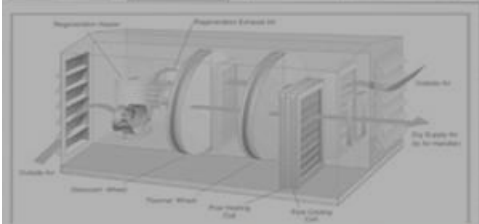


Overview of EE and Green Programs in Indonesia



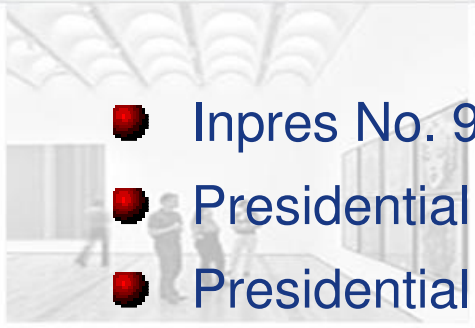



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Danida Environmental Support Programme II

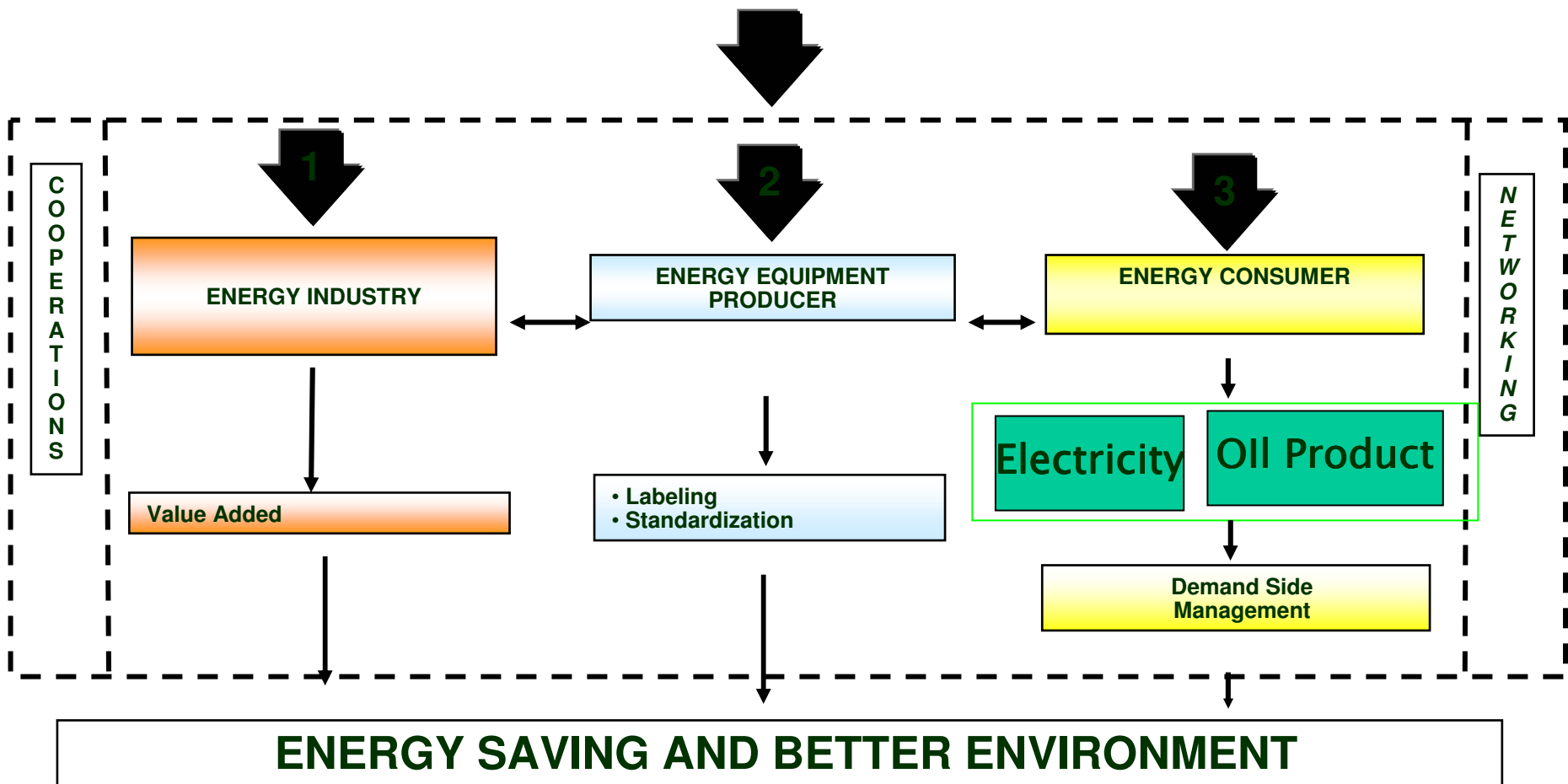


Law & Regulation related to Energy Conservation

- 
- Inpres No. 9/1982 about Energy Conservation
 - Presidential Decree No. 43/1991 about Energy Conservation
 - Presidential Instruction No. 10/2005 about Energy Saving
 - Ministerial Energy and Mineral Resources Regulation No. 0031/2005 about Operational Manual of Energy Saving
 - Master Plan of National Energy Conservation (RIKEN) year 1995 & 2005;
 - Presidential Decree No. 5/2006 about National Energy Policy
 - Energy Law No. 30/2007
- 
- 
- 

Energy Conservation Program

ENERGY CONSERVATION STRATEGY THROUGH 3 PATHS



ENERGY CONSERVATION PROGRAM

- **Socialization and cross-sector cooperation**
- **Demand Side Management (DSM)**
- **Partnership Program on Energy Conservation**
- **Energy Efficiency Standard and Labeling**
- **Energy Manager System**
- **Energy Conservation Clearing House**

***Barrier of
Energy Conservation Program***

Barriers of Energy Conservation Program

- Low of Energy Price
- Lack of Public Awareness
- Lack of Knowledge
- Lack of Incentive and Funding Mechanism
- Lack of Law Enforcement

Indonesian Standards

NO.	STANDAR / RUJUKAN	PENGUNAAN	
1	Standar: SK SNI T-14-1993-03 "Tata Cara Perencanaan Teknis Konservasi Energi Pada Bangunan Gedung" - Departemen Pekerjaan Umum, 1993	- Prosedur umum konservasi energi di bangunan gedung	✓
2	Standar: SK SNI 03-6389-2000 "Konservasi Energi Selubung Bangunan Pada Bangunan Gedung" - Badan Standardisasi Nasional, 2000	- Prosedur perhitungan selubung bangunan gedung - Standar OTTV/RTTV	✓
3	Standar: SNI 03-6390-2000 "Konservasi Energi Sistem Tata Udara Pada Bangunan Gedung" - Badan Standardisasi Nasional, 2000	- Prosedur perhitungan untuk tata udara bangunan gedung - Standar tata udara gedung	✓
4	Standar: SNI 03-6197-2000 "Konservasi Energi Sistem Pencahayaan Pada Bangunan Gedung" - Badan Standardisasi Nasional, 2000	- Prosedur perhitungan untuk tata cahaya bangunan gedung - Standar tata cahaya gedung	✓
5	Standar: SNI 03-6196-2000 "Prosedur Audit Energi Pada Bangunan Gedung" - Badan Standardisasi Nasional, 2000	- Prosedur audit energi pada bangunan gedung	✓
6	Petunjuk Teknis Konservasi Energi- "Prosedur Audit Energi Pada Bangunan Gedung" - Ditjen Listrik Dan Pemanfaatan Energi, 1992	- Prosedur audit dan konservasi energi pada bangunan gedung	✓
7	Petunjuk Pelaksanaan Konservasi Energi- "Sistem Pencahayaan Pada Bangunan Gedung" - Ditjen Listrik Dan Pemanfaatan Energi, 1992	- Prosedur konservasi energi pada bangunan gedung	✓

Illumination Standards

SK SNI T-14-1993-03

TYPE OF WORKS	LUX	EXAMPLES
ILLUMINATION FOR DISCONTINUOUS WORKING AREAS	20	MINIMUM ILLUMINATION
	50	PARKING AREAS AND CIRCULATION AREAS
	100	HOTEL ROOMS
ILLUMINATION FOR NORMAL WORKING AREAS	200	WORKING SPACES WHERE VISUAL TASKS ARE ONLY OCCASIONALLY PERFORMED
	350	READING AREAS IN OFFICES
	400	DRAWING ROOMS
ILLUMINATION FOR SPECIFIC AND HIGH ACCURACY WORKING AREAS	750	PERFORMANCE OF VISUAL TASKS OF MEDIUM CONTRAST OR SMALL SIZE
	1000	HIGH ACCURACY DRAWINGS
	2000	HIGH PRECISSION WORKING AREAS

(lumen/m² = lux)

Lighting Power Densities

(watt/m²) SNI T-14-1993

No	Type of Rooms	Max Power (W/m ² *)	Recommended (W/m ² **)	ASHRAE Std 90.1 - 2007 (W/m ²)
1	Office	15	10	10.8
2	Class room	15	10	14
3	Auditorium	25	15	13
4	Supermarket	20	12,5	18.3
5	Hotel (rooms)	17	11	9.8
	Hotel (public area)	20	12,5	12
6	Hospital (patient room)	15	10	7.5
7	Warehouse	5	5	3.2
8	Cafeteria	10	7	10
9	Garage	2	2	2.2

*) Not included losses of ballast

***) Can be selected suitable lamps and armatures



Air Conditioning Systems

SK SNI T-14-1993-03

	A/C Systems (Water Cooler)	A/C Systems (Air Cooler)	A/C Package Systems (Water Cooler)
T leaving chilled water	6,7 °C	6,7 °C	-
T entering chilled water	12,2 °C	12,2 °C	-
T leaving condensor	35,0 °C	-	35,0 °C
T entering condensor	29,4 °C	-	29,4 °C
T air entering condensor	°C -	35,0 °C	-
T air entering Evaporator	-	-	26,7 °C

Kriteria Kenyamanan Ruang

SNI – 03-6390-2000

 Dry-bulb temperature: $25 \pm 2^{\circ} \text{C}$

 Relative Humidity: $60 \pm 10 \%$

 Fresh air consumption: 20–30 CMH/person or 3–4 CMH/m²

 Lighting level ≥ 350 lux

 O₂ minimum 21 %, CO₂ maximum 350 ppm

 CO maximum 20 ppm, SO₂ maximum 0,3 ppm

Air Conditioning Systems

SK SNI T-14-1993-03

Floor Area (ft ²)	BTU/hour	
	Thick wall	Ordinary wall
100	4.550	5.300
125	5.150	6.100
150	5.700	6.800
175	6.200	7.500
200	6.500	8.100
250	7.550	9.300
300	8.300	10.400
400	9.700	12.400
500	11.000	14.250

1 ft² = 0,09290 m²

1 BTU = 3142 kWh

1 BTU/j = 3142 kW

Correction:

Wall facing to the east = 0,95 Roof > 3 m = 1,1 Shaded room = 0,8

Green Building Council of Indonesia

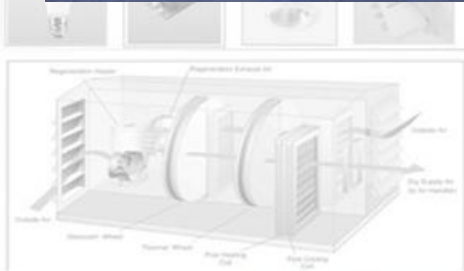


- ❑ Non-profit organisation
 - Established : April 2008
 - 7 initiator
 - 50 professional and practitioner → core founder
 - Developer, designer, architect, building & facility management, contractor, supplier etc
 - Architects, structure engineer, mechanical & electrical engineer, landscape and etc.
- GBCI is a representing World Green Building Council (WGBC) in Indonesia

Founding Member ??



- Core Founder
- Corporate Founding Member
- **Government:**
 - KLH
 - Departemen PU
 - Departemen Perindustrian
 - Departemen Energi & Sumber Daya Mineral
 - Kementerian BUMN
- Research Institution (LIPI)
- Related association



“Demi Hari Depan Indonesia yang Berkelanjutan”

Danish Development Assistance (DANIDA)

The programme will support three specific components:

- Support to Public Sector Institutions.
- Energy Efficiency in Industrial, Commercial and Public Sector.
- Support to Decentralised Natural Resources Management and Renewable Energy.

Energy Efficiency in Industrial, Commercial and Public Sector Component

Component 2 will address the efficiency of the final use of energy, thereby reducing the burden on the state budget, stimulating economic growth, and reducing the energy sector's impact on the environment (reductions in emissions, reduced pressure on natural resources). The component will address both sides of the supply and demand equation, i.e. on one side it will support the production of information, norms, standards and capacity to deliver professional services - including facilitation of investments. At the same time, through awareness raising and practical demonstrations, it will raise demand for services and facilitate investment. The immediate objective of the component is:



Danish Development Assistance (DANIDA)

- **Output 1: Establishment of a Clearing-House for Energy Efficiency**
 - To promote and facilitate cooperation in energy conservation;
 - To raise awareness in energy conservation policy and standards;
 - To widen networking of energy conservation experts; and
 - To facilitate stakeholder dialogue.
- **Output 2: New Large Buildings are Energy Efficient**
 - Development of Codes and Tools
 - Training and Awareness Raising
 - Demonstration Buildings
- **Output 3 : Operation and Management of Industries and Large Buildings to Optimise Energy Use**
 - Survey the available capacities in energy auditing
 - Training and Accreditation Scheme for Energy Auditors
 - Conduct Energy Audits
 - Conduct Industrial Pilots
 - Conduct Building Pilots



Thank You
Danke



Terimakasih
Shukriya Aabhar
Arigatou Gozaimasu
Salamat Po
Spasibo
Xie-xie



Prepared by:
Totok Sulistiyanto

