

Regional workshop WEC-ADEME
“Evaluation of Energy Efficiency Policies in the MENA Region”
organised by ANME with the support of UNDP
Tunis, 15-16 March 2010

Overview of energy efficiency policies in the world: synthesis of the WEC-ADEME survey (draft)

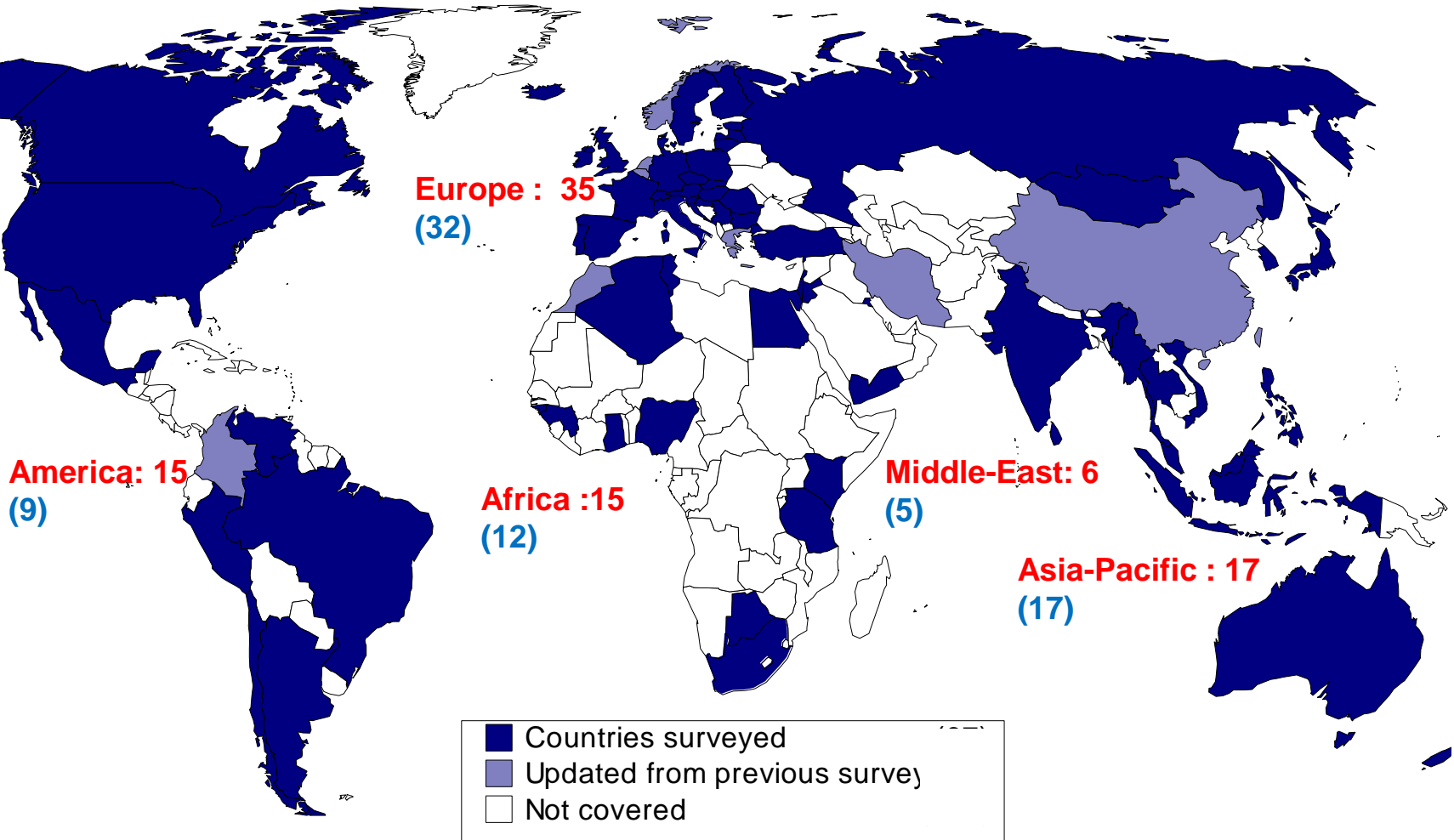
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WEC survey on energy efficiency policies

- Survey carried out by the WEC secretariat and Enerdata in 2009 on almost 100 countries.
- Rate of answer slightly above 60%; survey completed with 26 additional countries from literature research and previous surveys → **88 countries** covered in this synthesis (compared to 75 in 2006).
- Countries covered represent about **90%** of the world energy consumption (**100%** for North America and Western Europe,, **95%** of Asia, **90%** for Latin America , **75%** for Africa and about **50%** of the Middle East).
- Good representation of non-OECD countries (almost 70% of countries).

WEC survey on energy efficiency policies: 88 countries

Still limited coverage of Africa but more countries included (15 compared to 12 in 2006); much better coverage for Latin America (15 compared to 9)
Good representation of non-OECD countries (almost 70% of countries).



WEC survey on energy efficiency policies: measures coverage

Three main parts in the survey

➤ Institutions and programmes

- Institutions: agencies (national, regional and local), Ministry department
- National programmes of energy efficiency with quantitative targets and laws; analysis of targets by types and sectors

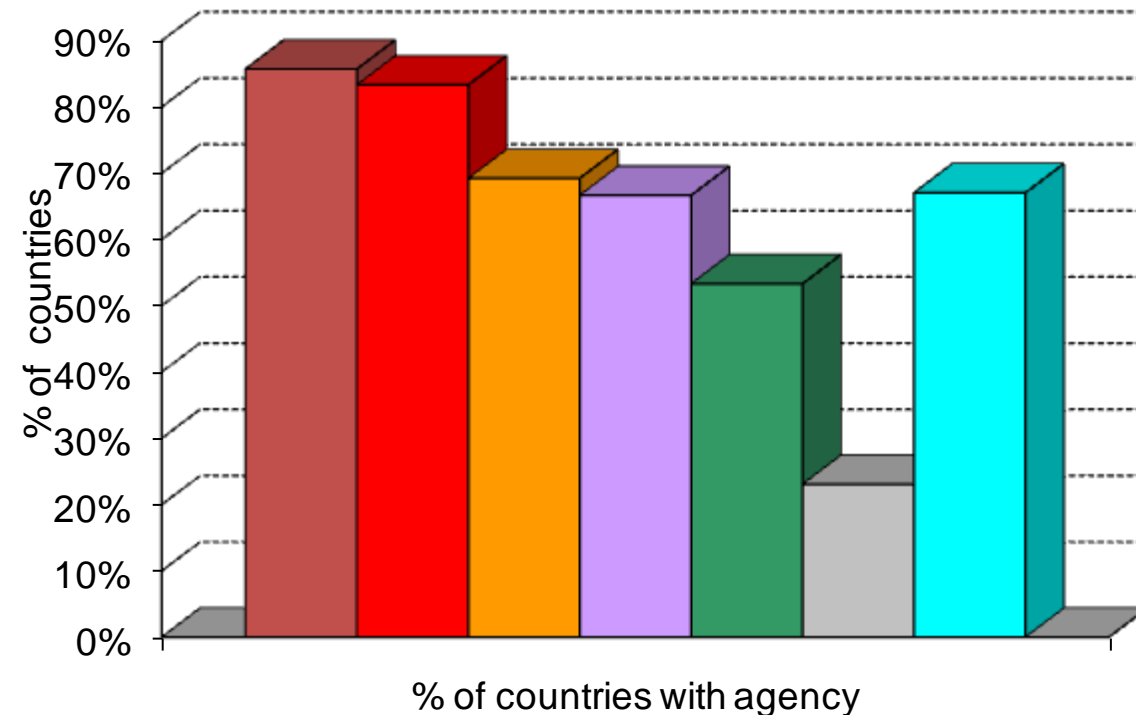
➤ Regulatory measures

- Minimum Energy Efficiency Performance Standards (MEPS) and labels
- Other regulations

➤ Financial and fiscal measures

2/3 of countries with a national agency (almost 90% in EU)

Existence of national energy efficiency agencies (WEC ADEME survey 2009)



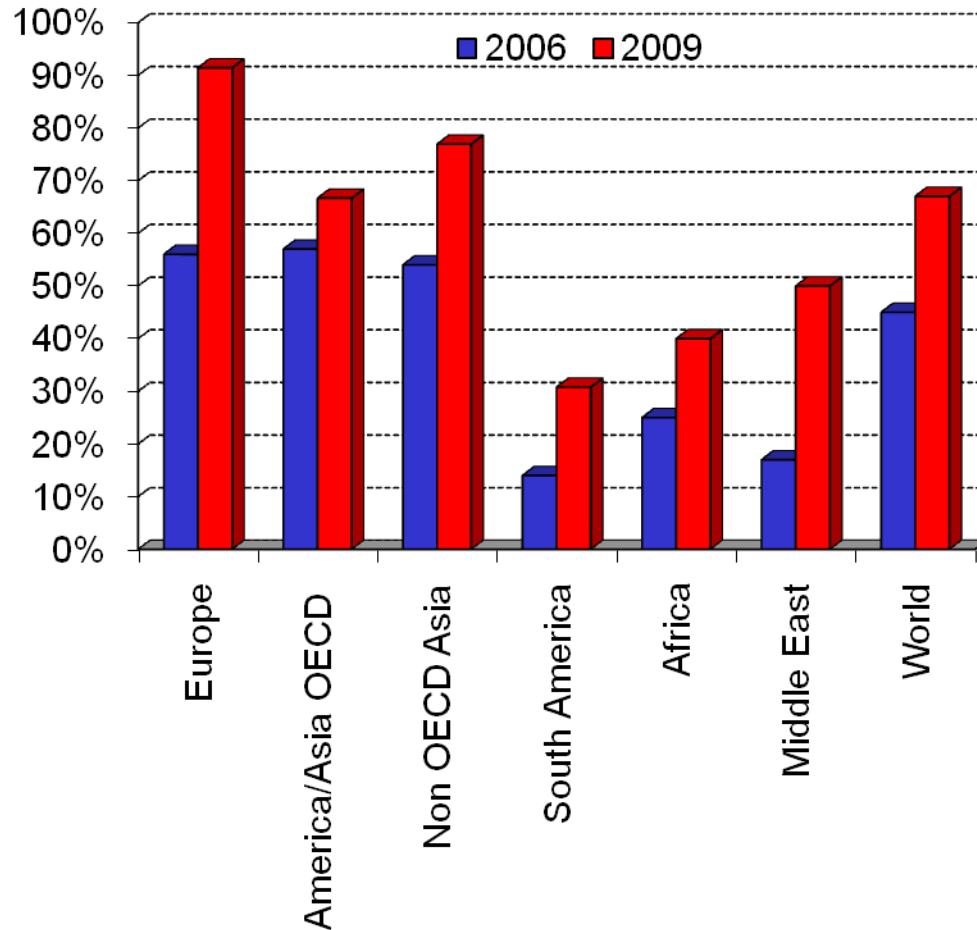
- About 90% of countries with either an agency or a Ministry department on energy efficiency

- About 60% of countries with regional or local agencies (50% in previous survey)

- Multiplication of local and regional agencies :
 - almost 1300 at world level,
 - of which about 900 in Europe (against 600 in previous survey)

Increasing number of countries with quantitative targets in their national energy efficiency programme: about 60 (70%) in 2009 compared to 35 (45%) in 2006.

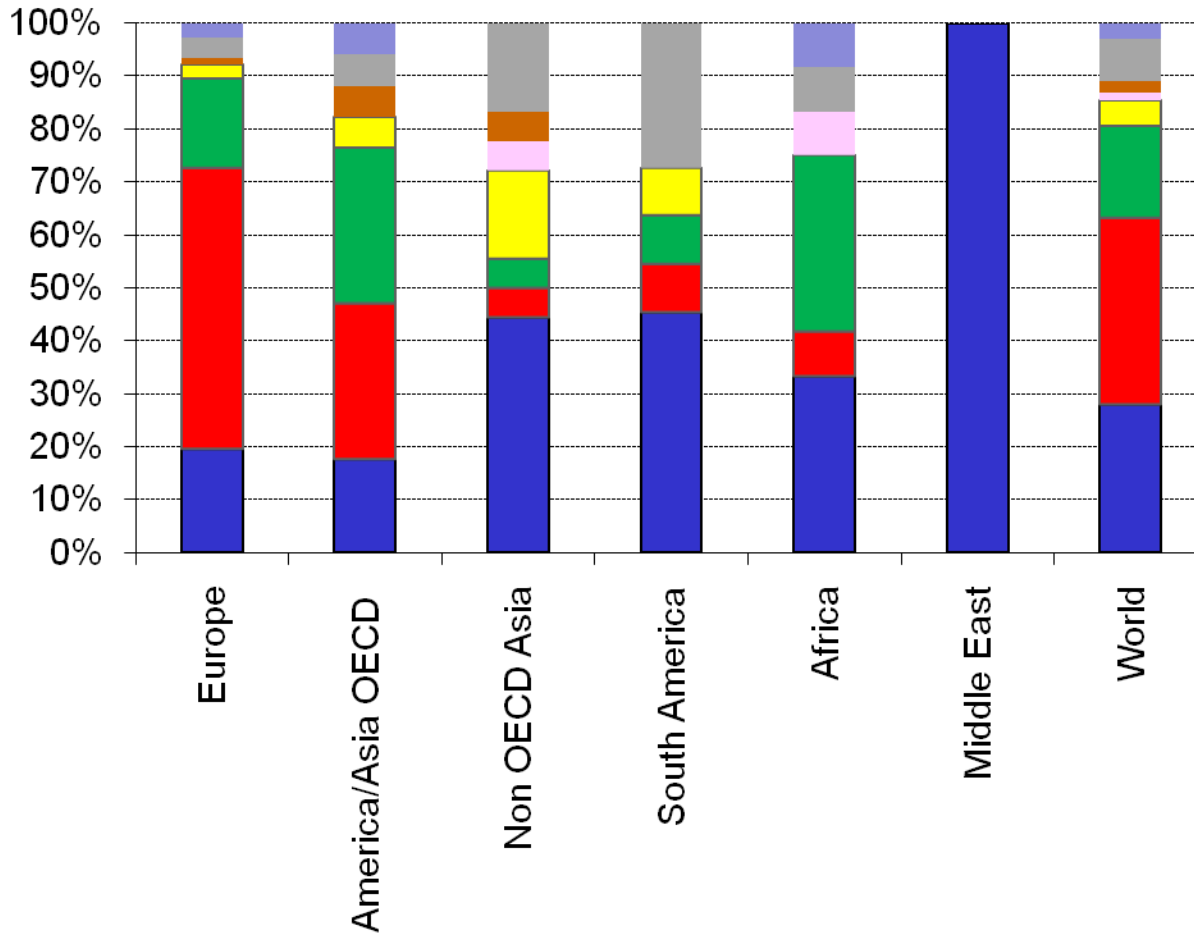
Energy efficiency programmes with quantitative targets (WEC surveys)



- Progression in all regions, and especially in Europe from 55% to around 90% (EU ESD Directive with energy saving target of 1%/year)
- This reflects more ambitious policies and implies generally all regions
- In the EU exist monitoring and reporting obligations

About 2/3 of targets on total final or primary energy consumption and 1/3 of sectoral targets.

Main quantitative targets of energy efficiency programmes (WEC ADEME survey 2009)



➤ At world level:

- 1/3 of programmes have a target on the final consumption
- less than 1/3 on the primary consumption
- 17% for households
- 8% for services.

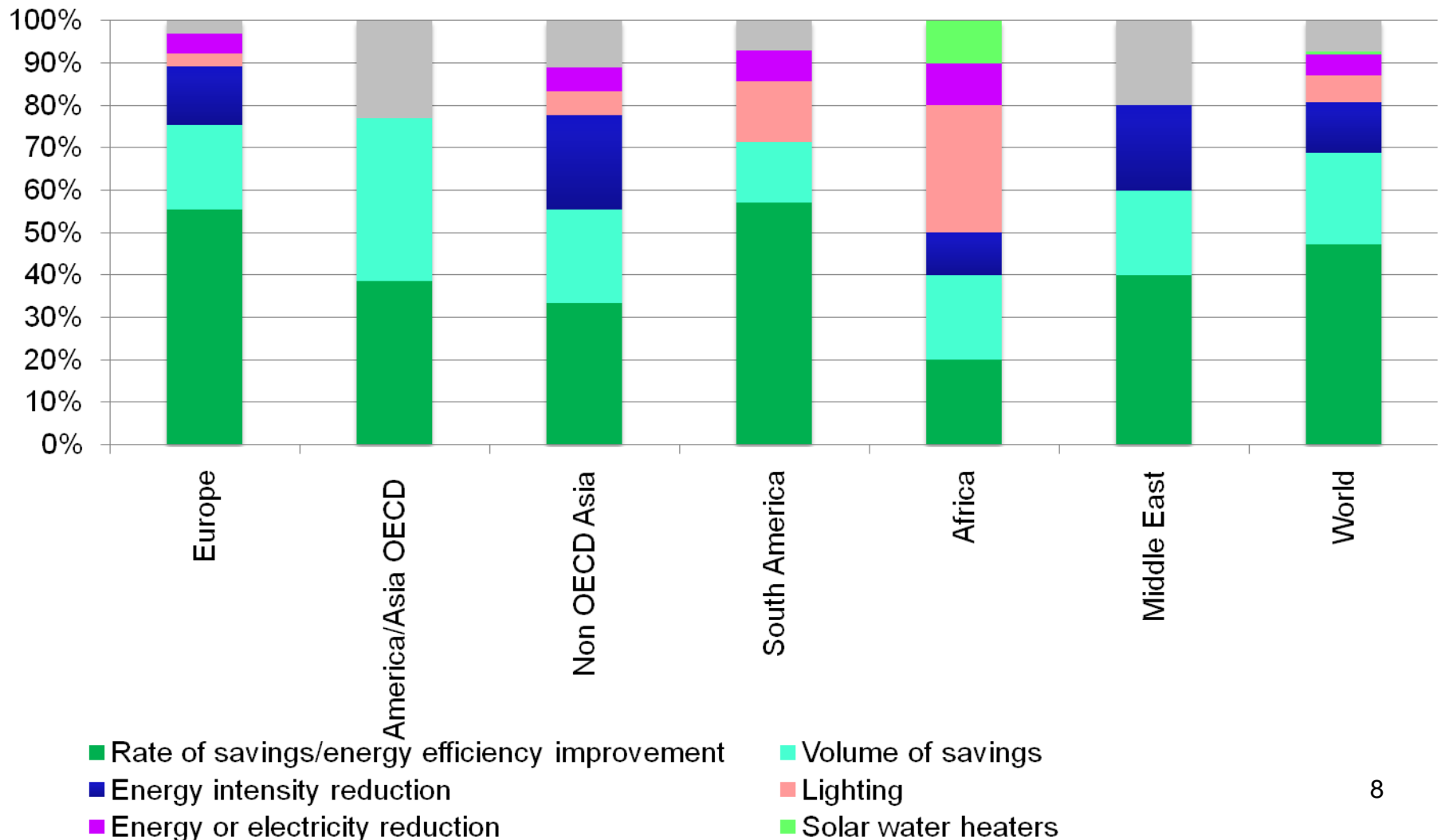
➤ Different focus in these targets according to regions:

- final consumers are more targeted in Europe than in the rest of the world.
- Other regions give a priority to the primary consumption

➤ Often several quantitative targets by country (e.g. France, Tunisia)

In all regions, except Africa, predominance of target on rate of energy efficiency improvements and savings; in America/Asia OECD more targets on volume of savings. Few on intensities

Mode of expression of policy targets by region (WEC ADEME survey 2009)



WEC survey on energy efficiency policies: Regulatory measures

The regulatory measures covered in the survey are the following:

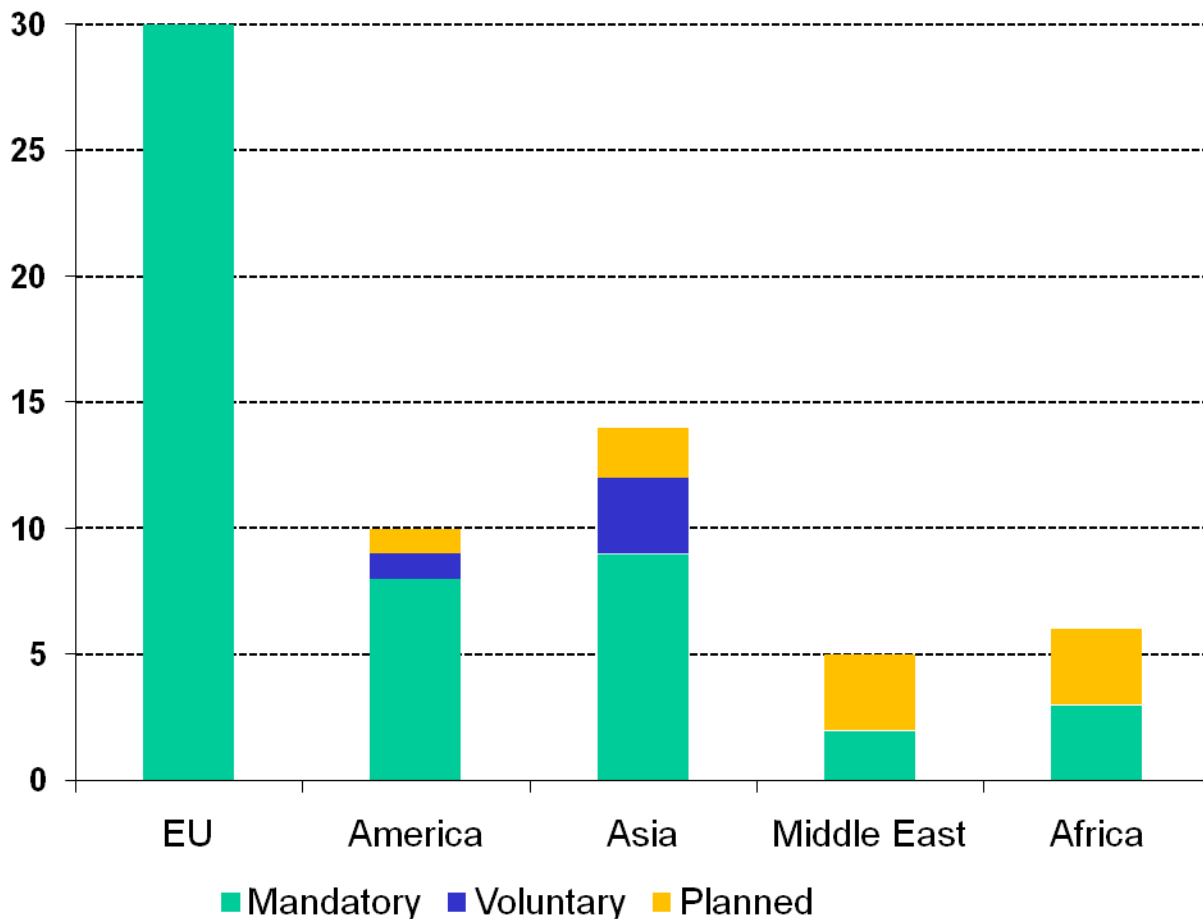
- **Minimum Efficiency Performance Standards (MEPS) and labels for:**
 - Buildings: new/existing
 - Electrical appliances: refrigerators, washing machines, AC, Lamps, water heaters, motors
 - Cars

- **Other regulations:**
 - mandatory consumption reporting, energy managers, energy saving plan, maintenance by sector
 - obligation of energy savings for energy companies

Labelling is usually one of the first measure or regulation to be implemented. It encourages consumers to purchase more efficient appliances and manufacturers to remove inefficient appliances from the market.

It now extends from new appliances to new cars and new/existing buildings.

Countries with labels (WEC ADEME survey 2009)



- Around 60 countries in the world with a label scheme
- Mandatory in 90% of countries
- 10 more countries have planned the introduction of labels
- ✓ Mandatory labelling in all EU countries for 9 appliances (EU Directives); voluntary in Russia
- ✓ Labelling well developed for refrigerators in Latin America
- ✓ In Africa & Middle East, labelling not yet well spread

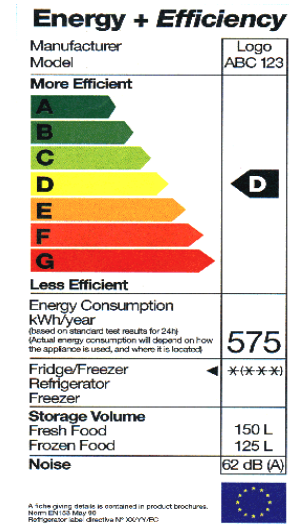
Examples of label for electrical appliances

Australia

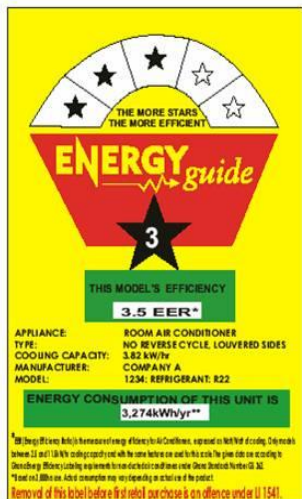


- Introduced in the EU and some other OECD countries
- Adapted in many non OECD countries following either the coloured EU label (A, B, C...), the Australian or US star label system (the more stars the more energy efficient)

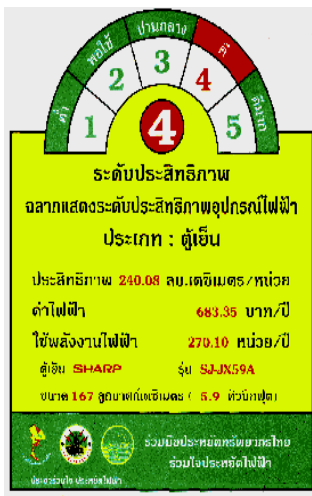
EU



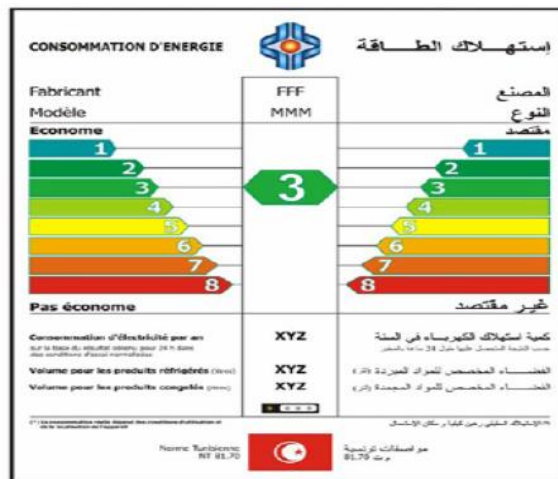
Ghana



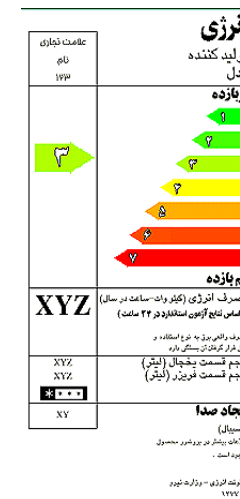
Thailand



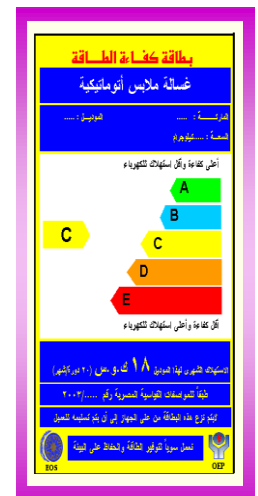
Tunisia



Iran

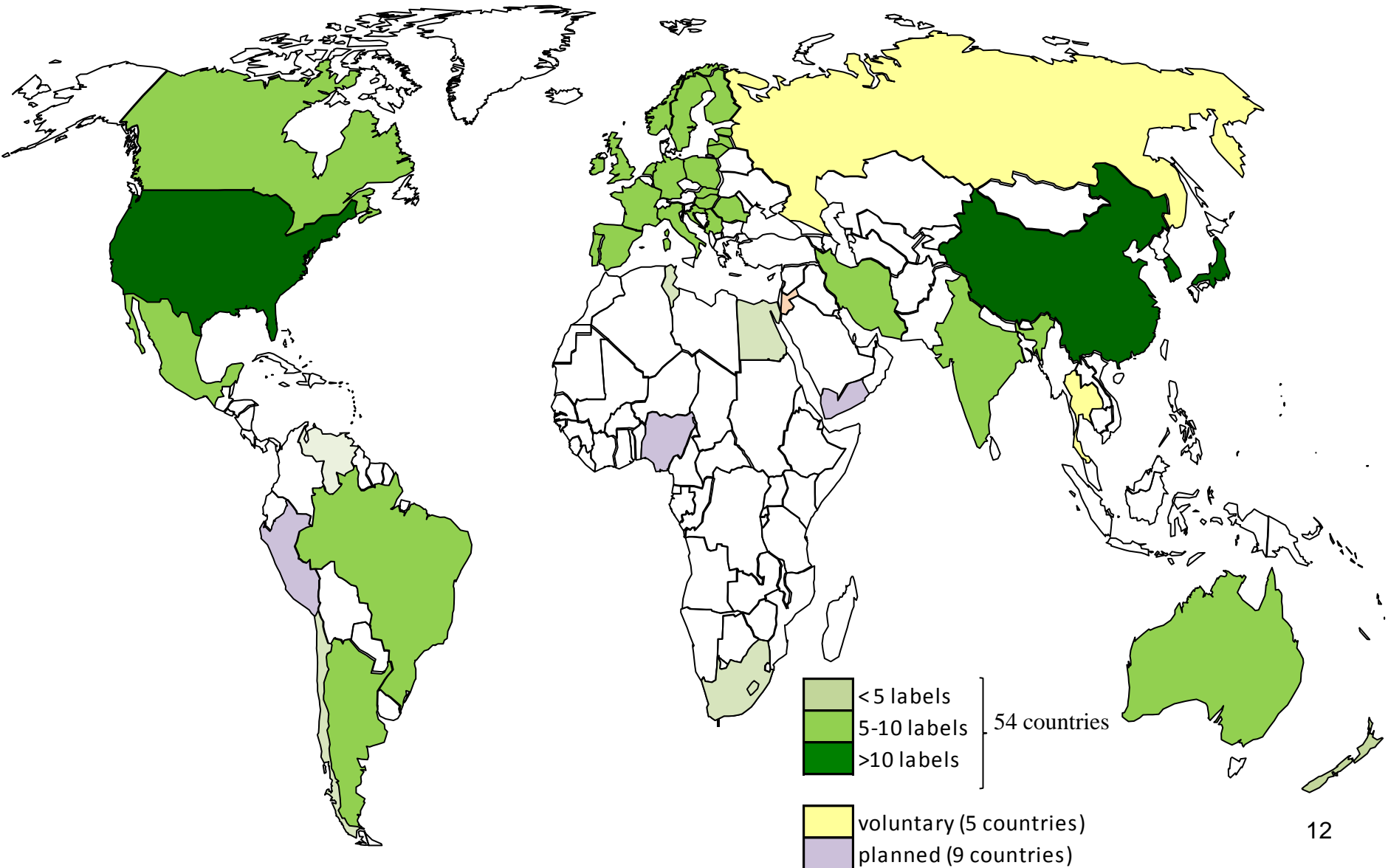


Egypt



Four countries with more than 10 appliances with mandatory labels and 34 with more than 5 appliances

Labels on electrical appliances (WEC ADEME survey 2009)



Energy labels for household appliances in North Africa and Middle East (WEC ADEME survey 2009)

Tunisia

Refrigerator : Yes
 Washing machine : P
 Air conditioning : Yes
 Lamps : P
 Water heaters : Yes

Egypt

Refrigerator : Yes
 Washing machine : Yes
 Air conditioning : Yes
 Lamps : P
 Water heaters : Yes

Iran

Refrigerator : Yes
 Washing machine : Yes
 Air conditioning : Yes

Saudi Arabia

Refrigerator : Yes
 Washing machine : Yes
 & heat pumps

Jordan

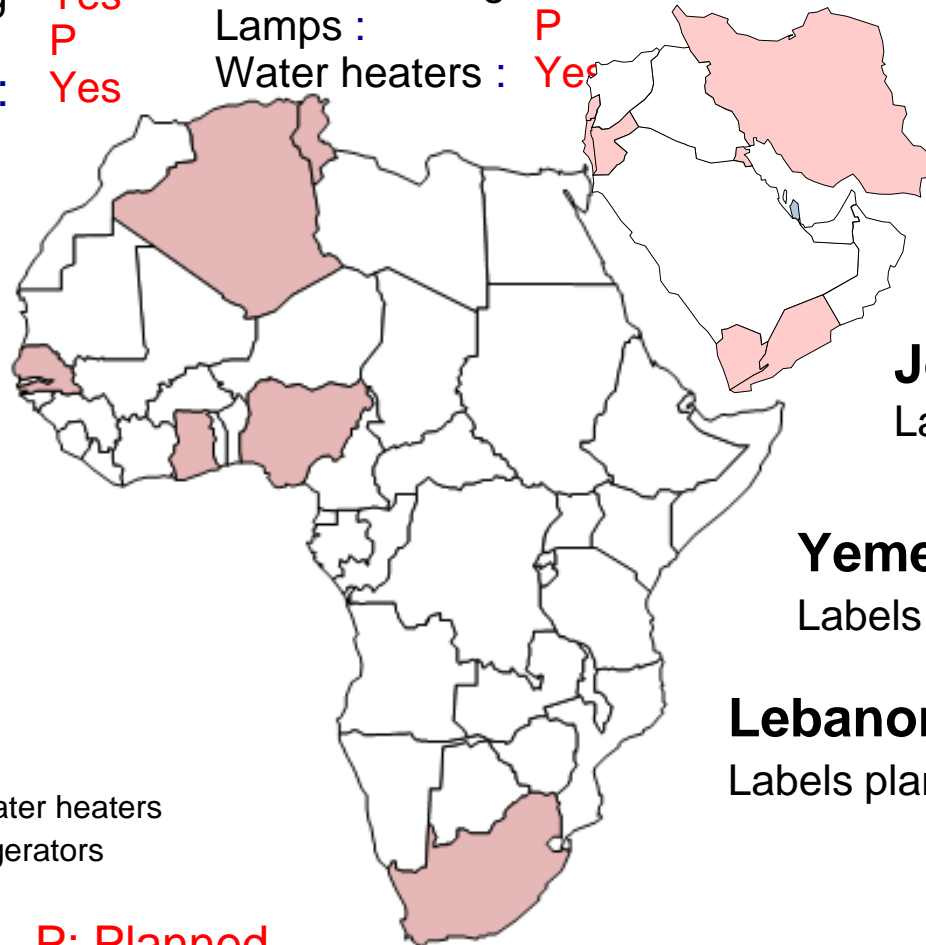
Labels planned (4)

Yemen

Labels planned in 2010-2011 (5)

Lebanon

Labels planned (3)



P: Planned

Algeria

Refrigerator : P
 Air conditioning : P
 Lamps : P

Senegal: no labels

Ghana: label for AC, lamps

Nigeria: labels for lamps, water heaters

South Africa: label for refrigerators

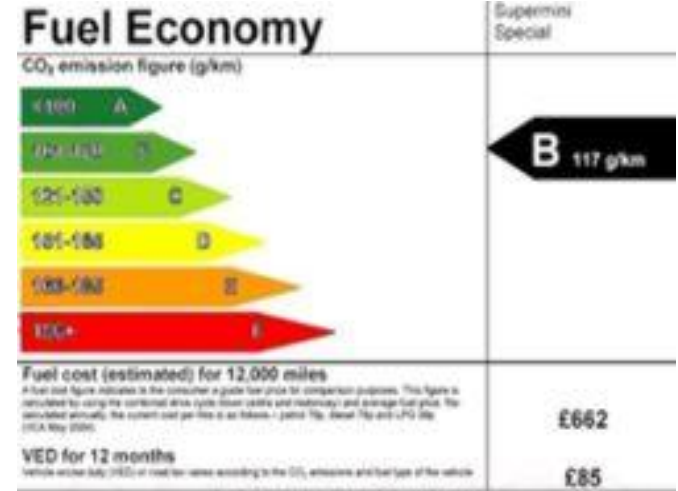
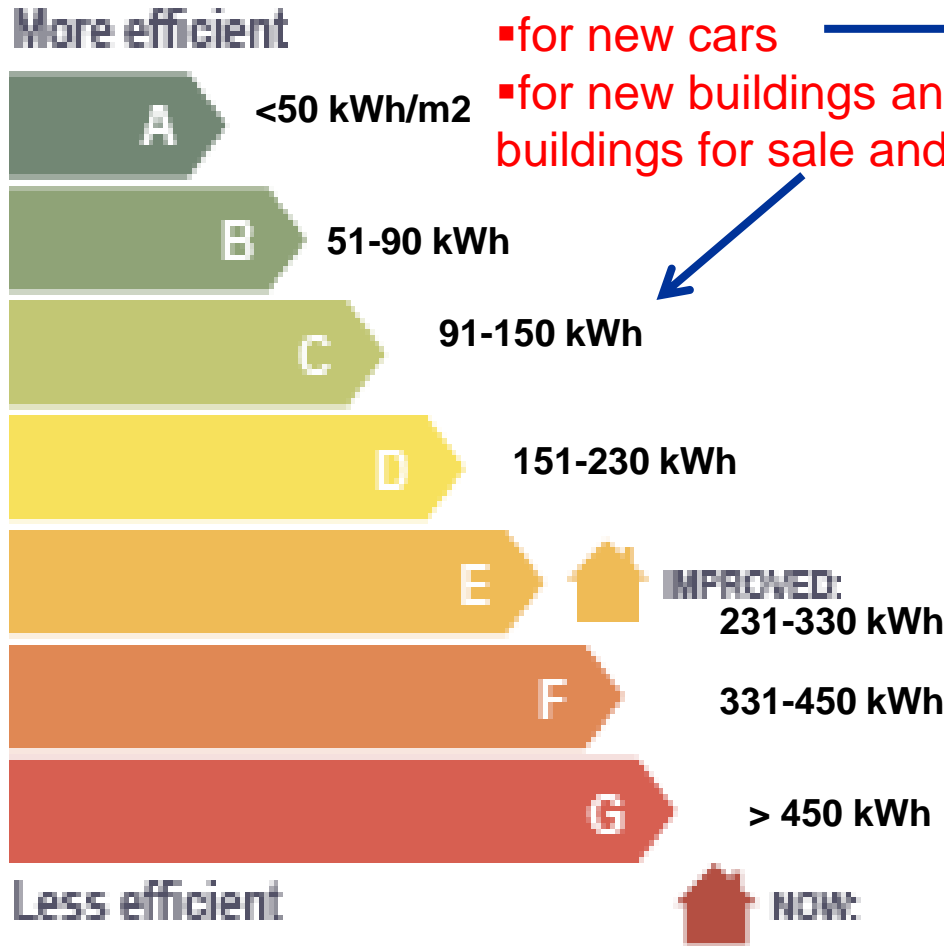
Energy efficiency labels: from electrical appliances to cars and buildings

New and innovative measures
Mandatory in all EU member countries:

- for new cars
- for new buildings and all buildings for sale and renting

Energy efficiency/CO2 labels for new cars in UK

Energy efficiency certificate for buildings in France



Environmental Information

A guide on fuel economy and CO₂ emissions which contains data for all new passenger car models is available at any point of sale free of charge. In addition to the fuel efficiency of a car, driving behaviour as well as other non-technical factors play a role in determining a car's fuel consumption and CO₂ emissions. CO₂ is the main greenhouse gas responsible for global warming.

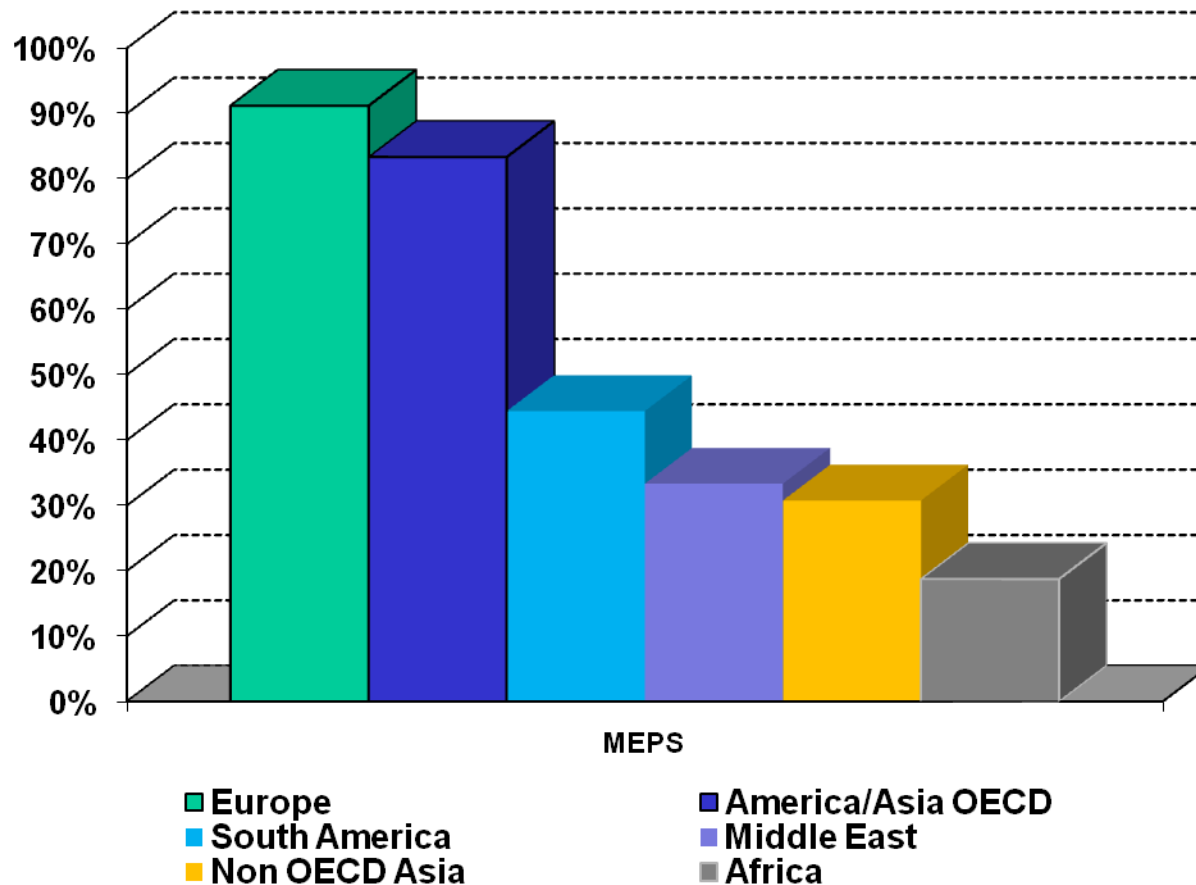
Make/Model:	Supermini Special	Engine Capacity (cc):	1399
Fuel type:	Diesel	Transmission:	5 speed manual

Fuel Consumption:		
Drive cycle	Litres/100km	Mpg
Urban	5.4	52.3
Extra urban	3.9	74.3
Combined	4.4	66.2

Carbon dioxide emissions (g/km): 117g/km
Important note: Some specifications of this make/model may have lower CO₂ emissions than this. Check with your dealer.

Diffusion of Minimum Energy Performance Standards (MEPS)* for new electrical appliances (WEC ADEME survey 2009)

MEPS for refrigerators



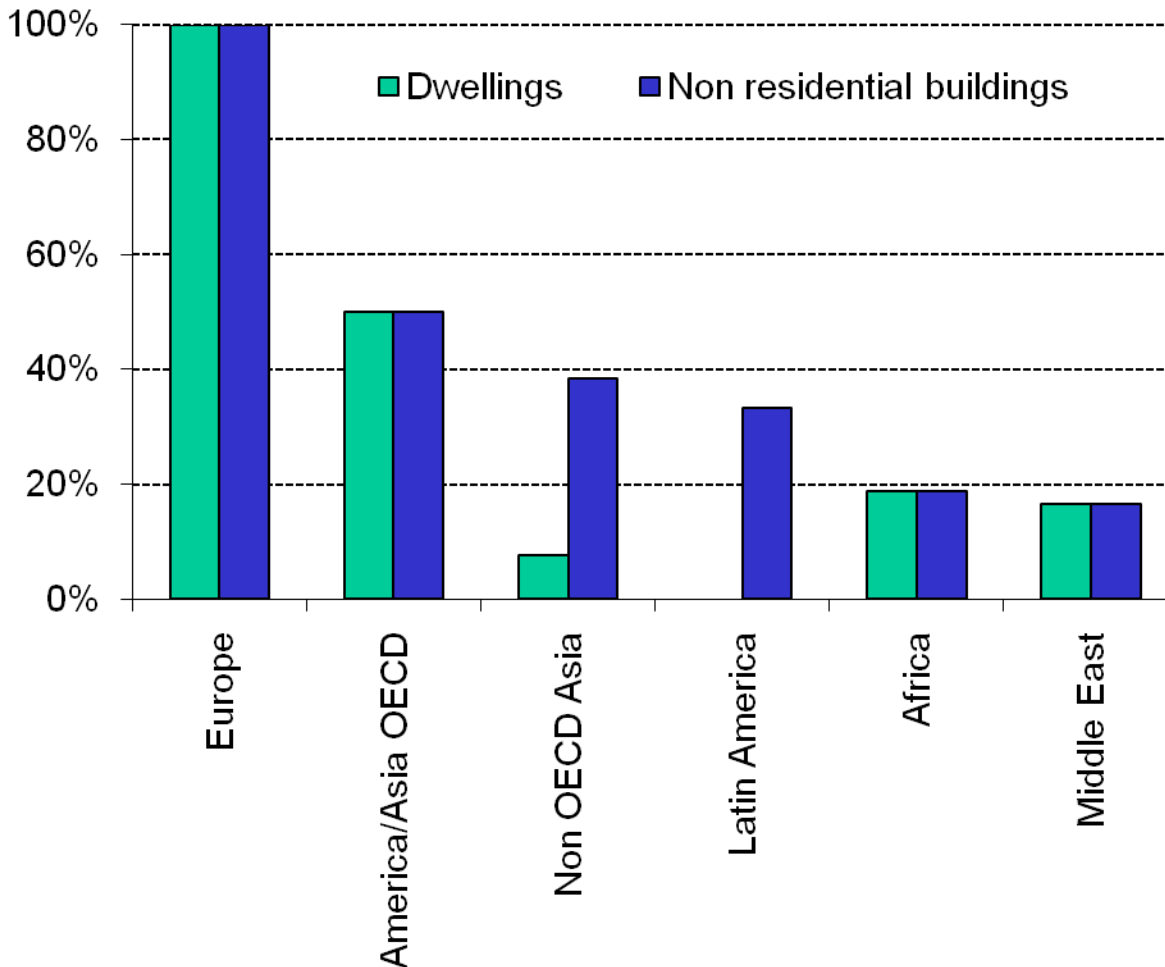
✓ MEPS for refrigerators, freezers and water heaters in EU countries

✓ MEPS for a wider range of appliances in America/Asia OECD countries (12 appliances on average)

✓ In Africa & Middle East MEPS of refrigerators not well spread

Mandatory efficiency standards for new buildings very well spread in Europe

Existence of building regulations (WEC ADEME survey 2009)



•Europe

- ✓ Mandatory efficiency standards for new dwellings or buildings) in all EU-27 countries with mandatory revisions every 5 years
- ✓ Extension to large existing buildings that undertake major renovations (>1000 m²);
- ✓ Obligation of certificate of energy performance for existing buildings for renting or sales and new buildings

•Other regions

- ✓ Increase of the number of countries with standards for new commercial / public buildings mainly but often voluntary standards

Voluntary standards for South Africa, India, Indonesia, Japan, South Korea....

Standards for new buildings in North Africa and Middle East (WEC-ADEME survey 2009)

Algeria

Residential / Public / Commercial : 2005, mandatory, ~ 35% savings

Tunisia

Residential : 2009, mandatory, ~ 30% savings
 Public / Commercial : 2010, mandatory, ~ 30% savings

Iran

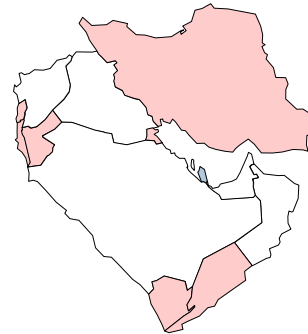
Residential : 2000, mandatory
 Commercial / public

Jordan

Residential : 1988, mandatory

Lebanon

Residential : Planned,
 Commercial / public : 30% saving



Senegal: Planned

Ghana: No

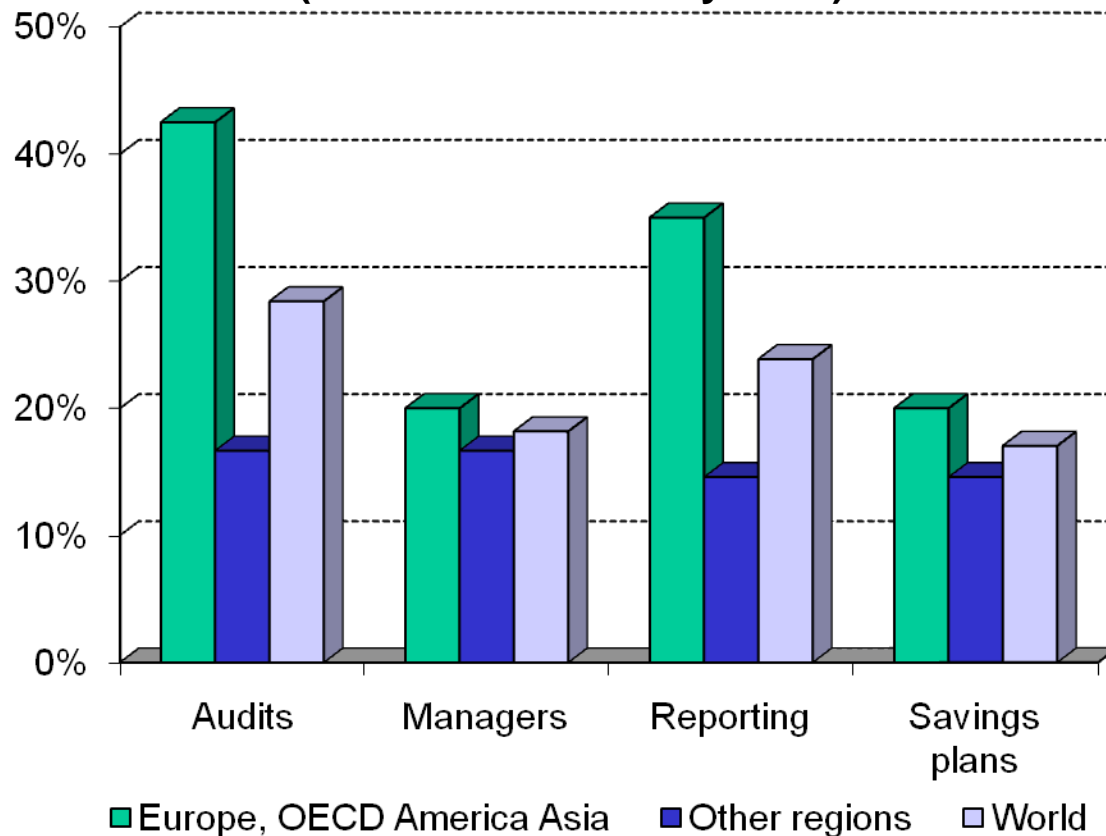
Nigeria: No

South Africa:

Residential : 2008, voluntary
 Public / Commercial : 2008, voluntary

Fewer regulation in non OECD countries (15% of countries with other regulations), with notable exceptions (e.g. China, India, Tunisia,..)

Existence of other regulations (WEC ADEME survey 2009)



- Mandatory energy audits, most popular:
 - ✓ mainly in public buildings in Europe;
 - ✓ in industry in OECD-America & Asia
- Mandatory energy reporting : half in industry, half in public buildings
- Mandatory saving plan : mainly industry, and public buildings

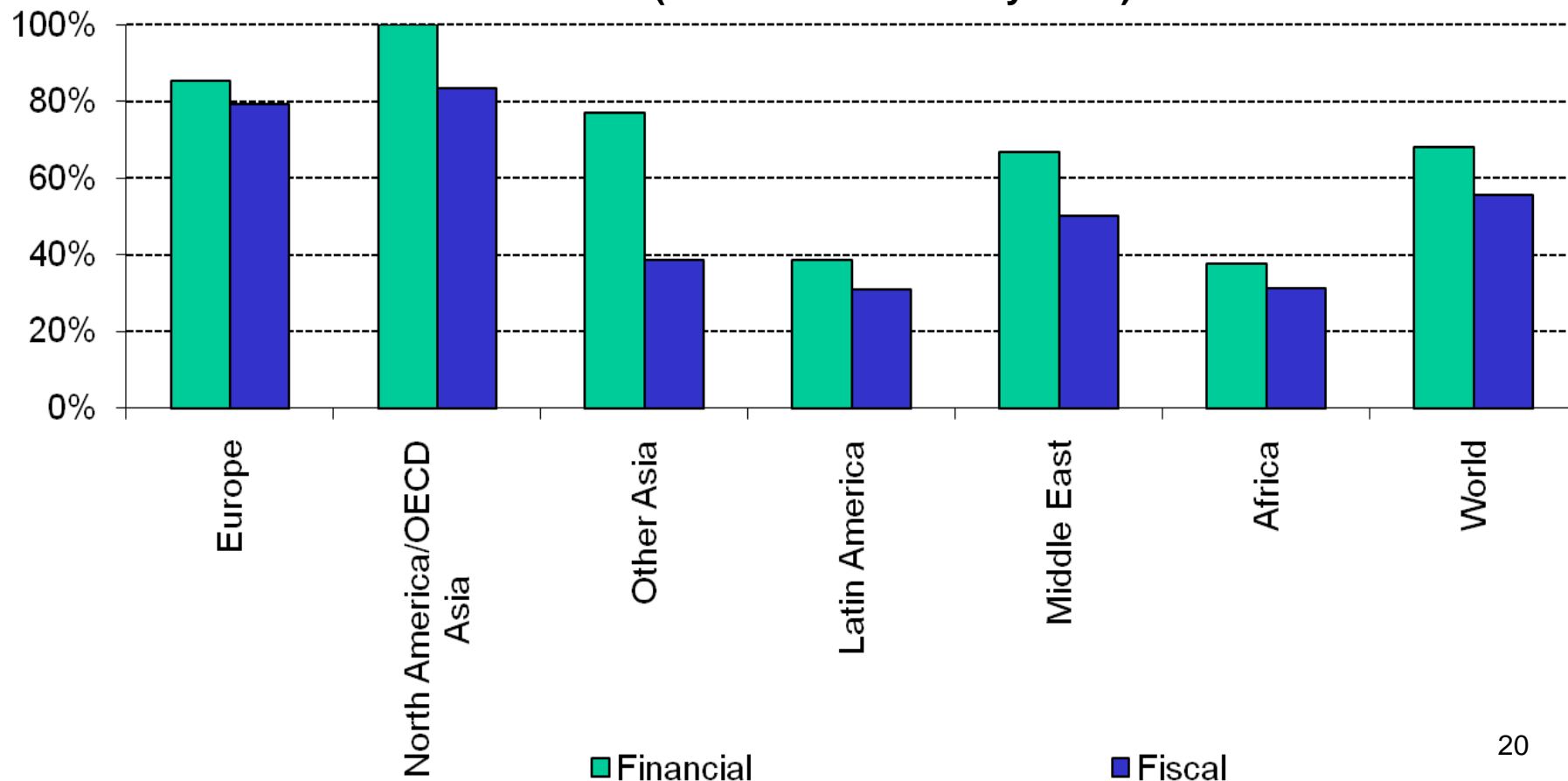
WEC survey on energy efficiency policies: Financial and fiscal measures

- **Subsidies** for audits by sector (industry, commercial, public, households, transport)
- **Subsidies** or **soft loans** (i.e. loans with subsidised interest rates) for energy efficiency investment and equipment by sector

- **Fiscal measures:**
 - tax credit,
 - accelerate depreciation,
 - tax reduction for efficiency investment:
 - by type of tax (import, VAT, purchase, annual car registration)
 - By type of equipment (appliances, cars, lamps,...)

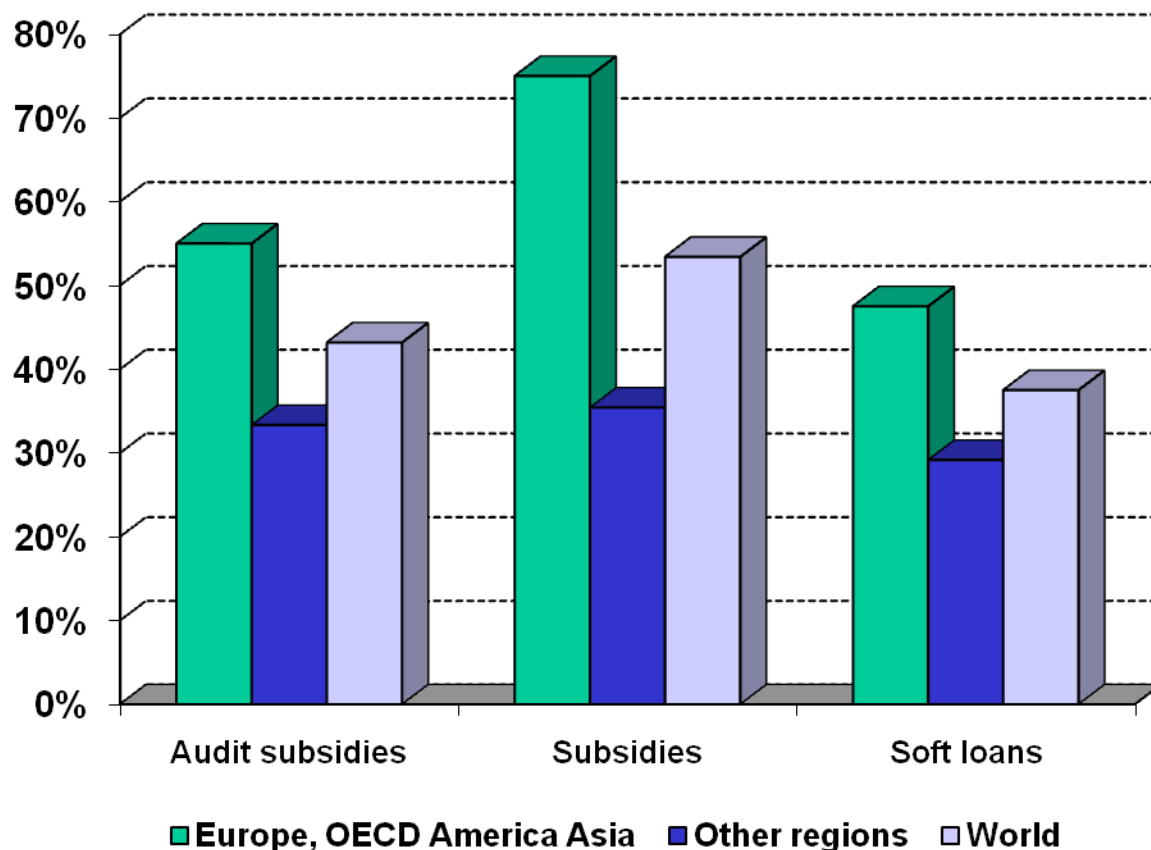
- Two thirds of countries with financial measures
- In all regions, financial measures are more popular.
- Fiscal measure mainly used in OECD countries
- Financial and fiscal incentives are used by more than 80% of OECD countries

**% of countries with financial or fiscal measures
(WEC ADEME survey 2009)**



Investment subsidies: most popular financial measure, especially in OECD countries

**Existence of financial incentives by sector
(WEC ADEME survey 2009)**



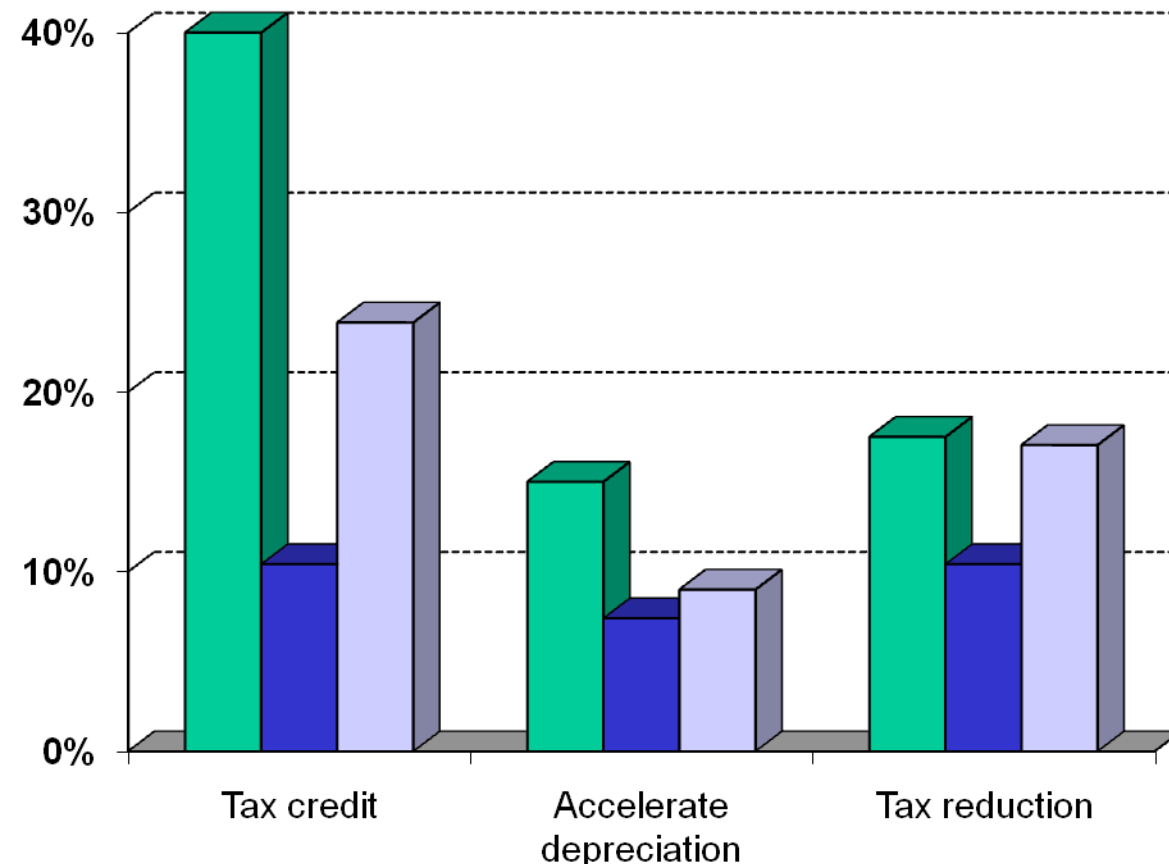
- Audit subsidies: 43% of countries (55% in Europe/OECD America-Asia) of which 1/3 in industry, 1/3 in public/commercial buildings, 20% in residential buildings

- Investment subsidies: around 50% of countries but 3/4 in Europe/OECD America-Asia of which 1/3 in industry, 30% in buildings, 10% in transport

- Soft loans: equal share in industry, residential buildings and commercial/public buildings

Tax credit most popular measures in OECD countries (similar to subsidies)

Fiscal incentives by sector (WEC ADEME survey 2009)



➤ Tax credit or tax deduction evenly distributed by sector

➤ Tax reduction on:

- ✓ VAT on labour cost (Europe)
- ✓ On efficient/ clean cars (purchase and or registration tax tax) (Europe)
- ✓ VAT and/or import tax on energy efficient equipment (e.g. CFL, efficient motors) (Asia, Africa & Middle East)

✓ Accelerate depreciation: less than 10% of countries

■ Europe, OECD America Asia ■ Other regions ■ All countries

Conclusions

- Two third of countries (~60 countries) have:
 - a national energy efficiency agency
 - energy efficiency programmes with quantitative targets
 - a labelling scheme

- Increase in the number of countries with quantitative targets and multiplication of targets by country

- More countries with labels, and increase in the number of appliances with labels (or MEPS) .

- Multiplication of local/regional agencies all over the world

Thank you

For more information:

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- For ADEME-WEC survey results: forthcoming on line data base
- For energy efficiency measures in Europe: www.mure2.com
- For energy efficiency activities at WEC:
http://www.worldenergy.org/work_programme/technical_programme/technical_committees/energy_efficiency_policies_and_indicators/default.asp