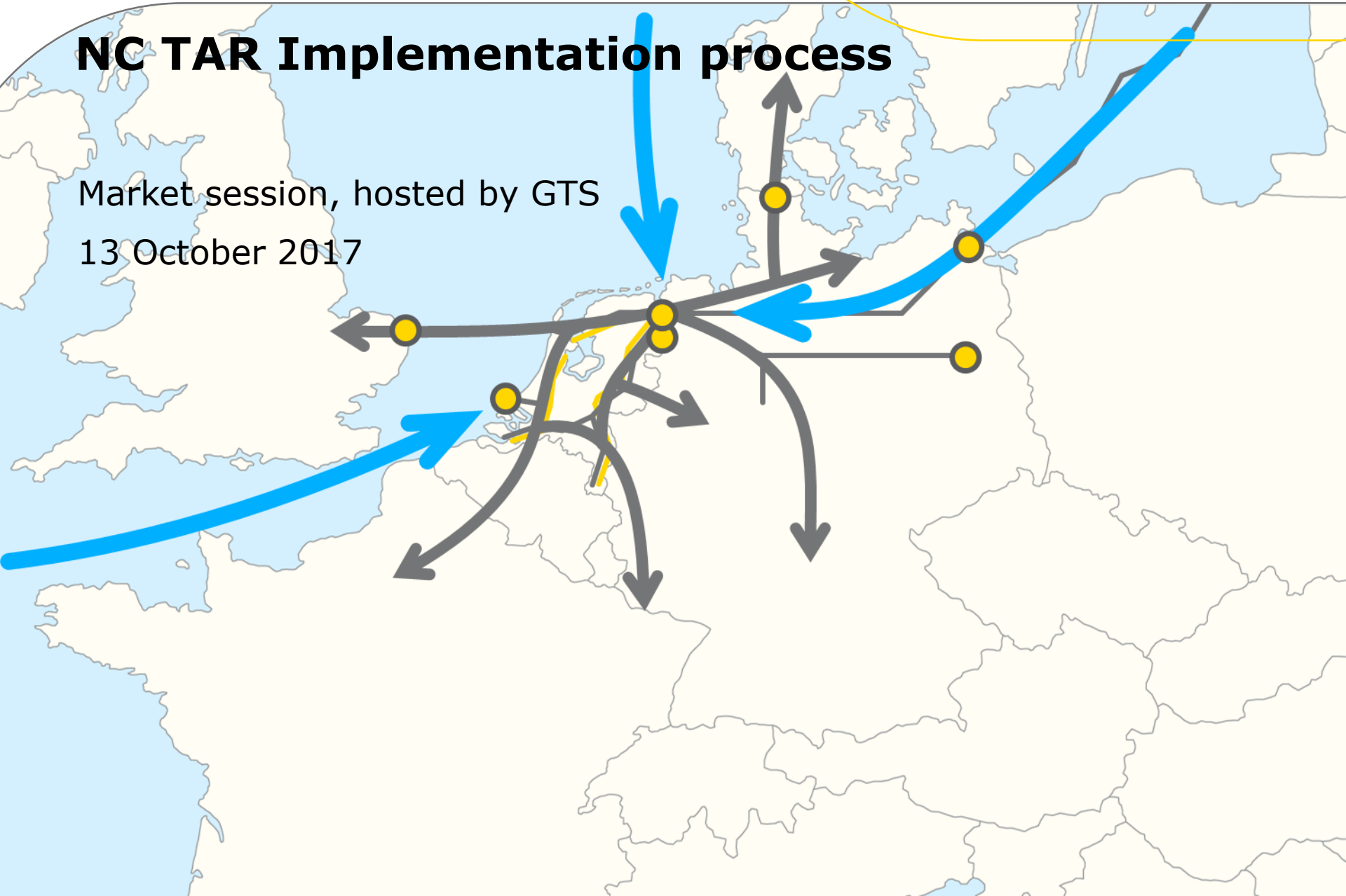


NC TAR Implementation process

Market session, hosted by GTS
13 October 2017



Agenda

- Introduction
- Stakeholder preference
- Draft GTS proposal
- Numerical results
- Next steps

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New tariff structure in relation to market development

- The gas market in the Netherlands has developed in several key elements and has become a well functioning liquid market over the past 15 Years
 - Physical assets (Dutch Gas Roundabout)
 - Access conditions (Europe driven)
 - Market place (TTF)
- Future developments:
 - Declining domestic production and Importer of gas
 - Quo Vadis (gas market future regulatory framework Europe - EC)
 - Tariff structure as of 2020
 - Further virtualization of gas transport
 - Virtual interconnection point
 - Further integrating markets
- Two compliant scenarios discussed
 - Scenarios contain key elements that impact tariff outcome
 - Web based basic tariff calculation tool is provided

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Initial & informal market response - process

- Response verbal (28/9) and written (6/10)
- Request was to share preferred solution of stakeholders
- Not all parties were able to provide a company or representative organisation view due to short reaction period

Initial & informal market response – general remarks

- Parties acknowledge market developments, appreciate proactive GTS approach and agree that the Dutch gas market currently is well functioning and that this should be retained. The four main desirable features are:
 - Effective competition
 - Liquid hub
 - Security of Supply
 - Transit flow
- Parties acknowledge that attracting gas is beneficial for the Dutch gas market
- NC TAR compliancy
- Transition period may be helpful to adapt to new tariff structure
- Incentives for efficient investment and operation and use of the system should be in place

Initial & informal market response - elements

- Assessment written statements reveals no full shared view on all elements. Analysis shows that the following implementation choice seems to be widely supported.
 - Stakeholders support next step in virtualisation of the gas market, which is characterised by adopting an all-in service and postage stamp tariff.
- Mixed view on entry/exit revenue split.
 - Several stakeholders do believe that 0%-100% split is beneficial for attracting gas and optimal TTF commodity price and are in favour of such a split.
 - Some parties address that the expected optimal TTF commodity price cannot be proven upfront in combination with facing higher transport cost at their exit.
 - Some parties are concerned that higher exit tariffs harm transit flows.
 - Some parties suggest to maintain the current split of 35%-65%, which may also serve as a starting point to a multi-step development to a 0%-100% split.
 - Some parties are in favour of a 50-50 split
 - In case of a 0%-100% split, several issues need to be solved: Contracting, nominating, preventing possible hoarding, investing.

Initial & informal market response - elements

- Support for lowest required storage discount (50%)
- Little support for LNG discount
- Multipliers (short term vs long term contracting): support for applying higher multipliers in relation to shorter term contracts.
- Seasonals (cold vs warm contracting period): mixed response, full range between no and maximum seasonality

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GTS goal

Our goal is to comply with the NC TAR, based on a constructive dialogue with and supported by the market, to develop a new tariff structure that is transparent and understandable for the market.

We aim to maintain or strengthen the competitive position of the Dutch gas network and the liquidity of the TTF in order to support the well functioning gas market and promote the functioning of the gas roundabout (Security of Supply & transit).

GTS NC TAR Draft Proposal: key elements

based on scenario 1

NC TAR element	Concept proposal
Services	All-in (TT, QC, BT, BAT, AT): Obligatory TS
Distance dependency in tariffs (RPM)	No (Postage stamp)
Entry/Exit revenue split	Stepped approach, bring timing in line with Method Decision (MD) cycle & market merger NCG/GASPOOL <ul style="list-style-type: none"> • 35%-65% (2020-2021) • 0%-100% (part of new MD discussion; 2022 onwards)
Storage discount	50%
LNG discount	0%
Multiplier/seasonal	One methodology for all points: NC TAR based <i>Multiplier</i> : Investigate if German algorithm is applicable for the Dutch situation <i>Seasonal</i> : Apply NC TAR seasonal algorithm, with parameter $\text{power} \geq 1$ for all segments

All-in service

- All-in = TT + QC + BT + BAT + AT
- Transmission grid is interconnected; Everyone is beneficiary with respect to transport and related services.
- Also in current situation these components are the primary services which will be contracted automatically when contracting capacity
- Each entry or exit is connected to the grid, therefore is it logical that each point contributes to connection costs.

Distance dependency

- Decoupled entry/exit system
 - No contractual paths
 - Single quality system
 - TTF hub trading
 - physical entry – virtual exit;
 - virtual entry – physical exit;
 - Introduction VIP's
 - Further integration of markets
- } Virtualization
- Physical optimizations by and between TSO's (swaps, OBA)
 - Distance dependency is not unambiguous
 - Causer of distance related costs can not be determined

Revenue split

- Imports will become the 'marginal', or price setting, source of gas for the Netherlands.
- This means that the cost of importing gas into the Netherlands will not only affect the cost of imported gas, but the cost of all the gas consumed.
- Hence, the 'new' Dutch gas price will be the 'old' TTF price plus the cost of cross-border gas transport
- In order to stay competitive and attract gas, import tariffs should decrease, not increase
- Ultimate split 0%-100%

Transition period

- Method change leads to shift of individual tariffs
- Revenue changes are limited on segment level (see next slides)
- Stepwise approach
- Start with 35%-65% revenue split (2020-2021)
- Bring timing in line with Method Decision (MD) cycle & market merger NCG/GASPOOL (2022)
- Introduce revenue split 0%-100% from 2022 onwards

Price adjustments

- **Storage discount**
 - Avoid double charging for transmission to and from storage facilities
 - We propose a discount of 50% at both entry and exit side.
 - A storage is also regular user of the system, therefore we do not see a rationale to apply a higher discount

- **LNG discount**
 - For the purpose of Security of Supply
 - No indication of discount is given in NC TAR
 - Somewhere in the 20's more need for LNG because Netherlands becomes net importer; the SoS argument may then be applicable
 - Yearly consultation by NRA: yearly adjustment possible
 - Currently no rationale to apply discount

Multipliers & Seasonals

- One methodology for all points
 - Choice driven by offering our shippers a transparent and predictable and herewith a simple system.
 - Two different methodologies would not serve that goal.
 - Apply NC TAR algorithms, Yearly consultation
- Multipliers:
 - Basic solution: increasing multipliers for shorter period bookings
 - ACM and GTS analyse whether German methodology is applicable for Dutch situation
- Seasonals:
 - Foster efficient system use by allowing higher reserve prices in Months with high utilization rates, and lower reserve prices in low-utilization Months (system load)
 - High utilization rate has led to current network dimension
 - High utilization rate leads to higher operational costs (compression)
 - One set of monthly seasonals for all points
 - Apply NC TAR seasonal algorithm based on flow, with parameter $\text{power} \geq 1$

GTS NC TAR Draft Proposal: key elements

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Storage discount	50%
LNG discount	0%
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Other services

- Not part of NC TAR Consultation, but in regular code/TSC process (if necessary)
- Proposal to remove administrative fees for TOC, TOU and Diversion

Other services	
Associated primary services	OBB, Auction premium, Capacity conversion, Surrender of capacity Balancing action, LFS
Secondary products (or related services)	Diversion, Capacity shift, Gas heating fee
Amendment products	ToC, ToU, Capacity reduction
Secondary conditions	Capacity exceeding's, Cancellation, Overshoot capacity, Reconciliation, Metering/allocation correction

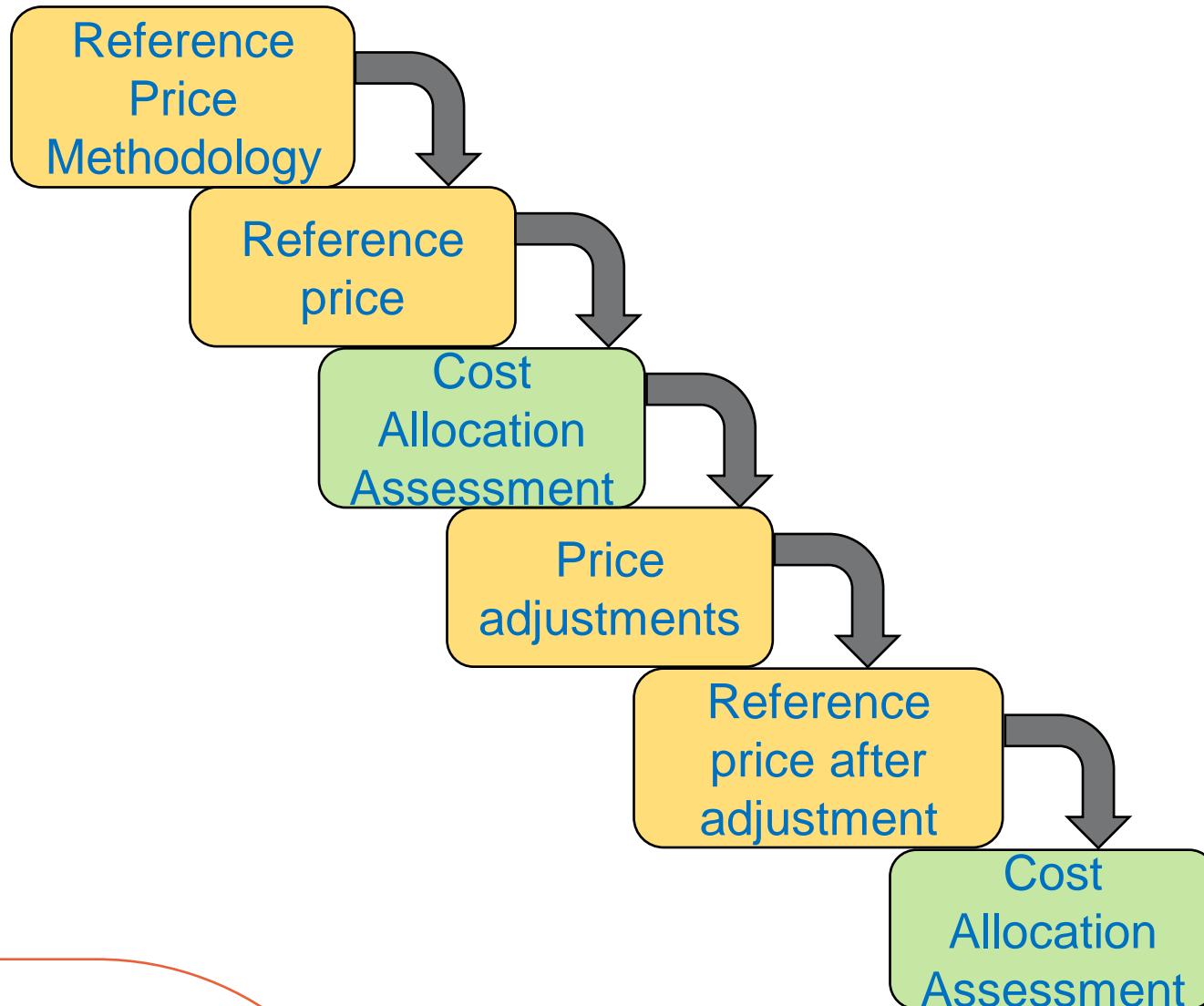
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Numerical results

- Indicative tariffs NC TAR draft proposal based on same input as Tariff proposal 2018
 - Draft proposal (based on scenario 1)
 - All-in service, Postage stamp
 - 35%-65% entry/exit revenue split
 - Storage discount (50%), rescale over all points
 - LNG no discount
- Indicative tariffs NC TAR "Counter factual" based on same input as Tariff proposal 2018
 - Counter factual (based on scenario 2):
 - CWD for TT
 - Postage stamp for QC, BT, BAT, AT
 - Entry/exit revenue split of 50%-50% only on TT part
 - Storage discount (50%) only on TT part, rescale over all points
 - LNG no discount
- Results derived from web based calculation tool
 - Updated version available
 - Leads to slightly different results for CWD (route 2), because of adding 4 points to be consistent with tariff proposal 2018 points
 - Cost Allocation Assessment results: before and after price adjustment, in order to determine effect of price adjustments on cross-subsidization

Cost Allocation Assessment



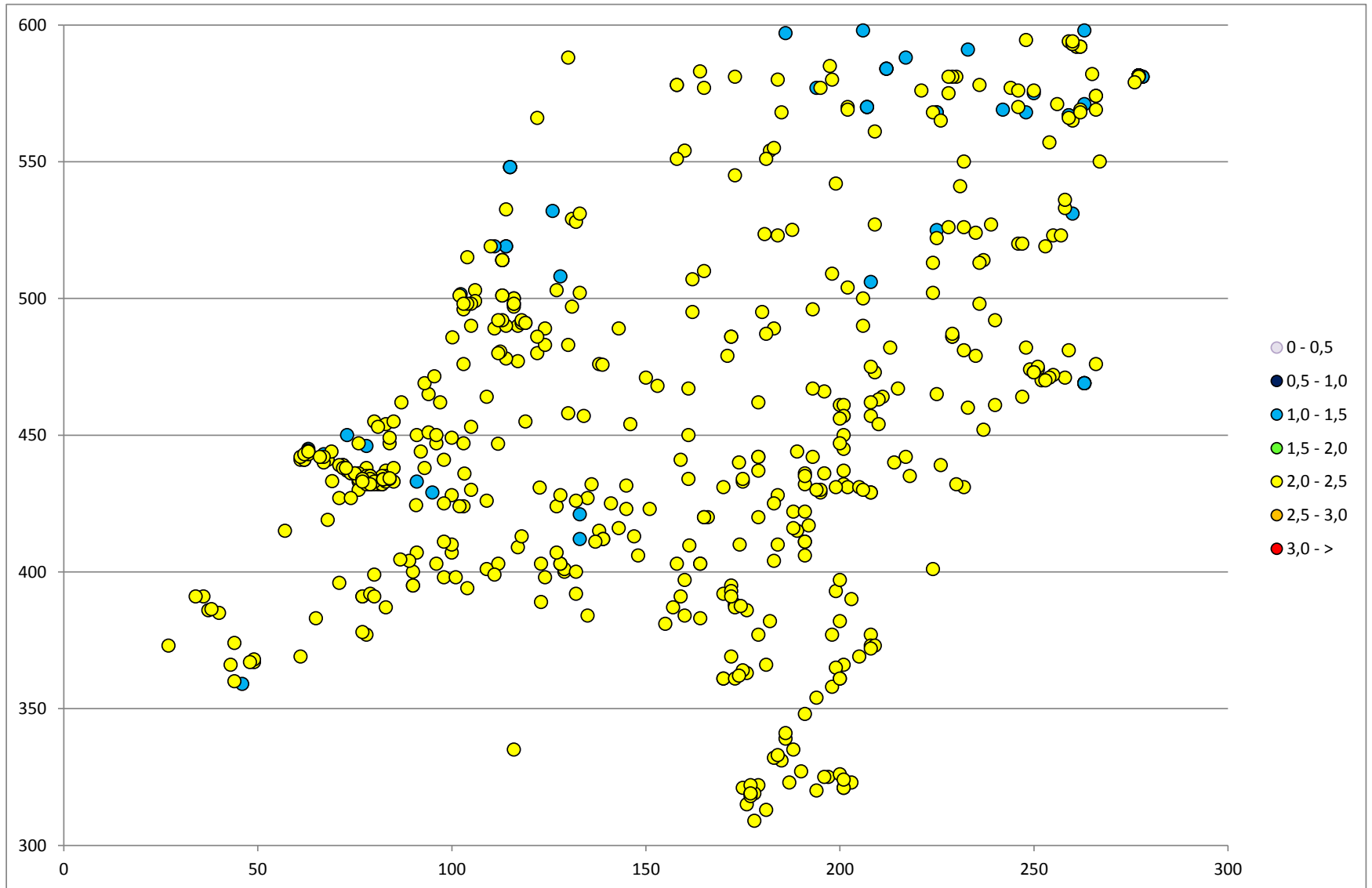
NC TAR draft proposal vs. Tariff proposal 2018

Segment	NC TAR draft proposal		Tariff proposal 2018			
	% revenue	Postage stamp (€/kWh/h/y)	% revenue	Minimum tariff (€/kWh/h/y)	Average tariff (€/kWh/h/y)	Maximum tariff (€/kWh/h/y)
Entry border point	8,5%	€ 1,241	7,3%	€ 0,976	€ 1,073	€ 1,880
Entry production point	12,5%	€ 1,241	14,2%	€ 1,336	€ 1,413	€ 2,068
Entry storage	9,6%	€ 0,620	18,0%	€ 0,998	€ 1,160	€ 1,307
Exit border point	30,3%	€ 2,066	25,5%	€ 0,566	€ 1,736	€ 2,387
Exit industrial point	9,1%	€ 2,066	7,8%	€ 0,525	€ 1,770	€ 3,295
Exit local distribution point	24,9%	€ 2,066	23,0%	€ 0,622	€ 1,899	€ 8,221
Exit storage	5,1%	€ 1,033	4,2%	€ 0,462	€ 0,841	€ 1,104
CAA before price adjustments		2%				
CAA after price adjustments		5%				

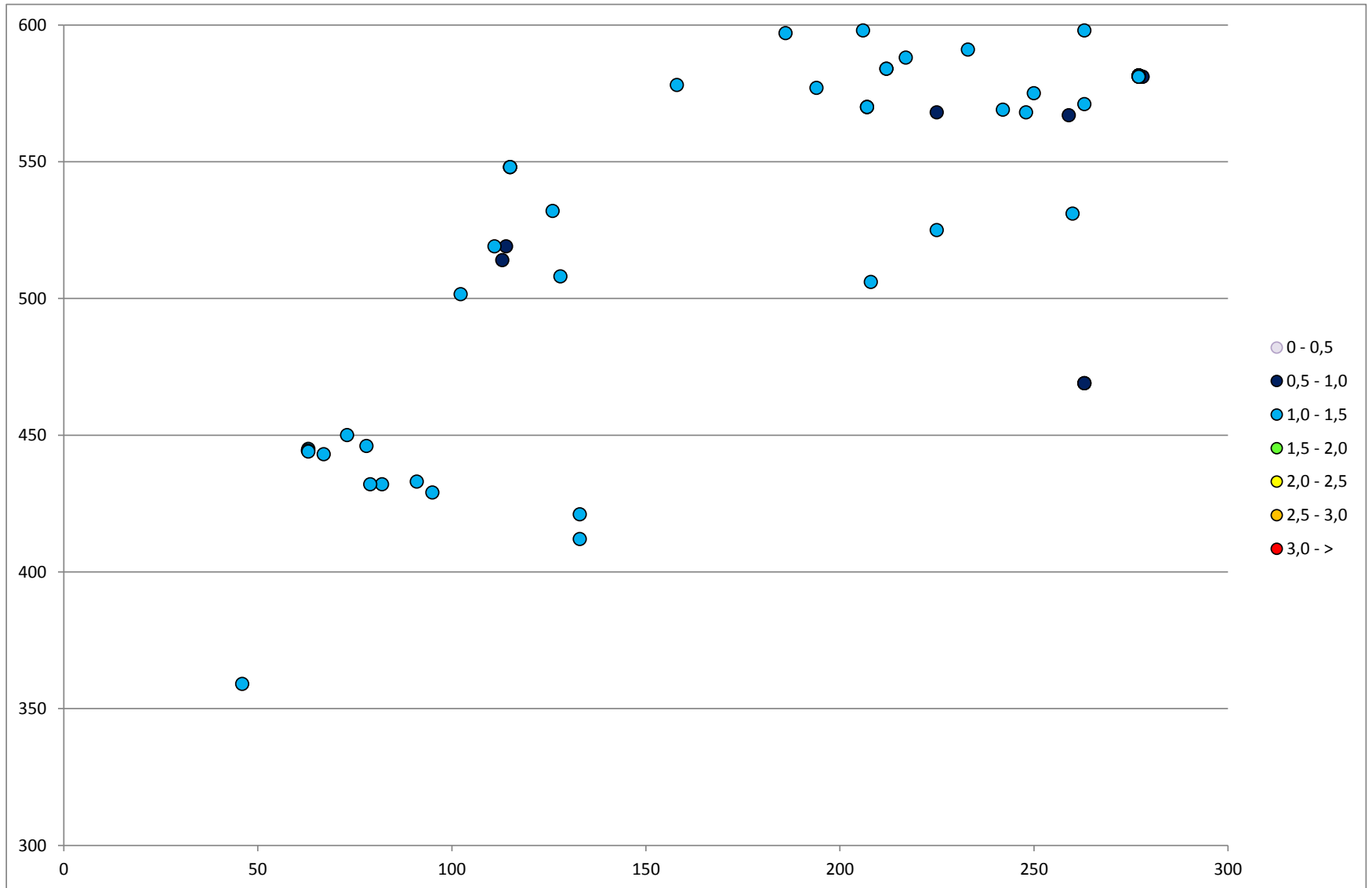
NC TAR draft proposal vs. "Counter Factual"

Segment	NC TAR draft proposal		NC TAR "Counter factual" (based on scenario 2)			
	% revenue	Postage stamp (€/kWh/h/y)	% revenue	Minimum tariff (€/kWh/h/y)	Average tariff (€/kWh/h/y)	Maximum tariff (€/kWh/h/y)
Entry border point	8,5%	€ 1,241	12,0%	€ 1,157	€ 1,762	€ 1,815
Entry production point	12,5%	€ 1,241	18,0%	€ 1,481	€ 1,796	€ 2,246
Entry storage	9,6%	€ 0,620	16,8%	€ 0,886	€ 1,080	€ 1,156
Exit border point	30,3%	€ 2,066	25,0%	€ 0,822	€ 1,706	€ 2,230
Exit industrial point	9,1%	€ 2,066	7,6%	€ 0,955	€ 1,715	€ 2,626
Exit local distribution point	24,9%	€ 2,066	17,6%	€ 0,821	€ 1,460	€ 2,417
Exit storage	5,1%	€ 1,033	3,0%	€ 0,504	€ 0,606	€ 0,793
CAA before price adjustments		2%				0%
CAA after price adjustments		5%				5%

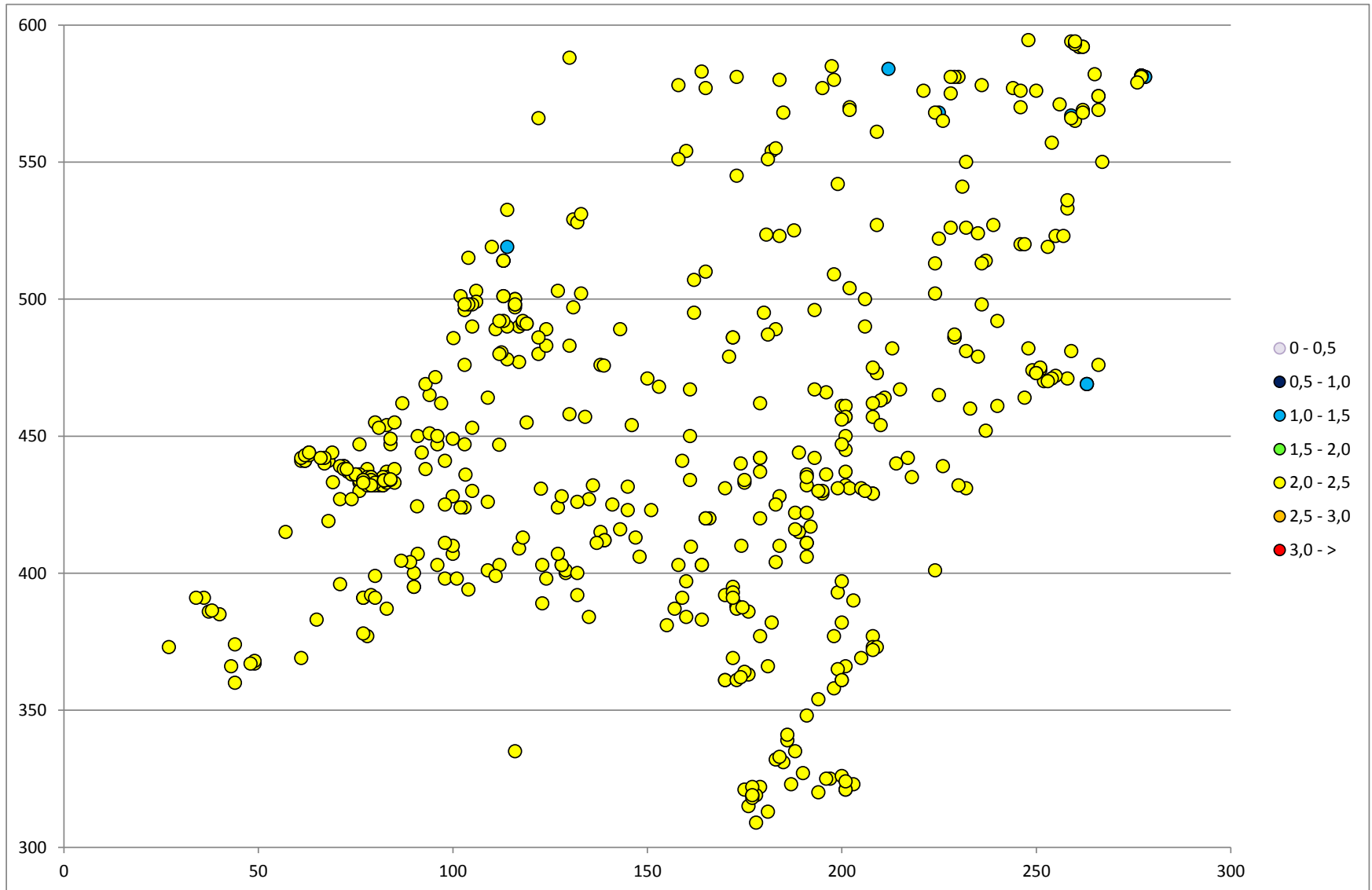
Indicative tariffs NC TAR draft proposal: All points



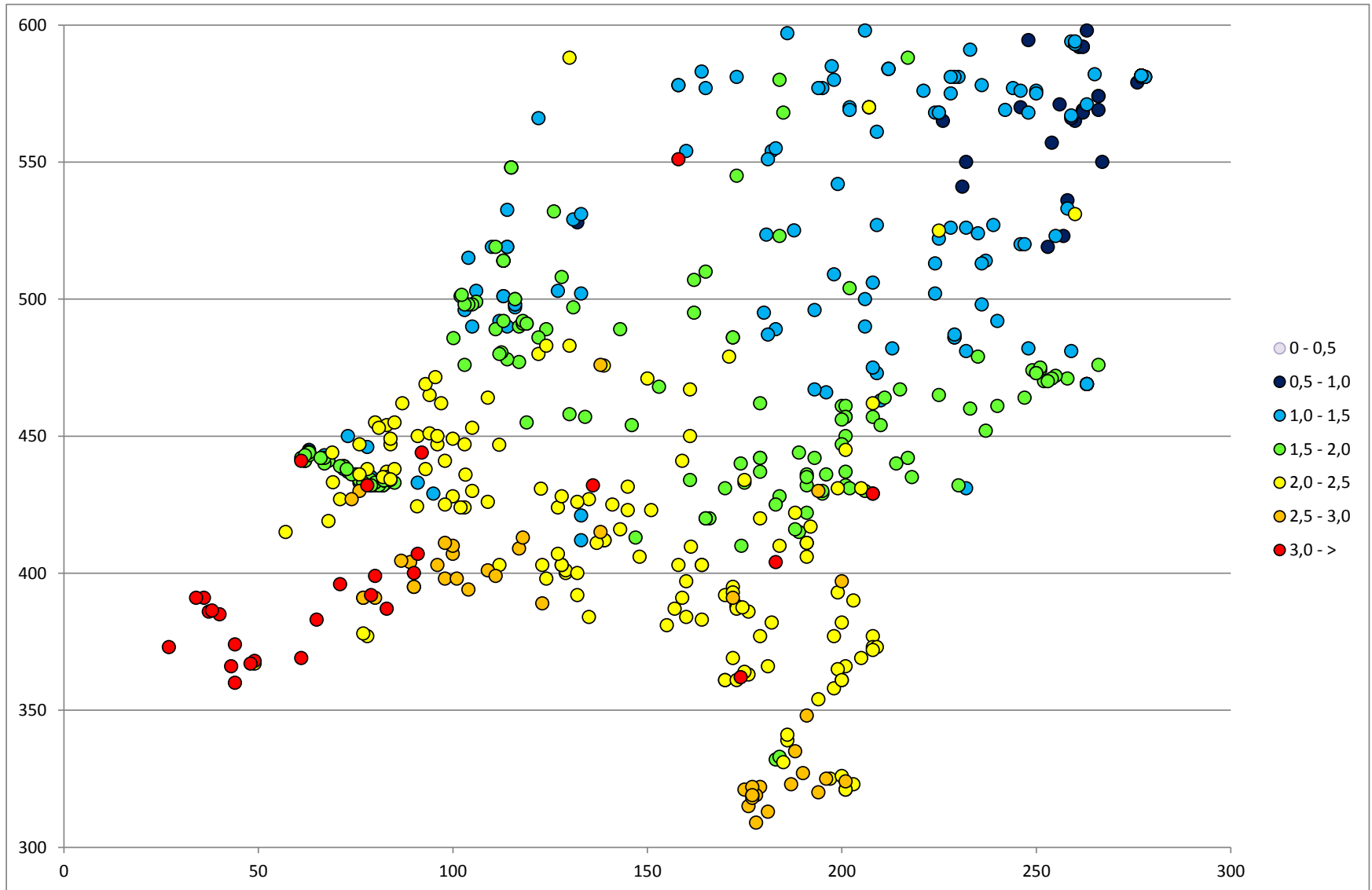
Indicative tariffs NC TAR draft proposal: entry points



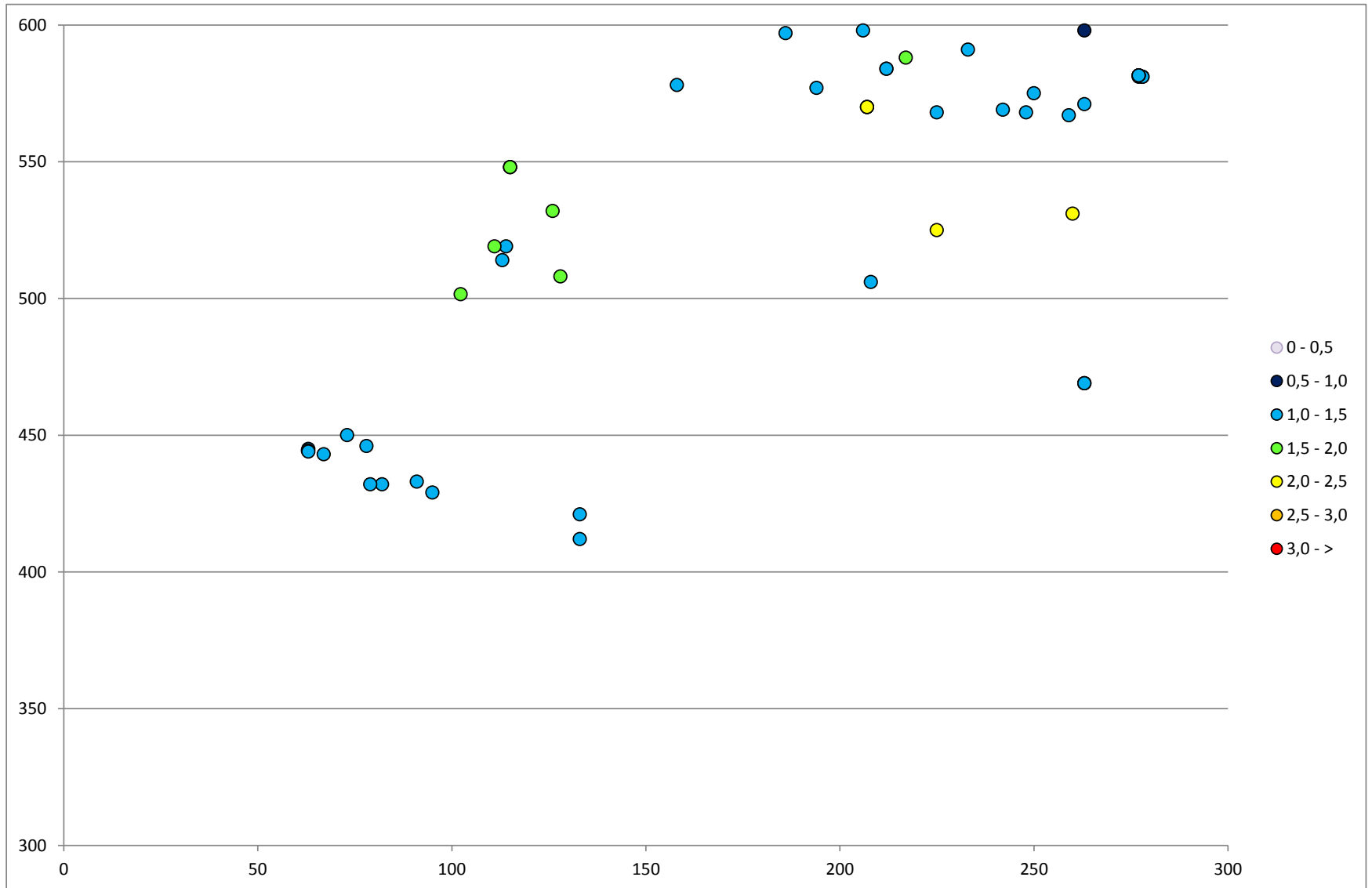
Indicative tariffs NC TAR draft proposal: exit points



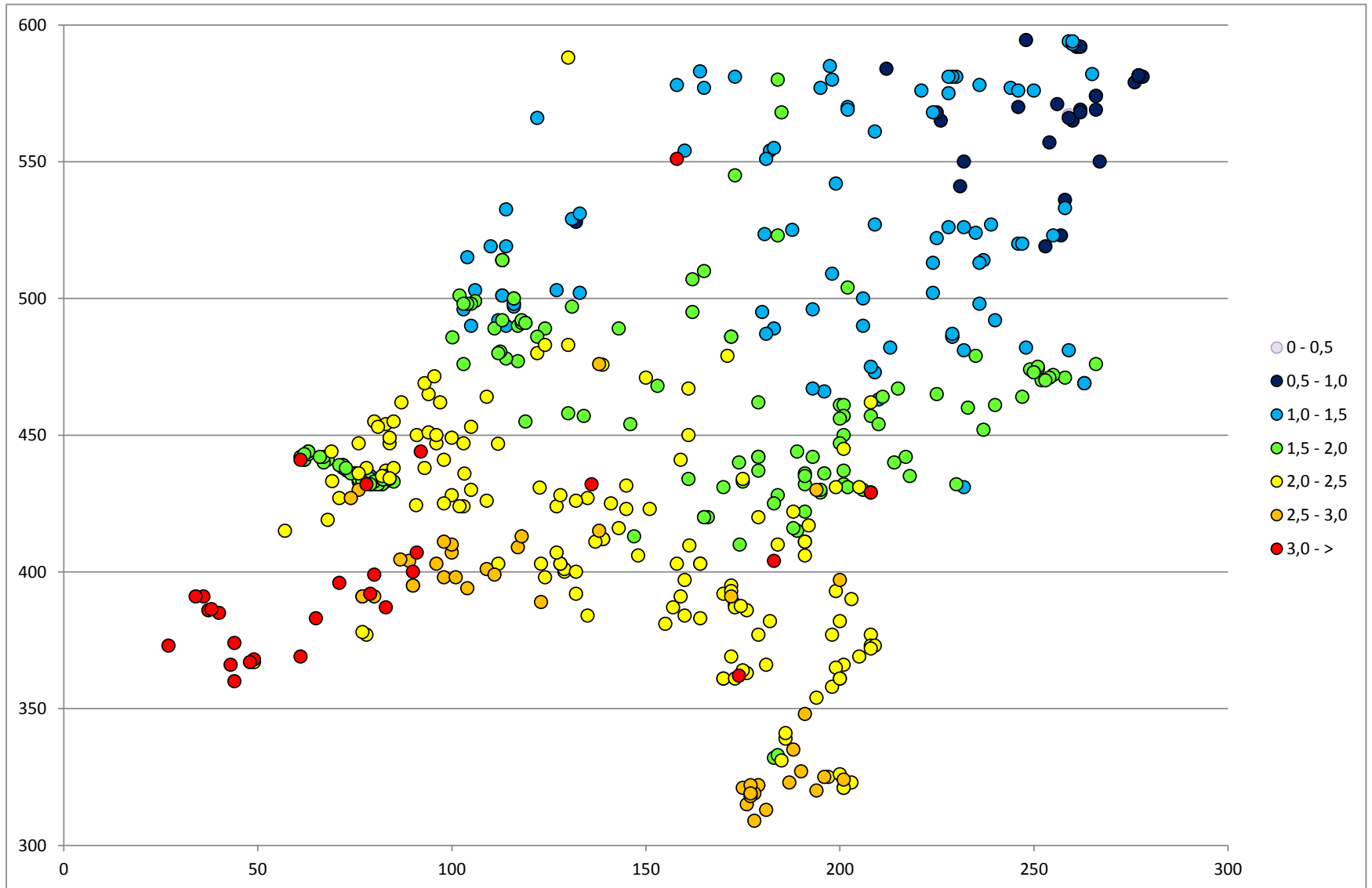
Tariff proposal TV-18: All points



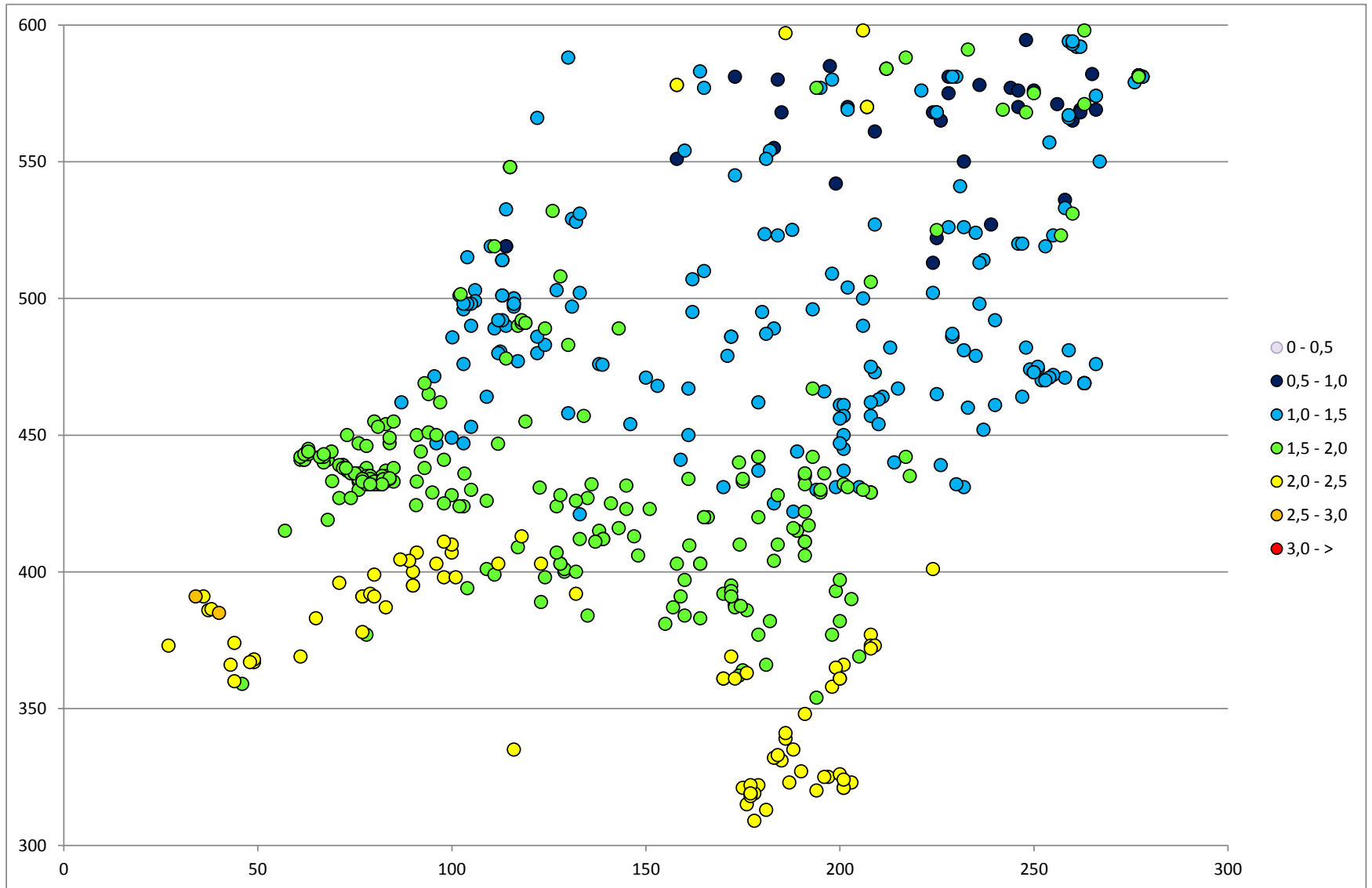
Tariff proposal TV-18: entry points



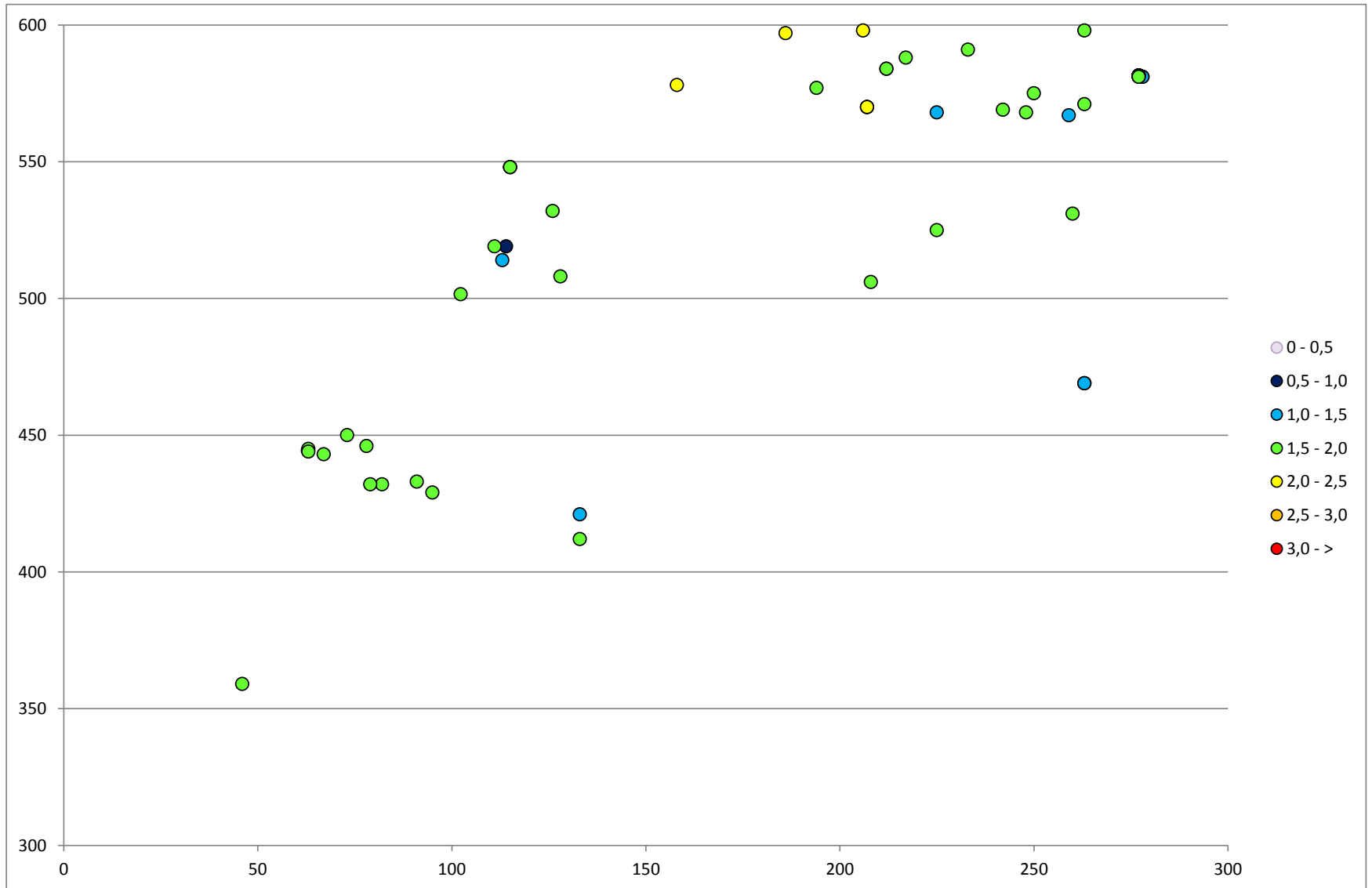
Tariff proposal TV-18: exit points



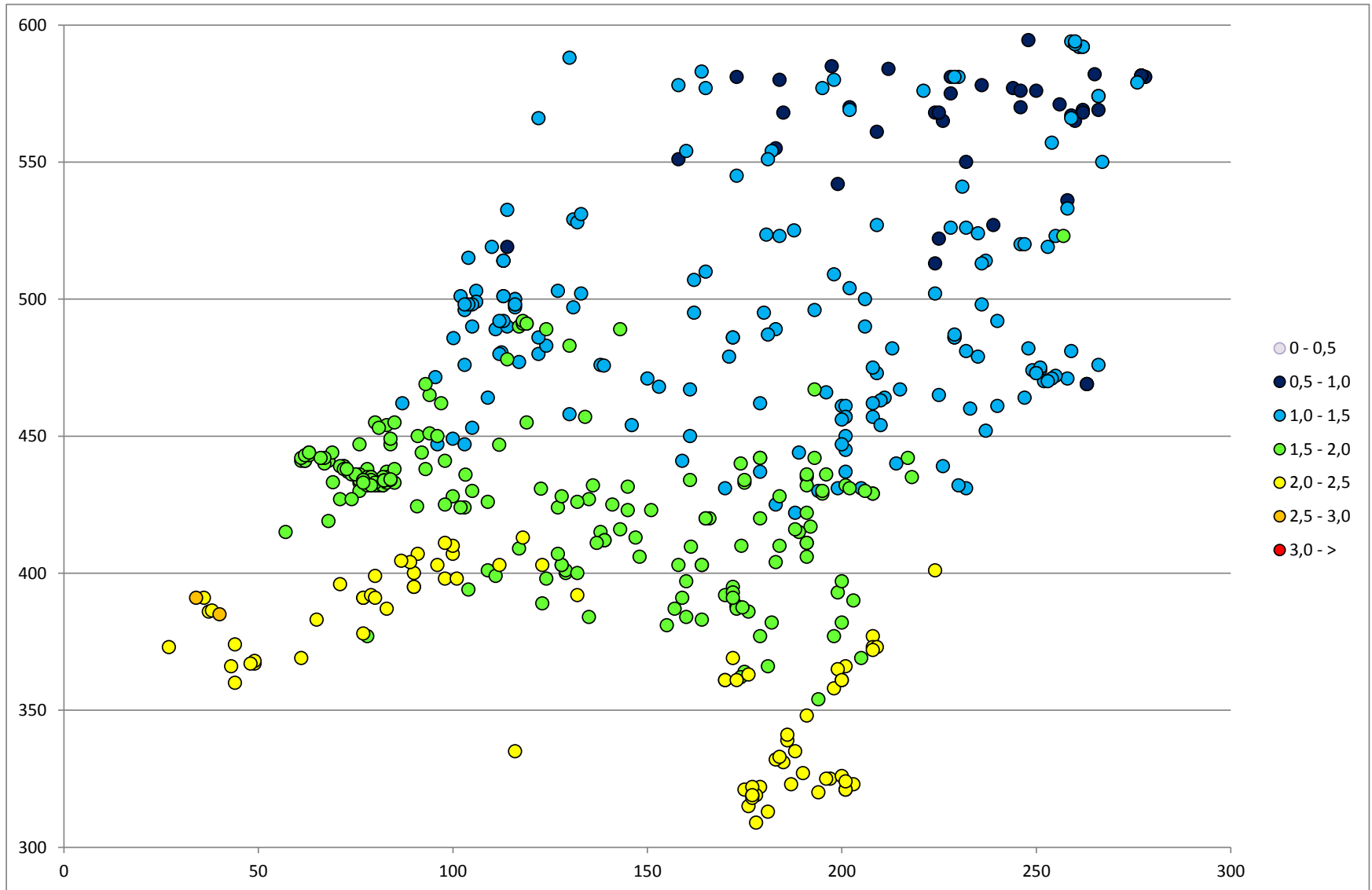
Indicative tariffs "Counter factual": All points



Indicative tariffs "Counter factual": entry points



Indicative tariffs "Counter factual": exit points



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Next steps

- 24 October: Final GTS proposal submitted to ACM
- 31 October: Present GTS proposal to the market whereas ACM will present the assessment framework
- 27 November: ACM organizes a market session in which they respond to the GTS proposal and may discuss alternatives
- 19 December: ACM presents one or two implementation options including numeric results
- 20 December – 28 February 2018: ACM writes draft decision
- 1 March 2018: Publication of draft decision by ACM
- 1 March 2018 - 1 May 2018: Formal consultation