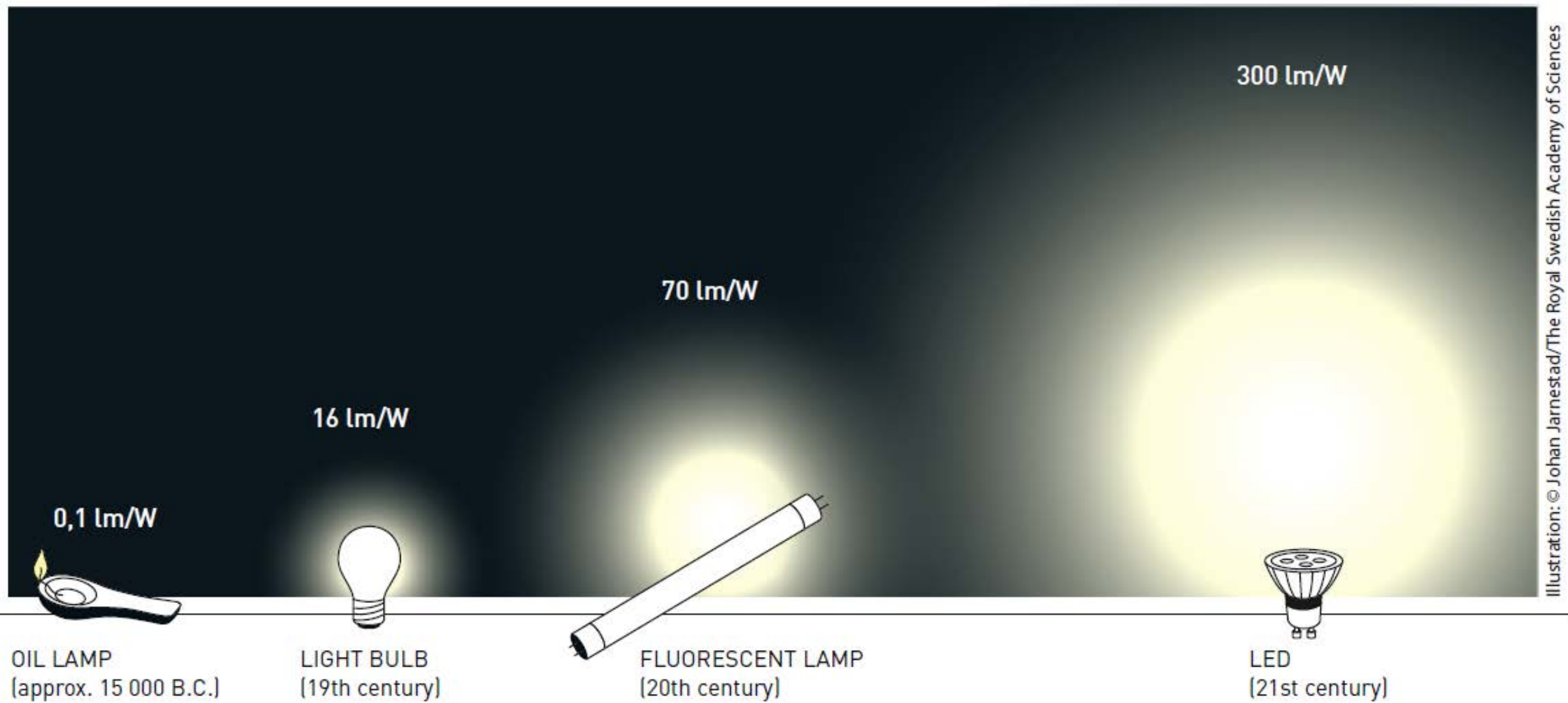
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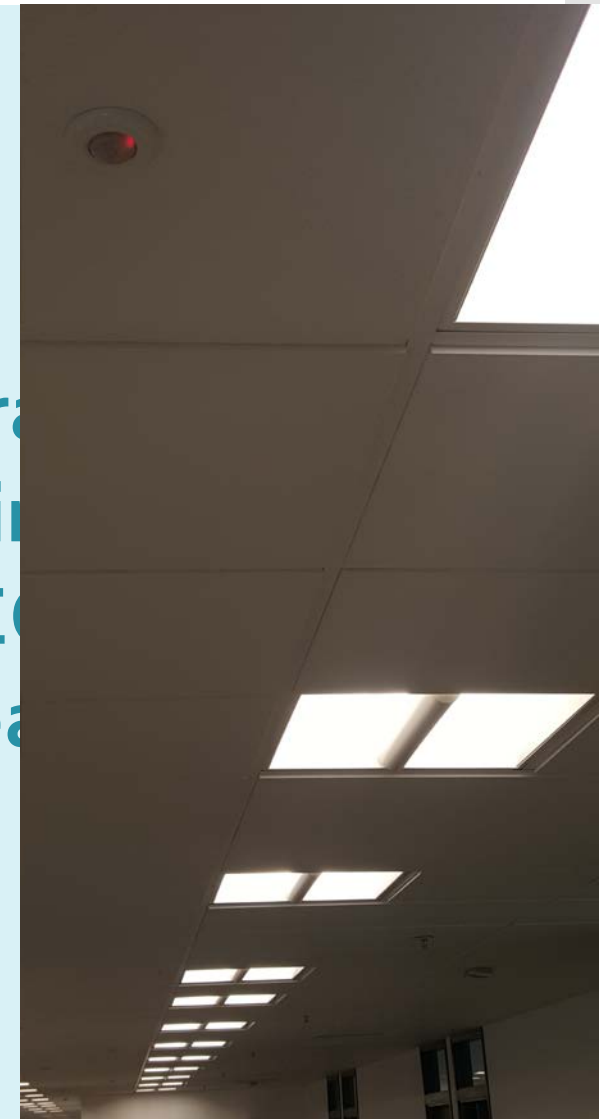
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2. New Light to Illuminate the World

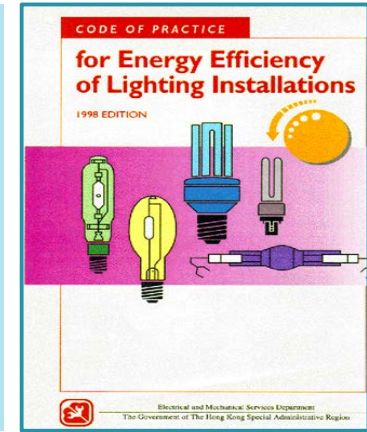




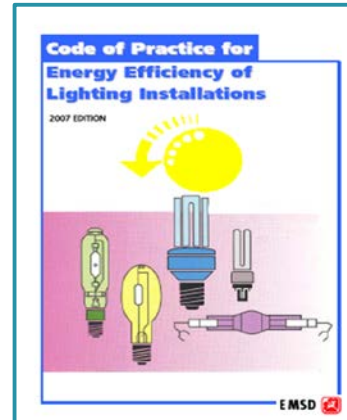
2. New Light to Illuminate the World

1998 Edition
Office 25W/m²

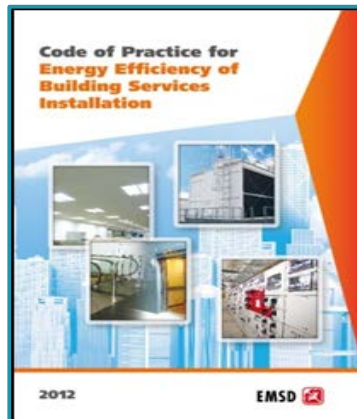
2005 Edition
Office 23W/m²
Corridor 15W/m²



2007 Edition
Office 17W/m²



2012 Edition
Office 15W/m²
Corridor 10W/m²



2012 Edition
- Rev 1
Office 13W/m²
Corridor 8W/m²

2015 Edition

?



3. BEC Review

Tighten exemption criterion on the lighting power density (LPD) requirement

Add and further tighten LPD requirement for certain types of spaces.

Extend the requirement of lighting control point to cover all spaces.

New - automatic lighting control to dim down or shut off the lighting automatically.

New - provision of daylight responsive control to dim down or shut off the lighting automatically for space with fenestrations or overhead skylight.



3. BEC Review – Automatic Lighting Control





3. BEC Review – Occupancy Sensor

Plenty Choice of Occupancy Sensor





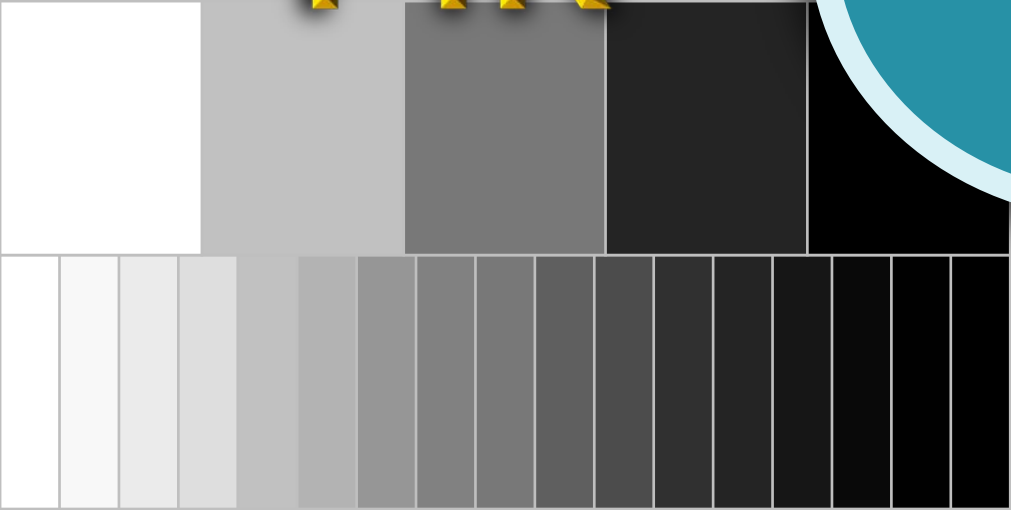
PIR



Ultrasonic



ON/OFF





3. BEC Review – Timer

	SUNDAY August 12th	MONDAY August 13th	TUESDAY August 14th	WEDNESDAY August 15th	THURSDAY August 16th	FRIDAY August 17th
8:00 AM		Breakfast C. Smith	Breakfast C. Smith	Breakfast C. Smith	Breakfast C. Smith	Breakfast C. Smith
8:30 AM						
9:00 AM		Workshop & Faculty Presentations	Programming Lab	Programming Lab	Programming Lab	Programming Lab
9:30 AM						
10:00 AM						
10:30 AM		Programming Lab				
11:00 AM				Faculty Speeches		Faculty Speeches
11:30 AM			Lunch with Undergrads			Lunch
12:00 PM				Lunch & Student Panel		
12:30 PM		Lunch with Undergrads				Evaluation
1:00 PM			Programming Lab		San Francisco Fed Prep	
1:30 PM		Faculty Speeches				Programming Lab
2:00 PM		Lab Tu				
2:30 PM			Faculty Speeches			
3:00 PM						
3:30 PM	Checklist Updates		Faculty Speeches	Meeting Setup		
4:00 PM		Programming Lab				Faculty Speeches & Closing Ceremony
4:30 PM			Faculty Speeches			
5:00 PM						
5:30 PM						
6:00 PM		Dinner				
6:30 PM	Faculty Speeches & Guest Speeches		Dinner	Dinner		
7:00 PM						
7:30 PM						
8:00 PM						

10% Saving





3. BEC Review - Daylighting

Use of Daylight is NOT New Idea



Captured from *Reflections on the Last One Hundred Years of Lighting in Great Britain*, The Society of Light and Lighting



3. BEC Review - Daylighting

Workplace under Skylight



Meeting Room adjacent to Roof Garden

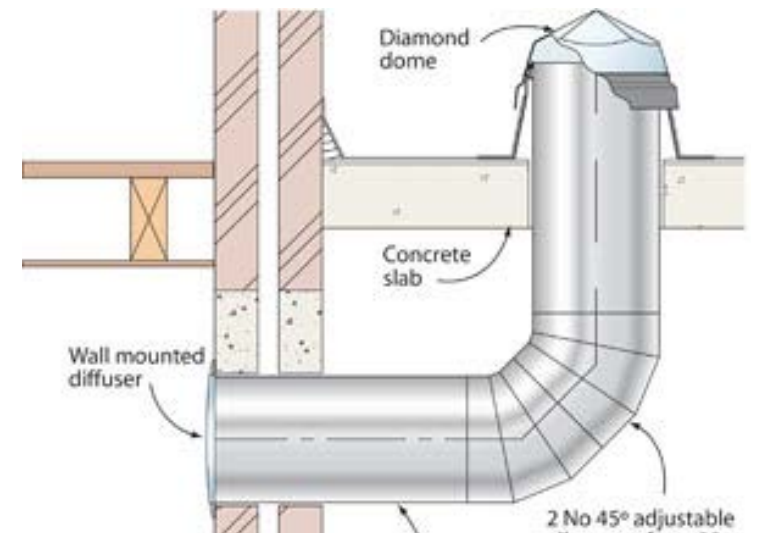


3. BEC Review - Daylighting



Corridor properly lit up by Sunpipes

Roof top domes of Sunpipes





3. BEC Review - Daylighting



Corridor properly lit up by Sunpipes



