

CERTIFICATION OF ENERGY MANAGER

HIMPUNAN AHLI KONSERVASI ENERGI (HAKE)

**UPLIFT Awareness Forum
Jakarta, 15 April 20014**

ENERGY CONSERVATION REGULATION

1. Law No.30 year 2007 on energy
2. Government Regulation No. 70/2009 on Energy Conservation
3. Minister of Energy and Mineral Resources (MEMR)
Regulation No.14/2013 on Energy Management
4. SKKNI (Indonesia National Work Competency Standard) –
Energy Manager
 - ✓ Ministerial Decree of Man Power and Transmigration
Republic of Indonesia No. 321/MEN/XII/2011 (industrial
sector).
 - ✓ Ministerial Decree of Man Power and Transmigration
Republic of Indonesia No. 323/MEN/XII/2011 (building
sector).
5. SKKNI – Energy Auditor
 - ✓ Ministerial Decree of Man Power and Transmigration
Republic of Indonesia N0. 614/2012 (industrial and biilding
sector)

Law No.30 year 2007 on Energy

- **Government and/or local government are obliged to provide energy through diversification, conservation, and the intensification of energy sources”** (*article 20:1*)
- **The Central Government, Local Government, Entrepreneurs and Communities are responsible for Energy Conservation”** (*article 25:1*)
- **Management energy should be done in all stages from upstream to downstream** (*article 25:2*)

IMPLEMENTATION OF ENERGY CONSERVATION

Implementation of Energy Conservation should be done in all stages:

- **Energy Supply;**
- **The business of Energy;**
- **Energy Utilization;**
- **Conservation of Energy Resources.**

Energy Supply



The business of Energy



Energy Utilization



Energy Resources

Government Regulation No 70 year 2009 on Energy Conservation



REGULATE:

1.
RESPONSIBILITY
OF CENTRAL
GOV'T, LOCAL
GOV'T,
ENTREPRENEURS,
AND
COMMUNITIES

2.
IMPLEMENTATI
ON OF ENERGY
CONSERVATION

3.
STANDARD
AND LABEL

4.
FACILITATION,
INCENTIVE &
DISINCENTIVE

5.
GUIDANCE AND
SUPERVISION

2.
MEMR Regulation
No. 14/2013 on
Energy Management

MEMR REGULATION NO 14/2012 ON ENERGY MANAGEMENT

The energy consumers which consume 6000 TOE and more per year are obliged to implement energy management:

- Appoint Energy Manager**
- Develop Energy Conservation Program**
- Conduct Energy Audit**
- Implement the recommendation of energy audit**
- Reporting on Energy Management Implementation**

Appoint Energy Manager

Energy manager :

- should have energy manager certificate
- as a coordinator of Energy Management Team
- develop energy conservation plan
- implement energy conservation program (recommendation of energy audit, increasing awareness and capacity of human resources, etc.)
- Monitoring and evaluation (measurement, data recording, reporting), and plan of action improvement

Develop Energy Conservation Program

Short term, medium term, long term energy conservation program

- Energy conservation plan
- Target and achievement
- Energy supply and energy consumption
- Utilization of energy efficient technology
- Energy conservation measures

Conduct Energy Audit and the recommendation

- **Energy audit conducted by energy auditor which having energy auditor certificate**
- **Conducted regularly at least once of each 3 years**
- **Implementation of recommendation of energy audit (no/low/medium/high cost)**

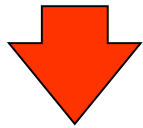
Reporting on Energy Management Implementation

- **Submit reporting to the government every year**
- **Energy management organization and manager energi**
- **Energy conservation program**
- **Energy Audit implementation**
- **Energy audit recommendation implementation**

SKKNI (Indonesia National Work Competency Standard)

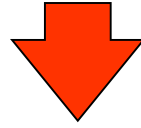
Energy Manager

**Ministerial Decree
of Man Power and
Transmigration
NO.
321/MEN/XII/2011**



**Energy Manager
in
Industrial Sector**

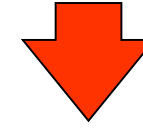
**Ministerial Decree
of Man Power and
Transmigration
NO.
323/MEN/XII/2011**



**Energy Manager
in
Building Sector**

Energy Auditor

**Ministerial Decree
of Man Power and
Transmigration
NO.
614/2012**



**Energy Auditor
in Industrial and
Building Sector**

SKKNI Energy Manager and Energy Auditor

- **Human resources competency in the field of energy management is very important to increase energy efficiency development in industry and building sector.**
- **Training and education system is necessary to support qualified national experts as needed by industrial and business sector.**
- **Therefore, one of the component that have to be provided is SKKNI, as a reference for developing program and curriculum of training and education formally as well as informally.**
- **Work competency is specification on ability to work of individual which is consist of knowledge, skill and/or expertise as well as work attitude in accordance with the standard**
- **While competency standard is the formulation of knowledge/skill which must-have by individual to implement a job based on knowledge, skill and attitude as required.**
- **SKKNI is applied nationally and utilized as a reference for implementing proffesion training and education, proffesion test of ompetency and certification.**

COMPETENCY UNIT

- **Competency Unit explain key function or the role of energy manager in implementing the job**
- **SKKNI of energy manager consist of 2 groups and 7 competency unit**
 - ✓ **General competency: 1 competency unit**
 - ✓ **Core competency: 6 competency unit**

Indonesia National Competency Standard Work (SKKNI)
Sub Sector Industry.

Unit Code: JPI.KE01.001.01

Unit Title : Applying the principles of energy conservation

Unit Code: JPI.KE02.001.01

Unit Title : Explaining the system of supply and utilization of sustainable energy.

Unit Code: JPI.KE02.002.01

Unit Title: Setting up the energy audit process.

Unit Code: JPI.KE02.003.01

Unit Title: Conducting energy audit

Unit Code: JPI.KE02.004.01

Unit Title : Developing an action program implementation of energy conservation

Unit Code: JPI.KE02.005.01

Unit Title: Implementing energy efficiency improvement program

Unit Code: JPI.KE02.006.01

Unit Title : Implementing monitoring and evaluation of energy conservation program implementation

Indonesia National Competency Standard Work(SKKNI)
Sub Sector Building.

Unit Code: JPI.KE01.001.01

Unit Title : Applying the principles of energy conservation

Unit Code: JPI.KE02.001.01

Unit Title : Explaining the system of supply and utilization of sustainable energy.

Unit Code: JPI.KE02.002.01

Unit Title: Setting up the energy audit process.

Unit Code: JPI.KE02.003.01

Unit Title: Conducting energy audit

Unit Code: JPI.KE02.004.01

Unit Title : Developing an action program implementation of energy conservation

Unit Code: JPI.KE02.005.01

Unit Title: Implementing energy efficiency improvement program

Unit Code: JPI.KE02.006.01

Unit Title : Implementing monitoring and evaluation of energy conservation program implementation

Competency Elemen

- As a part of of format competency standar
- outcomes which have to be achieved (the skill which needed by energy manajer).

Performance Criteria

Explain the performance level which needed by energy manager to conduct activities in their working area (workplace)

Competency Unit

KODE UNIT : JPI.KE01.001.01
 JUDUL UNIT : Menerapkan prinsip-prinsip konservasi energi
 DESKRIPSI UNIT : Unit kompetensi ini berkaitan dengan pengenalan dan pemahaman tentang pemanfaatan energi yang efisien dan rasional.

Aktifitas kerja

Cakupan kerja

Ketrampilan yg dibutuhkan

Level ketrampilan

ELEMEN KOMPETENSI	KRITERIA UNJUK KERJA
1. Menerapkan prinsip-prinsip konservasi energi	1.1. Jenis energi dianalisis 1.2. Indikator kinerja pemanfaatan energi dianalisis 1.3. Pengoperasian fasilitas utiliti dianalisis 1.4. Pengoperasian fasilitas produksi dianalisis 1.5. Pemeliharaan dan perawatan fasilitas energi dianalisis 1.6. Dampak lingkungan dianalisis
2. Menerapkan prinsip-prinsip konservasi energi pada teknologi pengguna energi	2.1. Prinsip konservasi energi pada sistem peralatan <i>thermal</i> dimengerti 2.2. Prinsip konservasi energi pada sistem kelistrikan dimengerti 2.3. Prinsip konservasi energi pada sistem kendali (<i>control</i>) dimengerti
3. Menerapkan prinsip-prinsip konservasi energi pada proses produksi	3.1. Proses produksi dianalisis 3.2. Neraca massa dianalisis 3.3. Neraca energi dianalisis 3.4. Parameter operasi dianalisis

ENERGY MANAGER CERTIFICATION

LSP HA[✓]KE

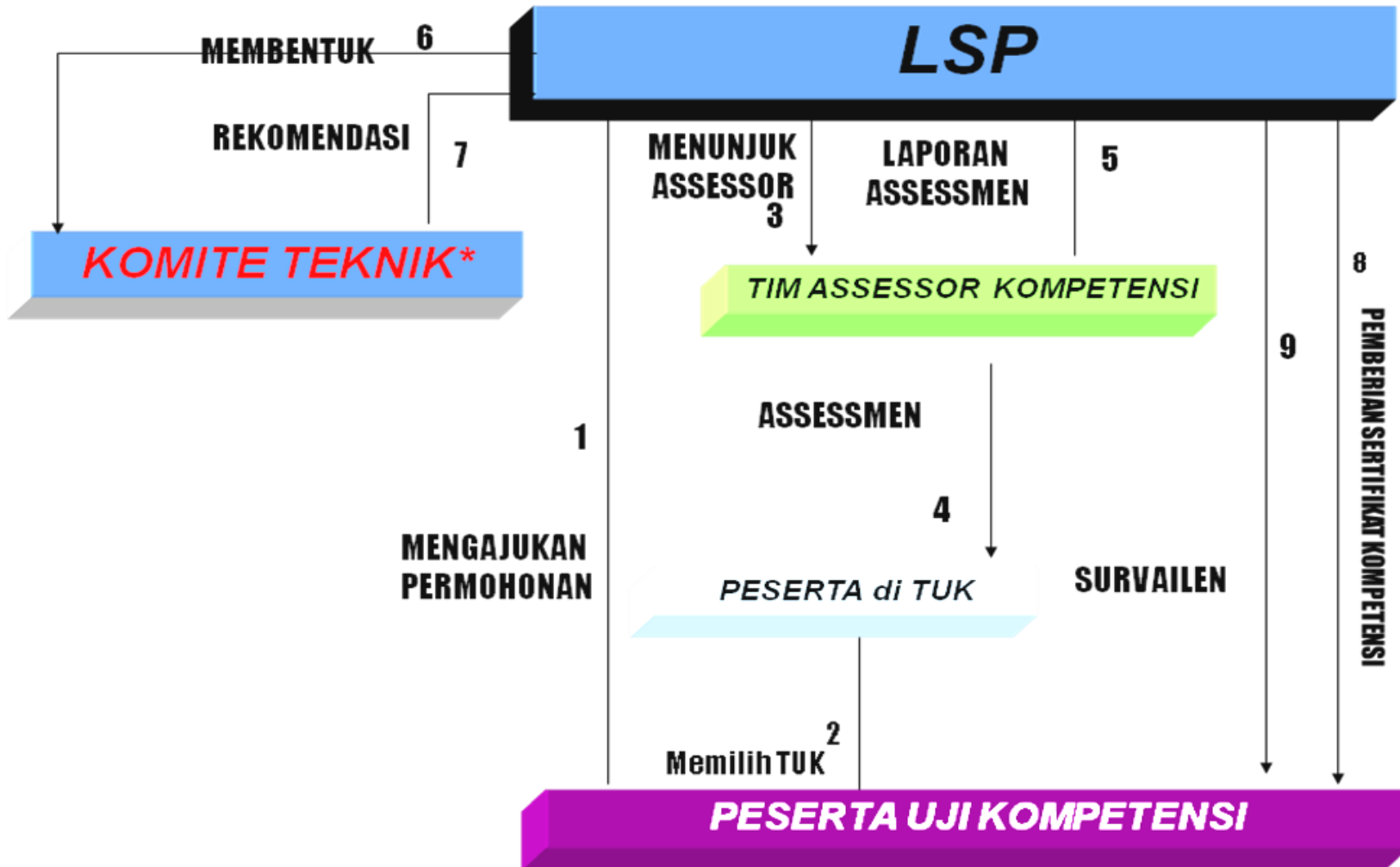
- LSP-HAKE (Lembaga Sertifikasi Himpunan Ahli Konservasi Energi)
Address: Pusdiklat KEBTKE.
Jl. Poncol Raya 39 Ciracas Jakarta Timur.



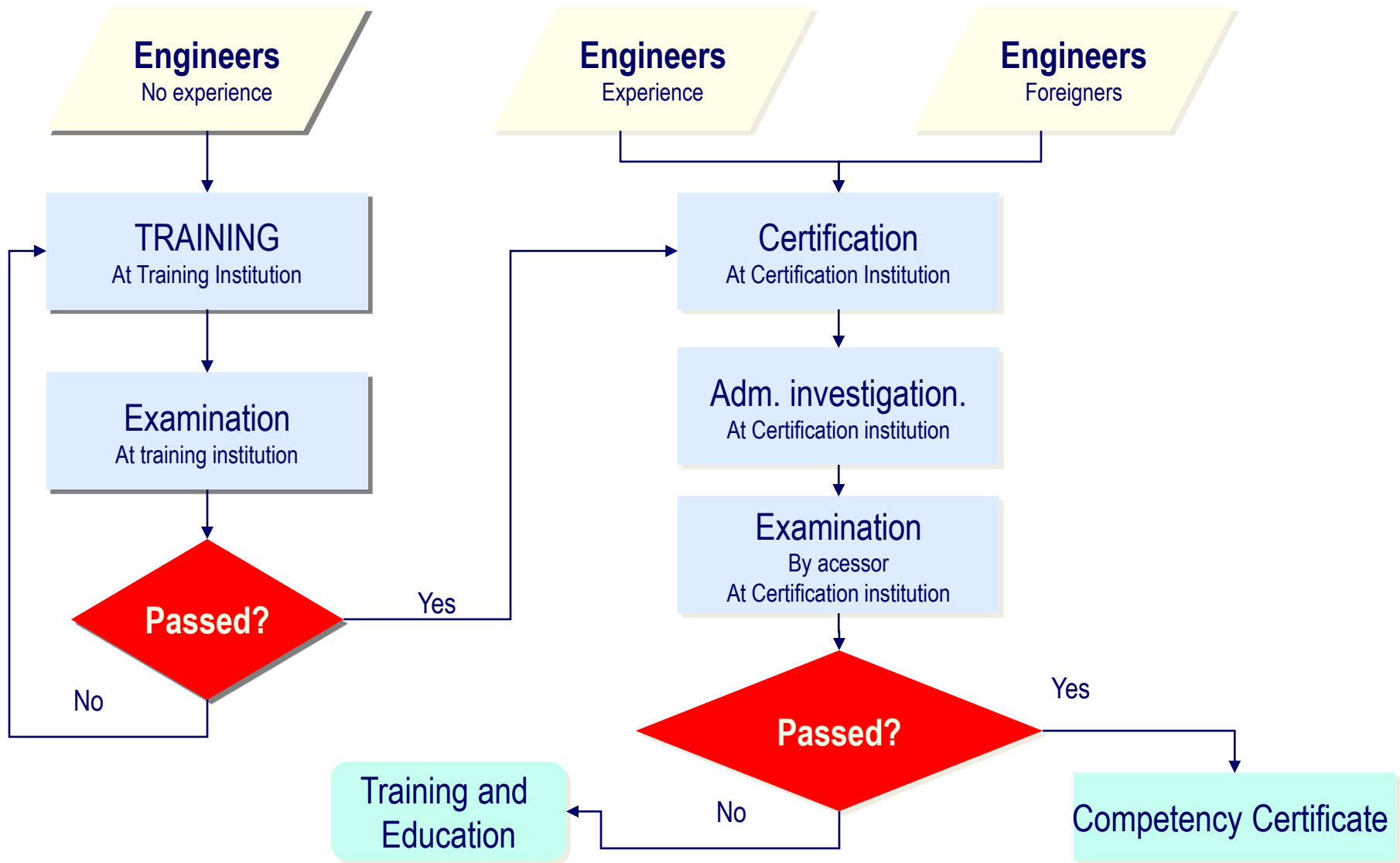
Certification Process

- **Apply to LSP**
- **Evaluation/Administration**
- **Competency Test by accessor**
- **Evaluation**
- **Decision/certification**
- **Surveillance**
- **Utilization of certificate**
- **Re-certification.**

SKEMA SERTIFIKASI KOMPETENSI GENERIK



CERTIFICATION PROCESS



APPLICATION OF CERTIFICATION

Provide application and signed by applicant:

a) Scope of certification

b) Agree with requirement of certification

c) Provide information needed for evaluation

c) Detail qualification shown by evidence and recommendation

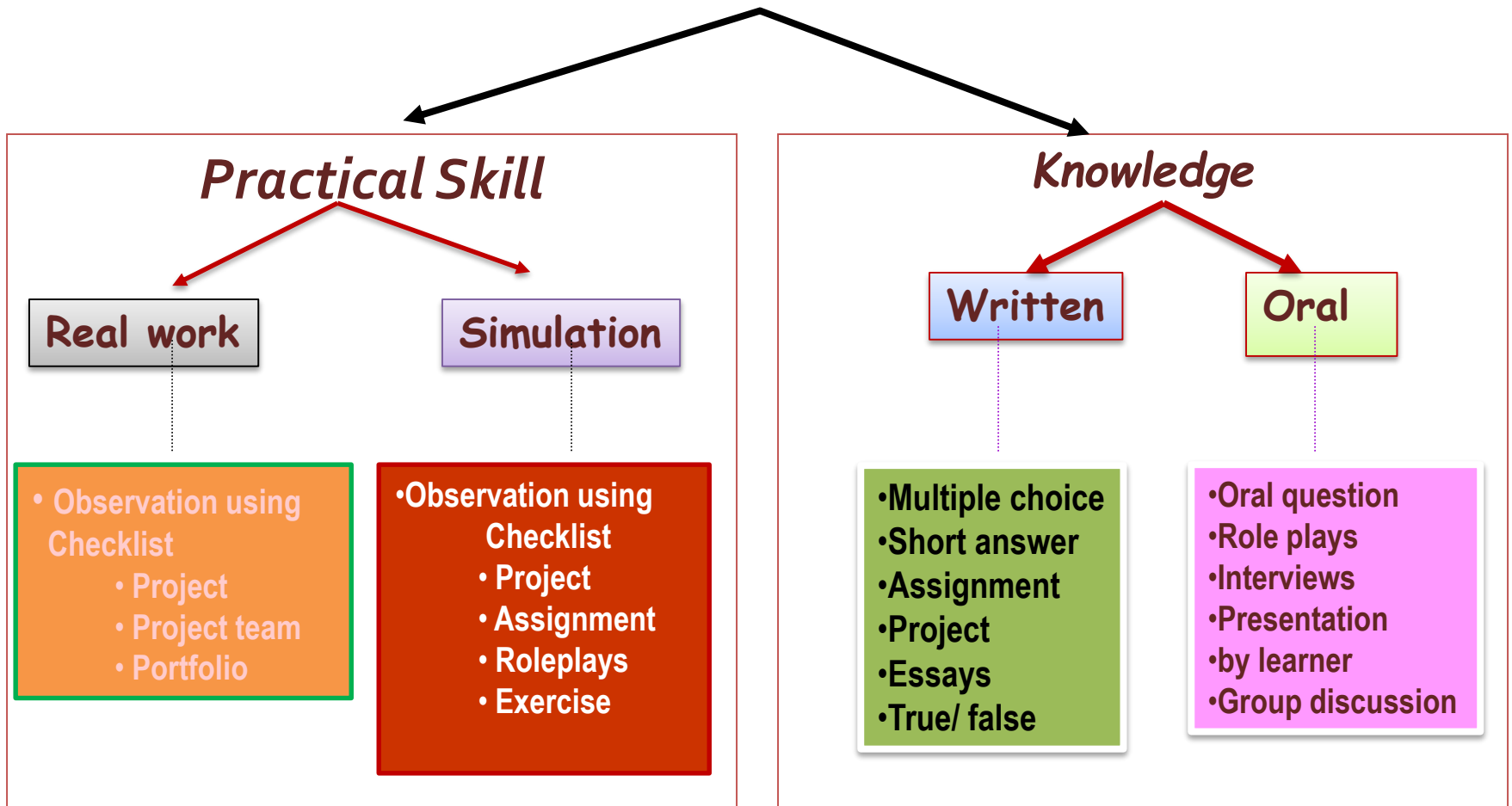
d) General information of applicant for identification of profession

DECISION OF CERTIFICATION

- **Certification approved/decided based on information received during certification process**
- **Person who make a decision/approval can not be participated in the testing or training for applicant**
- **LSP have to provide certificate to all proffession which have been certified**
- **LSP have to maintain and monitor the ownership of certificate.**

CERTIFICATION METHOD (Assesment)

Assessment



Assessmen Method

Method for compiling evidences:

- ✓ **Questioning,**
- ✓ **Direct Observation,**
- ✓ **Structured activities,**
- ✓ **Third party feedback,**
- ✓ **Review of products**

Questioning

- **Written questions, e.g. on a computer**
- **Interviews**
- **Self-assessment**
- **Verbal questioning**
- **Questionnaires**
- **Oral or written examinations (applicable at higherlevels)**

Direct Observation

- **Real work/real time activities at the workplace**
- **Work activities in a simulated workplace environment**

Structured Activities

- **Simulation exercises/role-plays**
- **Projects presentations**
- **Activity sheets**

Review of Products

- **Products as a result of a project**
- **Work samples/products**

Third Party Feedback

- **Testimonials/reports from employers/ supervisors**
- **Evidence of training**
- **Authenticated prior achievements**
- **Interview with employer, supervisor, peer.**

Requirement of Applicant (for EM and EA Certification)

Competency Testing : Kelengkapan administrasi dan uji mandiri, Uji Tulis, Uji Lisan/Wawancara dan Praktek/Simulasi.

Sasaran kegiatan: karyawan di lingkungan industri dan bangunan gedung, konsultan.

Persyaratan peserta uji kompetensi:

- 1. Diutamakan untuk Jabatan minimal supervisor pada sektor industri atau Pengelola energi yang akan dipromosikan sebagai manajer energi sebagaimana diamanatkan dalam PP. No 70 Tahun 2009**
- 2. Pendidikan formal minimal D3 Teknik, fotokopi ijazah dilampirkan;**
- 3. CV dan 4 lbr foto berwarna ukuran 3x4cm;**
- 4. Pengalaman minimal 5 tahun bidang konservasi energi, dengan melampirkan bukti yang sah/laporan pelaksanaan konservasi energi pada industri/perusahaan.**
- 5. Melampirkan fotocopy sertifikat diklat/sejenisnya yang berkaitan dengan konservasi energi.**
- 6. Khusus untuk uji kompetensi auditor energi harus sudah pernah melaksanakan audit energi dengan melampirkan bukti – bukti tertulis.**

LSP HAKE

Certified Energy Manager & Energy Auditor

Year	Certificate		Total
	Energy Manager	Energy Auditor	
2012	50	0	50
2013	34	31	65
2014	-	8	9
Total	84	39	123

Energy Manager and Energy Auditor	
Participants	Competence (%)
98 (energy manager)	84 (86%)
56 (energy auditor)	39 (71%)

Thank you

Terima kasih

For more information, contact to:

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Email : hake_info@yahoo.co.id

Contact person :

Parlindungan : HP 081218891951.

Sukiman , HP : 081218983332