

Meta-Model for Peer-to-Peer Energy Trading to Achieve Smart Energy Transitions

Formal Representation

Subject	Predicate	Object
Product	have	ID, Name
Product	GENERATES	EnergySource
Product	IS_CONNECTED	Prosumer, Consumer
Product	IS_SELLING	SellingOrder
Prosumer	have	ID, Name
Prosumer	GENERATES	EnergySource
Prosumer	IS_CONNECTED	Product, Consumer
Prosumer	IS_SELLING	SellingOrder
Consumer	have	ID, Name
Consumer	IS_CONNECTED	Prosumer, Consumer
EnergySource	of	Type
EnergySource	is	RenewableEnergy
EnergySource	have	ID, GenerationProportion
EnergySource	SUPPLIES	Product, Prosumer
SellingOrder	have	ID, Price
SellingOrder	of	InitialAmount, CurrentAmount
SellingOrder	at	Timestamp
SellingOrder	RECEIVED	BuyingOrder
BuyingOrder	have	ID
BuyingOrder	of	Amount
BuyingOrder	at	Timestamp
BuyingOrder	FROM	Prosumer, Consumer
IS_CONNECTED	have	Distance

Concretization Example

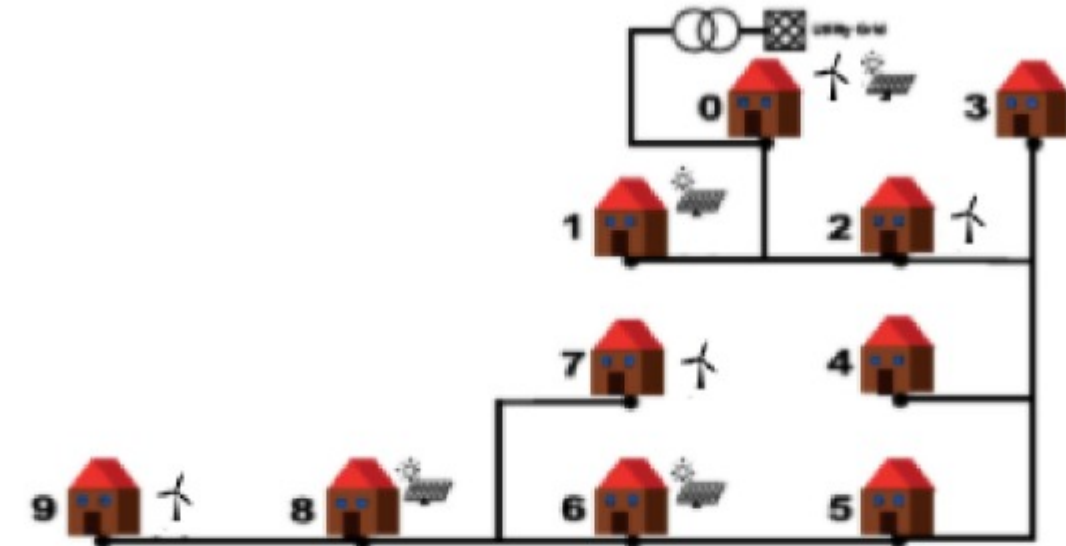


Figure 1-Topology and distribution of households

