Ontmantelen van het gasnet

Wat, hoe en waarom?

BBL Webinar
donderdag 30 november 2023, 10u-12u

Dit webinar wordt georganiseerd met steun van

European Climate Foundation

fluvius.

Praktische afspraken

- Gelieve je microfoon en camera uit te laten.
- Vragen in de chat worden niet door de sprekers behandeld. De vragen werden al op voorhand verzameld en verwerkt en worden tijdens het panelgesprek besproken.
- Het webinar wordt opgenomen, je krijgt een link achteraf doorgestuurd.

Programma

- **Algemene transitie naar elektrificatie** (Angelos Koutsis - BBL beleidsmedewerker)
- **Ontmanteling van het gasnet in Zürich** (Rainer Schöne - Head of Markets Energie 360° AG)
- **Beleid en regulerende frameworks voor het ontmantelen van gasnetten** (Megan Anderson - Associate Regulatory Assistance Project)
- **Concrete implementatiemogelijkheden voor het ontmantelen van gasnetten in Vlaanderen** (Dr. Simon Vanhove - postdoctoraal onderzoeker UGent / advocaat Eubelius)
- **Panelgesprek**
    - **Jean-Pierre Hollevoet** (directeur Energie- en Klimaattransitie - Fluvius)
    - **Thierry Van Craenenbroeck** (directeur net- en marktregulering - VREG)
    - **Dr. Simon Vanhove** (postdoctoraal onderzoeker - UGent / advocaat Eubelius)
- **Conclusies**

Algemene transitie naar elektrificatie voor verwarming

Angelos Koutsis, BBL beleidsmedewerker energie

Waarom überhaupt ontmantelen

Klimaatdoelstelling, **Hoge volatiele gasprijzen** & **Bevoorradingszekerheid**

- Transitie naar duurzame verwarming
- Dalende gasvraag
- Dalend aantal gasaansluitingen
  - Operationele- en afschrijvingskosten dalen niet
  - Stijging tarieven → hoger gasprijs

2,2 miljard euro aan niet afgeschreven gasinfrastructuur in 2050

Oplossing: gasnetten versneld afschrijven en ontmantelen

- Wijkrenovatie naar fossielvrij → LEKP 2.0
- 25 fossielvrije collectieve renovaties per 1.000 wooneenheden tegen 2030

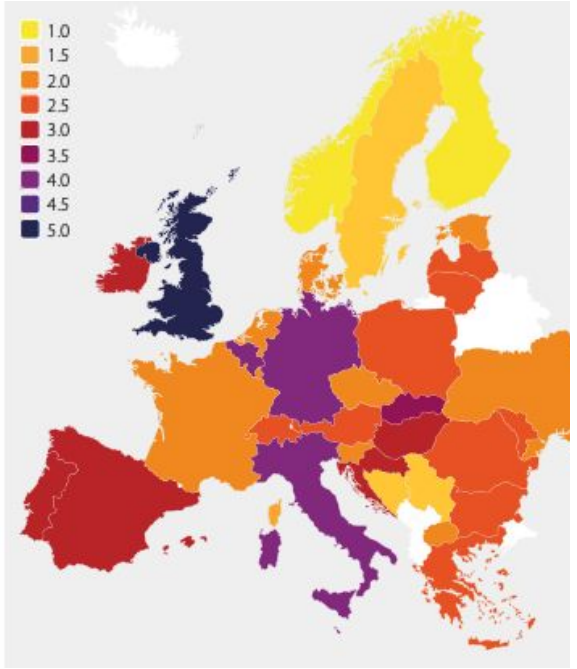
Elektriciteit voorop!

Warmtepompen zijn:

- Energie-efficiënter → 2 tot 5 keer
- Klimaatvriendelijker → BKS uitstoot 3 keer lager
- Op termijn nuluitstoot door hernieuwbare energie

Goedkoper?

- Nog niet!
- Scheve elektriciteits/gas prijsverhouding
- Onder 2,5 is voldoende

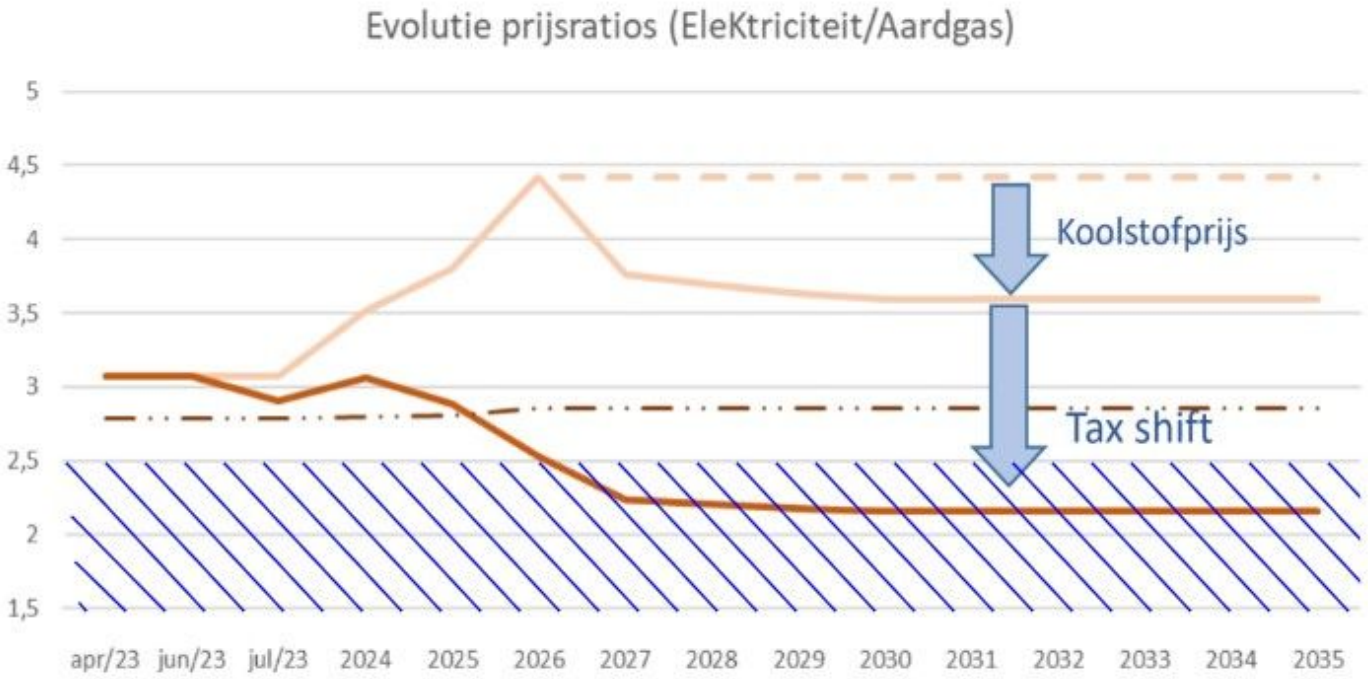


ETS 2 (2027)

Verjaren groenestroomcertificaten (2028)

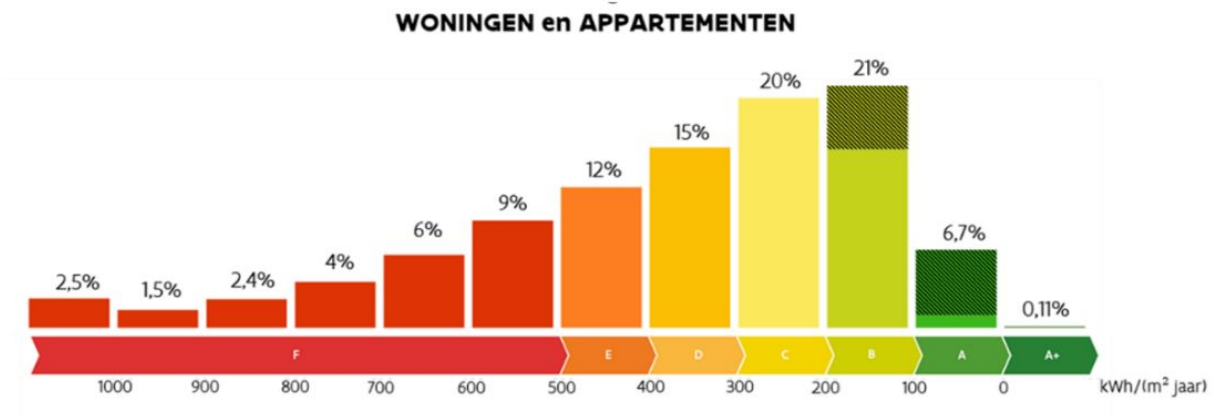
Elektriciteit voorop!

Het kan in principe snel gaan



Vlaanderen warmtepomp ready?

- 1 op 2 woningen is nu al klaar (UGent-Daikin studie)
  - Huidige situatie: slechts 2,5% WP, vooral bij nieuwbouw
- Ons elektriciteitsnet volstaat nu → Investeringplan Fluvius



		Elektriciteit/Gas=2.5					
Gebouw type	isolatie	A	B	C	D	E	F
	A	1.00					
	B	1.00	1.00				
	C	1.00	1.00	0.97			
	D	1.00	1.00	0.97	0.73		
	E	1.00	1.00	0.99	0.77	0.67	
Gesloten	F	1.00	1.00	1.00	0.91	0.83	0.61

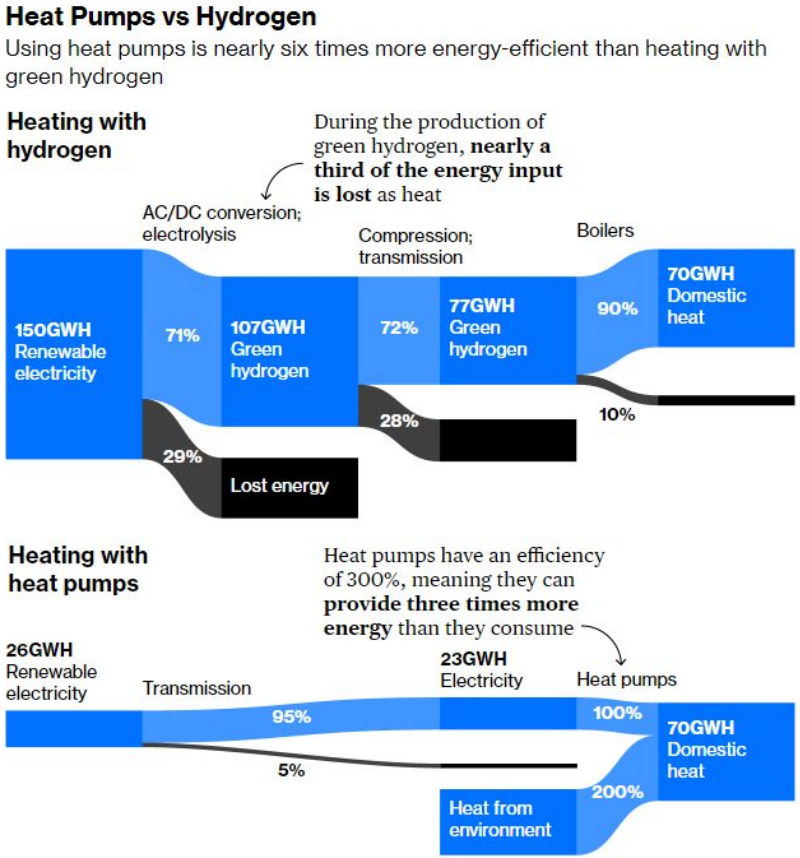
Groenen moleculen = luchtkastelen?

Waterstof?

- verbruikt 6 keer meer energie
- kannibaliseert groen stroom
- leeuwendeel gasnet niet H2-ready
- omvorming naar H2 is duur

Synthetisch Methaan?

- H2 + CO2 → dezelfde problemen
- CO2 afvang in de eigen woning?



Groenen moleculen = luchtkastelen?

Biomethaan?

- Duurzaam potentieel België slecht 5% (mss lokaal?)
- Grotere meerwaarde bij moeilijk te elektrificeren industriële processen

Groene moleculen gaan het gasdistributienet niet redden!

Ontmanteling van het gasnet in Zürich

Rainer Schöne, Head of Markets Energie 360° AG

DECOMMISSIONING OF THE GAS GRID IN ZURICH

Rainer Schöne
Bereichsleiter Markt und Kund*innen
Member of the Executive Board

November 30, 2023

SUBJECTS

- About Us
- Our Gas Strategy
- Decommissioning of the Gas Grid

ABOUT US

energie360°

Wir bauen Wärmeverbünde.

Energielösungen auch für kommende Generationen.

energie360.ch

energie360°

energie360°

Wir bauen Seewasserheizungen.

Energielösungen auch für kommende Generationen.

energie360.ch

energie360°

energie360°

Wir bauen Ladestationen.

Mobilitätslösungen auch für kommende Generationen.

energie360.ch

energie360°

HISTORY

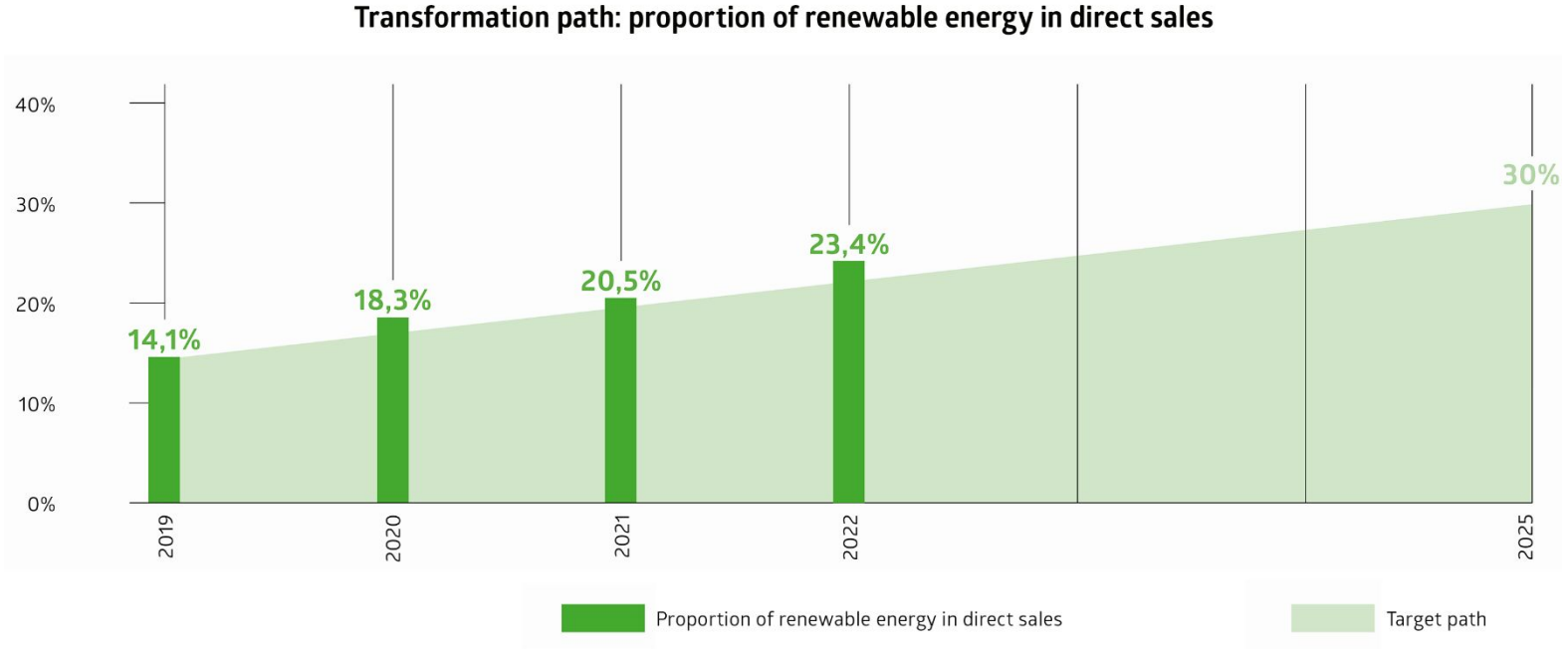
- Stock corporation owned 96% by the city of Zurich, 4% by communities around Zurich
- Founded 1998 – original name «Erdgas Zürich»
- in 1998 the gas infrastructure and gas business was transferred from the city government to the newly founded stock corporation
- 1998-2008 gas was the only product
- 2009 diversification strategy: biogas, wood pellets, contracting, district heating – later charging solutions for electric vehicles
- 2015 change of name: from «Erdgas Zürich» to «Energie 360°»
- Since about 2019 transformation strategy: active transformation away from fossil energy

«GUIDING STAR»

«We are transforming our company and will supply exclusively renewable energy by 2040.»

SHARE OF RENEWABLE ENERGY IN DIRECT SALES

energie360°



OUR GAS STRATEGY

WE ARE LEADING IN RENEWABLE GAS IN SWITZERLAND

energie360°

- biggest natural gas distributor in Switzerland (20% of Swiss market, retail and wholesale)
- pioneer of biogas production in Switzerland (originally for vehicles, now for heating)
- invest in biogas production in Switzerland
- import renewable gas from Europe
- «standard» retail gas product includes 30% biogas
- pilot projects power to gas (mainly hydrogene «methanation»), studying green hydrogene

BUT WE DO NOT BELIEVE IN RENEWABLE GAS FOR HEATING

energie360°

- In our view renewable gas (biogas or green hydrogene) will not be the solution for heating (quantity, price, time) – rather for industry, maybe peak usage for heating, maybe transport
- for heating there are alternatives available already today and in the next years (heat pumps, district heating, wood)
- We stopped building new connections for heatings in 2020
- Regulation in Switzerland pushes this way forward – on all levels: Swiss federation, cantons and communities

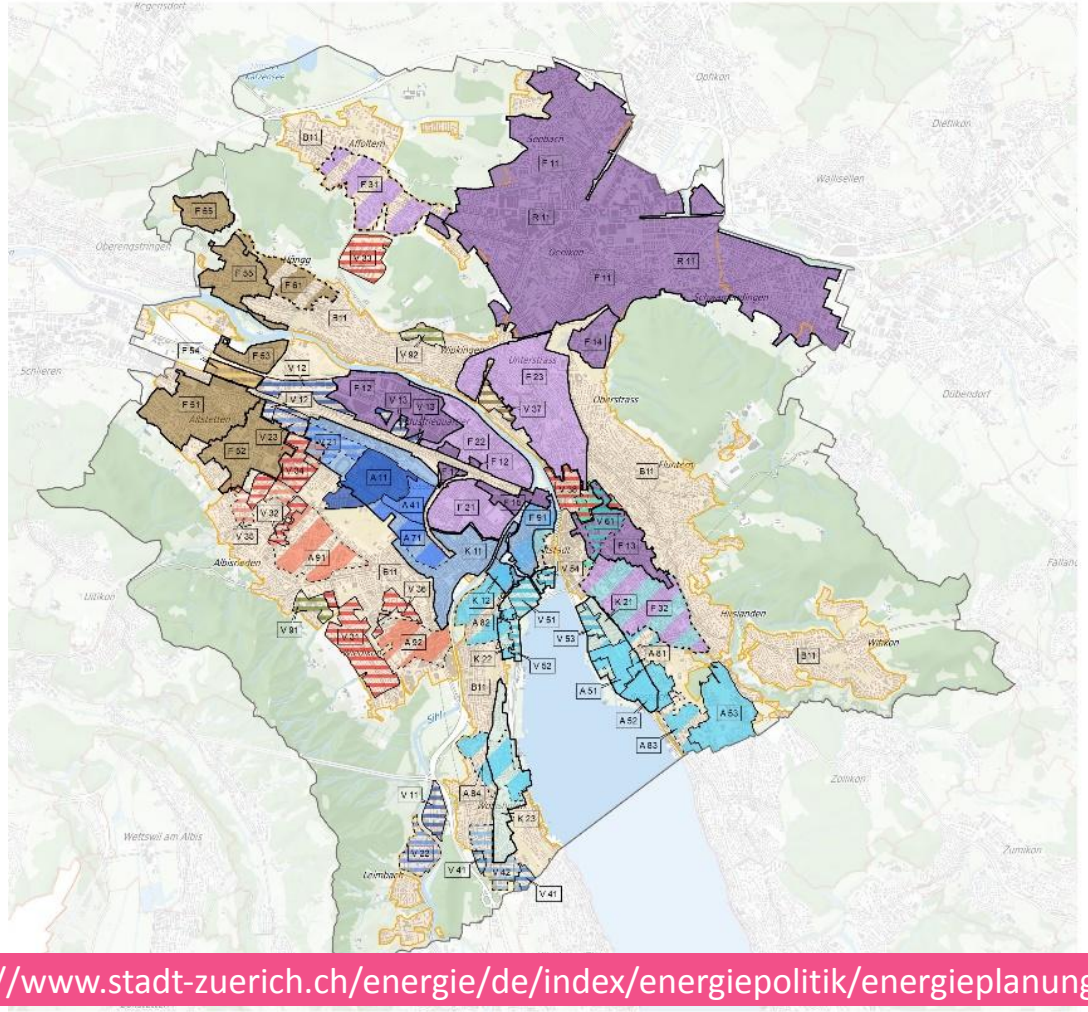
REGULATION

- The legislation in **Switzerland** is moving in the direction of removing gas from heatings.
- On 1 September 2022, the **cantonal Energy Act** came into force in the canton of Zurich. The biggest change is the mandatory 100% renewable heating replacement. As an exemption gas heatings can be replaced using 80% Swiss renewable gas.
- More and more **cities and municipalities** are adapting their energy planning to the new net-zero climate protection goals. (Zurich 2040, Basel 2037, Swiss confederation 2050)
- The **city of Zurich** is rolling out new distance heating networks and will give the order to decommission the gas network in those areas.

DECOMMISSIONING OF GAS

Transformation in the city of Zurich

ENERGY PLAN



For further information: https://www.stadt-zuerich.ch/energie/de/index/energiepolitik/energieplanung.html

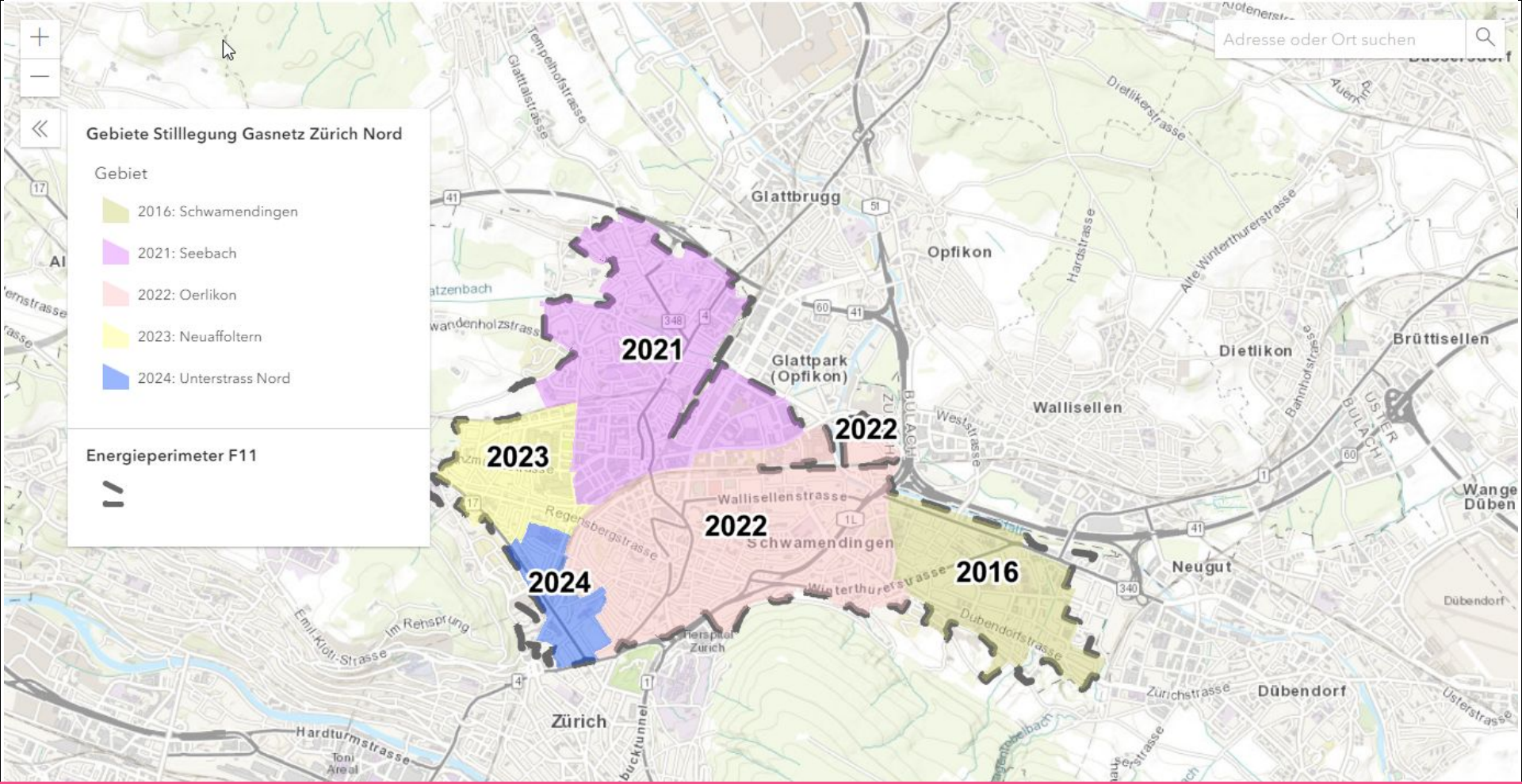
TWO MODELS

Commercial decommissioning by Energie 360°

- Ongoing in Northern Zurich 2016-2024
- District heating network available since the 1980s based on waste combustion
- Most heatings have been switched to district heating
- Gas network no longer commercially viable
- Energie 360° pays for the decommissioning of the network and compensation to users for residual values of gas equipment

Mandated decommissioning by the city of Zurich

- Planned for starting around 2028 in areas where district heating networks are currently being built
- Goal is to accelerate migration
- Announcement will start early 2024
- City pays compensation to customers for residual values of gas equipment and to Energie 360° for residual values of the network and lost profits
- For other areas with no district heating there is the intention to decommission gas but no plan yet



For further information: https://www.energie360.ch/de/kundenservice/gas-stilllegung/

THANK YOU

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Beleid en regulerende frameworks voor het ontmantelen van gasnetten

Megan Anderson, Associate Regulatory Assistance Project

RAP
REGULATORY ASSISTANCE PROJECT

30 November 2023

Ontmantelen gasnetten

BBL webinar

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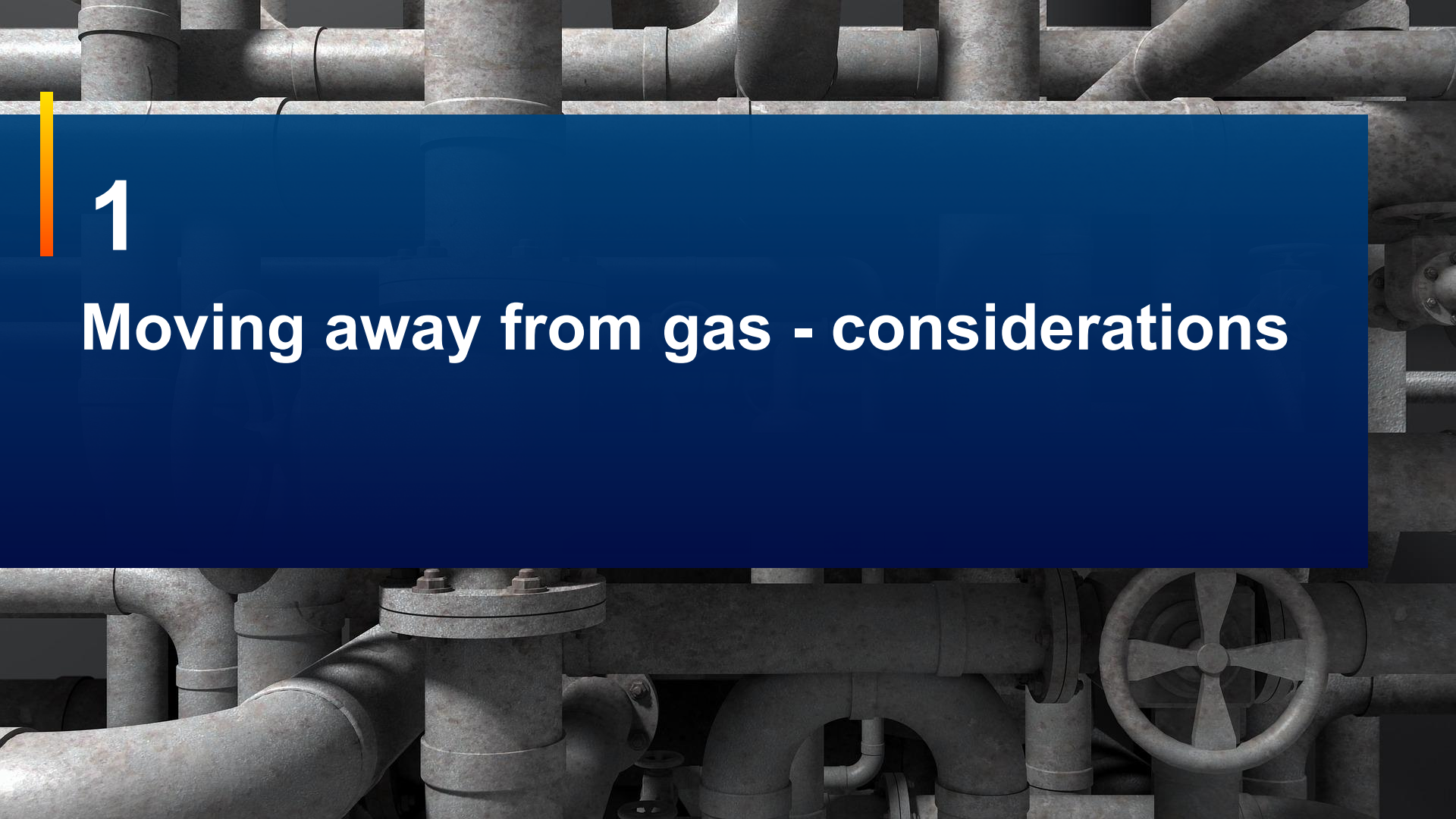
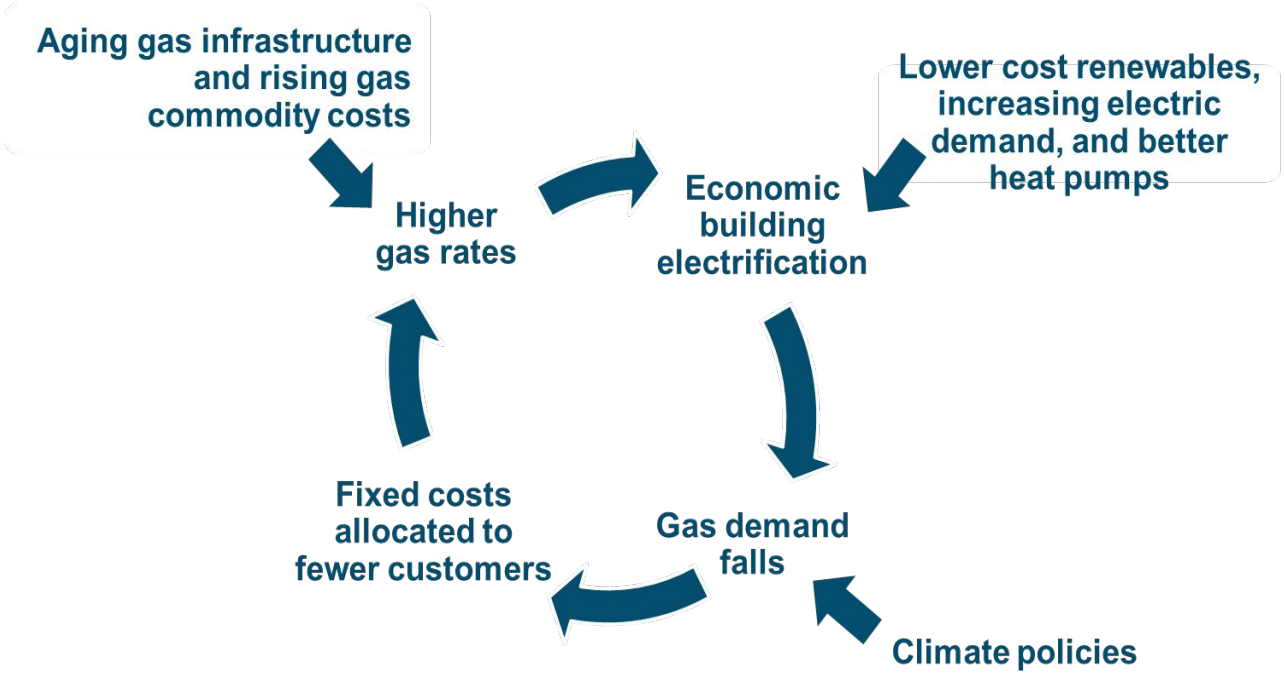


1

Moving away from gas - considerations

Gas system is facing transition



Source: CEC, *The Challenge of Retail Gas in California's Low-Carbon Future*

Investments in gas grid are not short-term investments

- Technical lifetime of gas distribution networks is 80 years.
- Gas distribution system operators in Germany must base grid charges on a depreciation period of 45-55 years
- So, recent investments not yet depreciated, future investments will further extend the undepreciated life of the network
- Given decarbonisation targets, stranded assets are therefore likely
  - ex.: Germany in 2045 ~ 6.5 billion undepreciated assets
  - Very problematic for vulnerable consumers

Equity Is Integral

Robust and inclusive processes to ensure that everyone's needs are considered and planned for

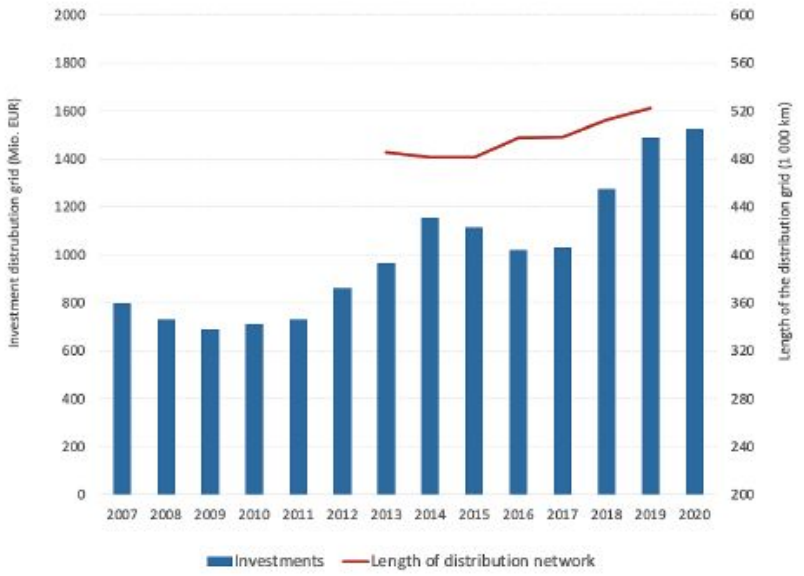
Programs that are accessible and put disadvantaged communities at the forefront of the transition to clean energy

Rate-making reforms can mitigate risk of unsustainable rate increases and avoid unfair bill impacts on low-income customers

Continued investment exacerbates the challenge

- Distribution network expanded by around 40,000 km between 2013 and 2019
- Further expansion is planned for the coming years.
- Newly developed areas are still being connected to the gas network (including transition from heating oil to fossil gas)
- Around EUR 2.5 billion invested in the expansion and new construction of the German gas networks in 2019
- EUR 1.5 billion of this in the distribution networks

Figure 1: Development of investments in the gas distribution grid and length of the distribution grid



Source: Own depiction based on BNetzA/BKA (2015-2021)

Anderson, M., Rosenow, J., Bürger, V., Braungardt, S., (2022). Fossil gas infrastructure first, energy efficiency never? (eceee) 2022.

Focus on gas decarbonisation instead of system decarbonisation is impeding transition

British Gas

Accessibility tools My business

Energy Home services

Hydrogen boilers: everything you need to know

21st January 2022

Hydrogen boilers are becoming increasingly more important.

Stage 1

New boilers will be built to a new 'hydrogen-ready' standard, which means they'll work with natural gas but can also be easily modified to run on 100% hydrogen. According to some industry estimates, these boilers should be available from 2023-2025.

Stage 2

A 20% hydrogen blend will be introduced into the gas supply. Most boilers will be able to use this as normal – including all new British Gas boilers. The rollout of 20% hydrogen isn't expected to begin until 2028 at the very earliest.

Stage 3

When the gas supply switches to 100% hydrogen, every new boiler sold in the UK will simply be a hydrogen boiler. This is the ultimate goal, but it probably won't happen until the mid-2040s.

2

Tools for Transition

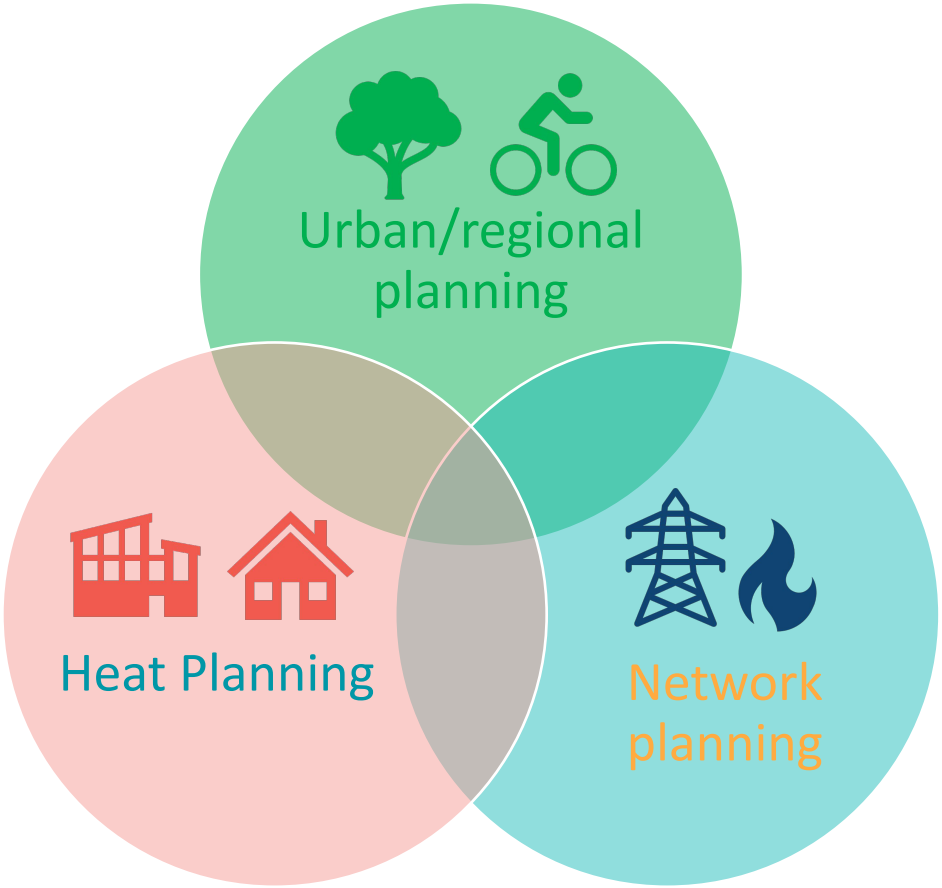
Tools for the transition

- Avoid additional gas system investment
- Gas transition planning
- Enhance Efficiency and Electrification Programs
- Tariff design to incentivize electrification and transition

Start turning the ship: remove barriers to transition

- Consider whether rules act as barriers to electrification
  - Remove requirement to connect (eliminated in Flanders!)
  - Create rules for disconnection
- Discontinue programs that invest in gas efficiency instead of electrification
- Develop approach for evaluating and implementing non-pipeline alternatives instead of additional investments.

Distribution level planning



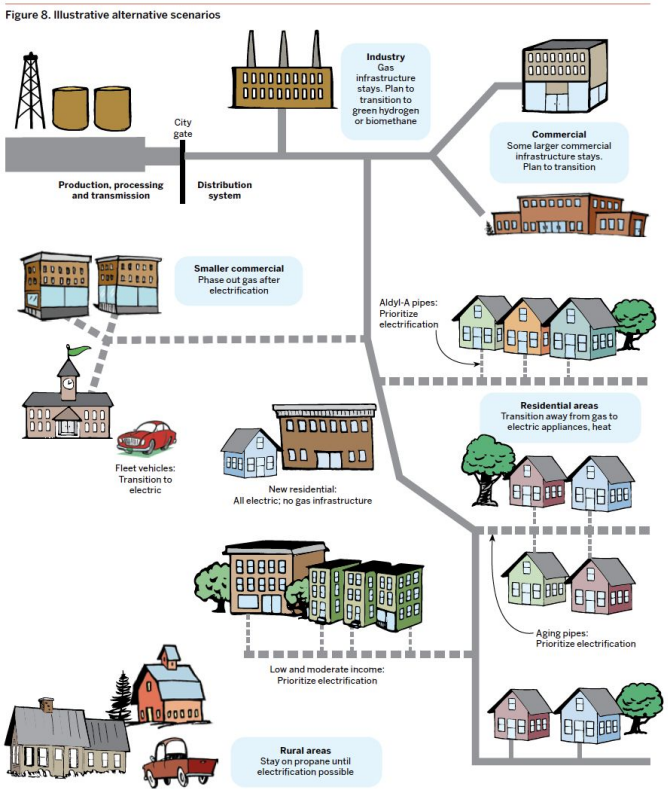
Need both heat and network planning

- Heat planning → changing end uses
- Network planning → changing infrastructure

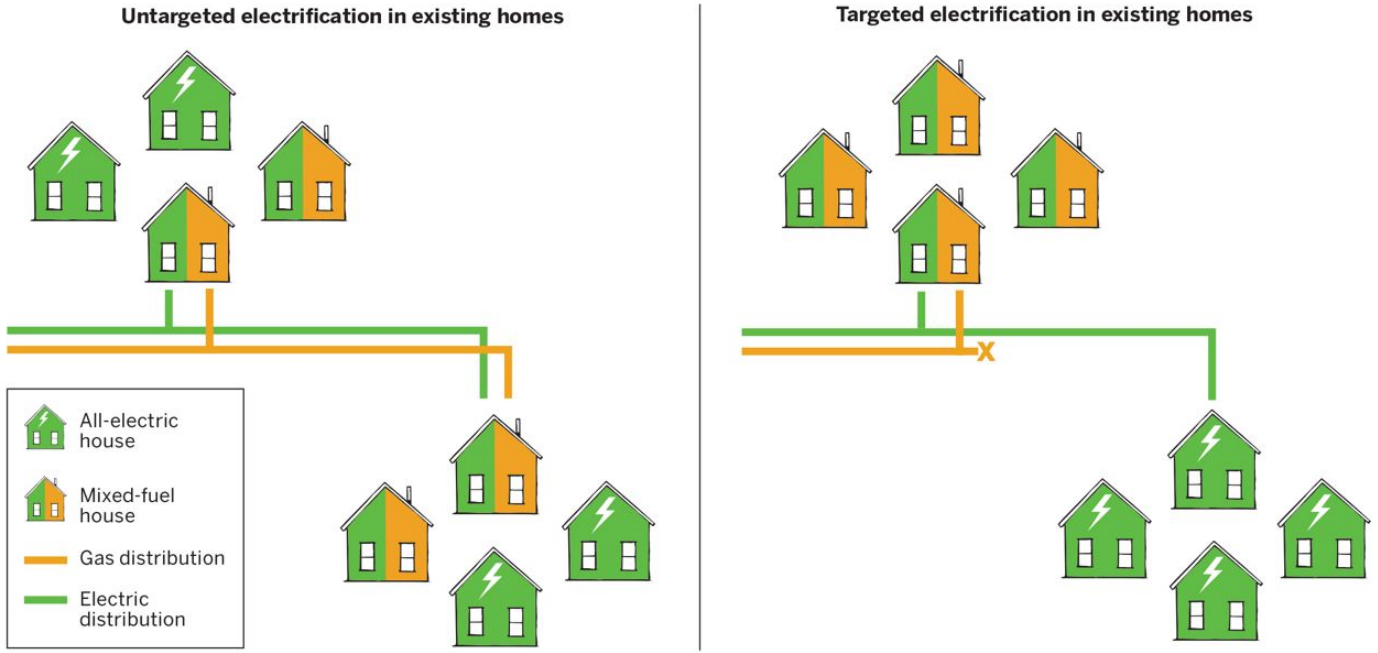
- Need to integrate for sustainable transition

Develop a Dynamic System Map

- Layers of information can facilitate system planning
  - Assess existing infrastructure
  - Identify current customer base, including vulnerable energy users
  - Address demand and priority needs
  - Consider supply and risk
- Include stakeholders as a resource



Target Neighborhoods for Full Electrification



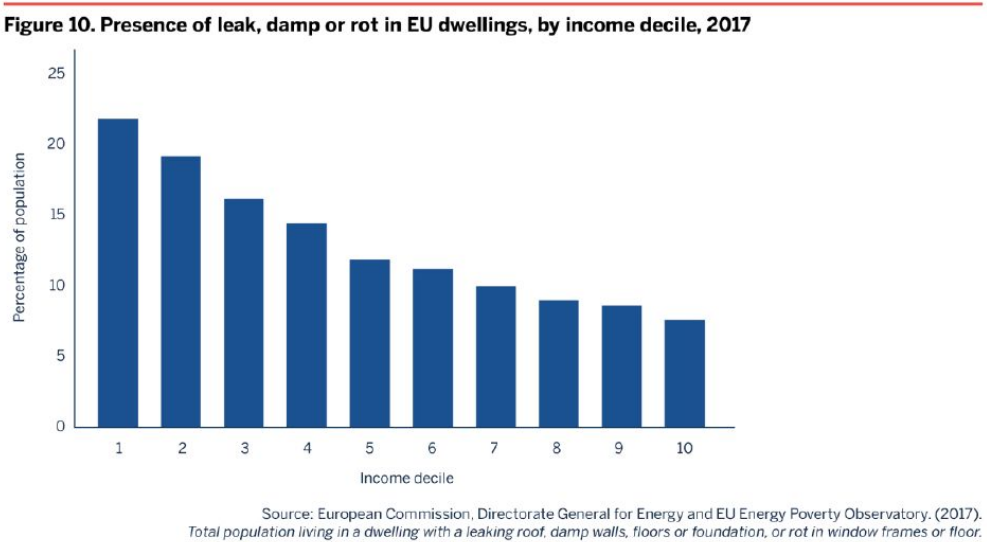
Source: Graphic concept inspired by Aas, D., Mahone, A., Subin, Z., Mac Kinnon, M., Lane, B., & Price, S. (2020). *The Challenge of Retail Gas in California's Low-Carbon Future: Technology Options, Customer Costs, and Public Health Benefits of Reducing Natural Gas Use*; graphic modified by RAP.

Tariff design to enable transition

- Pay down rate base and lower risk of rate impacts
- Update cost allocation and rate design to ensure equitable and efficient outcomes
- Improve alignment of utility incentives with customer objectives and public policy goals
- Align taxes and levies with policy goals

Equity integrated into solutions

- Stakeholder processes
  - Ensure voices are heard
- Prioritize LMI customers for electrification
  - Incentives – Assistance with switching
  - Home efficiency program
- Consider rate impacts



Netherlands example

- Municipalities create local heating plans
- Regulation and subsidies to promote sustainable heating
- Prohibition on new connections
- Challenges remain because plans are not binding
- Customers can maintain gas connection

Denmark example

- 450,000 remaining gas customers, 18,000 km pipeline
- Funding for costs of disconnecting gas supplies in private households ~ 1400 € per household
- Can be disconnected if have not purchased gas for a year or more
- Subsidies for heat pumps,
- Challenge in planning for demand during transition

Efficiency First compared to business-as-usual

	Business as usual	Efficiency First
Mandate	**Maintain an efficient level of gas infrastructure.**	
	...by executing cost-effective network investment based on the current structure and level of fuel demand.	…by investing in the cost-effective mix of network and demand-side resources considering the eventual phaseout of gas in Europe by 2050.
Network regulation	**To minimise the cost to and fairness among consumers while maintaining the economic viability of network companies.**	
Remuneration of distribution system operators and transmission system operators	Bias towards capital expenditures in covering costs of distribution system operators and transmission system operators.	Similar remuneration for both capital expenditures and operating expenses. Financial drivers to support decarbonisation goals by adjusting infrastructure size.
Market regulation	**For affordable, sustainable and competitive energy supply.**	
Market design	Suited for gas suppliers.	Integrates both demand and supply resources across energy sectors.
Network planning	Matching network investment to forecasted exogeneous demand.	Matching network investment to target-based demand based on endogenous modelling of both supply and demand.
	Selection based on a limited coverage cost-benefit analysis of alternative network investment options.	Selection based on CBA covering wide range of costs and benefits of both network investment options (including district heating and power) and demand-side programmes.
Regulatory check	**For approving the proposed investment to be covered by network tariffs.**	
	Closed process.	Transparent process.
		Are demand projections in line with EU and national decarbonisation targets?
		Are all benefits of energy efficiency resources considered?
		Coordinated network planning across fuels.
		Allowance for stakeholder input.
Investment	**…into network infrastructure elements.**	**…into the identified mix of network infrastructure and demand-side measures.**
	Closed procurement to maintain, upgrade and extend gas networks.	Tender-based procurement to achieve decarbonisation goals.

Anderson, M., Rosenow, J., Bürger, V., Braungardt, S., (2022). Fossil gas infrastructure first, energy efficiency never? (eceee) 2022.

Recommendations

- Focus on system decarbonisation
- Minimize the extent of the transition costs
- Require coordinated network planning with heating and cooling planning, in line with climate goals and with equity and energy efficiency at the core
- Ensure data and information is available and decision-making processes are open and transparent
- Design tariffs in line with gas transition and equitable outcomes

About RAP

Regulatory Assistance Project (RAP)® is an independent, global NGO advancing policy innovation and thought leadership within the energy community.

Learn more about our work at raponline.org

Megan Anderson
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Concrete implementatiemogelijkheden voor het ontmantelen van gasnetten in Vlaanderen

Dr. Simon Vanhove, postdoctoraal onderzoeker UGent / advocaat Eubelius

FACULTEIT
RECHT EN CRIMINOLOGIE

HET BEGIN VAN HET EINDE VOOR GASDISTRIBUTIE?

Dr. Simon Vanhove
30 november 2023

WAT, WAAROM, WANNEER

Afstappen van fossiele brandstoffen waar mogelijk

Uitfaseren, buitendienststellen en ontmantelen (herbestemmen?)

Tegen 2035-40-50?

‘VAN STEUN NAAR STOP’ IN VLAANDEREN

- Tot 2017: Fluvius verplicht om 99% afnemers in woongebied op aardgas aan te (kunnen) sluiten
- Nu nog tot 2025: kosten gasaansluiting ‘beperkt’ tot 250€ (geen nieuwbouw)
- Verbod aansluiting nieuwe grote wooncomplexen (>5 eenheden)
- Vanaf 2025: verbod bij nieuwbouw

RICHTLIJN HERNIEUWBARE GASSEN EN WATERSTOF (2023?)

(art. 11*bis* en 34.4)

- Weigering toegang/aansluiting bij uitfasering
- Voorzien in investeringsplan of goedkeuring

EPB-RICHTLIJN (HERSCHIKKING 2023?)

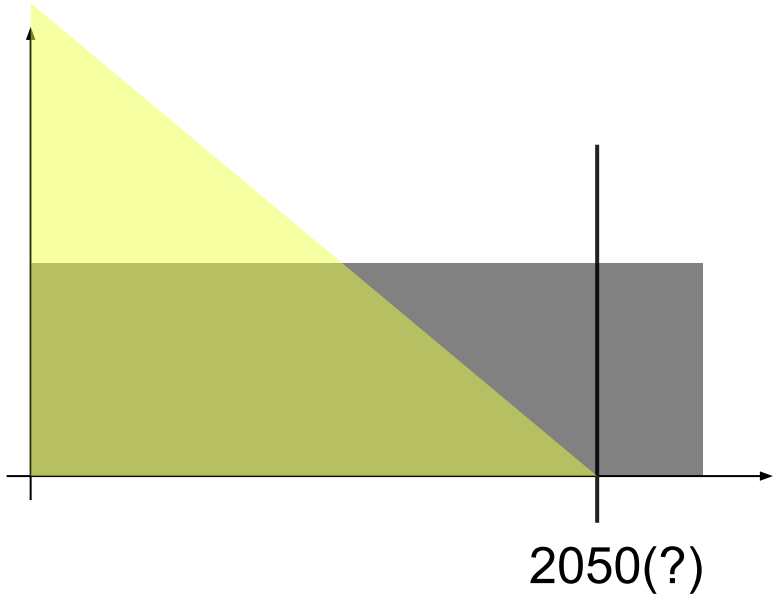
- Emissievrije of bijna-energieneutrale gebouwen: geen fossiel in nieuwbouw vanaf 2028
- Routekaart (art. 3): geplande uitfasering tegen 2035 (of evt. 2040)
- Bestaande gebouwen (art. 8): geen fossiele verwarming bij renovatie
- Geen financiële steun voor fossiele cv-ketels (art. 15)

FLUVIUS EN DNB'S

- Afschrijvingstermijn aanpassen (versnellen + deadline)

  hogere afschrijving=meer kosten=hogere tarieven

- *'Bad bank'*?



ROL GEMEENTEN

- Ondersteunend: warmtekaarten…
  - Geïntegreerd warmtebeleid (incl. renovaties)

- Alternatieven stimuleren (subsidies, vrijstellingen belasting)
- Gemeentelijk patrimonium
- Warmtenet zelf ontwikkelen

- Regie: RUP per wijk met duurzaam alternatief (toekomst?)

ROL VLAANDEREN

- Recht op gasaansluiting afschaffen (mits regie door gemeente)

Flankerend:

- Premies, subsidies…
- Heffingen *uit* elektriciteitsfactuur (*naar* belasting + gas)
- Isolatie (ook collectief, bvb via gemeenten)
- Aandacht kwetsbare sociale groepen!

ROL VREG

- Afschrijvingstempo aanpassen
- Provisies ontmanteling
- Afsluiten/verwijderen aansluiting gas gratis

CONCLUSIE

- Werk van lange adem (>10jr)
- Wijziging wetgeving nodig + tarieven
- Trekkersrol voor gemeenten

FACULTEIT
RECHT EN CRIMINOLOGIE

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postdoctoraal onderzoeker energierecht

Onderzoeksdomeinen:

distributie E/G, offshore, waterstof…

Panelgesprek

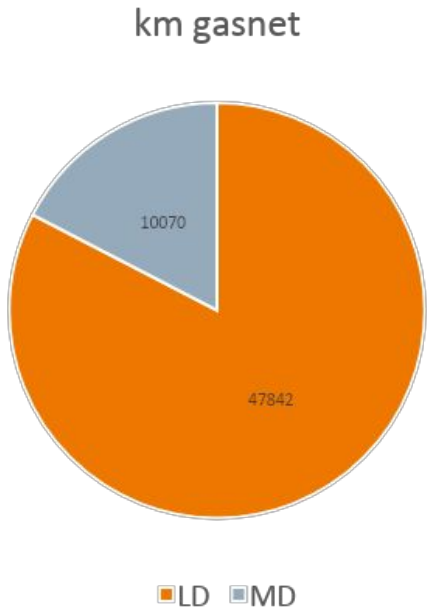
Thierry Van Craenenbroeck, directeur net- en marktregulering VREG
Jean-Pierre Hollevoet, directeur Energie- en Klimaattransitie Fluvius
Dr. Simon Vanhove, postdoctoraal onderzoeker UGent / advocaat Eubelius

Webinar BBL Gasnetten

30-11-2023

Vlaamse aardgasnetten
Kencijfers

Een paar kencijfers over het Vlaamse aardgasnet

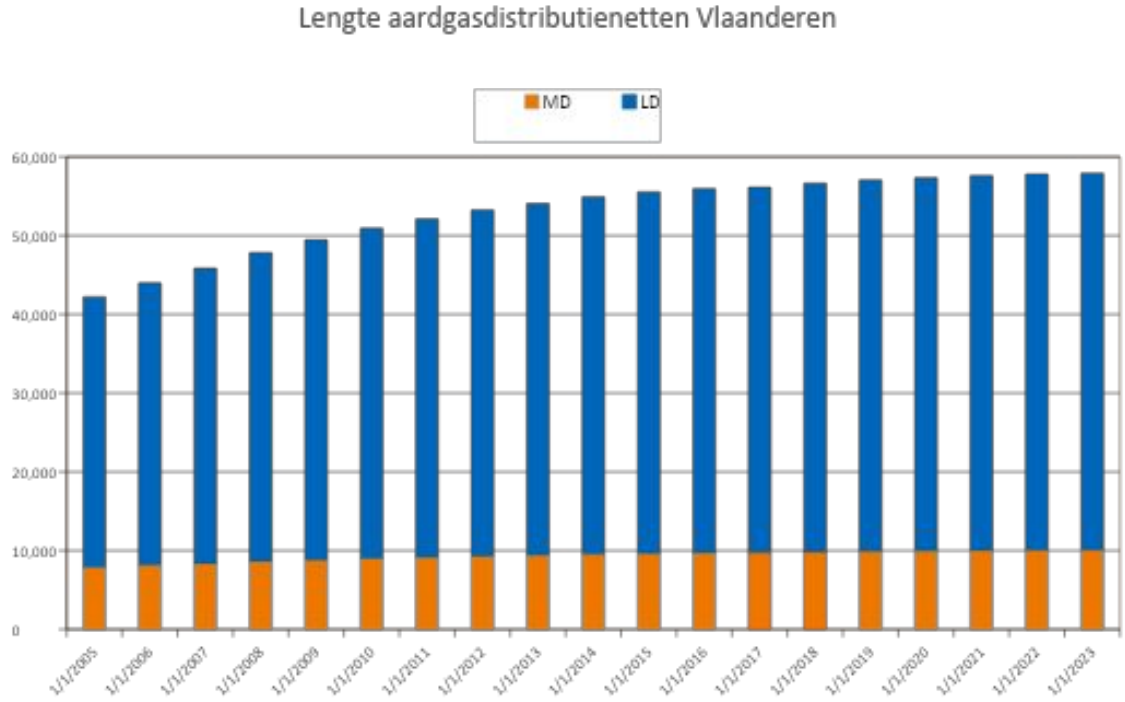


Samenstelling net

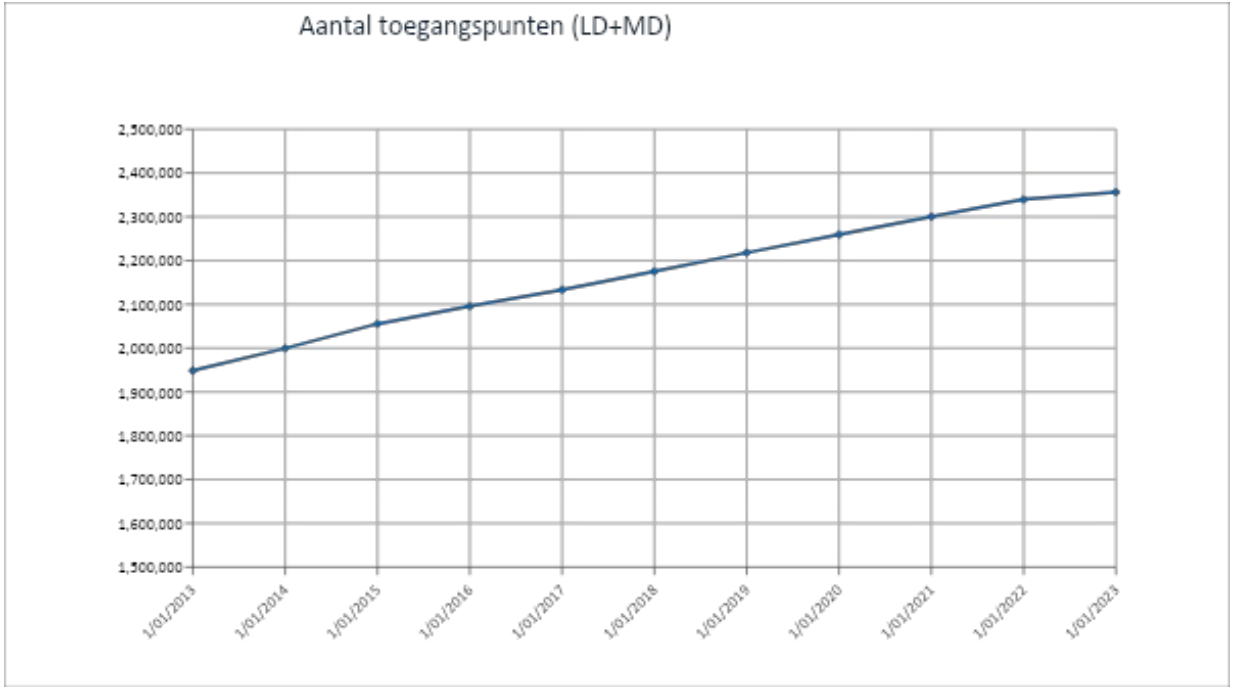
LD PE	91,7%
LD Staal	5,7%
LD PVC	1,2%
LD Vezelcement	0,8%
LD Gietijzer (nodulair)	0,4%
LD Gietijzer (grijs)	0,03%

MD Staal	63%
MD PE	37%

Een paar kencijfers over het Vlaamse aardgasnet



Een paar kencijfers over het Vlaamse aardgasnet



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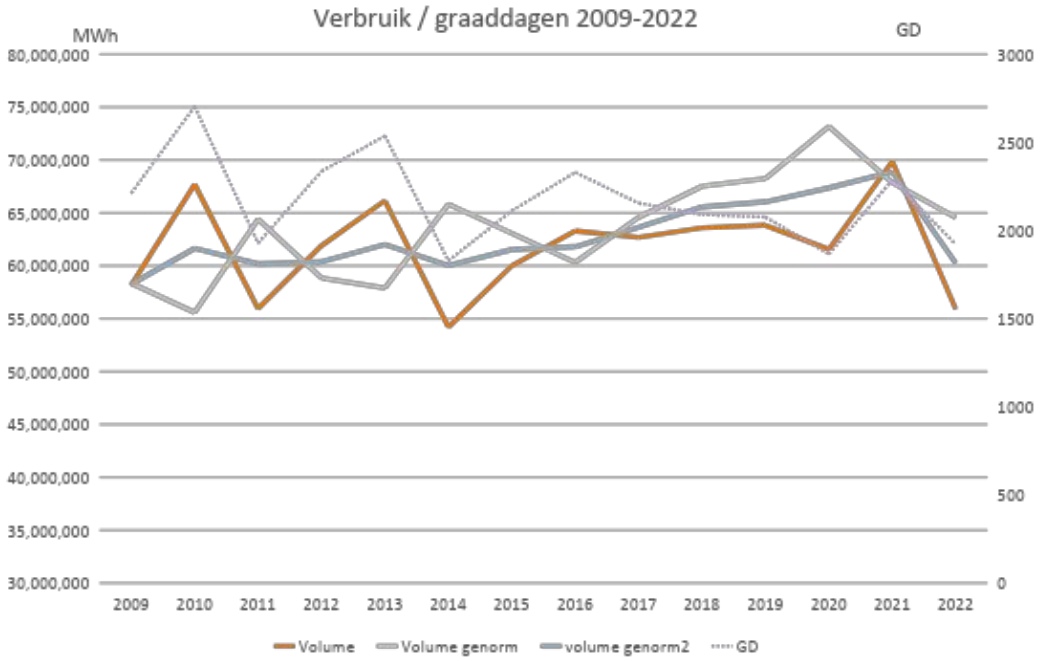
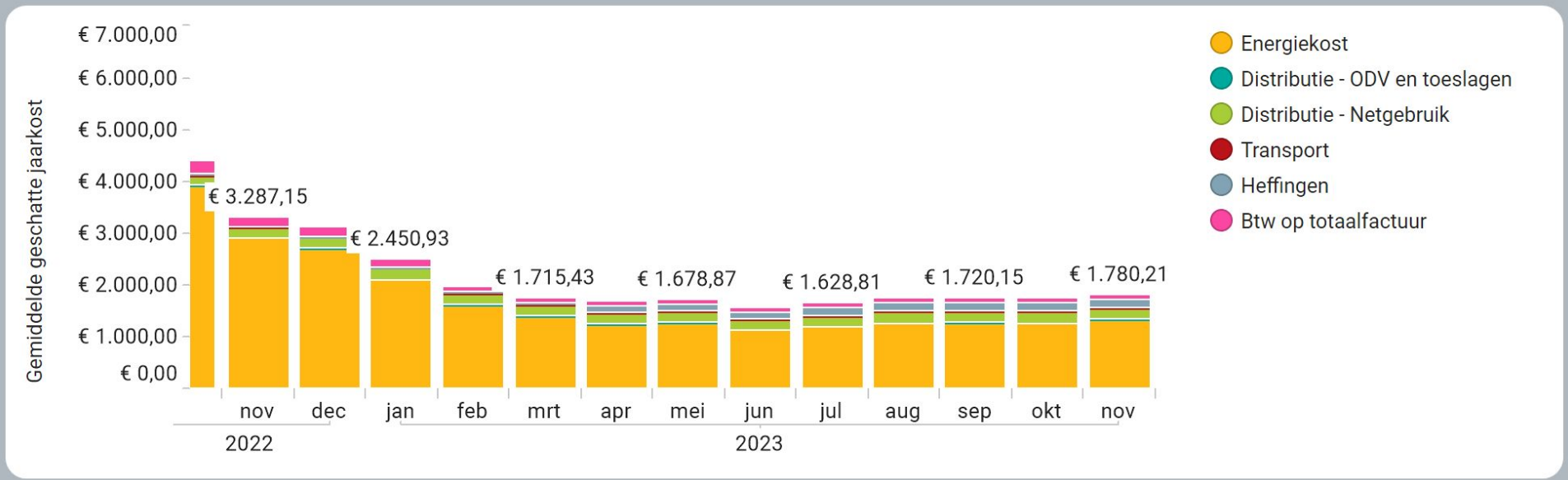
Een paar kencijfers over het Vlaamse aardgasnet



Vlaamse aardgasnetten
Tariefregulering

De aardgasfactuur van een gemiddeld gezin

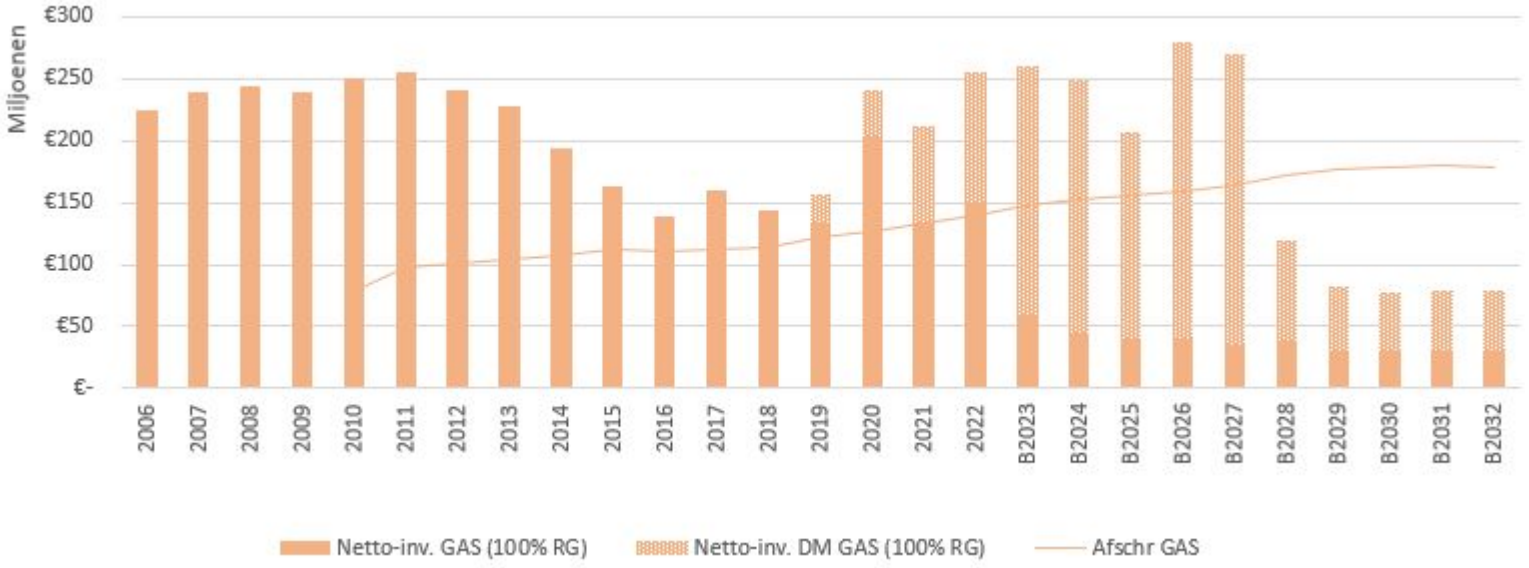
km gasnet



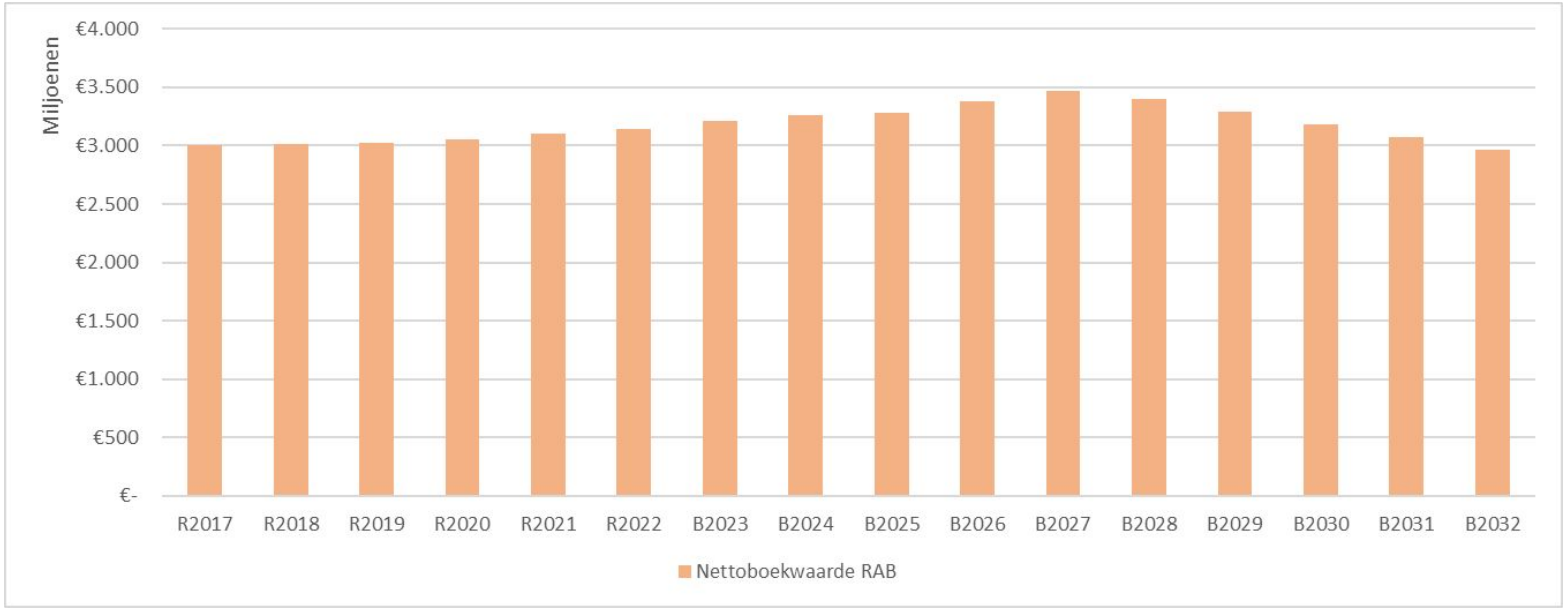
Afschrijvingstermijnen

Materiële vaste activa - gas	
Terreinen	0%
Industriële gebouwen	3% (33 jaar)
Administratieve gebouwen	2% (50 jaar)
Leidingen	2% (50 jaar)
Cabines/Stations	3% (33 jaar)
Hergebruikte uitrusting cabines	6,67% (15 jaar)
Aansluitingen	3% (33 jaar)
Meetapparatuur	3% (33 jaar)
Teletransmissie en optische vezels	10% (10 jaar)
Digitale meters	6,67% (15 jaar)
Gereedschap en meubilair	10% (10 jaar)
Rollend materieel	20% (5 jaar)
CAB, telebediening, uitrusting dispatching	10% (10 jaar)
Labo uitrusting	10% (10 jaar)
Administratieve uitrusting (informatica en kantoor)	33% (3 jaar)
Telegelezen meters	10% (10 jaar)
Budgetmeters	10% (10 jaar)

Investeringsplannen (2023-2032)



Gereguleerde activabasis (RAB)



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VREG
ENERGIE WIJZER

Ontmantelen van het gasnet

Wat, hoe en waarom?

BBL Webinar, donderdag 30 november 2023, 10u-12u

Dit webinar wordt georganiseerd met steun van

European Climate Foundation

fluvius.