APRIL 2026

Business case implications Capacity Steering Contract

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Grid congestion in the Netherlands has become a serious issue

In 2026, grid congestion has severe impacts to all stakeholders

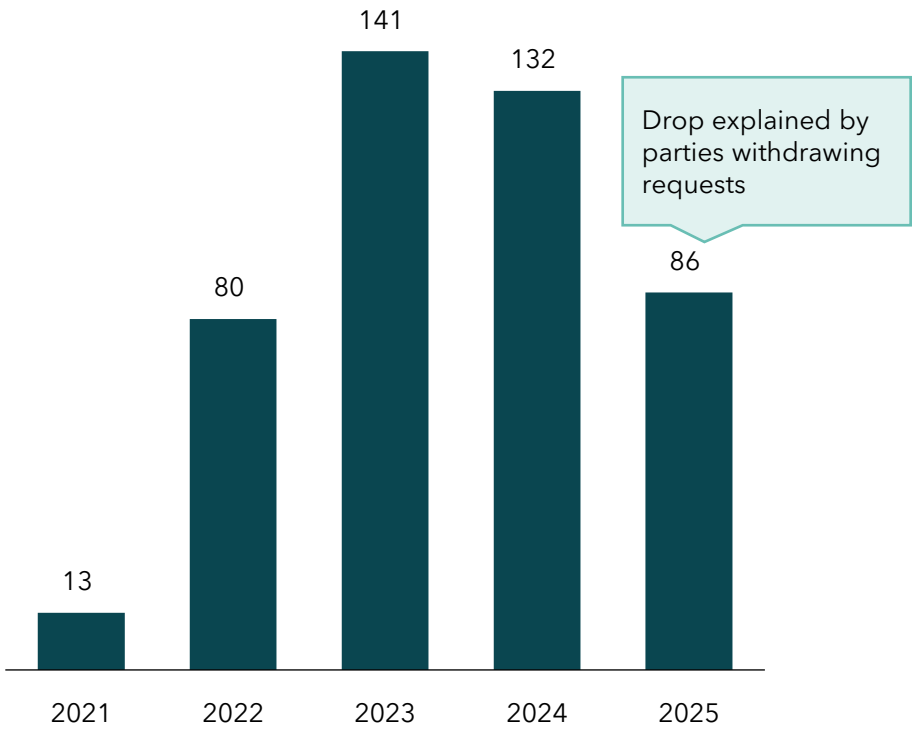
Producers

Consumers

No capacity
Limited capacity
Available capacity

And the connection queue remains long

Connection queue (GW)



Sources: Netbeheer Nederland, GGA internal knowledge

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The rules for congestion relief measures are increasingly clear, but are still evolving

Apr 2024

ACM introduces comprehensive congestion measures, including the legal basis for alternative transport rights, prioritisation frameworks, and "use-it-or-lose" grid connection rules

Aug 2024

ACM formally approves the TDTR and TBTR contracts as form of non-firm connection agreements / alternative transport rights (ATRs)

Dec 2024

The Dutch Senate passes the New Energy Law, enabling among other things Group Transport Agreements (GTO or *Groepstransportovereenkomst*)

Feb 2025

Obligation to participate in congestion management becomes mandatory for large producers and consumers in zones that are designated as highly congested

Apr 2025 | Nov 2025

TenneT announces that it can allocate 9 GW of capacity under TDTR. By November, all capacity had been allocated

Dec 2025

ACM publishes CSC rules, which contract form will be available as of 1 Januari 2026

Sources: ACM, TenneT, Energy Storage NL, ABN AMRO research, GGA internal knowledge

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Overview of measures to address grid congestion and utilise underused capacity (1/2)

	Contract	Grid level		Mechanism	Remuneration
		TSO	DSO		
Alternative Transport Rights	Time Duration-based Transport Rights (**TDTR**)	✓	✗	Access guaranteed 85% of the time	Discount on grid costs
	Full Variable Transport Rights (**VVTR**)	✓	✓	No guaranteed access, capacity allocated daily	Discount on grid costs
	Time Block-based Transport Rights (**TBTR**)	✗	○	Fixed daily time blocks for access	Discount on grid costs
Shared connection	Cable pooling	✓	✓	Shared connection among multiple assets	Discount on grid costs
	Group Transport Agreement (energy hubs)	✗	✓	Collective capacity management among users	Discount on grid costs

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Overview of measures to address grid congestion and utilise underused capacity (2/2)

	Contract	Grid level		Mechanism	Remuneration
		TSO	DSO		
Tariffs	Time-of-use tariffs	✓	✓	High tariffs during peak hours	Discount on grid costs
	Feed-in tariffs	✓	✓	Make generators contribute to network costs	N/A
Congestion management	**Redispatch**	✓	✓	Adjusted generation or consumption to prevent grid overload through the GOPACS platform	Payment based on redispatch volume
	Capacity Limiting Contract (**CBC**)	✓	✓	Contracted curtailment product	Compensation of curtailment (lost MWhs)
	Capacity Steering Contract (**CSC**)	○	○	Contracted flexibility product	Menu of options available depending on the use case

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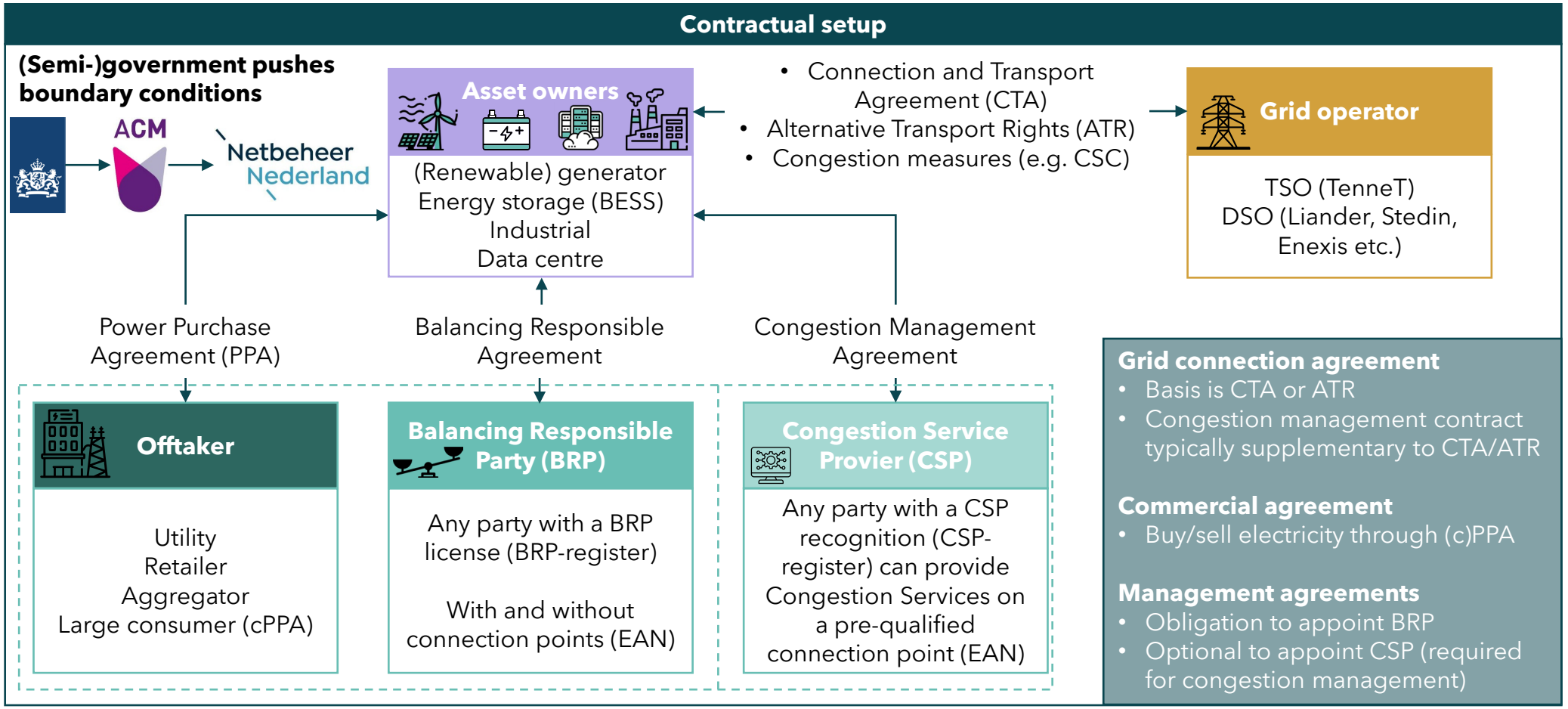
Contractual set-up – who is involved?



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Two scenarios from which a use-case for a CSC contract can emerge

Existing grid connection with flexibility

An already operational grid connection, for which the user doesn't need the full capacity all of the time

- Easiest to implement, as it only reduces grid congestion and grid operator gets flexible capacity in return
- High value to grid operators, may free up grid capacity for other new connections (probably also only under CSC?)
- Part of existing connection capacity submitted under CSC to create an additional revenue stream

New grid connection capacity required

Two situations can apply here where asset owners can skip the connection queue to come online sooner

- Owner of an existing grid connection is looking to increase connection capacity
- New development is waiting for a grid connection (with sufficient capacity to reach economies of scale)
- Both cases cannot get a firm Connection and Transport Agreement (CTA) due to congestion issues

A CSC is a binary enabler – in most situations no new capacity available unless under capacity limiting contracts

Parties can decide to hand in connection capacity to reduce costs (…)

The market is already using available instruments to make use of this situation on a commercial basis (e.g. Cable Pooling, Group CTA)

Projects get cancelled due to long queue and uncertainty on business case upon connection

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From a mechanical and commercial perspective, the CSC reads a bit like a menu: tailor it to your liking!

<table>
<tr><th>Steering mechanism</th><th>Timing</th><th>Direction</th><th>Remuneration</th><th>Operational parameters</th></tr>
<tr><td rowspan="2">Fixed – Offered capacity steering is available during pre-agreed time blocks</td><td rowspan="2">Always available – Offered capacity for agreed steering mechanism is available during full CSC tenor</td><td rowspan="2">Capacity limiting – grid operator can request to limit use of connection capacity</td><td>Fixed payment per month</td><td>Min/Max capacity</td></tr>
<tr><td>Payment per day upon call</td><td>Min/Max step size</td></tr>
<tr><td rowspan="3">Variable – Grid operator will request capacity steering on call (op afroep), one day ahead, latest at 07:00h</td><td rowspan="2">Period-dependent – Within CSC tenor certain periods can be agreed during which offered capacity for the agreed steering mechanism is available</td><td></td><td>Payment per request upon call</td><td>Max volume</td></tr>
<tr><td rowspan="3">Capacity deployment – grid operator can request to increase use of connection capacity</td><td>Payment per MW upon call</td><td>Max requests</td></tr>
<tr><td>Daily/hourly/quarterly pattern – Offered capacity is available for certain fixed days of the week, or hours/quarters of (week)day</td><td>Payment per missed MWh upon call</td><td>Min/Max duration</td></tr>
<tr><td></td><td>Variable payment linked to market prices / indices</td><td>Min interval</td></tr>
</table>

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Example contract parameters – Fixed blocks basis

Steering mechanism	Timing	Direction	Remuneration	Operational parameters
Fixed – Offered capacity steering is available during pre-agreed time blocks	**Always available** – Offered capacity for agreed steering mechanism is available during full CSC tenor	**Capacity limiting** – grid operator can request to limit use of connection capacity	Fixed payment **per month**	**Min/Max capacity**
			Payment **per day** upon call	**Min/Max step size**
	Period-dependent – Within CSC tenor certain periods can be agreed during which offered capacity for the agreed steering mechanism is available		Payment **per request** upon call	**Max volume**
Variable – Grid operator will request capacity steering on call (*op afroep*), one day ahead, latest at 07:00h		**Capacity deployment** – grid operator can request to increase use of connection capacity	Payment **per MW** upon call	**Max requests**
	Daily/hourly/quarterly pattern – Offered capacity is available for certain fixed days of the week, or hours/quarters of (week)day		Payment **per missed MWh** upon call	**Min/Max duration**
			Variable payment **linked to market prices / indices**	**Min interval**

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Example contract parameters – Variable requests

Steering mechanism	Timing	Direction	Remuneration	Operational parameters
Fixed – Offered capacity steering is available during pre-agreed time blocks	**Always available** – Offered capacity for agreed steering mechanism is available during full CSC tenor	**Capacity limiting** – grid operator can request to limit use of connection capacity	Fixed payment **per month**	**Min/Max capacity**
			Payment **per day** upon call	**Min/Max step size**
	Period-dependent – Within CSC tenor certain periods can be agreed during which offered capacity for the agreed steering mechanism is available		Payment **per request** upon call	**Max volume**
Variable – Grid operator will request capacity steering on call (*op afroep*), one day ahead, latest at 07:00h		**Capacity deployment** – grid operator can request to increase use of connection capacity	Payment **per MW** upon call	**Max requests**
	Daily/hourly/quarterly pattern – Offered capacity is available for certain fixed days of the week, or hours/quarters of (week)day		Payment **per missed MWh** upon call	**Min/Max duration**
			Variable payment **linked to market prices / indices**	**Min interval**

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Incentives for the CSC vary by asset type; as do the impacts of these contracts

	Generation	Hybrid	Consumption
	Solar PV/onshore wind	BESS	Industrial /data centres
Incentive	• Building new asset or expanding existing asset	• Skipping queue grid connection	• Securing required capacity on flexible basis
Mechanics	• Only able to reduce generation • Compensation based on missed revenue volumes	• Limited volume to inject • Compensation based on lost charging volumes / missed opp.	• Mostly able to reduce consumption / offtake • Operational limitations
Impact	• Ability to add capacity, thereby increasing electricity production and revenue • Compensation for limiting generation at peak generation moments creates additional revenue stream for the asset • Taking capacity away from peak generation creates space on grid	• Bypassing the connection queue means asset is built faster and benefit from favourable market • Compensation from grid operators for grid services adds a revenue stream • Flexible injection/consumption provides options to grid operator and and makes grid more robust	• Secures the capacity it needs from the grid sooner • Discounted grid costs and compensation from grid operators for production interruption or costs associated with on-site generation • Taking capacity away from peak demand creates space on grid

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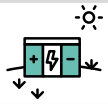
Business case impacts – Example for generators with existing grid capacity

	Generation	Hybrid	Consumption
			
	Solar PV/onshore wind		
Context	A solar PV project has a peak capacity of 10 MW, but capacity factor of ca. 20%, where production during peak hours is curtailed for negative prices		
Without CSC	**Assumptions**: 10 MW firm connection, 1,000 full load hours, and that the captured market price is 40 EUR/MWh **Business case:** 400 kEUR/year in revenue *(10 MW x 1,000 FLH x 40 EUR/MW)*		
With CSC	**CSC:** Non-firm agreement for 10 MW given that it will curtail output when needed. The grid operator compensates the solar farm at the market rate plus a premium of 10 EUR/MWh for energy not delivered (i.e. 50 EUR/MWh) **Assumptions**: curtailment of 100 hours per year mostly during negative price hours (1,000 MWh/year lost), 9,000 MWh/year sold at higher capture rate of 45 EUR/MWh		
Business case impact	**Market revenue:** 405 kEUR/year (9,000 MWh x 45 EUR/MWh) **CSC-related compensation:** 60 kEUR (1,000 MWh x 60 EUR/MWh) **Business case with CSC generate 465 kEUR/year vs. 400 kEUR/year and improves upon more curtailment**		

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Business case impacts – Example for a BESS (hybrid) which faces delayed connection

	Generation	Hybrid	Consumption
		BESS	
Context	A developer has a 10 MW/40 MWh BESS project that it wants to connect to the grid in a region with significant congestion issues. The connection queue is at least 2 years		
Without CSC	**Assumptions:** the project cannot operate, because it cannot connect to the grid **Business case:** no revenues, or only in 2 years with less certain BESS revenues		
With CSC	**CSC:** the grid operator can ask the BESS to charge or discharge to alleviate grid congestion – it is compensated with a fixed standby payment. Beyond these constraints, it can freely operate on the market **Assumptions:** fixed standby payment of 5 kEUR/MW/year (50 kEUR/year), 150 kEUR/year in energy market trading		
Business case impact	**Market revenue:** 150 kEUR/year **CSC-related compensation:** 50 kEUR/year **Business case with CSC would generate 200 kEUR/year vs uncertain revenue later**		

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Business case impacts – Example for consumers that need economies of scale

	Generation	Hybrid	Consumption
			Industrial /data centres
Context	An industrial facility or a data center requires a 10 MW electricity supply, but the grid cannot provide 10 MW in firm capacity. This offtaker could secure 10 MW in non-firm capacity and supplement this with on-site generation		
Without CSC	**Assumptions**: the facility only secures 5 MW firm capacity **Business case:** economies of scale are lost or full production is delayed		
With CSC	**CSC:** the offtaker agrees to reduce its consumption during high consumption periods. Any costs to cover fuel usage (e.g. for a generator) would be covered and compensated. Operational limits agreed to ensure on-site energy solutions can always cover grid curtailment **Assumptions**: 50 EUR/ISP/MW; weighted 1,000 curtailments (250h) for full capacity = 50 kEUR/year		
Business case impact	**CSC-related compensation:** 50 kEUR/year revenues and compensation of fuel costs **The industrial facility can operate at full capacity ca. 97% of the time and the grid operator gains a valuable source of demand flexibility, while being able to benefit from economies of scale** **Careful energy management** is needed to ensure operation continues during moments of capacity adjustment		

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Incentives for the CSC vary by asset type; as do the impacts of these contracts

	Generation	Hybrid	Consumption
	Solar PV/onshore wind	**BESS**	**Industrial /data centres**
Without CSC	• 250 kEUR/year in electricity sales	• Project not operational	• No full offtake capacity
With CSC	• 405 kEUR/year in electricity sales • 60 kEUR/year in CSC services • Revenue of 465 kEUR/year	• 150 kEUR/year in trading • 60 kEUR/year in CSC services • Revenue of 210 kEUR/year	• Full offtake capacity granted with demand-side flexibility • 50 kEUR/year revenues and fuel compensation
Business case impact	**215 kEUR/year** in additional revenue due to CSC	**210 kEUR/year** in revenue **vs. uncertainty** due to late connection	**50 kEUR/year of revenues,** **97% grid uptime** **Larger grid connection so economies of scale**

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What does a CSC mean for investment decisions and financing options?

Considerations for investment and financing

Non-recourse project finance

- Liabilities are ringfenced
- Lenders have no upside
- Stable, predictable and low-risk cashflows
- Long-term agreements with creditworthy counterparties
- Debt capacity based on free cashflow

Contractual structure should focus on

- Interfaces
- Risk allocation
- Liabilities
- Guarantees

Investors will look at

- Options for exit or bankability
- Upside potential
- Binary project risk
- Speed of deployment

How does a CSC fit in?

- **Complex additional grid connection contract**, which will require (again) education of foreign/new investors (i.e. more due diligence, providing local grid studies, etc.)
- Limited to no additional fixed revenues, so **no concrete improvement in debt capacity** to be expected and limited value to lenders
- To be seen if the contract achieves it goal of unlocking new grid capacity

- CSC can be a **binary enabler** – but only if the offered capacity is of use to the grid operator!
- It can offer **revenue upside potential**, especially for existing underutilised grid connection capacity
- CSC offers a lot of optionality, allowing you to tailor it to your needs and build in sufficient certainty for it not to be a barrier – but **requires careful consideration of the right choices to avoid negative impact**!

CSC has the theoretical potential to enable new projects, but offers limited directly tangible value

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Please share your view on the CSC with us

https://www.menti.com/alk33zv6o8i5

Please share your view on the CSC with us

I can make use of both directions (increase and decrease) of capacity on my grid connection point

Please share your view on the CSC with us

The Availability (Capacity) Payment is the most valuable revenue source offered through the CSC

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Please share your view on the CSC with us

Any other questions or comments you'd like to share?

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