



IEPEC 2012 *Evaluation: Key to Delivery of Energy Efficiency*

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Session *Energy Provider Programmes*

13 June 2012, Rome

## Detailed comparison of Brazilian and French obligation schemes to promote energy efficiency

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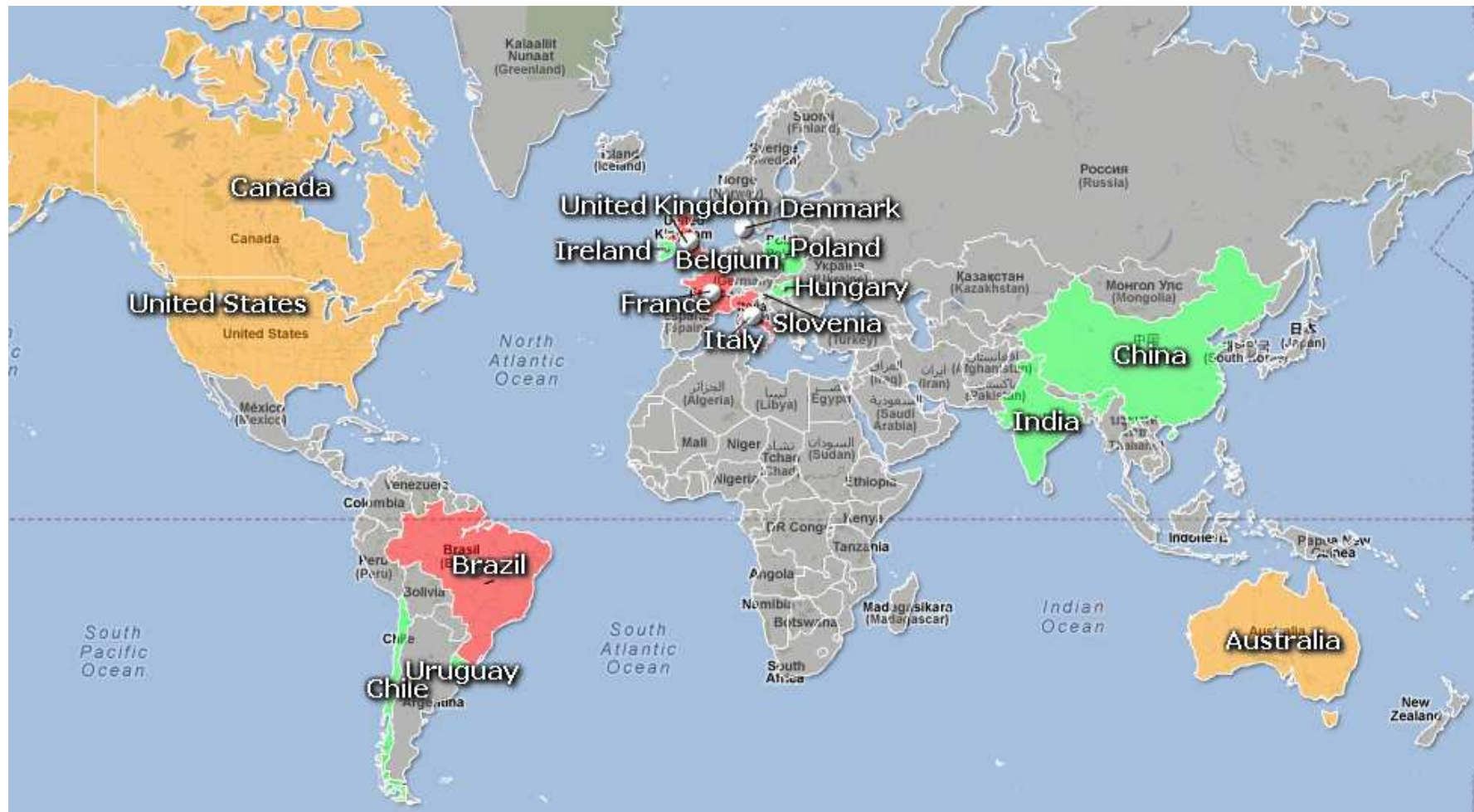


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# Context

## Increasing interest in EE obligation schemes...



Comparison of Brazil & France

IEPEC 2012 – 13 June 2012



# Context

**... but obligation does not directly lead to savings**



**need for experience sharing**



**need for detailed experience feedback**

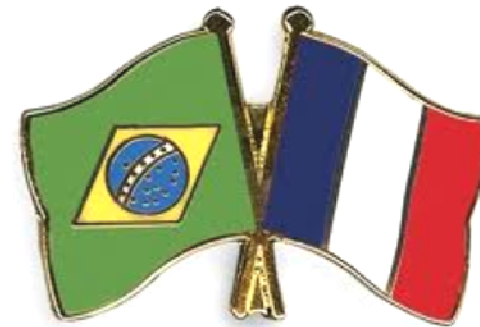


**M&V system = key component**

**evaluation (of the scheme) = key tool for improving  
and experience sharing**

# Content of the case studies

- comparison of the Brazilian & French schemes:
  - ✓ general scope
  - ✓ working scheme
  - ✓ **M&V system**
  - ✓ results



# General scope

## BRAZIL



- ✓ obligations on **distribution utilities** [ **electricity** (+SWH)]
- ✓ target = **investments** (0.5% of revenues)
- ✓ actions eligible in **all sectors**
- ✓ focus on **low income households**
- ✓ started in 1998

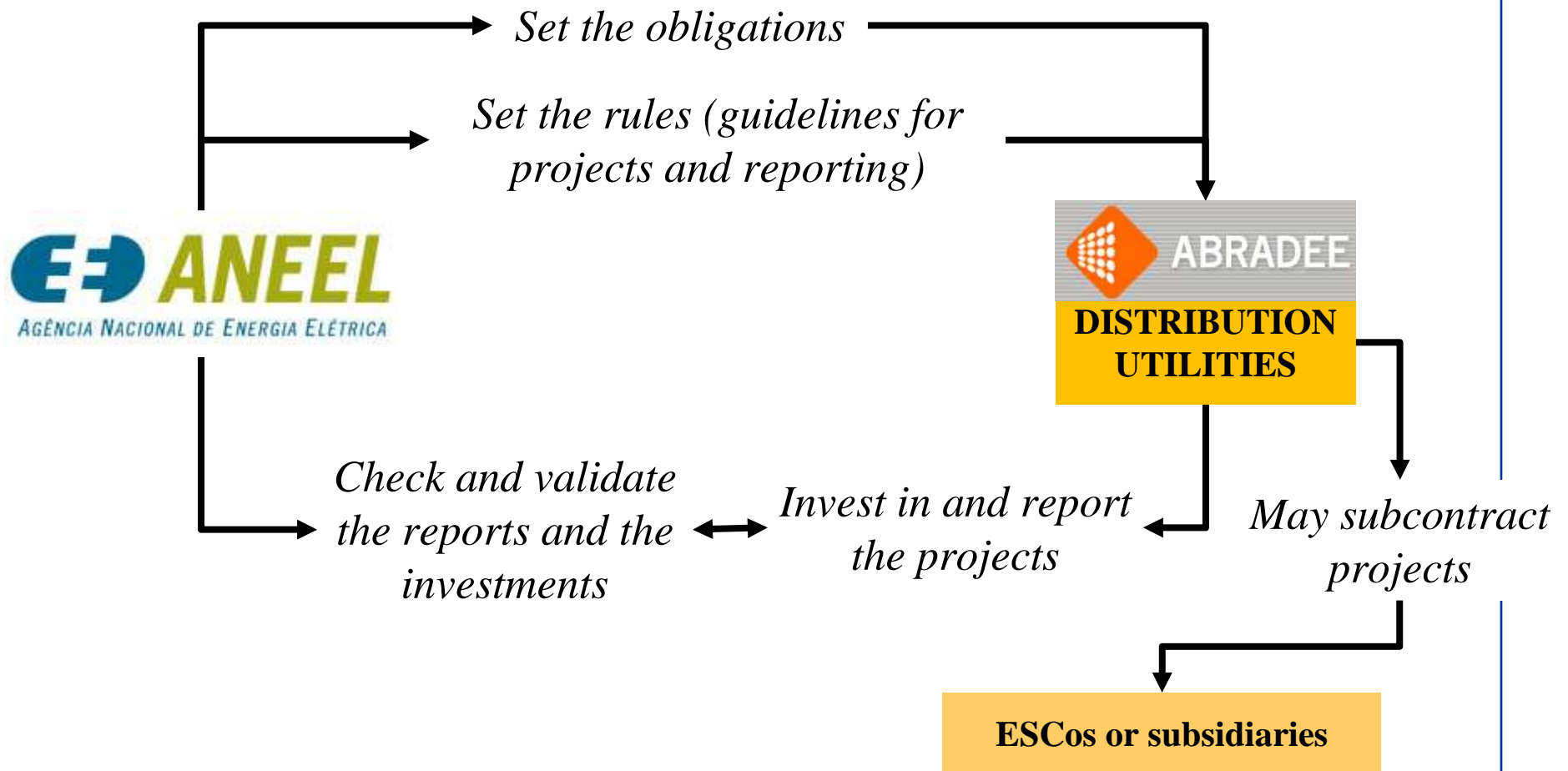
## FRANCE



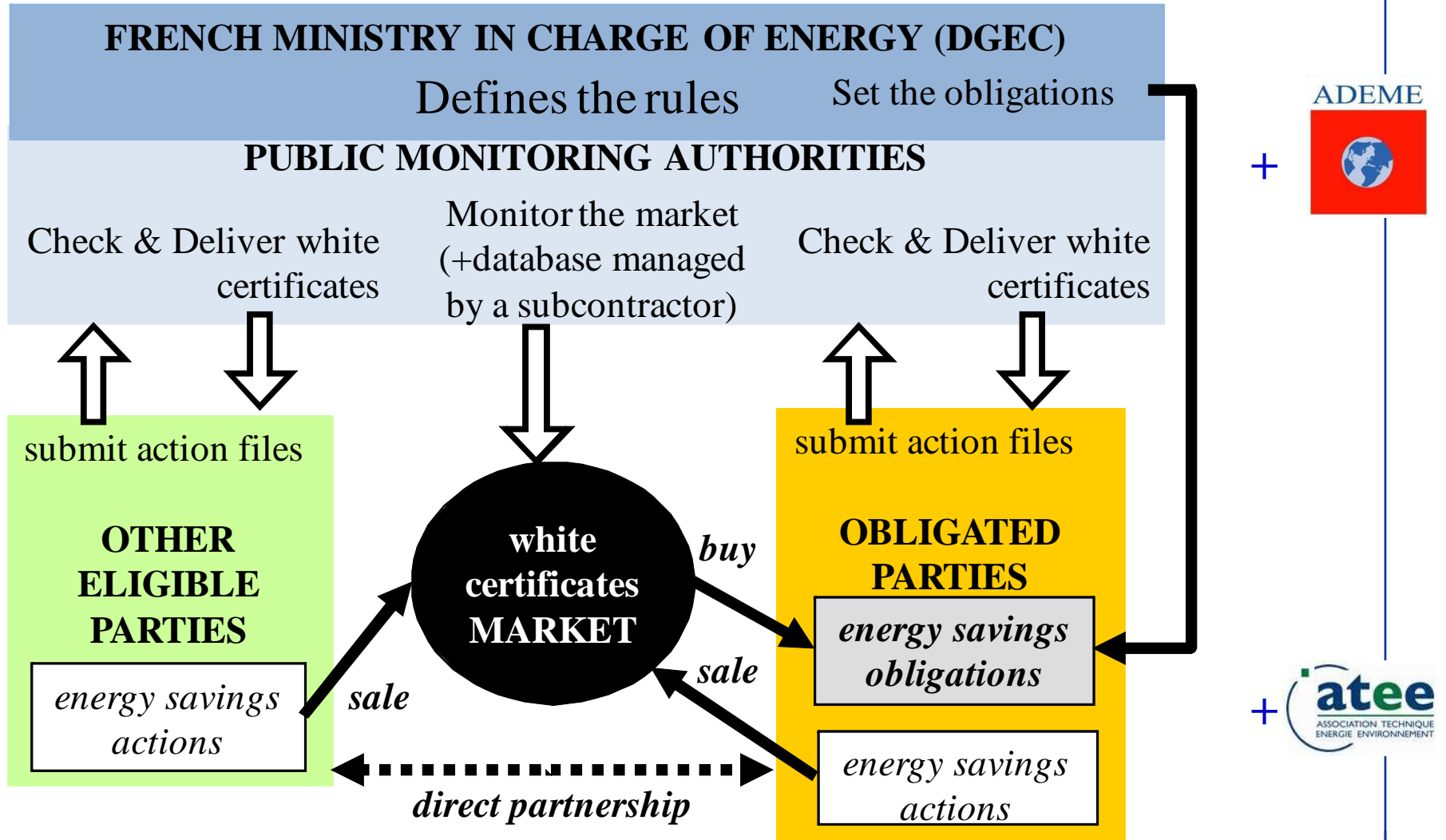
- ✓ obligations on energy **suppliers** [ **all energy types** ]
- ✓ target = **energy savings**, = f(energy sales for households)
- ✓ actions eligible in **all sectors** (except ETS industries)
- ✓ focus on **space heating**
- ✓ started in 2006 (3-year periods)

→ **CONCLUSION (1):** M&V rules set in practice the priorities/orientation of the scheme

# Working scheme: Brazil



# Working scheme: France



# M&V system (upstream conditions/rules)

## BRAZIL



- ✓ core = guidelines (HEEP) + use of IPMVP
- ✓ eligibility rules defined in HEEP, key criteria = B/C ratio (+ performance thresholds)
- ✓ key role of ANEEL
- ✓ issue = low M&V practices by utilities (e.g., lack of training)

## FRANCE



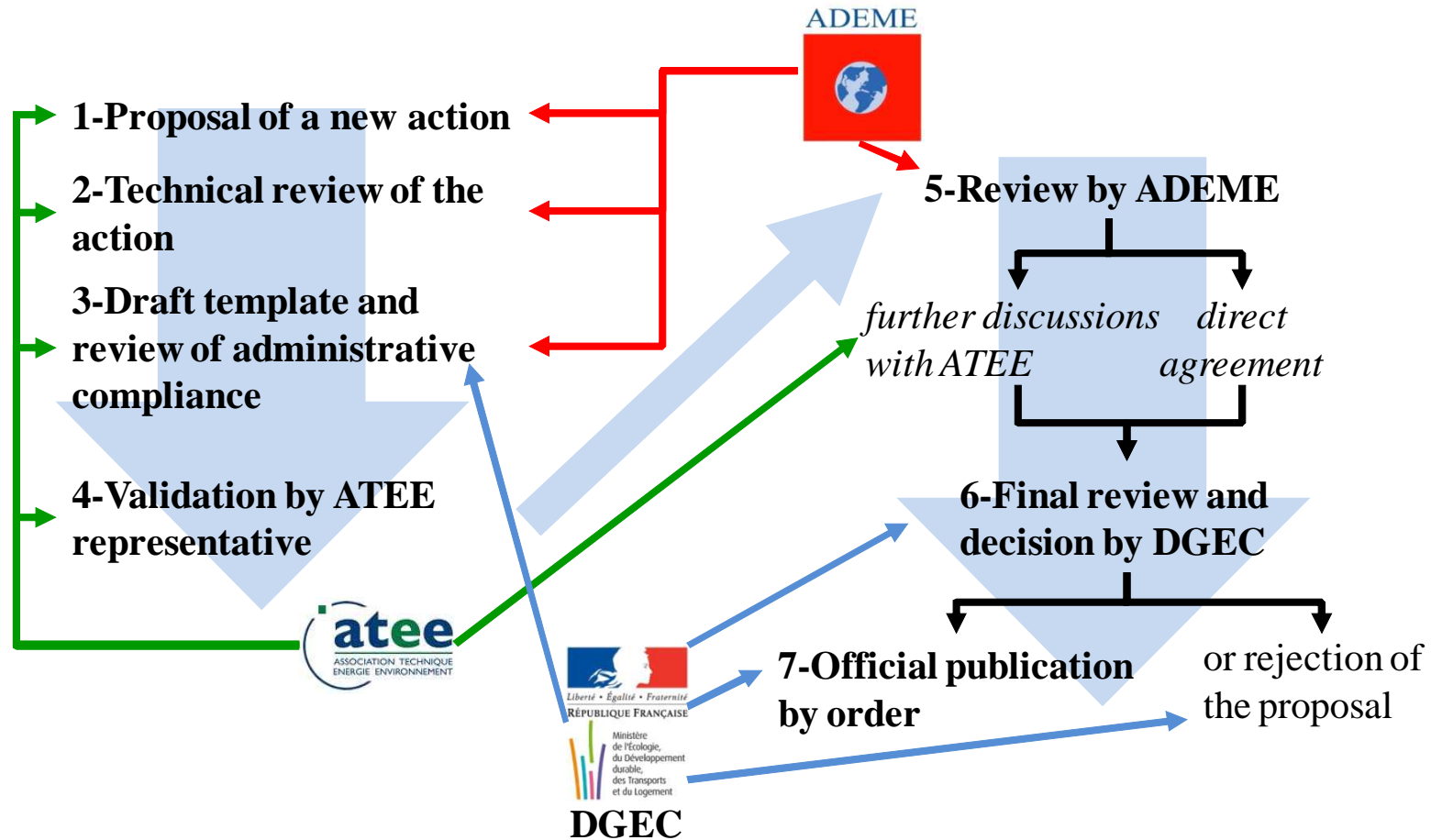
- ✓ core = definition of standardized actions
- ✓ eligibility criteria on performance level (additionality) + requirements (quality)
- ✓ three main stakeholders (ministry, agency and ATEE)
- ✓ issue = amount of paper work

→ **CONCLUSION (2):** importance of involving the stakeholders in the definition of the M&V system



# M&V system (upstream work: France)

## Zoom on the definition of the standardized actions



➔ An opportunity to involve the actors and to improve the knowledge about the energy savings potentials

# M&V system (downstream verifications)

## BRAZIL



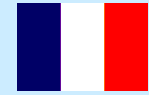
- ✓ projects evaluated by the utilities (mainly through subcontracting)
- ✓ reports reviewed and validated by ANEEL
- ✓ very few ex-post verifications
- ✓ moderated costs but uncertainties about the savings

## FRANCE



- ✓ documentation prepared by the certificates' "applicants"
- ✓ documentation reviewed and validated by a dedicated service
- ✓ significant administrative costs (about 700 000€/year) but good guarantees
- ✓ ex-post evaluation to come

→ **CONCLUSION (3):** the more requirements, the more guarantees, but the more paper work...



# M&V system (organization for France)

	Public Authorities	ADEME	Obligated parties
<b>Administration</b>	<ul style="list-style-type: none"> <li>political supervision (DGEC)</li> <li>central administration (PNCEE)</li> </ul>	<ul style="list-style-type: none"> <li>technical inquiry of specific actions</li> </ul>	<ul style="list-style-type: none"> <li>preparation and submission of action files</li> </ul>
<b>Monitoring</b>	<ul style="list-style-type: none"> <li>regular state of progress</li> <li>subcontracting of the white certificates registry</li> </ul>	<ul style="list-style-type: none"> <li>monitoring of the energy efficiency markets</li> </ul>	<ul style="list-style-type: none"> <li>internal monitoring (costs, etc.)</li> <li>feedback about administrative process</li> </ul>
<b>Evaluation</b>	<ul style="list-style-type: none"> <li>global review of the scheme</li> <li>official reporting (see e.g., NEEAP)</li> </ul>	<ul style="list-style-type: none"> <li>evaluation of the impacts (energy savings, market transformation)</li> </ul>	<ul style="list-style-type: none"> <li>internal evaluations (especially cost-effectiveness)</li> </ul>

## → CONCLUSION (4):

interesting in practice to distribute the evaluation roles according to the “natural” interests of each party, but anyway a “two-sided” view is essential for a balanced negotiation

# Results

## BRAZIL



- ✓ population: 191 M (2011)
- ✓ total HH electricity consumption: 110 TWh/a (2010)
- ✓ **investments**: about €55 M/a for 1998-2007, and about €200 M/a for 2008-2011 (ANEEL data)
- ✓ **savings**: about 1.54 TWh/a and 542 MW peak load for 2008-2011 (electricity only)

## FRANCE



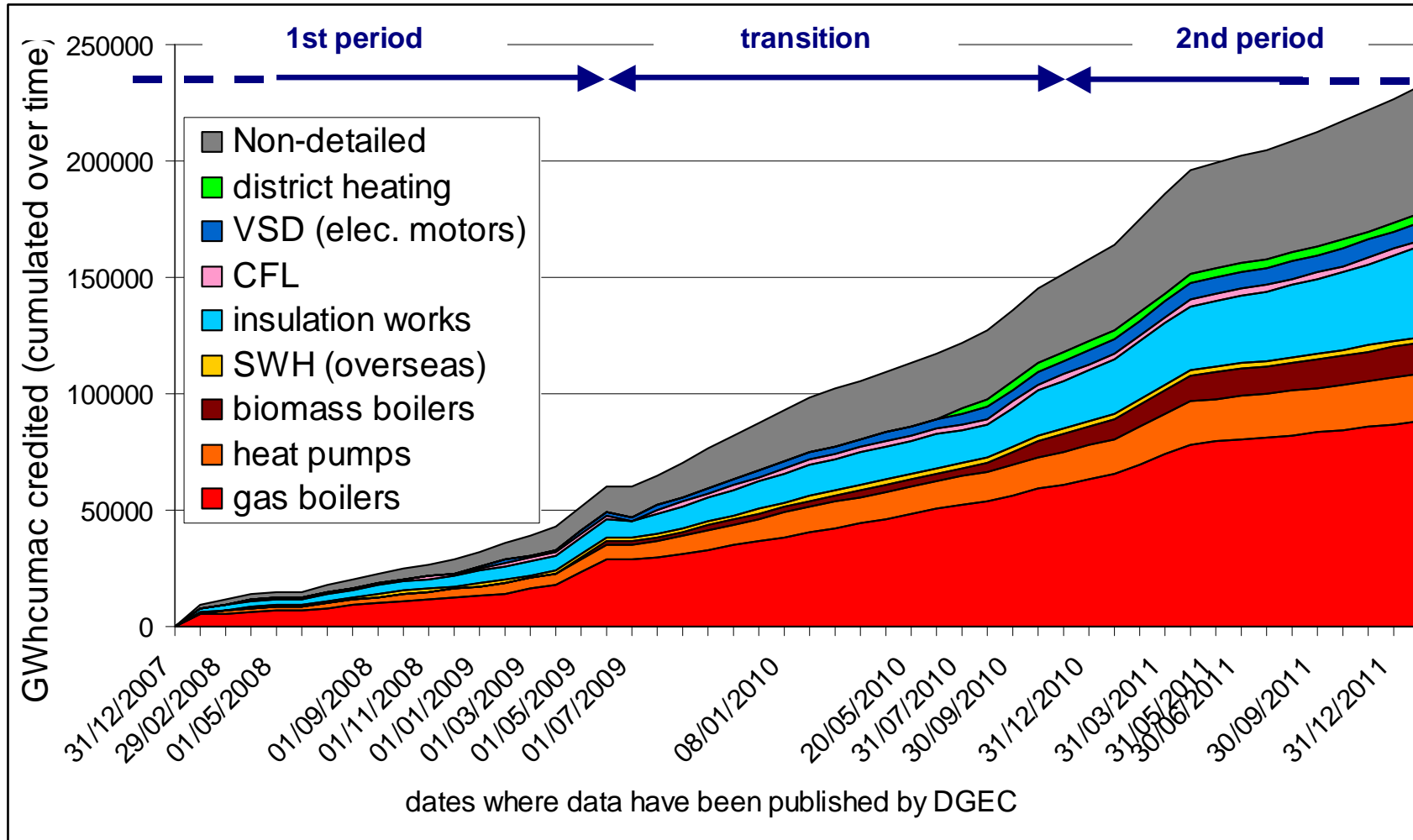
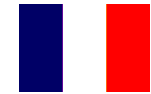
- ✓ population: 63 M (2011)
- ✓ total HH electricity consumption: 154 TWh/a (2009)
- ✓ **investments**: about €70 M/a for 2006-2009 (Giraudet 2011), and about €300 M/a in 2011 (IEA survey)
- ✓ **savings**: about 12.8 TWh/a for 2006-2010 (all energy types)
- ✓ **cost-effectiveness**: about 3.74 c€/kWh saved (for 2006-2009) (Giraudet 2011)

Comparison of Brazil & France

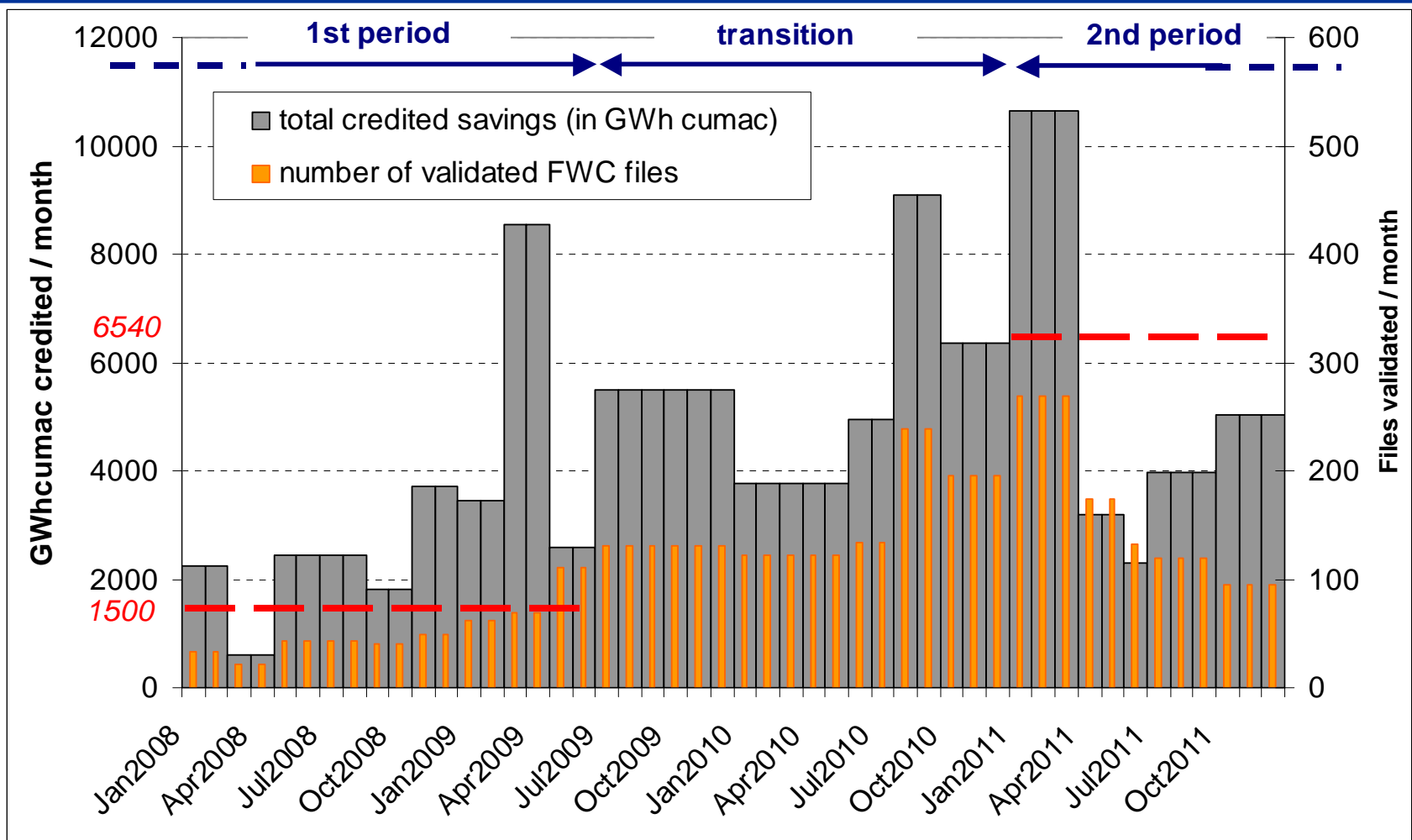
# Conclusions

- two different schemes → highlighting the importance of the M&V design
- focus on investments and cost-effectiveness (Brazil) vs. focus on achieving savings (France)
- learning process: not be underestimated
- detailed analyses → lessons learnt, but...
- ...not all necessarily relevant for other context (e.g., difference in country size)
- comparing always useful: looking at other schemes gives a better understanding of the ones you know

# Upcoming challenges: change of scale !



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**How will the system “absorb” the planned change of scale?**

*Thank you for your attention.*

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