



Efficient Lighting Monitoring, Verification and Enforcement in Thailand

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Outline

1. Monitoring Verification and Enforcement
2. Financial Mechanisms
3. The Achievement of DSM Program

1. Monitoring Verification and Enforcement

For appliances and
office equipment by
EGAT



voluntary certification mark

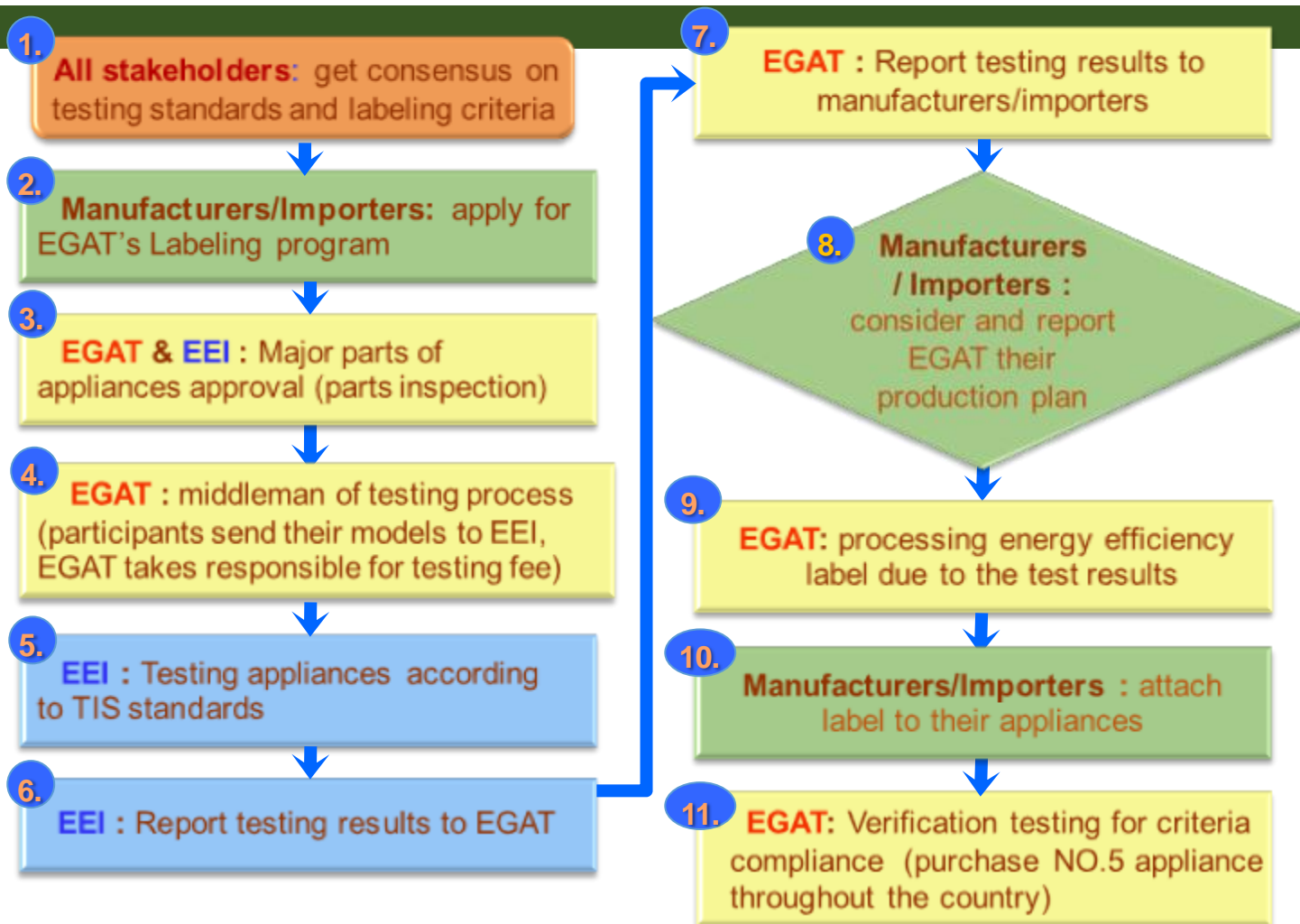
For non-electric products and
industrial equipment by DEDE



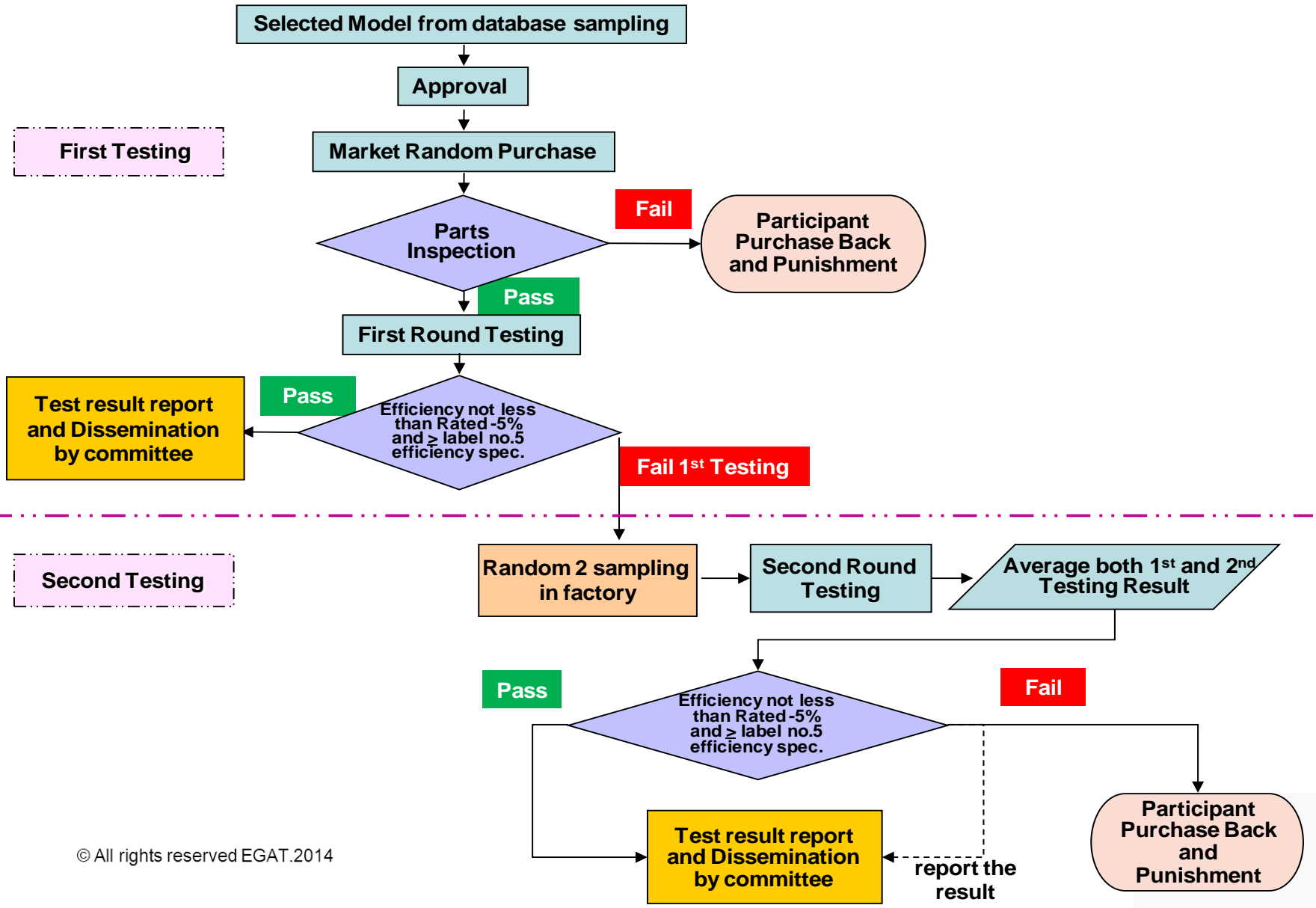
mandatory certification mark

By TISI

Labeling Process

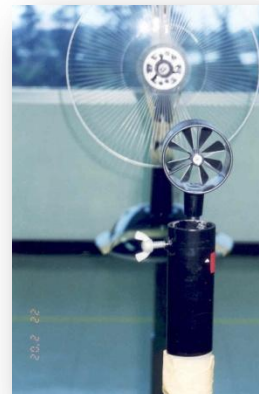


Verification Checking Process



Verification Process: Spot Checking

- Randomly spot-purchase the NO.5 appliances at the electric appliances shop and department stores countrywide
- Check product's specification whether main specification complies with NO.5 criteria
- Send those models to test for compliance with Label NO.5's criteria at the accredited laboratory (Electrical and Electronics Institute: EEI)



Enforcement Process: Control Measures

- In case the test result of the random model doesn't comply with the declared performance on label (+/- 5%) :
 - spot picking the models for a second time at production sites (twice amount) at producers/importers 'cost
 - average test results of 1st and 2nd random models to justify the compliance
- **Control measures:** in case the average test results doesn't comply with the declared performance on label (+/- 5%) :
 - If the test results still **pass** label NO.5 criteria, producers/manufacturers would be forced to edit the information published, and after that EGAT would distribute new label base on the new test results
 - If the test results **fail**, EGAT will call back all distributed labels of the unqualified models and forbid those models to participation in labeling program for at least 1 year



2. Financial Mechanisms

Tax Incentive



- Cooperation program with Revenue Department
- **25% tax credit** from purchasing of EE products
- 19 products are announced for tax incentive; Mostly **label No. 5 products**



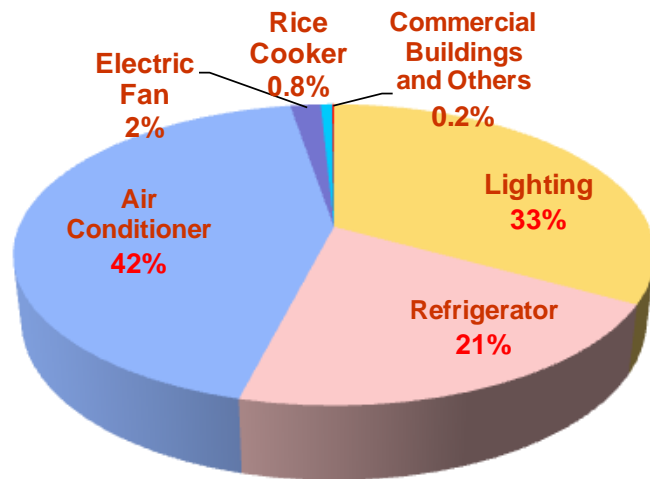
Direct Subsidy

- **For EE measures**
 - Subsidy 20% of equipment and installation costs for designated buildings and industries
 - Subsidy 30% of equipment and installation costs for non-designated buildings and industries (SMEs)
 - Maximum 3 million baht (\approx USD 97,000)
- **To buy EE products**
- **Payback period \leq 7 years**

3. The Achievement of DSM Program

Engineering Estimate of DSM Program Impacts by EGAT

Peak Demand Reduction by Project



Cost effectiveness of DSM program (as of Mar 2014)

- Estimated total DSM expenditures to date

4,713.8 Million Baht

- Cost of peak demand saving

1,424.2 Baht/kW

- Cost of energy saving

0.24 Baht/kWh

Achieved to date (as of Mar 2014)			
Program	MW	GWh	CO ₂ (Ton)
Lighting	1,087.1	6,046.9	3,608,932
- Fluorescent Tube (T8)	401.5	1,957.5	1,446,682
- Fluorescent T5 Program	174.5	792.1	425,076
- FTL (T5)	129.1	585.6	313,966
- ElecTronic Ballast T5	45.4	206.5	111,110
- CFL(before labeling)	10.0	57.2	42,295
- CFL(labeling 2008)	482.9	3,130.5	1,621,383
- Low-Loss Ballast	18.2	91.3	60,230
- HPSV Street Light	-	17.2	12,723
- LED Street lighting (EGAT)	-	1.1	543
Refrigerator	682.6	4,114.7	2,639,937
- 1 door	436.7	2,898.3	2,014,399
- 2 doors	245.9	1,216.5	625,539
Air Conditioner	1,383.3	8,908.2	5,077,701
Fan	65.5	569.3	289,865
Double oscillating fan	4.5	10.5	5,543
Rice cooker	23.5	31.4	16,037
Motor	0.2	1.2	909
Comercial	2.6	10.3	7,583
Standby - TV	1.0	3.3	1,802
- Computer screen	-	2.3	1,241
Eletric kettle	13.1	20.7	10,606
Water heater	46.2	61.8	31,615
Total	3,309.7	19,780.6	11,691,772



*Thank
you...*