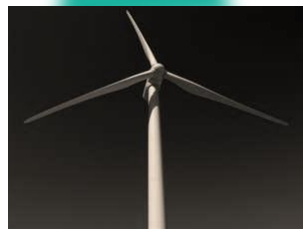


# Accounting for RE Purchases in a GHG Inventory: Analysis of Issues, Approaches and Draft GHG Protocol Recommendations

*Renewable Energy Markets Conference  
San Francisco, CA  
November 15-18*

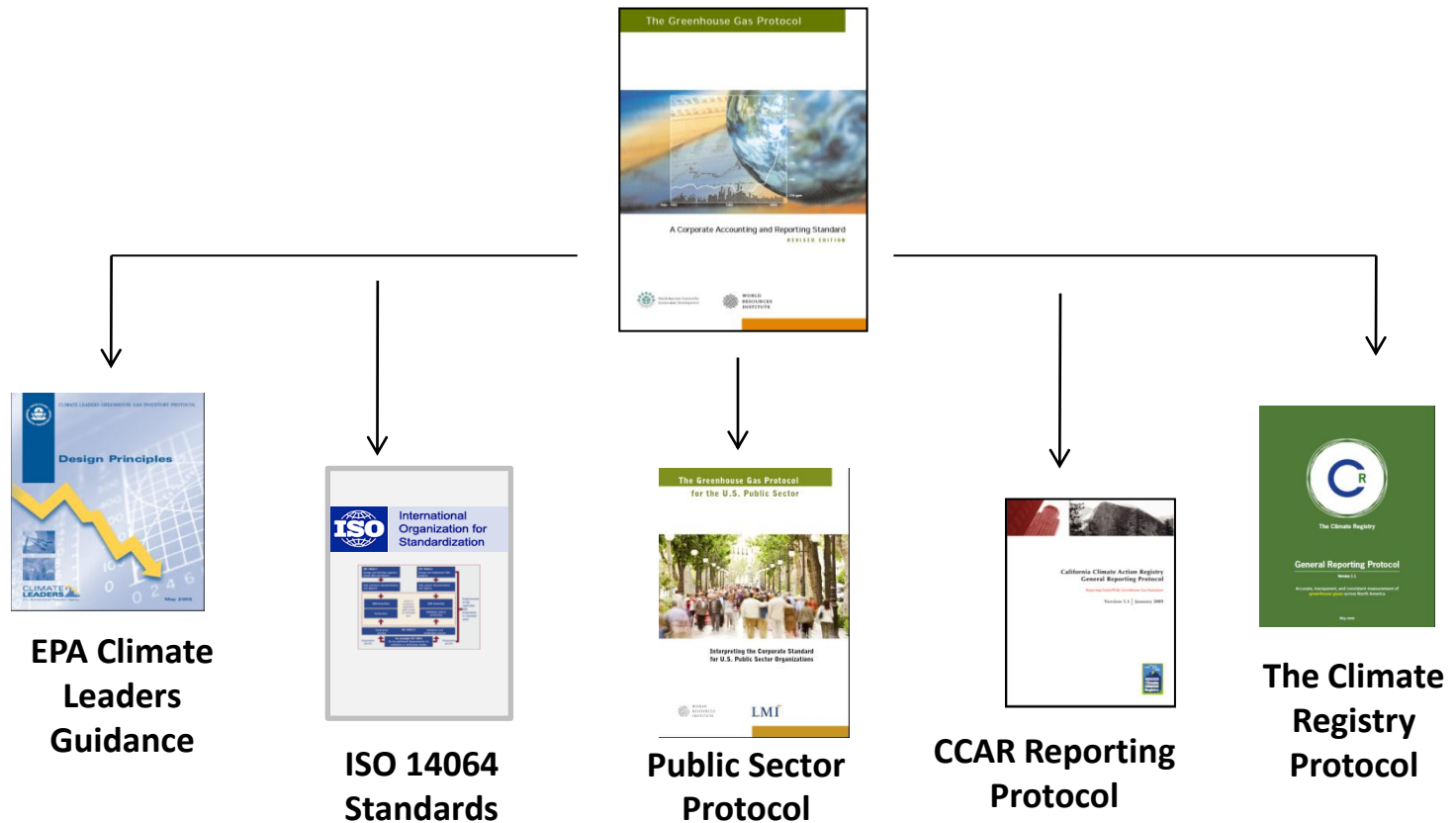
**Mary Sotos**  
Project Lead, GHG Protocol  
World Resources Institute

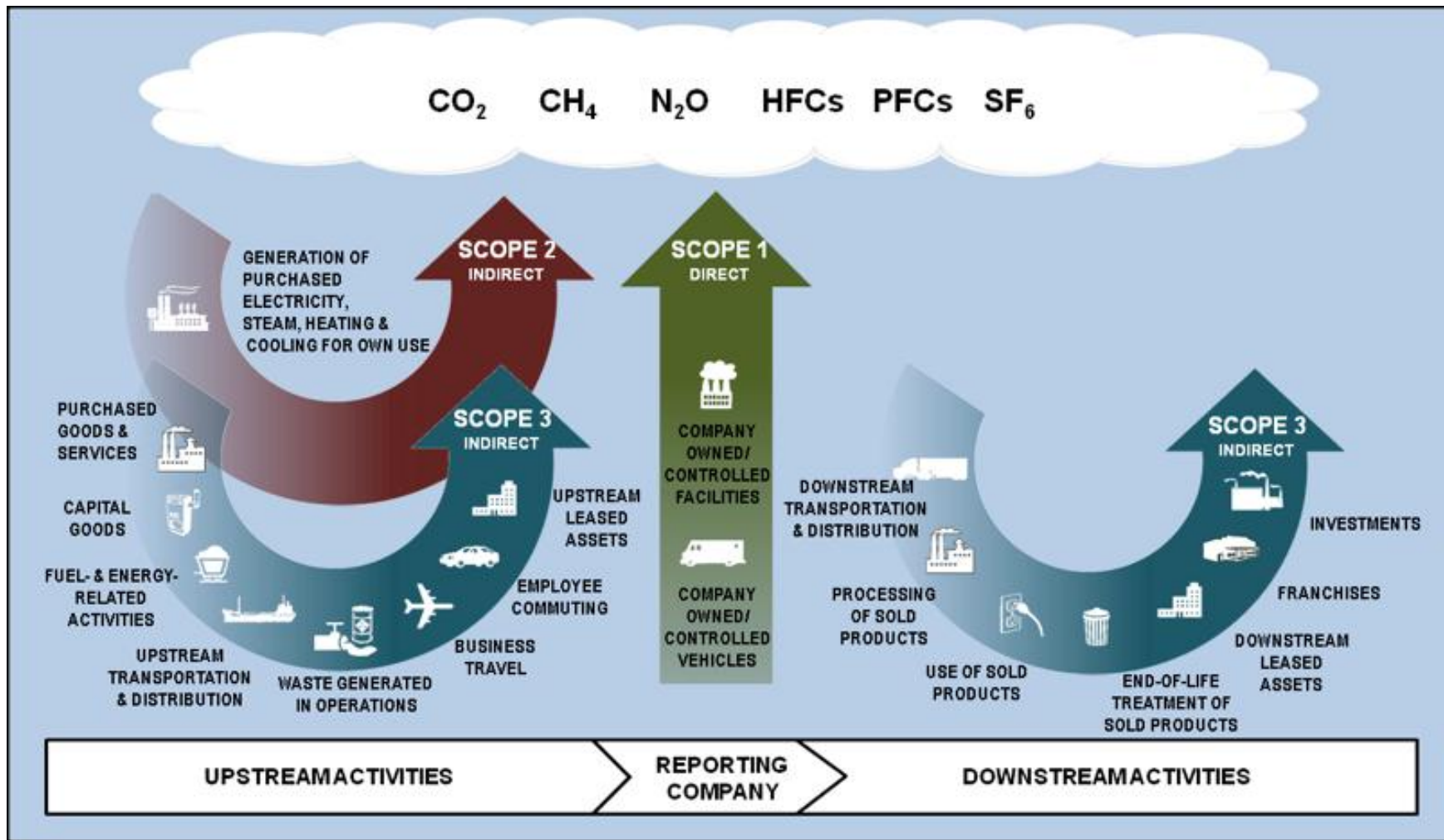


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## WBCSD/WRI GHG Protocol





**MWh consumed x Grid Average Emission Factor = Total Scope 2**

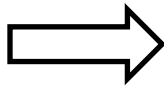


**GENERATORS**

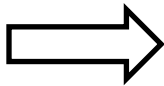
**SUPPLIERS**

**END USERS**

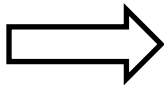
MWh consumed x Grid Average Emission Factor = Total Scope 2



**300 tons**  
100 MWh



**200 tons**  
100 MWh



**0 tons**  
100 MWh

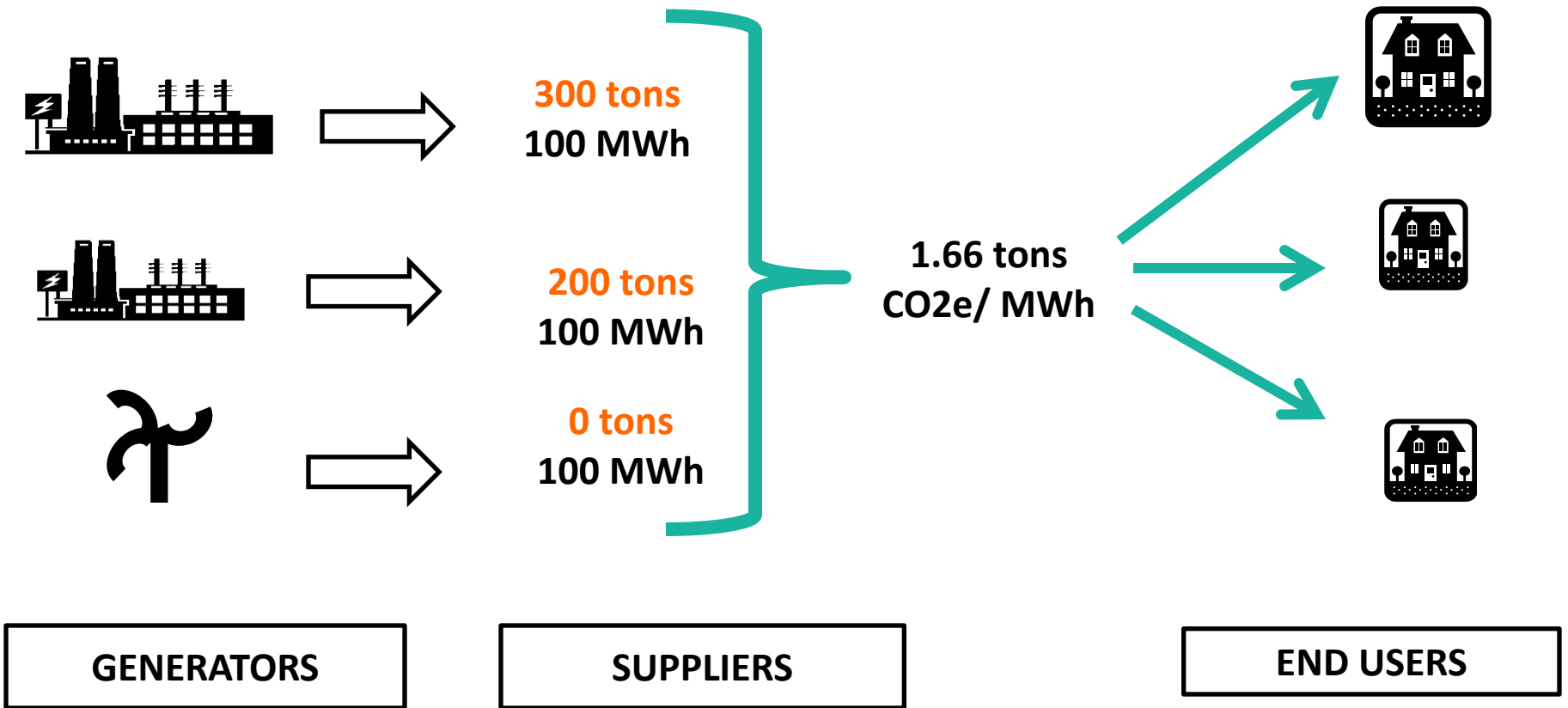


GENERATORS

SUPPLIERS

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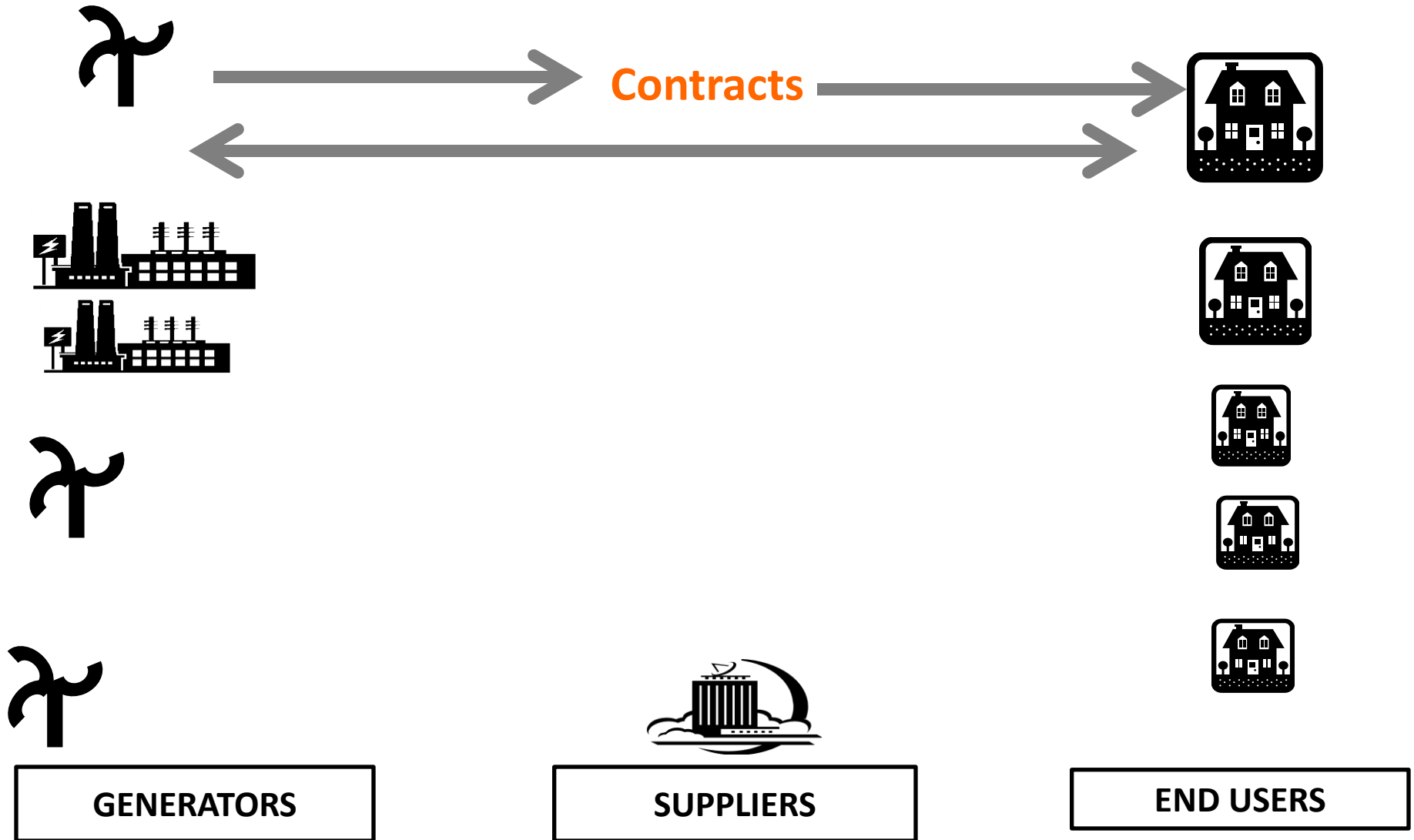
MWh consumed x Grid Average Emission Factor = Total Scope 2



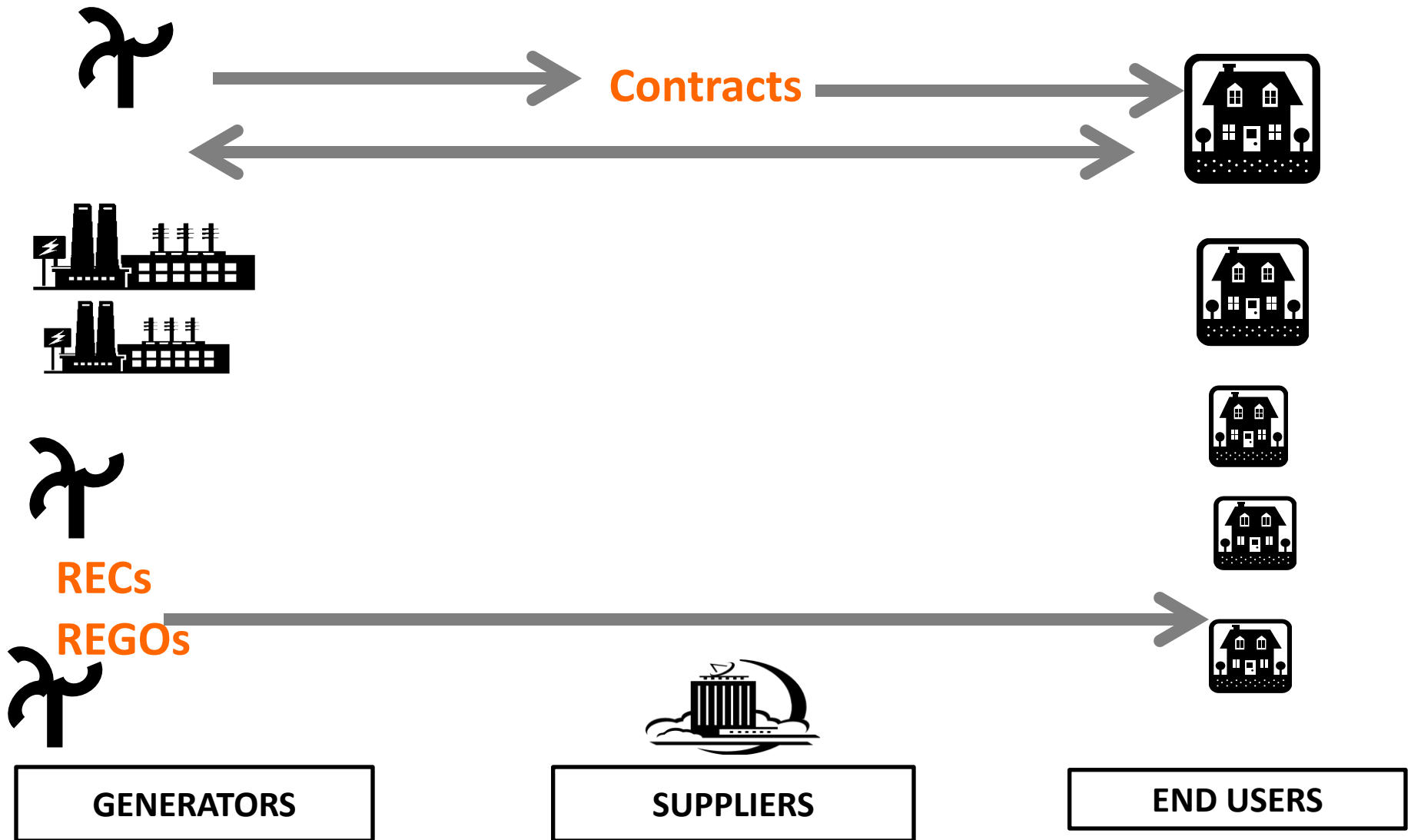


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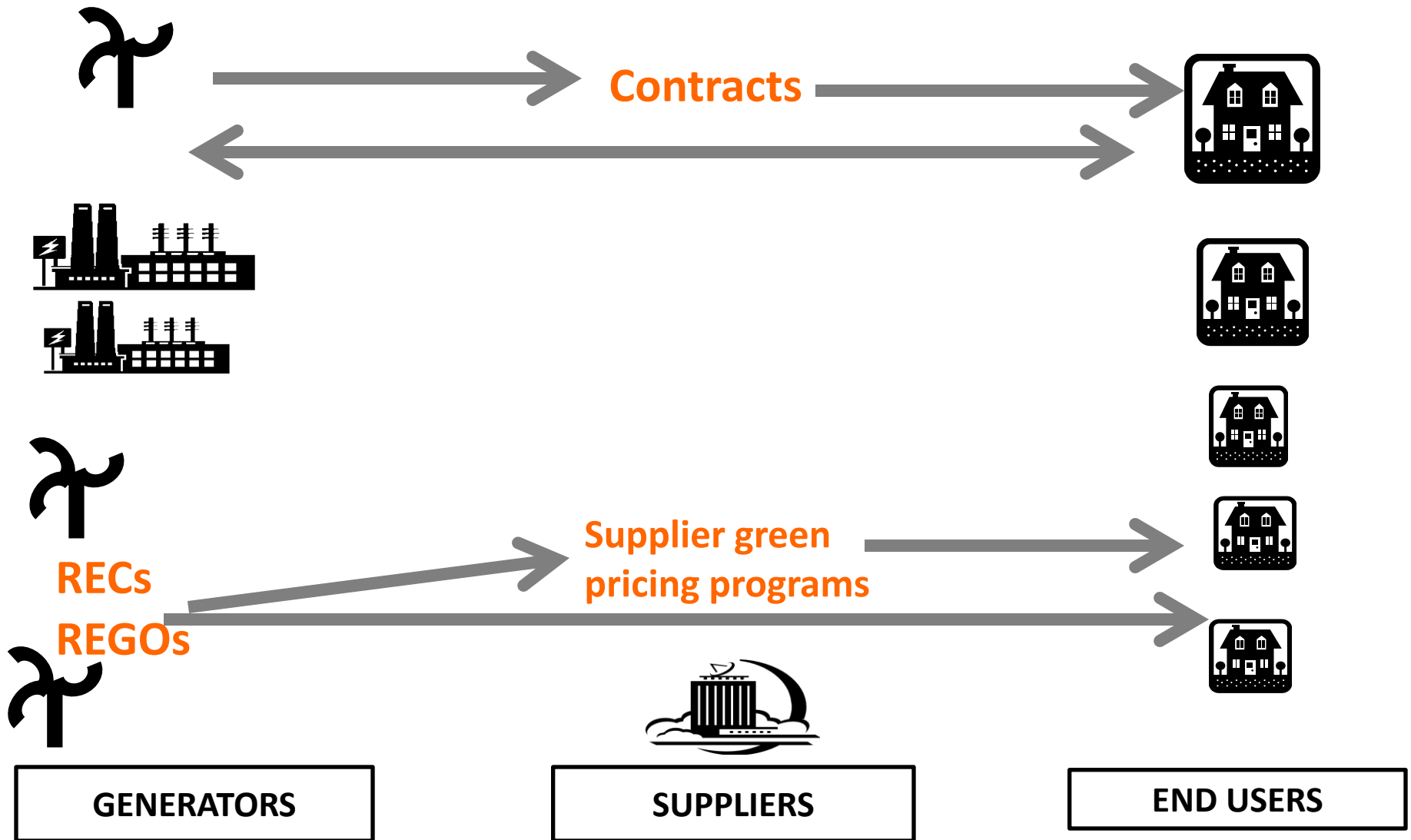
Attributes? Function?



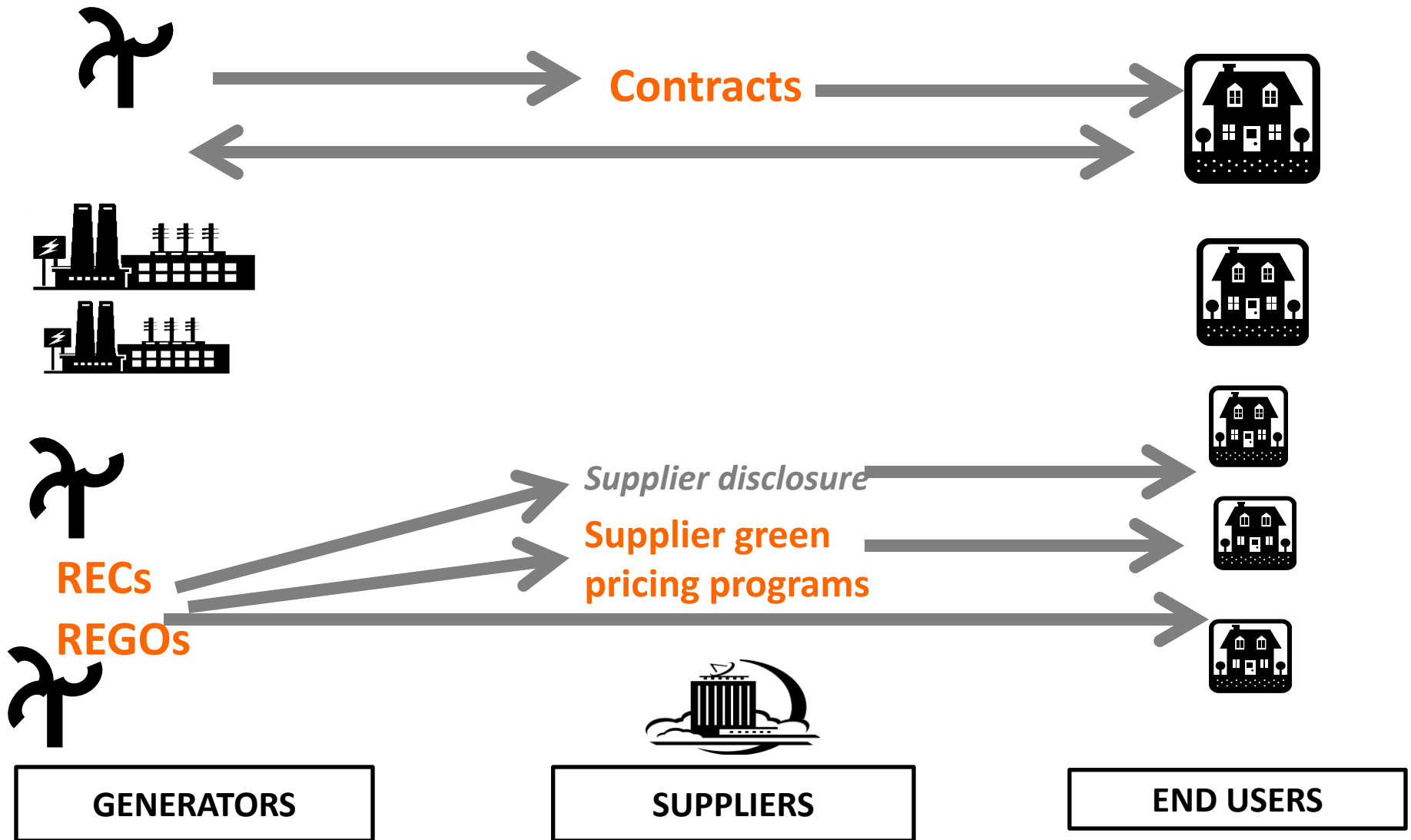
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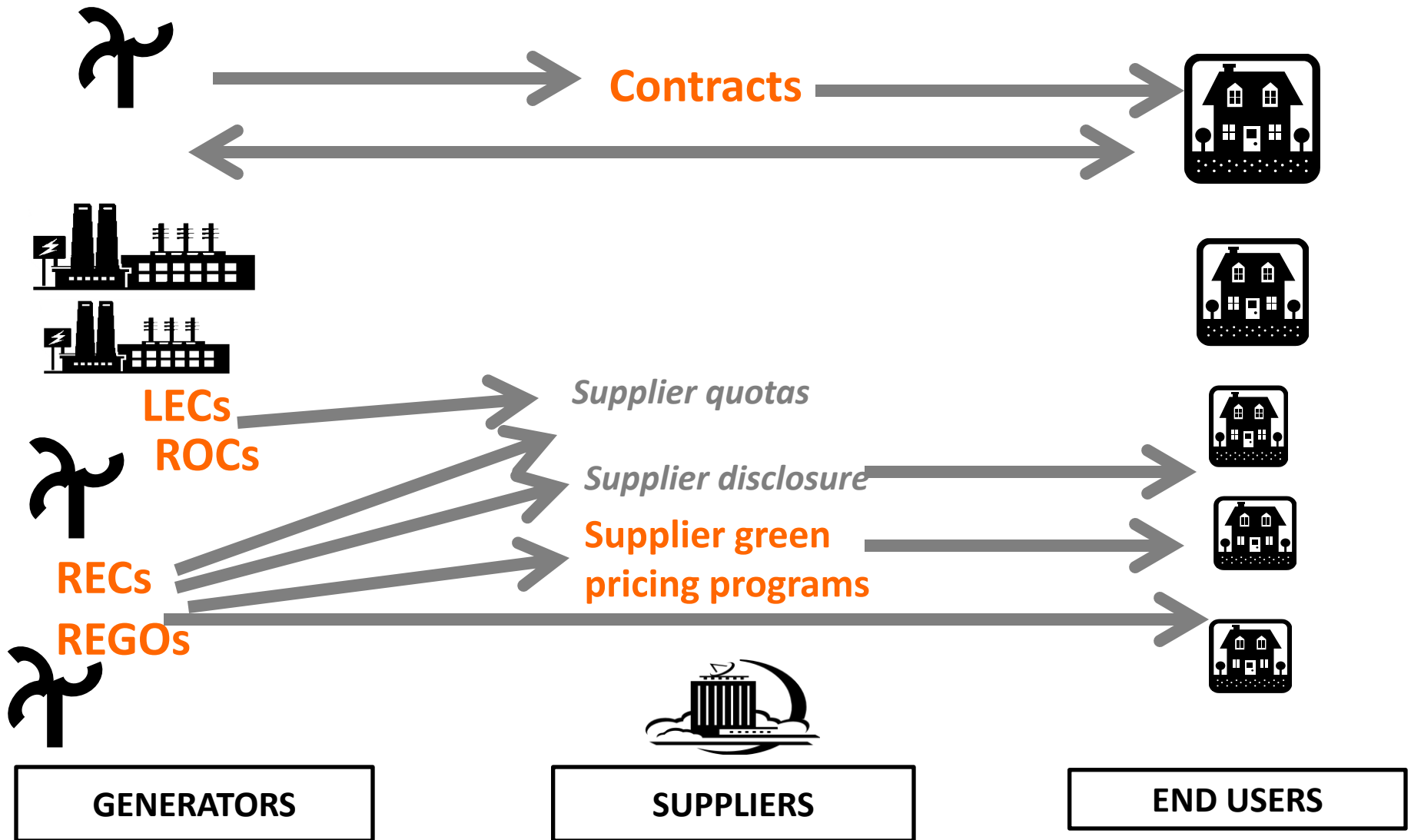
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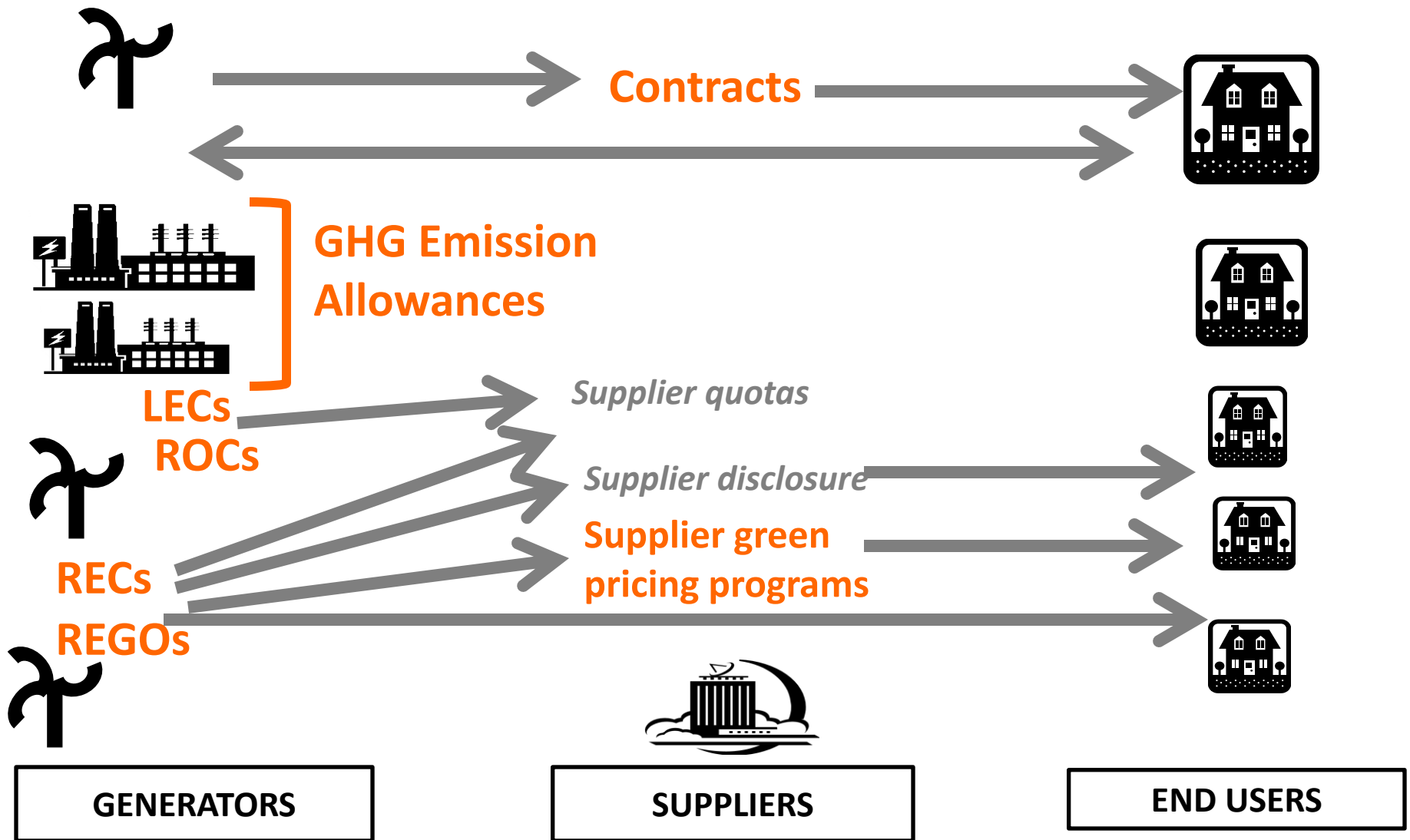


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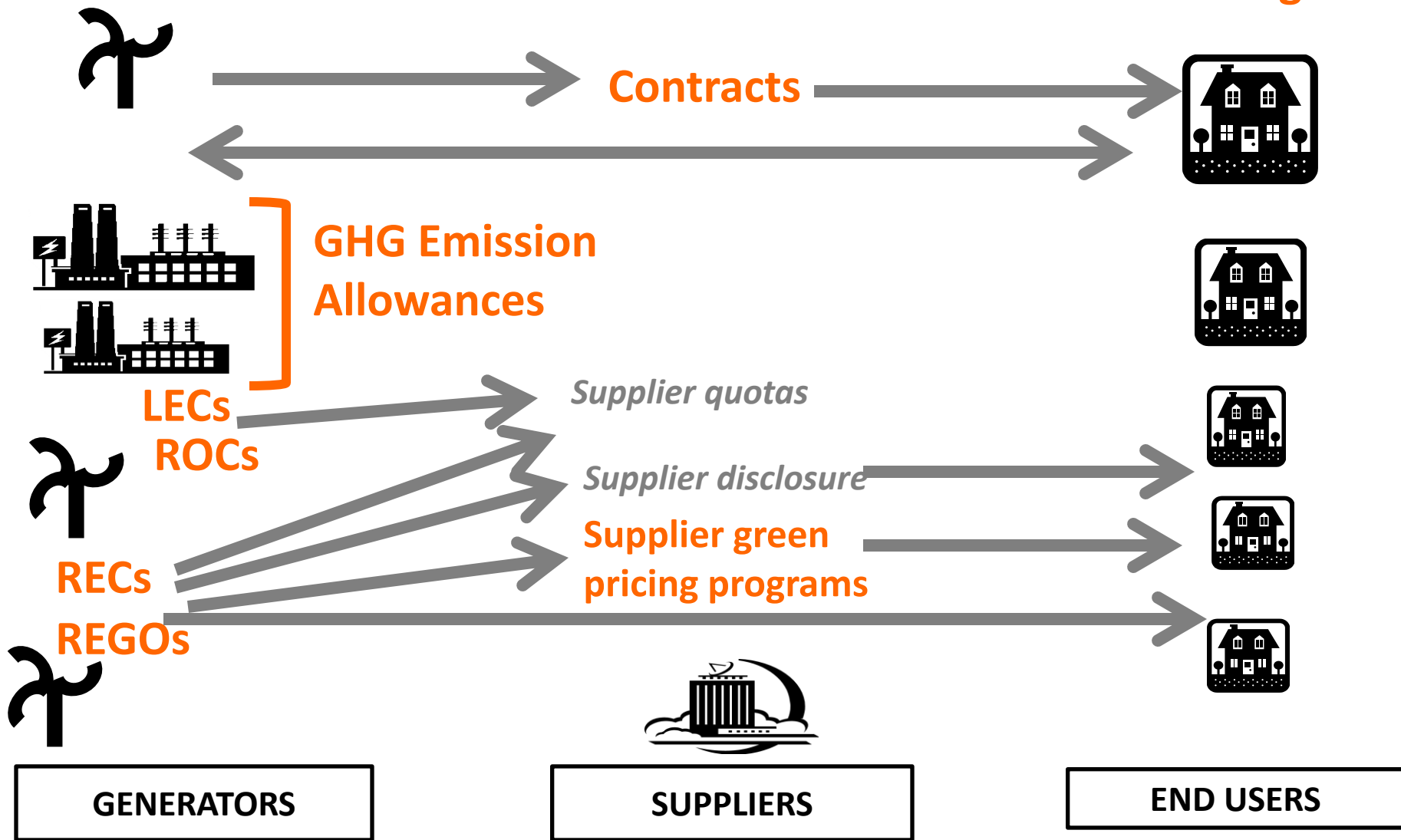
Attributes? Function?





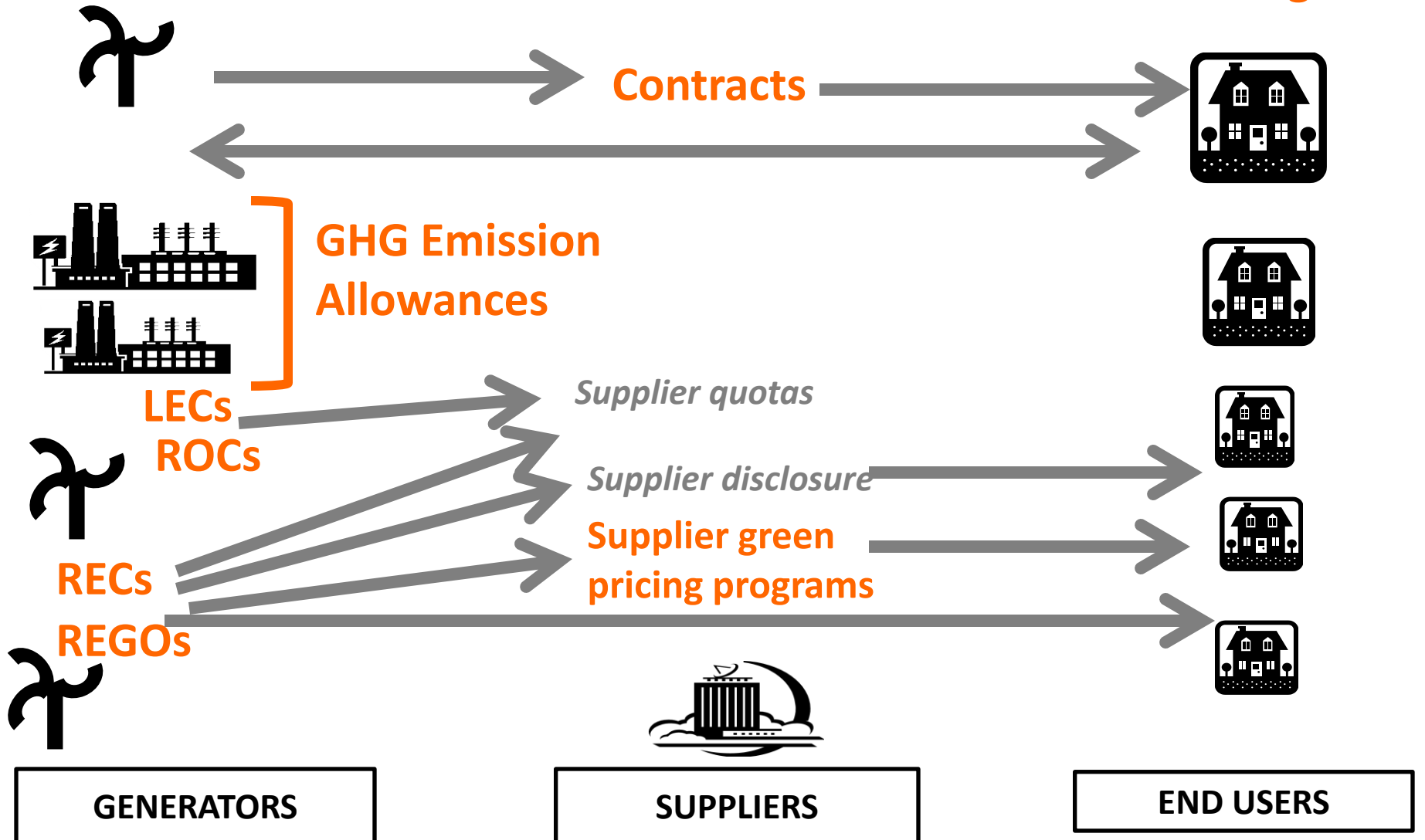
Attributes? Function?

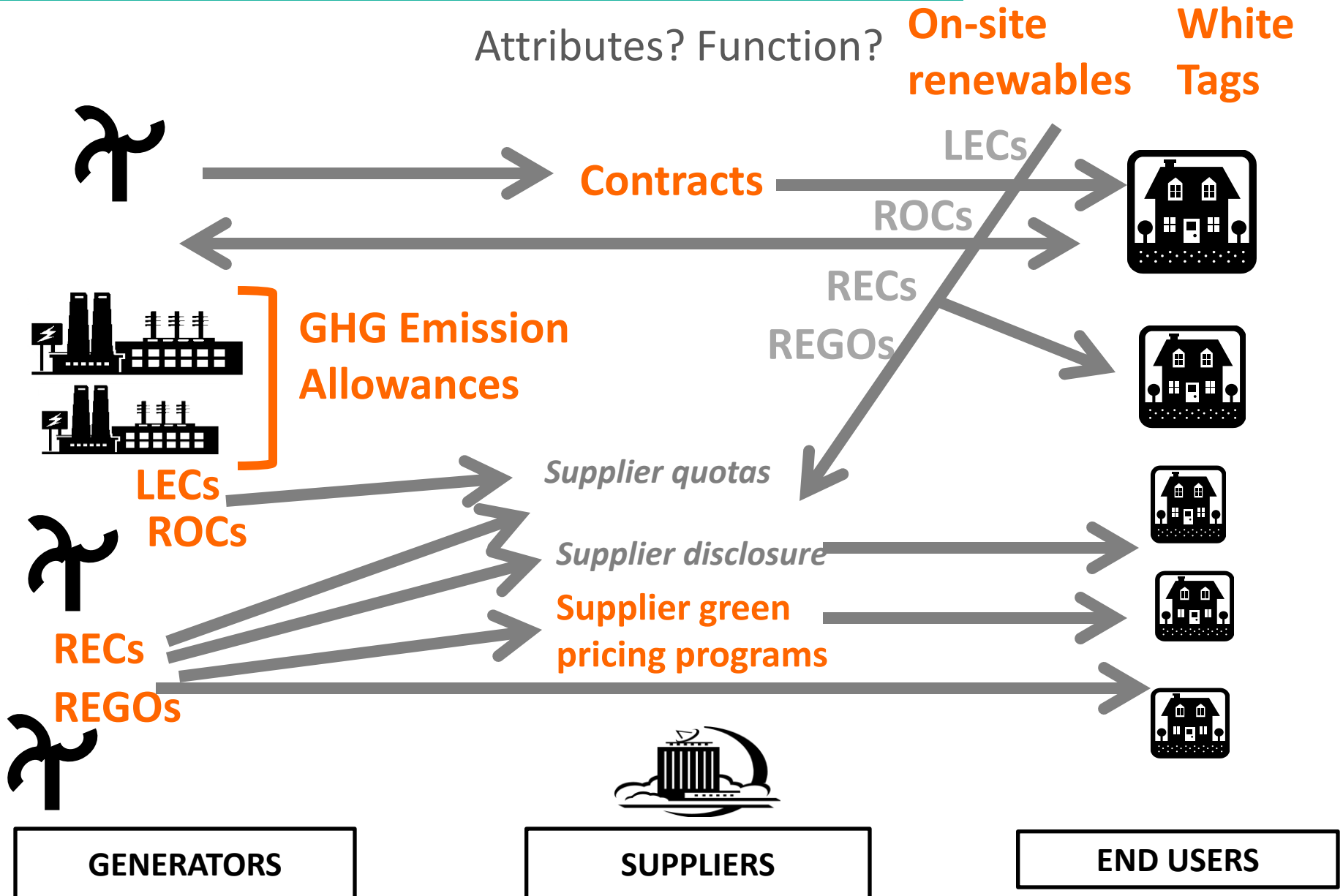
White Tags

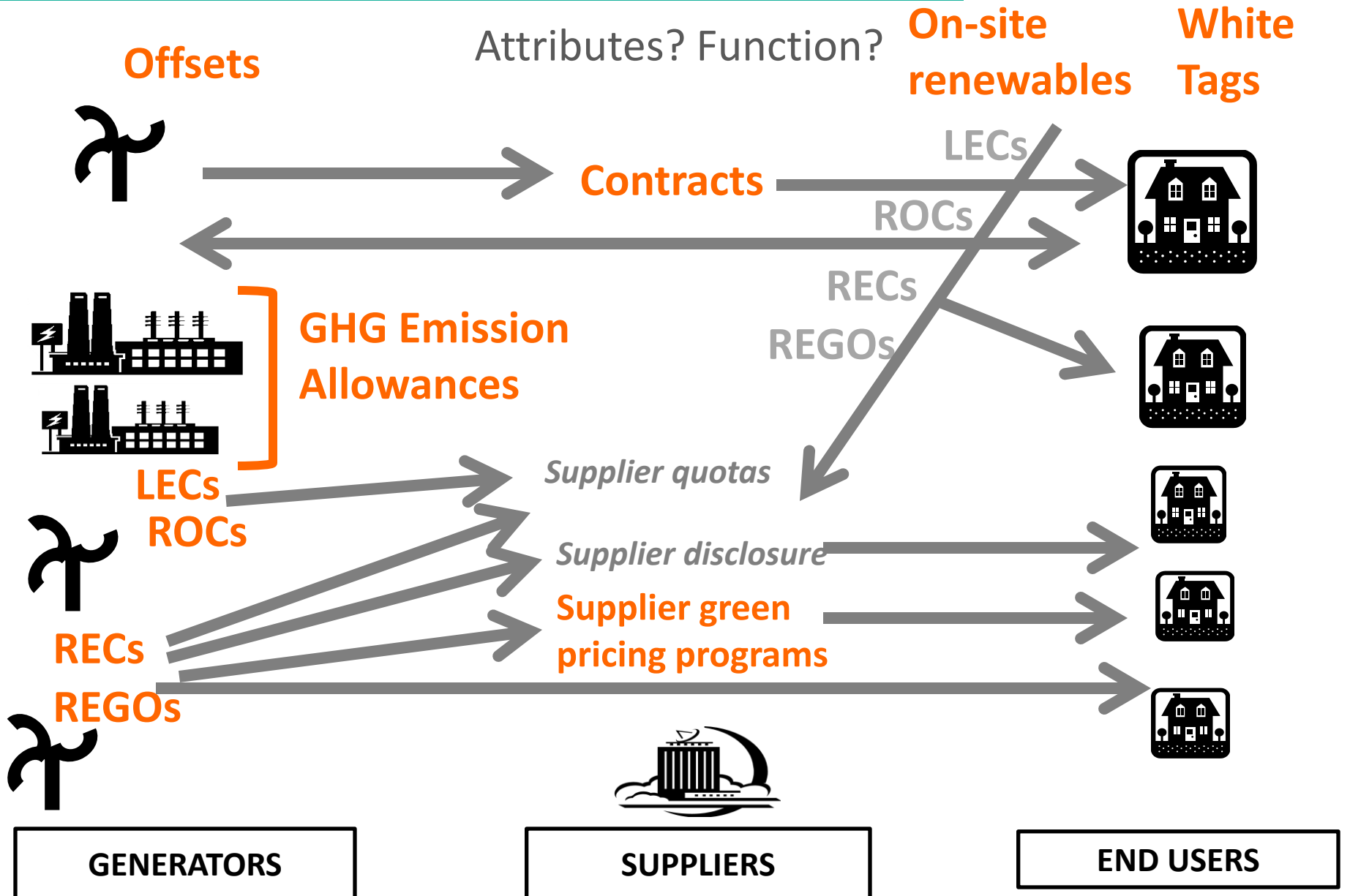


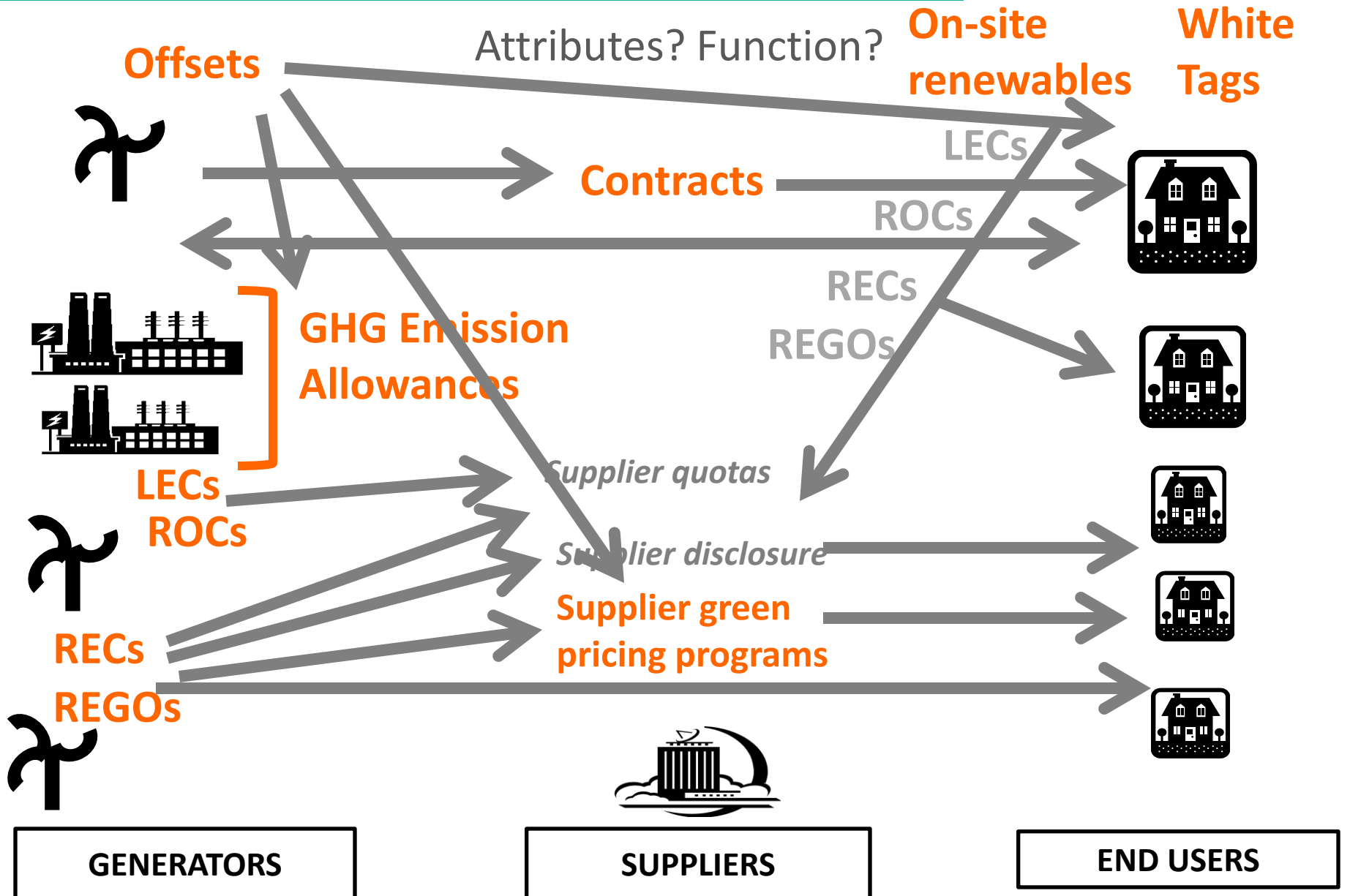


Attributes? Function? **On-site renewables** **White Tags**



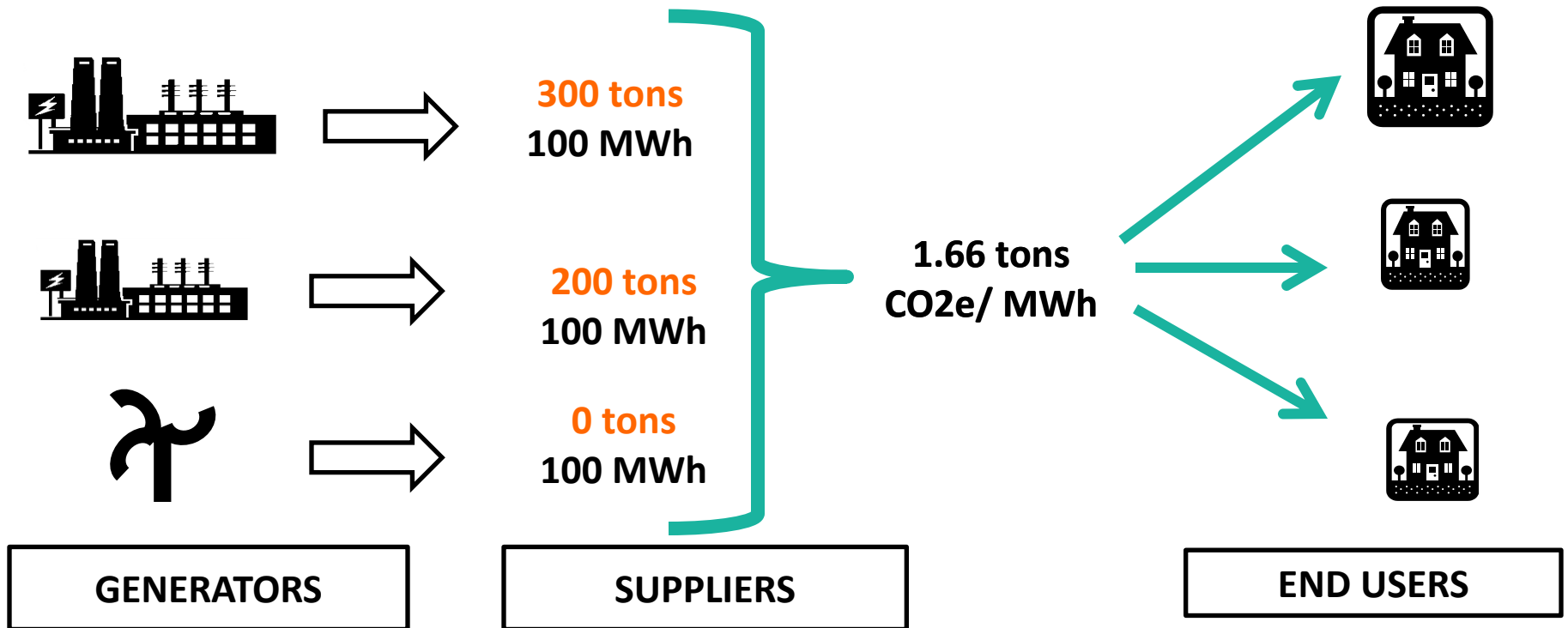




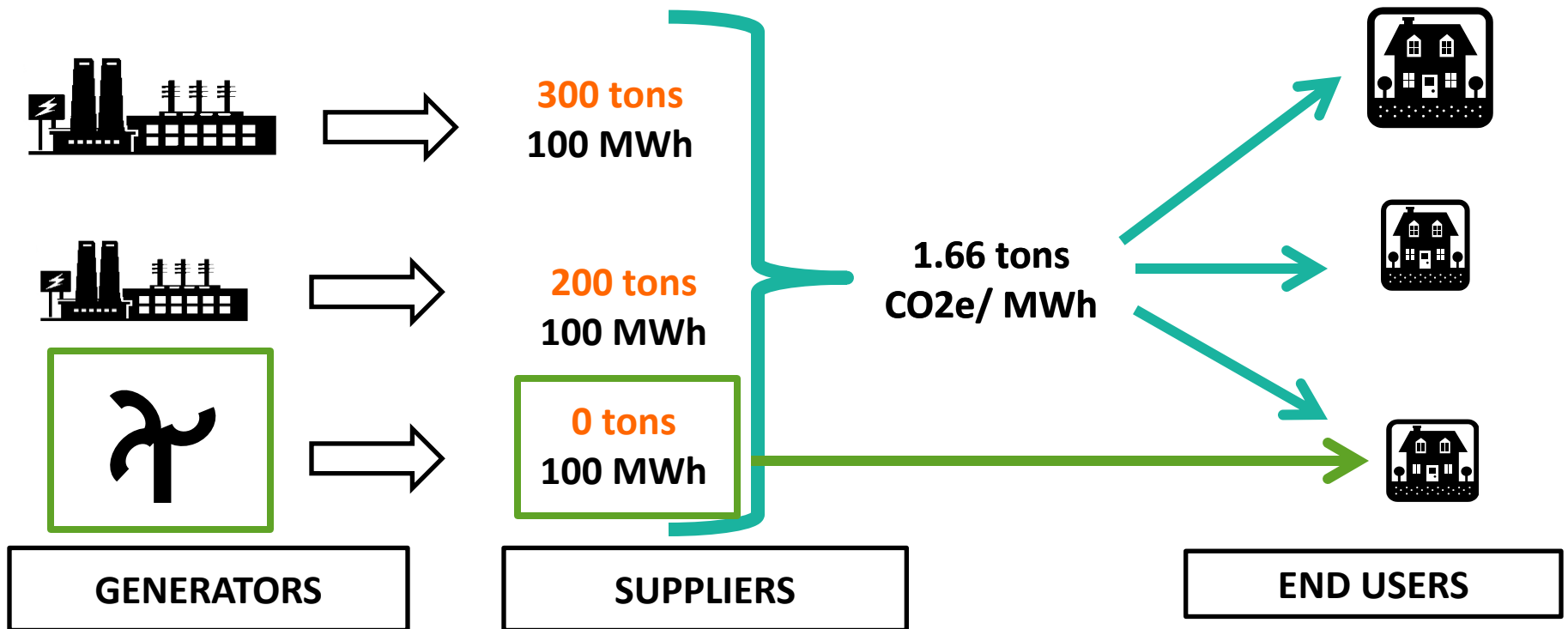


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# #1. Treat RE Purchase as Alternative or “Contractual” Emission Factor



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MWh consumed x Grid Average Emission Factor = Total Scope 2

100 MWh x 1.66 tons CO<sub>2</sub>e/MWh = 166 tons CO<sub>2</sub>e

100 MWh RECS x 0 tons CO<sub>2</sub>e/MWh = 0 tons CO<sub>2</sub>e

---

Adjusted/Contractual Scope 2  
= 0 tons CO<sub>2</sub>e



## #1. Treat RE Purchase as Alternative or “Contractual” Emission Factor

### Issues:

- ❑ **What attributes and instruments needed?**
  - How verify?
- ❑ **What ownership requirements to avoid double selling and counting?**
  - Tracking and verification systems
  - Supplier disclosure / EFs
  - Grid average EFs
- ❑ **What policy implications?**
  - Cap and trade –implicit vs. explicit attribution, allowance retirement
  - Offsets in emerging economies – many protocols prohibit, but not always clear in emerging economies

## #2. Treat RE Purchase as Avoided Emissions for Scope 2

MWh consumed x Grid Average Emission Factor = Total Scope 2

100 MWh x 1.66 tons CO<sub>2</sub>e/MWh = 166 tons CO<sub>2</sub>e

50 MWh RECS x 1.9 tons CO<sub>2</sub>e/MWh = 95 tons CO<sub>2</sub>e

166 - 95 = 71 tons CO<sub>2</sub>e

---

Adjusted/Contractual Scope 2  
= 71 tons CO<sub>2</sub>e

## #2. Treat RE Purchase as Avoided Emissions for Scope 2

### Issues:

- ❑ **What attributes and instruments needed?**
  - How verify?
- ❑ **What ownership requirements to avoid double selling and counting?**
  - Tracking and verification systems
  - More difficult to integrate into supplier disclosure
- ❑ **What policy implications?**
  - Cap and trade → not feasible claim without allowance retirement
  - Offsets in emerging economies → not feasible claim

## **#3. Record Separately with No Inventory Impact**

### **Instrument Quality**

- Not transparent on what information included, or how to substantiate
- No mechanisms for verification

### **Consistency of Tracking/Calculation Systems**

- Supplier disclosure / EFs
- Relative importance of Grid average EFs?

### **Unclear Role and Achievement of Additionality**

**Additionality:** incentivizing behavior beyond what would have occurred in the absence of the incentive's “intervention”

### *Rationale for inclusion*

- Consumers expect degrees of additionality with expectation of “making a difference,” “driving new projects,” and “going beyond regulation”
- GHG accounting is a valuable benefit of purchase, and should be ascribed to those projects which are brought about due to the incentive of the REC

### *Challenges*

- Concerns about motivation of project distinct from the objective attribute of its emissions: question is what kind of mechanisms make distinction of whether it's available for claiming
- Degree of “direct causal impact” inherently obscure
- Execution of tests can be intensive, subjective
- Every market different, responds to different incentives
- Market/regulatory conditions change over time and what's “additional” changes

## Broader concept of **eligibility**

*additionality is subset*

*“shrinking” the pool of existing projects, shaping the profile of new*

Regulatory Quota – sometimes ownership question

Financial Support – identify threshold of what level support is “enough” (Subsidies, tax credits, FiT?)

Vintage – drive new projects

Technology – specifying types to achieve enviro outcomes or spur innovation

Environmental Performance – Other impacts beyond GHG’s

Geographic Boundaries – Local economic/enviro benefits

Integration with other attributes – Maintenance of all attributes with purchased product

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*International, multi-stakeholder process on GHG accounting issues of RE purchases and related instruments that fits in GHG Protocol framework*

scoping workshops

*Washington DC, USA – December 2010  
London, UK – January 2011  
Mexico City, Mexico – May 2011*

Technical Working  
Group Drafts and  
Discussion

*Open process, technical depth – Summer/Fall 2011*

Public comment

*March 2012*

Publication

*Summer 2012*



*accuracy, transparency, consistency, completeness and relevance*

### **Minimum Criteria**

- Attributes: Substantiated? Defined by regulatory or voluntary body? Other related policies which have restricted claiming?
- Ownership: registry to track the transaction? Retired once claim is made? Other instruments associated with this underlying project? Do any other instruments convey those same attributes/rights directly? Indirectly?

### **Reporting Options and Clarifying Explanations**

- Gross/Net (still report electricity consumption)
- Optionally list other GHG impacts separately from the scopes
- *For on-site*: Quantity produced, consumed on-site, send/sold back to grid (and whether net metering applications), and have attributes been sold?
- What if instruments do not meet all criteria?
- More context on hosting a project
- Language recommendations: 'offset' and 'reductions'

*accuracy, transparency, consistency, completeness and relevance*

### **Best Practice Compendium**

#### *TRACKING SYSTEMS, EMISSION FACTORS and SUPPLIER PROGRAMS*

- Importance of tracking systems; what information recorded
- Calculating supplier fuel mix disclosure and related EFs
- Common formats for transparent disclosure and related claims

#### *POLICY CONSIDERATIONS FOR RE PURCHASING MECHANISMS*

- Survey criteria added to different electricity labels, programs and certified RE products in prominent markets, identifying rationale/intended objectives
- Environmental impacts beyond GHG's for energy purchasing
- Economic considerations

*Not normative, but hopefully resource for considering impacts and relationships between products and market outcomes*

*Materials to date and summaries of scoping workshops available on project website:*

<http://www.ghgprotocol.org/feature/ghg-protocol-power-accounting-guidelines>

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202-729 7627