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Spinnville priser i 2022. Hvor skal dette ende?

Senioranalytiker Olav Johan Botnen, Volue Insight

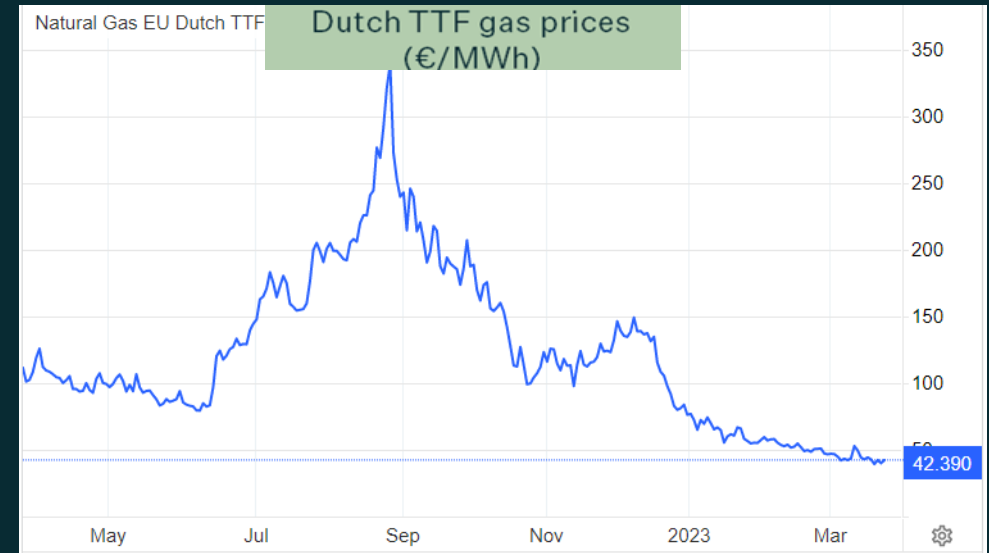
Småkraftdagane, Bergen, 28. mars 2023

Fuel market situation now

Spinnville priser i 2022. Hvor skal dette ende?

Comments:

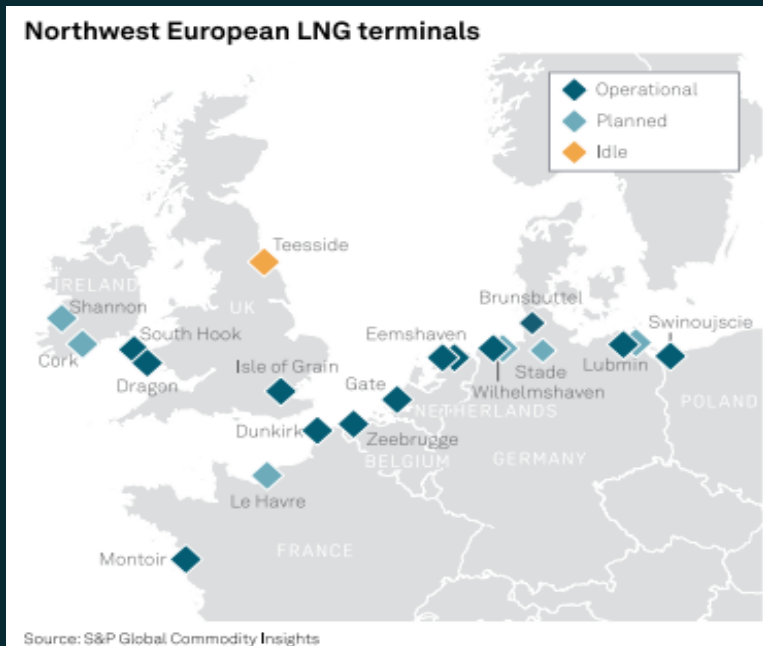
- Muted Asian LNG demand this winter, Asian LNG price down 50% since start of 2023. Russian LNG supply to rise



Fuel market situation now

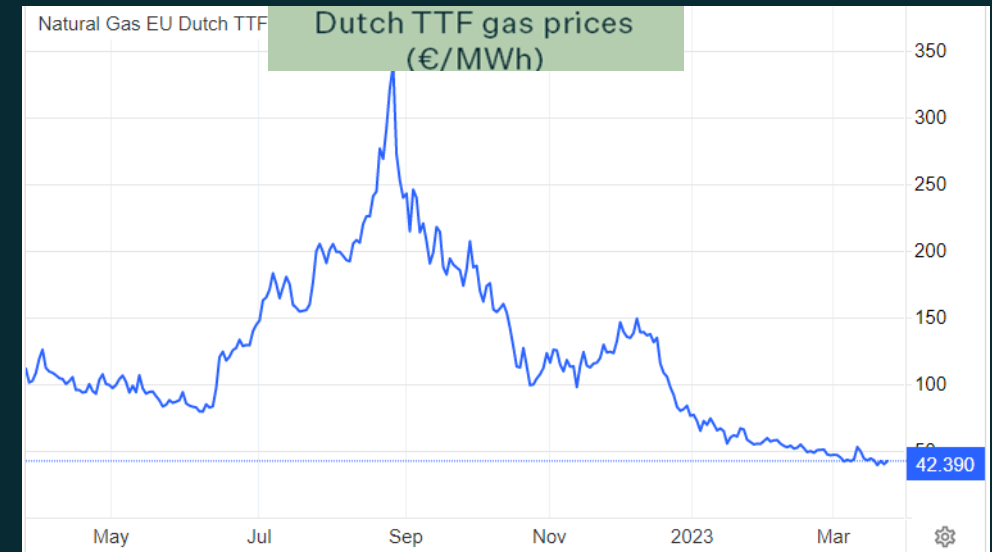
Comments:

- Muted Asian LNG demand this winter, Asian LNG price down 50% since start of 2023. Russian LNG supply to rise
- Amount of LNG import terminals increase in Europe, more supply via pipelines (except from Russia)
- European gas demand down 15% in 2022, helped by warm winter and low industrial demand



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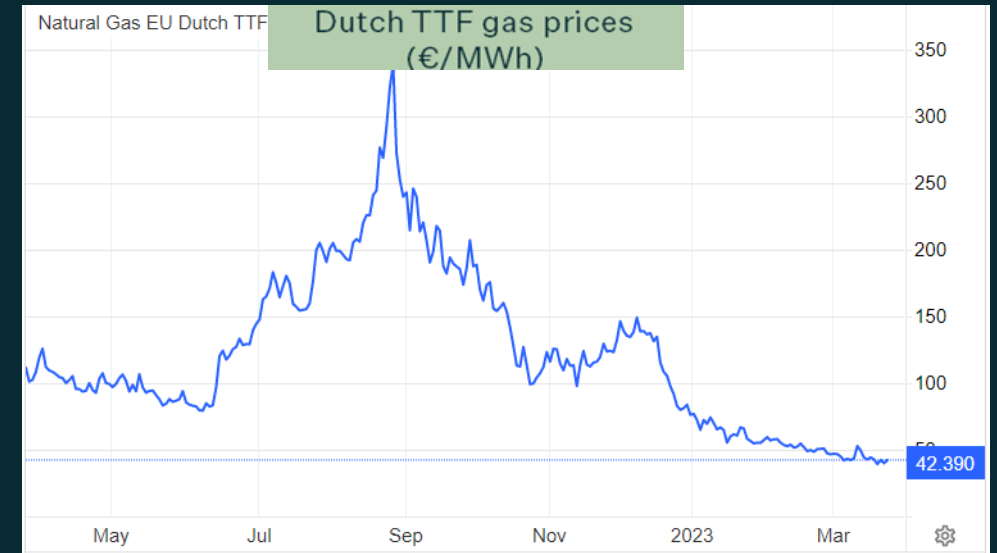
Fuel market situation now

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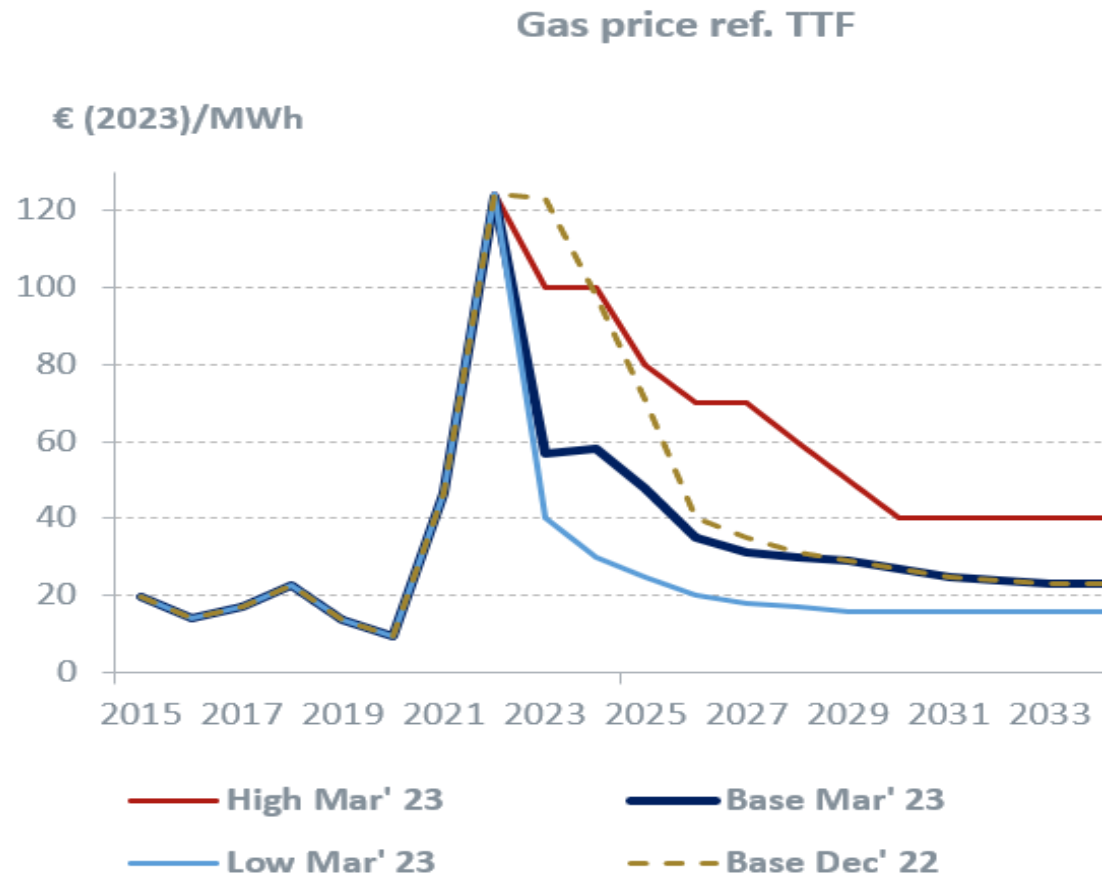
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Comments:

- Gas market: high uncertainty for coming winter. Somewhat bearish in case of normal winter, bearish in case of warm winter, bullish in case of cold winter.
- Gas market: War actions, Chinese LNG demand can give surprises
- Coal supply: oversupply growing, stocks building up, on weak demand growth and supply issues solved. Most likely bearish development



Gas-markets: Long-term assumptions



- Gradually weakening prices: stranded Russian supply find new export markets, weaker global economical performance, REpowerEU
- Front years: Europe to import more gas via LNG, reduced gas consumption perspectives (more heat pumps, weaker industrial demand)
- Mid/late 2020s: New LNG supply projects to become operational, Russian LNG export increase 2024-2026, competition from hydrogen

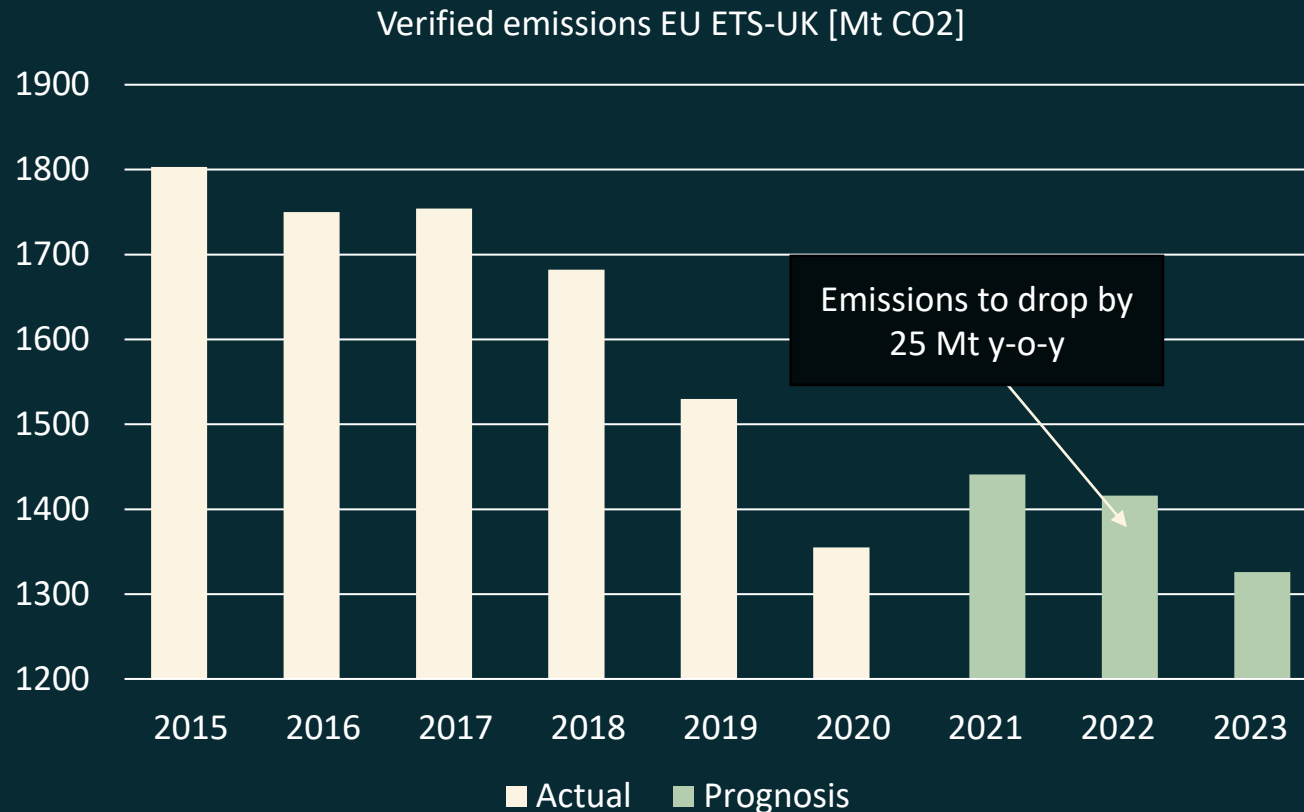
European emissions market (EU ETS)

Comments:

- 'Fit-for-55' percent (July 2021) cut plan: extreme, bullish signals
- Increasing EUA prices over latest year
- Several bearish signals going forward. See next slide



Our rationale for being bearish for EUA prices



- FRONTLOADING: Possibly 300 Mt of new supply (unknown half a year ago) to hit the market over 2023-2026
- Weak power consumption (front years)
- Our emission forecasts appear to be lower than widespread expectations
- Short-term recommendation (4 w): 80 €/t
- Mid-term recommendation (>1 year): 65 €/t

Costs from EU thermal generation gradually down from top

Generation costs
(€/MWh)

	5-Nov-20	7-Mar-22	27-Aug-22	23-Mar-23	2030-f
SRMC coal-fired	44	219	197	130	100
SRMC gas-fired	43	486	730	120	80

Comments:

- Coal-fired plants back in business for 2023-2024
- 2022-2024: Gas- or coal-fired generation balance Central-European power markets in most hours, except during periods with high wind speeds/high solar

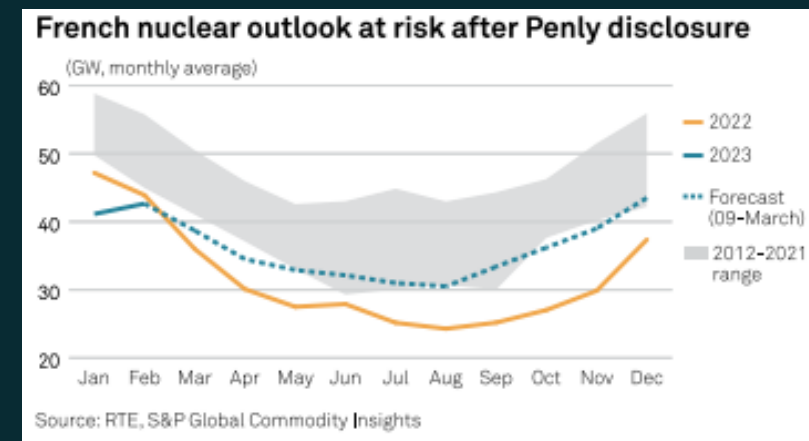
Costs from EU thermal generation gradually down from top

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SRMC coal-fired	44	219	197	130	100
SRMC gas-fired	43	486	730	120	80

Comments:

- More renewables in Europe over front years, less hours on SRMC's for gas- and coal-fired generation
- Nuclear plants in France back to normal availability? In case not, more hours at SRMC's for gas- and coal-fired and higher gas consumption to compensate



Normal og jevn fordelt hydrologisk ressurs-situasjon

- Hydrologisk balanse: Normalt - små avvik fra normal situasjon både i sør og nord i Norge. Litt svikt i Nord-Sverige (-3 TWh)
- På forrige Småkraftdagane 30. aug:
13 TWh svikt i Sør-Norge
4 TWh overskudd i nord-områdene

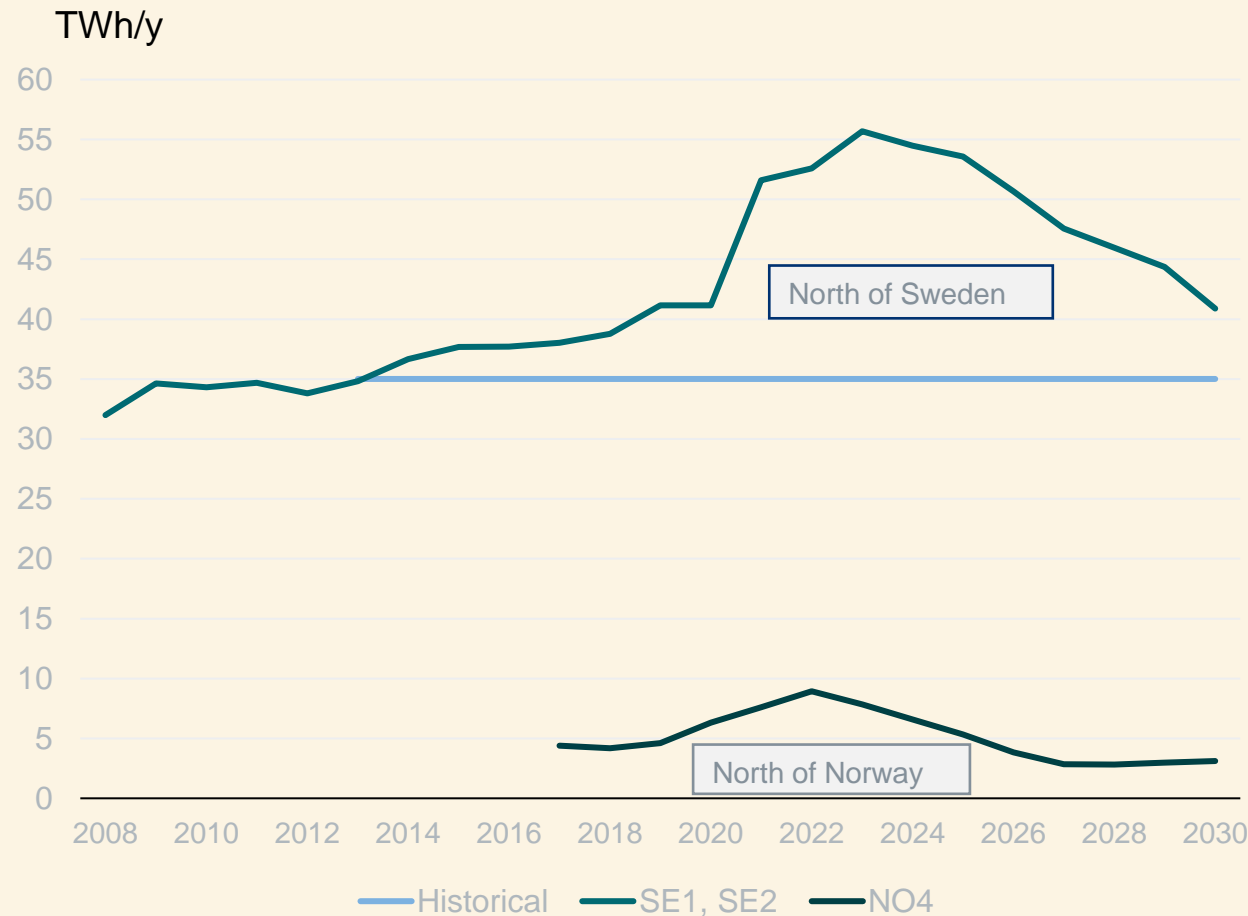
Norsk kraftbalanse – fra kraftoverskudd til balansert marked

Year	Hydropower	Wind power	Thermal	Solar power	Total consumption	Net exports
2021	137	11	2	0	138	12
2022	139	15	2	0	133	23
2023	140	16	2	1	137	22
2024	141	16	2	1	143	16
2025	143	16	2	2	147	16
2026	144	16	2	2	151	13
2027	145	16	2	2	158	7
2028	145	20	2	2	164	5
2029	145	22	1	3	169	2
2030	148	25	1	3	171	6
2031	149	28	1	3	172	8
2032	148	30	1	3	174	9
2033	148	33	1	4	174	11

Konsekvenser av 1) Fosen-sak, 2) svak lisensiering av vindkraft, 3) økte LCOE's, 4) skatteforslag, 5) sterke havvind-planer:

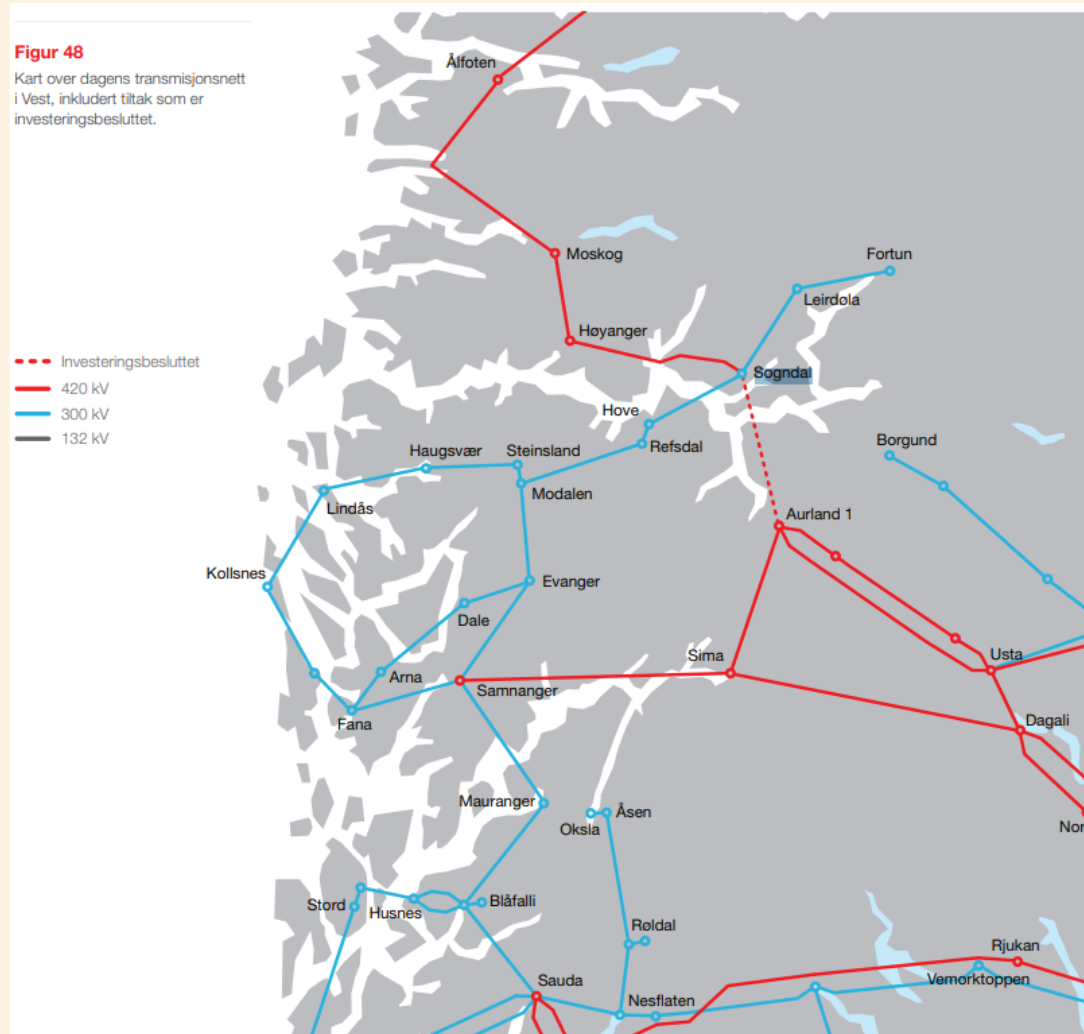
- Utvikling av landbasert vindkraft bremses mye,
- 6 konsesjonssøknader for vindkraft hos NVE: 4 i reindrift-områder i Finnmark (8-10 TWh)
- Vannkraft øker fremover: mest småkraft, storskala delvis på hold
- Svakt forbruksnivå i 2023-2024. Nytt forbruk bremses noe utover 2020-tallet
- Havbasert vindkraft øker, noe fra 2028, mye tidlig på 2030-tallet. Nytt forbruk øker

Vindkraft-overskudd i nord: sterk strukturelt kraftoverskudd



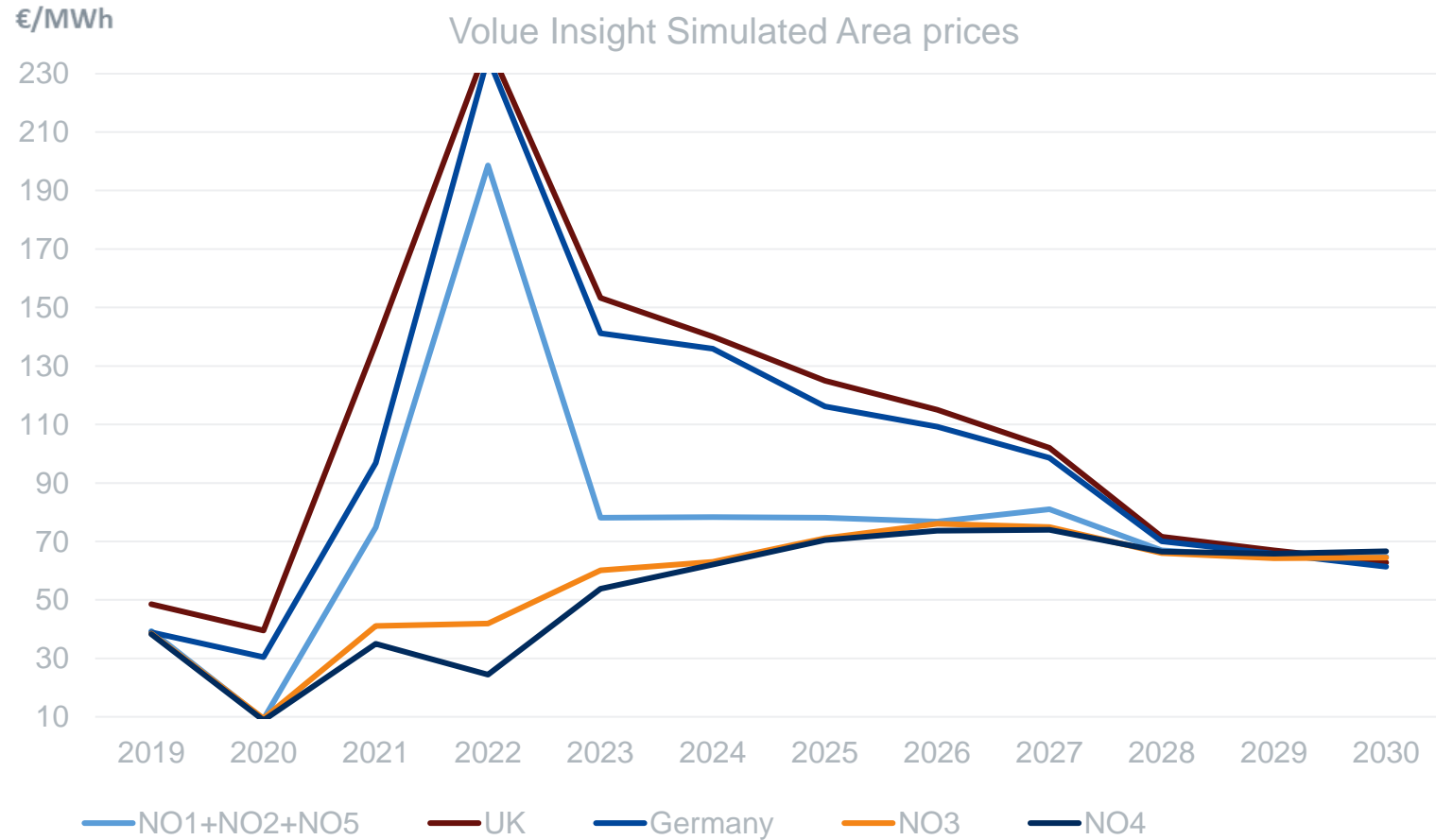
- Status Nord-Sverige: Stort kraftoverskudd utviklet med landbasert vind
- Status Nord-Norge: Noe kraftoverskudd utviklet
- Total status i nord: 25 TWh/y kraftoverskudd (sammenlignet med historikk)
- Batteri-/hydrogen-/grønn stål-produksjon vil gradvis forbruke kraftoverskuddet (2025-2030)
- Nettforsterkninger (2025, 2028, 2030->) vil gradvis fjerne flaskehalsen nord-sør
- Til sammen: ubetydelige kraftpris-differanser nord-sør etter 2026
- Fuel-priser gradvis ned utover 2020-tallet: sørlige pris-soner faller noe

Statnetts forsterkningsplaner – viktige prosjekter



- Ny linje Sogndal-Aurland: Innen 2025-2026 (under bygging)
- Ny linje over Dovre: Innen 2030 (plan)
- Oppgradering Sogndal-sørvestover: Konsesjonssøknad leveres 2023
- Forsterkning over Trondheimsfjorden 2027
- Første forsterkning nord-sør i Sverige, SE2-SE3 (800 MW) planlagt idriftsatt 2028
- To kraftige forsterkninger nord-sør i Sverige planlegges utover 2030-tallet

Områdepriser, historikk og prognoser, pr. 16. mars 2023



Simulerte områdepris-prognoser, 16. mars 2023

Product	System	NO2	NO1	NO3	NO4	NO5	DE
MMAY-23	56	58	57	52	47	57	108
MJUN-23	50	50	49	47	45	49	116
MJUL-23	49	49	48	47	46	48	128
Q3-23	52	52	51	52	51	51	125
Q4-23	72	72	71	58	59	71	148
Q1-24	100	103	103	68	67	102	152
Q2-24	69	68	67	60	61	67	120
Q3-24	62	60	59	56	58	59	125
Q4-24	85	84	84	65	67	84	147
YR-24	79	79	78	62	63	78	136
YR-25	77	79	78	71	71	78	116
YR-26	77	77	77	74	76	77	109
YR-27	80	83	83	76	75	83	99

Simulations: Input from fuel & emission forward prices, hydropower resources, as of 15th of March 2023

Sør-norske områdepris-prognoser: nedside i front

	Product	Market	Average	0%	5%	10%	20%	35%	50%	65%	80%	90%	95%	100%
NO2	Q2-23	85	57	40	48	50	53	56	56	58	61	64	65	66
	Q3-23	85	52	26	32	39	43	49	51	56	60	65	69	72
	Q4-23	111	73	54	57	60	61	66	71	77	85	92	96	128
	Q1-24		98	50	51	63	71	80	98	108	120	147	153	162
	Q2-24		66	10	26	31	43	61	69	79	84	94	100	119
	2024	94	77	34	40	45	59	69	73	84	93	108	119	145
Lav likviditet	2025	83	78	32	46	52	62	68	76	84	88	107	119	123
	2026	73	77	35	48	55	62	70	75	81	89	98	113	120
	2027		80	40	55	62	68	73	82	87	94	102	117	125
	Q2-23	82	56	40	47	50	52	54	56	58	60	63	65	65
	Q3-23	78	52	25	32	39	43	49	51	55	60	65	68	72
	Q4-23	106	73	54	56	60	60	66	70	77	85	91	96	128
NO1/NO5	Q1-24		97	50	51	63	71	80	97	108	119	146	153	161
	Q2-24		65	10	25	30	43	60	69	78	83	93	97	118
	2024	94	77	34	40	45	58	68	72	84	93	108	118	145
	2025	83	77	32	46	52	62	67	76	83	87	106	118	123
	2026	73	76	34	47	55	62	69	75	81	89	98	112	120
	2027		80	40	55	62	68	72	81	86	94	102	117	125

Simulations: Input from fuel & emission forward prices, hydropower resources, as of 15th of March 2023

Midt-/Nord-norske områdepris-prognoser: oppside i front

NO3

Product	Market	Average	0%	5%	10%	20%	35%	50%	65%	80%	90%	95%	100%
Q2-23	35	51	37	43	45	48	49	51	52	54	56	58	58
Q3-23	29	52	33	36	40	44	49	51	56	60	63	64	71
Q4-23	37	59	38	40	46	48	52	58	62	68	71	74	115
Q1-24		67	31	34	40	44	51	60	79	83	108	118	140
Q2-24		59	13	22	27	41	55	60	67	73	84	87	103
2024	41	62	23	29	39	47	54	58	68	71	91	100	112
2025	37	70	23	40	49	53	63	66	77	80	97	110	114
2026	35	73	30	45	52	59	67	71	80	84	96	109	116
2027		78	36	54	58	64	70	78	86	89	100	115	122

Lav likviditet

NO4

Product	Market	Average	0%	5%	10%	20%	35%	50%	65%	80%	90%	95%	100%
Q2-23	29	46	33	41	42	44	45	46	48	48	51	52	54
Q3-23	19	52	34	36	40	45	49	52	53	57	62	65	66
Q4-23	37	59	38	43	46	49	53	57	60	67	70	74	115
Q1-24		67	31	35	40	44	52	60	77	82	107	116	139
Q2-24		59	13	22	28	42	55	60	67	77	85	88	103
2024	34	63	24	29	40	47	54	60	70	73	92	102	109
2025	35	71	25	41	48	54	62	67	79	81	100	108	112
2026	35	76	34	46	55	61	69	75	83	88	102	110	118
2027		81	42	56	60	66	74	80	89	94	111	116	125

Simulations: Input from fuel & emission forward prices, hydropower resources, as of 15th of March 2022

Simulated Nordic Area prices: 'Base' scenario, March 2023, €/MWh (2023)

Lowest prices
(until 2026)

Year	System	NO1	NO2	NO5	NO3	NO4
2021	62	75	75	75	41	35
2022	136	193	211	192	42	24
2023	72	78	79	78	60	54
2024	70	72	72	71	60	61
2025	69	70	70	70	64	65
2026	70	70	70	70	67	70
2027	70	71	71	71	69	73
2028	67	67	67	67	66	67
2029	65	65	64	65	64	66
2030	65	65	64	65	65	67
2031	60	60	59	60	59	62
2032	56	54	53	55	55	56

Vår forventninger til norske strømpriser

- Simuleringer viser 20-30 €/MWh potensial for prisnedgang for Sør-Norge for rest 2023 og 2024
- Simuleringer viser 20-30 €/MWh potensial for prisoppgang for Midt og Nord-Norge for rest 2023 og 2024-2025-2026
- Markedspriser for norske områder har lav likviditet, så sammenligning er usikker
- Simuleringer inkluderer en relativt svak forbruksutvikling for 2023-2024
- Simulerte prisprognoser inkluderer ikke nedgangspotensial for EUAs og kull, samt usikkerheter i europeiske gasspriser
- Gasspriser må forventes gradvis ned, etterhvert som 1) europeisk LNG import-kapasitet og global LNG-eksport-kapasitet øker, 2) europeisk fornybar-produksjon øker, 3) hydrogen-produksjon øker. Men værutfall, kinesisk etterspørselsnivå og effekter av pågående krig er store kilder til usikkerhet

Thank you!

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