

Market consultation - Product Design Group

Multiple Supply Contracts for Adjustable Appliances

24/11/2022



Virtual meeting rules

Please keep your camera on (to the extent possible)

Please turn off the microphone when you do not want to intervene



Questions:

1. Post your questions in the chat (with slide number if applicable)
2. Interactions are foreseen

Important note (réserve importante / belangrijk voorbehoud)

- DSOs would like to stress that co-creation process requires -by definition- open exchanges in which different stakeholders contribute
- The elements presented in the following slides correspond to the current state of reflection for the design of a structural solution allowing consumers to have multiple contracts on a same Access Point
- In any case the product developed by DSOs will be based on the corresponding regulations and regulatory guidelines

Agenda

1. Draft vision paper – introduction and discussion
2. Additional example with 2 submeters
3. Next steps

Draft vision paper



Draft vision paper - introduction

Key messages

- Extension of current market model
- Separate measurement with (semi-)regulated meter
- SMR3
- EoS: additional contracts merged with primary contract
- Gross volumes in allocation, potentially evolving to optimization
- Gridfee optimization and split (capacity tariff)
- Align volumes with energy sharing, largely decoupled for flexibility
- Data access controlled by main DGU

1	INTRODUCTION	1
2	DEFINITIONS	4
3	MANAGEMENT SUMMARY	5
4	TARGET USE CASE	7
5	CUSTOMER INSTALLATION	8
5.1	SERIAL VERSUS PARALLEL CONFIGURATION	8
5.2	SUBMETERING	10
5.3	ROLES AND RESPONSIBILITIES	11
6	SUPPLY MARKET MODEL	12
6.1	CONCEPTS	12
6.2	METERING	15
6.2.1	Calculated meters	15
6.2.2	Validation, estimation and rectification of submeter data	16
6.2.3	Non-communicating submeters	16
6.2.4	Market volumes	16
6.3	STRUCTURING	20
6.3.1	Start a new supply contract on an AMHP	20
6.3.2	Additional preswitching information	21
6.3.3	Changes in DGU and/or supplier	21
6.3.4	Changes in catalogue, master data and/or service	21
6.3.5	Stop an active supply contract on an AMHP	22
6.4	SETTLEMENT	23
6.4.1	Commodity optimization	23
6.4.2	Market communication	24
6.5	BILLING	25
6.5.1	Volume-based tariff components	26
6.5.2	Peak-based tariff components	26
6.5.3	Metering fee	27
6.6	ENERGY SHARING	28
7	OTHER MARKETS	30
7.1	FLEXIBILITY	30
7.2	DATA ACCESS	31
7.2.1	Access to meter data	31
7.2.2	Access to market data	31
8	OTHER IMPACT	32
8.1	LEGISLATION	32
8.2	CONTRACTS AND PROCEDURES	33
8.3	IT SYSTEMS	34
8.4	REPORTING	34
9	MARKET INTRODUCTION	36
10	FUTURE EXTENSIONS	37
11	REGIONAL TERMINOLOGY	38
12	EXAMPLES	39
12.1	ACCESS POINT CONFIGURATION	39
12.2	MARKET VOLUME CALCULATION	42

Draft vision paper – latest updates

- Examples calculated meters
- Examples access point configurations
- Examples market volumes calculation

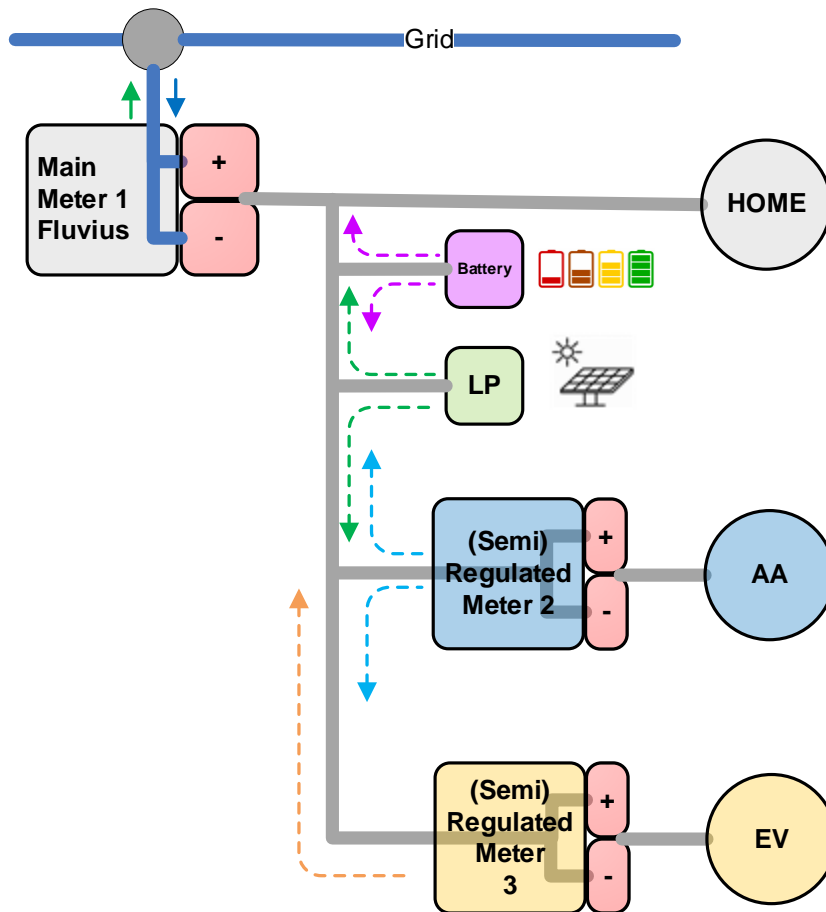
Draft vision paper – discussion

- Any remarks from participants?

Example 2 submeters



Physical configuration



AA = Adjustable Appliance

LP = Local Production

Autoconsumption (**AC**) = energy produced by LP that is not measured on main meter

Dependency between AA contracts due to EoS scenarios

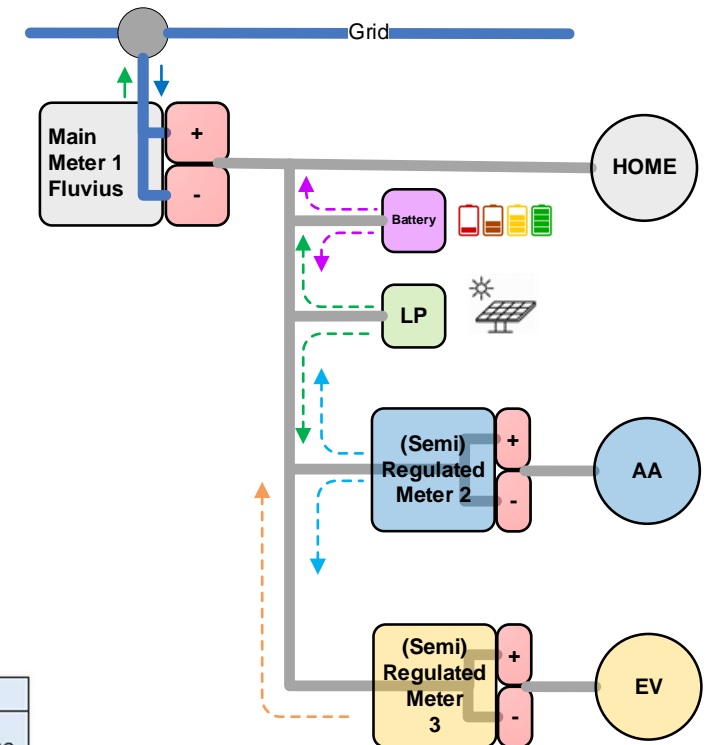
Optimization options

1. No optimization
2. Gridfee optimization
3. Gridfee and commodity optimization
4. Choice of optimization

Principles

- Calculated submeter for home makes **best case assumption on local energy flows**, without violating measured energy flows
- Assignment of local energy flows is **not a customer choice** but a fixed algorithm
 - Priority (AA before EV)
 - Proportional (AA and EV proportional to the measured volume)
- Both **Gross and Optimized volumes** may be needed depending on the optimization option

	No optimization	Grid fee optimization	Grid fee & commodity optimization		
			Full optimization	All optimized except EV	Optimization choice
Commercialized volumes	Gross	Gross	Optimized Gross	Gross and Optimized Gross	Gross and/or Optimized Gross



Example – 2 submeters

KEY: PROPORTIONA L		step 0 logical meter submeters	step 1 topology	step 2 logical meter rest	step 3 optimization self- consump.
MAIN1	A+	2	2-2-5=-5	0	0
	A-	5	5-2-3=0	5	5-1,43-3,57=0
SUB2	A+	2		2	2-1,43=0,57
	A-	3	(3-1)=2	3	2=2
SUB3	A+	6	(6-1)=5	6	5-3,57=1,43
	A-	3	3	3	3

gross optimized

Note: a fixed algorithm needs to be chosen to
 (1) Assign minimum local energy flows (step 0)
 (2) Assign self-consumption (step 3)

‘priority’ tends to be simpler than ‘proportional’ but both are possible

Instead of the logical submeter in step 0, the values of step 2 could be used for proportional allocation

Step 0 – determine minimal local energy flows

- Local energy flow is at least $3_{SUB2} + 3_{SUB3} - 5_{MAIN1} = 1$
- 1 is taken from first AMHP (priority)

Step 1 – compute calculated submeter for HOME

- Submeter HOME is calculated on logical submeters from step 0

Step 2 – compute Gross Commodity Volume

- Convert negative values to positive for opposite direction
- Negative values indicate self-consumption

Step 3 – compute Optimized Gross Commodity Volume

- Allocate self-consumption – i.c. **proportional** to logical submeter offtake
- SUB2: $2 / (2 + 5) * 5 = 1,43$
- SUB3: $5 / (2 + 5) * 5 = 3,57$

Example – 3 submeters

Step 0 – determine minimal local energy flows

Step 1 – compute calculated submeter for HOME

Step 2 – compute Gross Commodity Volume

Step 3 – compute Optimized Gross Commodity Volume

KEY: PROPORTIONA L		step 0 logical meter submeters	step 1 topology	step 2 logical meter rest	step 3 optimization self- consump.
MAIN1	A+ 2	-	$2 - 2 - 4 - 4 = -8$	0	0
	A- 5	-	$5 - 1 - 3 - 1 = 0$	8	$8 - 1,6 - 3,2 - 3,2 = 0$
SUB2	A+ 2	2		2	$2 - 1,6 = 0,4$
	A- 3	$(3-2)=1$		3	1 = 1
SUB3	A+ 6	$(6-2)=4$		6	$4 - 3,2 = 0,8$
	A- 3	3		3	3
SUB4	A+ 4	4		4	$4 - 3,2 = 0,8$
	A- 1	1		1	1

gross

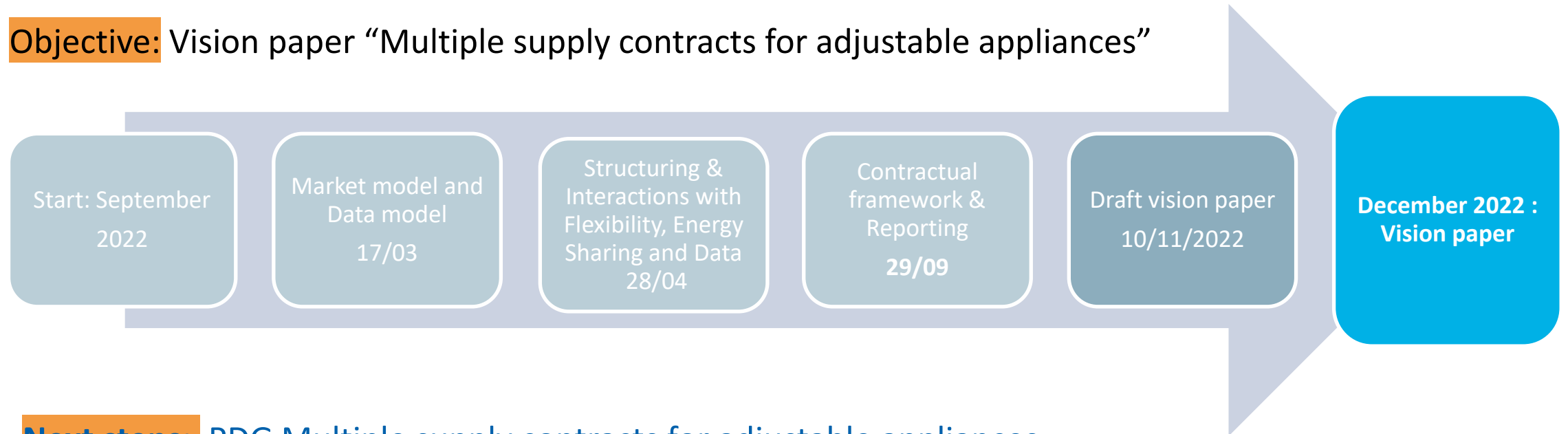
optimized

A photograph of two hands raised in a high-five gesture against a dark blue background. The hand on the left is hairy and belongs to a man, while the hand on the right is smooth and belongs to a woman. A semi-transparent teal rectangle is overlaid on the lower part of the image, containing the text 'Next steps' in white.

Next steps

Next steps

Objective: Vision paper “Multiple supply contracts for adjustable appliances”



Next steps: PDG Multiple supply contracts for adjustable appliances

• 23/12: Final vision paper



Feedback on Draft vision paper < 07/12/2022



+ Provide your Input, Ideas, Feedback on PDGs...

via marketconsultation@synergrid.be

Side Information:

- PDG « Energy sharing »: 2/12/2022
- PDG « Flexibility »: 26/01/2023