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Summary Report
CINFRACAP WP5 – BUSINESS MODEL

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Summary Report
CinfraCap WP5 – Business Model

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List of abbreviations

Abbreviation	Definition
CAPEX	Capital expenditure
CCS	Carbon capture and storage
CCUS	Carbon capture, utilisation, and storage
DCF	Discounted cash flow
EBIT	Earnings before interest and tax
FCF	Free cash flow
LNG	Liquified natural gas
NPV	Net present value
NWC	Net working capital
OPEX	Operational expenditure
PPA	Power purchasing agreement
WACC	Weighted average cost of capital
WP2	Work Package 2
WP4	Work Package 4
WP5	Work Package 5

2. Introduction

Phase two of the CinfraCap project builds on the results from the pre-feasibility study conducted in 2021 and further investigates the possibilities of creating a joint infrastructure in and around the Port of Gothenburg for the interim transport, liquefaction and interim storage of captured CO_2 from the partner companies, Preem, Göteborg Energi, St1, Renova and potentially third parties.

This report is part of Work Package 5 ("WP5") and the work on developing a business model for CinfraCap. As part of WP5, Ramboll has developed a draft tariff model ("The Tariff Model") and a draft term sheet ("The Term Sheet") covering the cooperation between the potential joint venture between Nordion Energi and Göteborg Energi ("CinfraCap") and its partners. These are included in Appendix A and Appendix B. This report summarises the results of and comments on these two deliveries.

This summary report will provide the basis for discussion on the setup and assumptions for the final tariff model and term sheet which shall be agreed upon once a final technical setup is chosen.

The executive summary below highlights the key findings of the two deliveries of WP5. Chapters three and four provide a brief overview of the background for the project as well as the technical setup as described in more detail in Work Package 2 ("WP2"). The method, approach, assumptions, and results of the tariff model are described in chapter five while the term sheet is introduced and commented on in chapter six. Finally, the next steps and recommendations for further investigations related to WP5 are discussed.

Carbon Capture and Storage is internationally a relatively new activity where industry business models and contractual standards are not yet matured and/or developed. Ramboll has therefore used know-how from other Carbon Capture, Utilisation and Storage ("CCUS") projects as well as similar business areas – the natural gas and the liquified natural gas ("LNG") areas - to develop The Tariff Model and The Term Sheet, contextualising the knowledge to the CinfraCap-specific context.

3. Executive summary

3.1 The Tariff Model

The tariffs have been computed based on several design principles, outlined below. Please note that the tariffs are calculated without the consideration of any grants, subsidies, or other means of public funding. If such external funding is to be introduced, the tariffs will, all things equal, be lower than what is shown in the report.

Design principles

- The technical setup described in WP2 is split into ten infrastructure elements according to which partner uses each element. Six of them relate to the pipeline infrastructure, two to the truck and train offloading facilities and the remaining two to the liquefaction and the interim storage and loading facilities.
- The tariffs are cost-reflective and are calculated per infrastructure element to avoid/minimise cross-subsidies between partners.
- Tariffs are paid on a SEK/ton throughput basis (CO_2 volumes) per infrastructure element.
- The partners shall only pay for the use of infrastructure elements which they use.
- It is assumed that the partners will pay the same tariff per ton, for the use of the same infrastructure element.
- The tariff for each infrastructure element shall reflect both the CAPEX-related and OPEX-related costs as well as the financing costs.
- For all tariffs, the fees are calculated as the lowest possible tariff per ton which still delivers the required return to CinfraCap.

Based on these principles, the calculated tariffs provide a good understanding of the level for which the final tariffs should be, once the project is materialized. The calculated tariffs are based on CAPEX/OPEX figures provided by WP2 with a +/- 30% certainty. Furthermore, the high inflation and interest rates increase along with the current energy crisis in Europa is not reflected in the tariffs but can significantly impact the final input prices/parameters for the final project. The volumes assumed for each party, incl. third parties, are based on the assumptions provided by each party and the work in WP2. The parties have not committed fully to these volumes and the third party volumes are associated with high uncertainty. To address the uncertainty regarding the third party volumes, we have provided a sensitivity analysis, showing the impact of excluding all third parties. In conclusion, the tariffs should be viewed as a snapshot of the tariffs, given all the assumptions described in this report.

The base case tariffs

Given the design principles and the assumptions outlined in this report, the following Base Case tariffs have been computed. The tariffs are shown in real 2022 SEK prices per ton.
Table 1 below shows the range of the CAPEX-related and the OPEX-related tariffs per infrastructure element, including the two sensitivity analyses on depreciation and the sensitivity analysis without third-party participation. The min/max columns show the highest and lowest tariffs across the four base case scenarios investigated in this report. The max tariffs describe the sum of the CAPEX/OPEX tariffs per ton, while the average describes the average tariff per ton throughout the project lifetime. These differ from the max tariffs as the CAPEX tariffs are only paid as long as the assets are depreciating.

Table 1: Tariff overview per infrastructure elements, incl. sensitivity - all figures are given in SEK per ton

Infrastruct. element	Short description	CAPEX-related tariff		OPEX-related tariff		Max tariff[1]		Average tariff[2]	
		Min	Max	Min	Max	Min	Max	Min	Max
1a	Pipeline from Preem	23.17	27.86	0.68	0.68	23.85	28.54	15.72	21.39
2a	Pipeline from Göteborg Energi	6.76	8.17	0.87	0.88	7.63	9.05	5.78	7.63
3a	Pipeline from St1	0.57	0.74	0.06	0.07	0.63	0.81	0.42	0.56
4a	Pipeline from Renova	104.71	145.69	8.98	8.99	113.69	154.68	81.10	113.69
5a	Pipeline used by St1 and Renova	2.13	3.07	0.24	0.25	2.38	3.32	1.51	2.09
6a	Pipeline GE, St1 and Renova	2.68	3.80	0.31	0.31	2.99	4.11	1.92	2.63
7a	Truck offloading[3]	2.66	3.22	7.09	7.09	9.75	10.31	9.02	9.75
8a	Train offloading[3]	2.60	3.15	5.32	5.32	7.92	8.47	7.21	7.92
9a	Liquefaction	119.07	122.40	41.10	41.27	160.34	163.50	160.34	163.50
10a	Interim storage & loading	17.95	64.09	25.57	44.29	43.53	108.38	38.56	73.35

Table 2 below shows the same distribution but by partner instead of infrastructure element.

Table 2: Tariff overview per partner, incl. sensitivity – all figures are given in SEK per ton

Partner	Infrastructure elements	CAPEX-related tariff		OPEX-related tariff		Max tariff		Average tariff[4]	
		Min	Max	Min	Max	Min	Max	Min	Max
Preem	1a+10a	41.12	91.95	26.25	44.97	67.38	136.92	55.42	94.61
Göteborg Energi	2a + 6a + 9a + 10a	149.79	195.13	67.86	86.75	217.65	281.88	206.95	243.31
St1	3a + 5a + 6a + 9a + 10a	145.73	190.77	67.30	86.19	213.03	276.96	203.31	239.65
Renova	4a + 5a + 6a + 9a + 10a	249.87	335.72	76.22	95.11	326.09	430.83	280.76	325.36
Third Parties, truck[3]	7a + 10a	20.61	25.08	32.66	32.67	53.28	57.75	47.72	53.28
Third Parties, Train[3]	8a + 10a	20.55	25.01	30.89	30.90	51.45	55.91	45.91	51.45

The alternative case tariffs

Table 3 below shows the range of the CAPEX-related and the OPEX-related tariffs, including the sensitivity analyses on depreciation and with/without third-party participation for the alternative case. The table shows the distribution per infrastructure element.

[1] Max tariff = CAPEX tariff + OPEX tariff.

[2] The Average tariff differs from the Max tariff, as the latter is only paid as long as the assets of the given infrastructure elements are depreciating.

[3] Truck and train offloading facilities are excluded in the base case scenario if no third parties participate.

[4] Average tariff per partner is slightly different than the sum of average tariff per infrastructure, as partners use the elements for varying years.

Table 3: Tariff overview per infrastructure elements, incl. sensitivity - all figures are given in SEK per ton

Infrastruct. element	Short description	CAPEX-related tariff		OPEX-related tariff		Max tariff		Average tariff	
		Min	Max	Min	Max	Min	Max	Min	Max
1b	Pipeline from Preem	23.62	28.40	0.67	0.68	24.30	29.08	16.01	21.79
2b	Pipeline from Göteborg Energi	6.76	8.17	0.87	0.88	7.63	9.05	5.78	7.63
3b	Pipeline from St1	4.41	5.78	0.51	0.51	4.92	6.29	3.28	4.39
4b	Pipeline used by GE and St1	3.05	4.01	0.35	0.36	3.41	4.36	2.27	3.04
5b	Pipeline used by Preem, GE & St1	0.68	0.86	0.08	0.08	0.76	0.94	0.51	0.68
6b	Truck offloading	2.66	11.31	7.09	22.09	9.75	33.40	9.02	27.69
7b	Train offloading[5]	2.60	3.15	5.32	5.32	7.92	8.47	7.21	7.92
8b	Liquefaction	102.37	120.69	31.94	31.95	134.32	152.63	106.47	134.32
9b	Interim storage & loading	19.40	63.97	26.03	42.60	45.43	106.57	40.16	71.61

Table 4 below shows the same distribution but by partner instead of infrastructure element.

Table 4: Tariff overview per partner, incl. sensitivity – all figures are given in SEK per ton

Partner	Infrastructure elements	CAPEX-related tariff		OPEX-related tariff		Max tariff		Average tariff	
		Min	Max	Min	Max	Min	Max	Min	Max
Preem	1b + 5b + 8b + 9b	146.07	213.92	58.73	75.30	204.81	289.22	167.61	203.60
Göteborg Energi	2b + 4b + 5b + 8b + 9b	132.26	197.70	59.28	75.85	191.55	273.55	152.97	191.10
St1	3b + 4b + 5b + 8b + 9b	129.91	195.31	58.92	75.48	188.84	270.79	150.43	187.86
Renova	6b + 9b	22.06	75.28	33.12	64.69	55.18	139.97	46.30	92.26
Third Parties, truck[6]	6b + 9b	22.06	26.60	33.12	33.13	55.18	59.73	50.92	55.18
Third Parties, Train[6]	7b + 9b	22.00	26.53	31.35	31.36	53.35	57.89	47.28	53.35

The tariffs and the sensitivity analyses are elaborated in Chapter 6.

[5] The train offloading facilities are excluded in the alternative case scenario if no third parties participate.

[6] If third parties are excluded, as in one of the sensitivity analyses, so are the tariffs paid for these parties.

3.2 The Term Sheet

Brief introduction

- Covers relevant key technical, operational and economical aspects are considered
- The Term Sheet can form the basis for the final agreement(s) between the parties but is not a legal document/contract.
- The Term Sheet is attached as Appendix B and commented on in this report.
- The Term Sheet is based on experience from the gas and LNG business adjusted to the specific context of the CinfraCap project

Key heads of terms

The Term Sheet covers the following heads of terms:

- Infrastructure (the specific technical setup)
- Founding Partners
- Start-up schedule
- Operations
- Title (ownership)
- Term
- CO_2 Quality and CO_2 specifications
- Capacity and throughput reservations
- Planning and scheduling for deliveries
- Planning and scheduling of loading
- Tariffs, fees and payments
- Other contractual legal terms
- Contact persons

Each of these is elaborated on in Appendix B and commented on in this report.

4. Background

The CinfraCap project is a collaborative venture between Göteborg Energi, Nordion Energi, Preem, St1, Renova, and the Port of Gothenburg with the goal to develop and establish a cost and climate efficient infrastructure for transporting and handling captured CO_2 in Gothenburg, before final storage offshore. The project has the potential to be one of the biggest Carbon Capture and Storage ("CCS") projects in the world if it becomes operational as planned in 2026 with third-party access.

The CinfraCap project partners Preem, Göteborg Energi, St1, and Renova will capture CO_2 at their facilities in Gothenburg and the capture facilities will be built, owned and operated by themselves. It is intended that a joint venture between Göteborg Energi and Nordion Energi ("CinfraCap") will build, own and operate the necessary infrastructure for transporting the partners' volumes via pipeline to the CinfraCap site at the Port of Gothenburg[7], for liquefaction of the CO_2 for some of the partners and for the interim storage of the liquid CO_2 for all the partners. The CO_2 will then be collected at the port by a final storage provider to permanently store the captured CO_2 offshore.

Once operational, truck and train offloading facilities will make it possible for the interim storage facilities to be open to third parties, creating an attractive outlet for captured CO_2 to all industries within reach that may wish to join. This also has the potential to lower the cost for the founding partners.

All the CinfraCap project partners have been involved in the process and discussions of WP5 and have actively participated with feedback, development of some of the assumptions and clarifications of the project and technical setup. Ramboll has also met physically with all partners at the beginning of the project to understand each partner's situation and participation in the CinfraCap project.

[7] In the alternative technical setup, CO_2 from Renova will be transported by trucks which will not be owned and operated by CinfraCap.

5. The technical setup

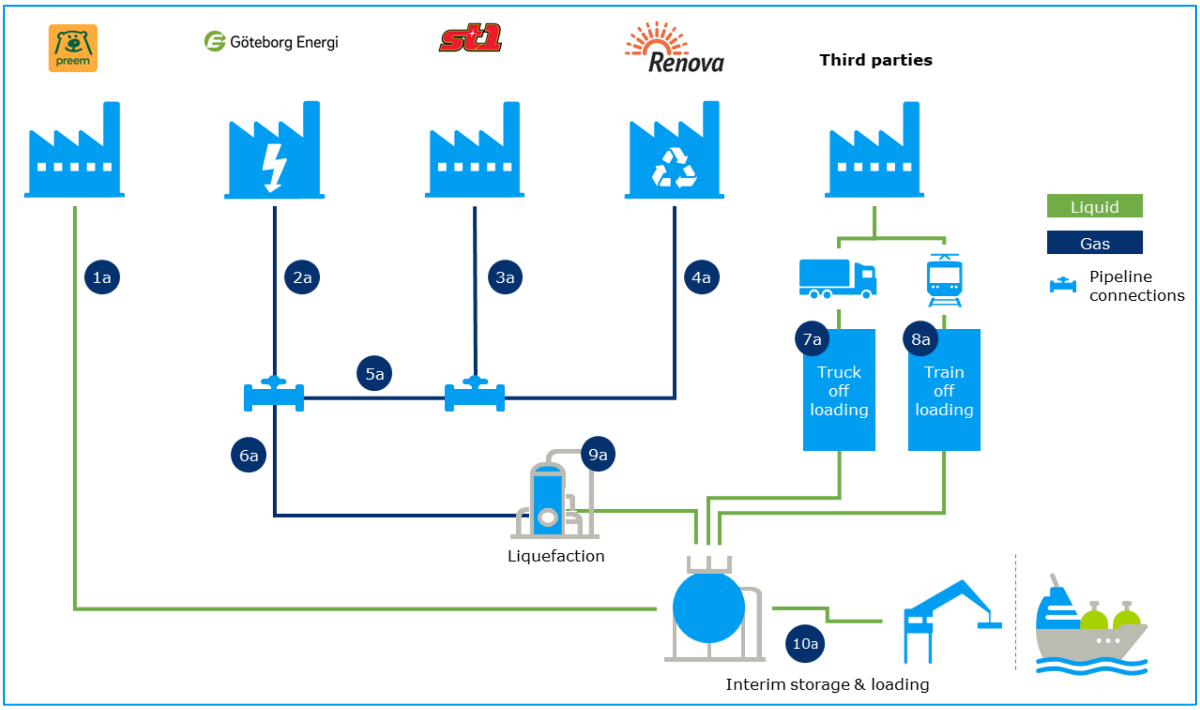
The technical setup of the CinfraCap project has been analysed in detail in WP2 and outlined by Kanfa Group in their report, CinfraCap Study Report - Feasibility Study II (WP2) ("The Technical Report"). In the following, the main technical elements of importance to the understanding of The Tariff Model and The Term Sheet are briefly touched upon. For a detailed overview please refer to The Technical Report.

The technical setup of the base case scenario ("The Base Case") is outlined in section 5.1 below. In section 5.2 the alternative case scenario ("The Alternative Case") is outlined by highlighting the differences from The Base Case, assuming everything else stays the same.

5.1 The technical setup of The Base Case

In The Base Case, all the project partners deliver CO_2 through pipelines to the CinfraCap site at the Port of Gothenburg. Preem delivers its CO_2 in a liquid state directly to the interim storage facilities. The CO_2 from Göteborg Energi, St1 and Renova is processed and liquified at the CinfraCap site before being stored at the interim storage facility. Third parties deliver liquefied CO_2 to the CinfraCap site by either truck or train. A simplified overview of the technical setup for The Base Case is shown in Figure 1 below.

Figure 1: Simplification of The Base Case Technical Setup



In Table 5-2 of The Technical Report, the various sections of the pipelines from the partners are outlined. In the context of The Tariff Model, the pipelines of The Base Case setup are split into six sections used only by one partner or shared between partners, as illustrated in Figure 1.

Preem will only be using a dedicated pipeline from their own facilities to the interim storage facilities, as illustrated by 1a in the figure. Both Göteborg Energi, St1, and Renova will have a section of pipeline dedicated to them from their respective facilities, illustrated with 2a, 3a and 4a in the figure above. Renova's dedicated pipeline will tie in with the dedicated pipeline for St1 and then tie in with the dedicated pipeline from Göteborg Energi. This section of the Pipeline is illustrated in Figure 1 by 5a. The final pipeline section, 6a, is shared between Göteborg Energi, St1, and Renova and delivers their CO_2 to be processed at the liquefaction facility at the CinfraCap site, 9a in the figure. The liquefied CO_2 is then transported to the interim storage and loading facilities illustrated by 10a.

Third Parties will deliver their CO_2 by either truck or train to the offloading facilities illustrated by 7a and 8a in Figure 1. From there it is stored at the interim storage facility.

The CO_2 from all partners is collected by ships (which are not owned by CinfraCap) and transported to final storage by a final storage provider (again, not owned by CinfraCap).

5.1.1 Project timeline

The initial operational date of the CinfraCap infrastructure is planned to be October 1st 2026 to accommodate for Preem's and St1's activities. As described in The Technical Report, the first investments need to start already in 2023 to meet this deadline. The last CAPEX investments are planned for 2039[8]. To allow 15 years of operation following the last investment, it is assumed that the operations will continue until and including 2054. Furthermore, it is assumed that it will take one year to conduct the necessary decommissioning activities, which are assumed will take place in 2055.

In conclusion, a project timeline from 2023-2055, with operations from 2026-2054, has been used as the basis for The Tariff Model.

5.1.2 Project volumes – Base Case

Table 5 below shows the volume assumptions for The Base Case. The volumes for 2026-2040 for the partners are based on the input from Table 3-3 from The Technical Report and the third parties' volumes from 2026-2040 are based on input from the May 24 WP2 biweekly meeting presentation[9]. In the last quarter of 2026, it is assumed that Preem and St1 will deliver the equivalent of 25% of the annual throughput volumes of 2027. From 2040, the volumes are assumed to be steady until the operational project end date which is assumed to be in ultimo 2054 as described above in section 5.1.1.

Table 5: The Base Case scenario, annual CO_2 volumes in kt

	Preem	St1	Göteborg Energi	Renova	Third parties (truck)	Third parties (train)	Total
State	Liquid	Gas	Gas	Gas	Liquid	Liquid	N/A
2026	75.00	22.50	0.00	0.00	0.00	0.00	97.50
2027-29	300.00	90.00	0.00	0.00	0.00	0.00	390.00
2030	300.00	90.00	156.00	160.00	1,000.00	2,000.00	3,706.00
2031-34	300.00	390.00	156.00	160.00	1,000.00	2,000.00	4,006.00
2035-39	300.00	390.00	156.00	320.00	1,000.00	2,000.00	4,166.00
2040-54	300.00	390.00	156.00	500.00	1,000.00	2,000.00	4,346.00

Both Göteborg Energi and Renova have seasonal variations throughout the year. However, this is accounted for in the technical setup as the infrastructure has been dimensioned for the maximum

[8] See the section on the CAPEX/OPEX figures for more details

[9] Please see the file "CinfraCap - Biweekly meeting 24.05.22" in WP2 on the joint SharePoint

hourly capacity required. For an overview of the maximum hourly capacity, please refer to The Technical Report.

The offloading capacity for tucks is assumed in the Technical Report to be 2.5 trucks per hour or 60 trucks of 50 tons per day – delivering total annual volumes of 1 million tons of CO_2. For trains, it is assumed that six trains a day will deliver 840 m^3 each totalling 2 million tons annually.

5.1.3 Site layout

According to information from the Port of Gothenburg, CinfraCap will lease an area of 15,000 m^2 for its activities at the Port. Table 6 below shows the distribution of the leased port area, split according to the infrastructure overview in Figure 1. This split is used in The Tariff Model to distribute the fixed annual fees to the Port, as described in section 6.4.

Table 6: Distribution of leased Port area, Base Case

Infrastructure element	Figure 1 reference	Area (m^2)	Share (% of total)
Pipelines	1a-6a	0	0%
Truck offloading	7a	1,200	8%
Train offloading	8a	3,000	20%
Liquefaction	9a	3,240	22%
Interim storage & loading	10a	7,560	50%
SUM		**15,000**	**100%**

The split is made following the data from Table 5-1 of The Technical Report. However, the line item for the *area for pipe trunks, pipe racks etc.* is included in the interim storage & loading used by all parties as it covers all the infrastructure elements and the split hereof is unclear. The interim storage and loading also includes the ca. 2,000 m^2 discrepancy between the leased area estimate and Table-5-1 of The Technical Report. This has been chosen as all parties use this last infrastructure element.

5.1.4 Liquefaction

The liquefaction facility is built in four phases. Due to the low initial volumes delivered by only St1 in 2026-2029, the initial setup of the liquefaction facility in The Base Case will be a small modularized/standardized unit which is then swapped for a bigger installation in 2030 once the additional volumes from Göteborg Energi and Renova are available. The liquefaction facility is then expanded to be able to handle the increased volumes from 2035 and again in 2040. Table 7 below shows the annual volume throughput for liquefaction per partner.

Table 7: Annual liquefaction volumes in kt per partner, The Base Case

	St1	Göteborg Energi	Renova	Total
2026	22.50	0.00	0.00	22.50
2027-29	90.00	0.00	0.00	90.00
2030	90.00	156.00	160.00	406.00
2031-34	390.00	156.00	160.00	706.00
2035-39	390.00	156.00	320.00	866.00
2040-54	390.00	156.00	500.00	1,046.00

According to section 9.5 of The Technical Report, the potential surplus heating which can be used for district heating will be a total of 27.5 MW_{th} at full capacity in 2040, stemming from 3.5 MW_{th} direct heat exchange and 24 MW_{th} from integrating a heat pump.

5.1.5 Interim Storage & loading

A total of eight spherical storage tanks will be installed, each with an effective volume of 1,800 m^3 according to The Technical Report section 4.1.4. The first five storage tanks will be installed from the beginning of the project, being operational in 2026 with the last 3 coming online in 2030. The total effective capacity of the storage tanks will be 9,000 m^3 in 2026 and 14,400 m^3 by 2030. The storage facility is designed to match the filling of one ship from the final storage providers, assuming ship sizes of ca. 7,500 m^3 by 2026 and with the possibility of having bigger ships capable of collecting 12,000m^3 from 2030. The frequency of ships coming to collect the CO_2 has to match the nominated volumes throughout the year and should be coordinated through CinfraCap. This will also be touched upon in The Term Sheet.

Once operational, all the storage tanks will be filled simultaneously, thus the CO_2 from the partners and third parties will be mixed in the tanks, and it will not be physically possible to distinguish the volumes from each other. This has to be considered in the agreement between the partners.

5.1.6 CO_2 specifications

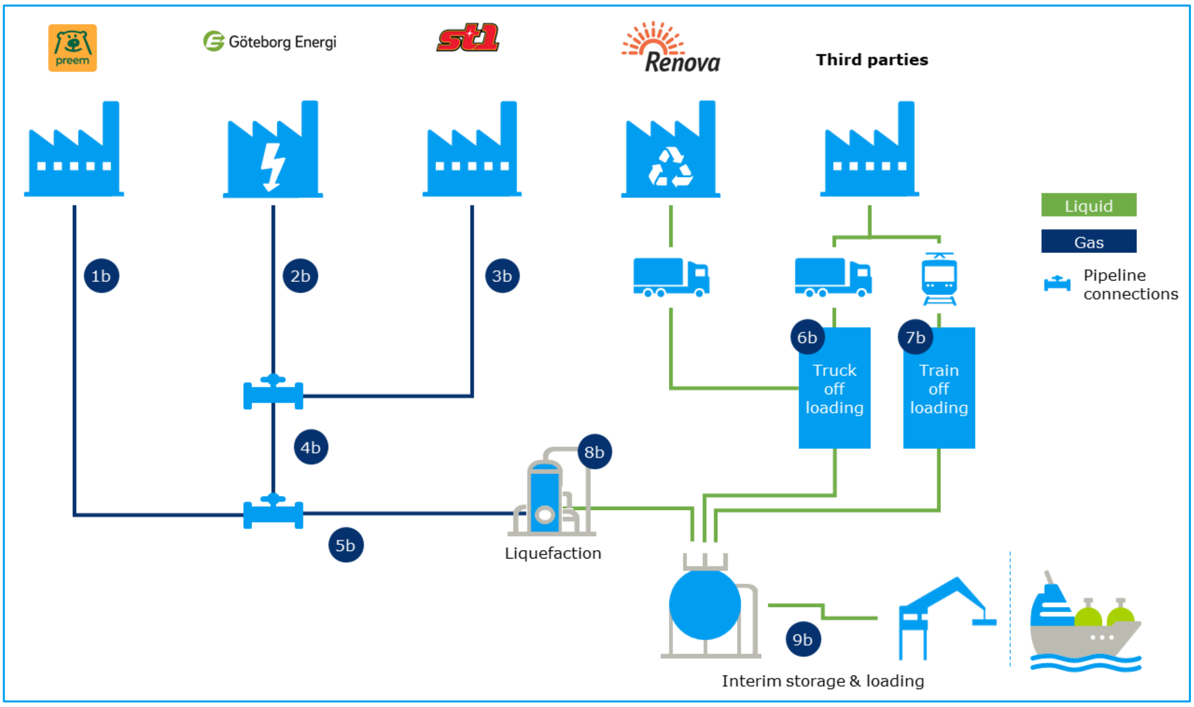
The quality requirements of the final storage providers can be of high and varying standards. As will be discussed in the comments to The Term Sheet the parties need to agree on the CO_2 specifications for the CO_2 entering the battery limits of CinfraCap. The volume and quality of the CO_2 must be measured before entering/exiting the battery limits of the CinfraCap infrastructure – to avoid any negative commercial consequences due to the contamination of the CO_2 in the liquefaction or storage tanks facilities. In The Technical Report, it is described how the quality shall be measured and controlled at the facilities of each of the partners before entering the CinfraCap system. These measurements are shared directly with CinfraCap. Likewise, the CO_2 quality is measured and controlled at the offloading facilities for both trucks and trains. Finally, the loading arms will also have an analyzer and fiscal metering installed upstream to ensure and document the quality of the CO_2 transferred to the ships.

5.2 The technical setup of The Alternative Case

The technical setup in The Alternative Case is similar to The Base Case, except for what is outlined in this section of the report.

The two main differences in The Alternative Case are that Renova will deliver liquefied CO_2 by truck instead of gaseous CO_2 by pipeline and that Preem will deliver gaseous CO_2 instead of liquid CO_2. Preem will thus need to use the liquefaction facilities as well. The simplification of The Alternative Case is illustrated in the figure below.

Figure 2: Simplification of The Alternative Case Technical Setup



The pipeline sections of The Alternative Case are outlined in Table 5-3 of The Technical Report. The difference to The Base Case is that Renova will not be utilising a pipeline and that Preem's pipeline will tie in with the shared pipeline from Göteborg Energi and St1, ca. 200 meters before the liquefaction facility. The three partners will thus share the last segment of the pipeline, illustrated by 5b in the figure above.

5.2.1 Project volumes – Alternative Case

In The Alternative Case, the volumes are the same for all parties, except for third parties by truck, as some of the volumes are taken up by Renova. To calculate the tariffs for The Alternative Case, it is assumed Renova will use trucks instead of a pipeline. However, the final choice of truck or train for Renova remains undetermined. The other key difference is the state of the CO_2 in The Alternative Case, where Preem will deliver the CO_2 in a gaseous state instead of a liquid state and Renova the opposite. This also entails that Preem will be using the liquefaction unit in The Alternative Case, while Renova will not. The volumes for the remaining partners remain the same. Table 8 below shows the volume assumption for The Alternative Case.

Table 8: The Alternative Case scenario, annual CO_2 volumes in kt

	Preem	St1	Göteborg Energi	Renova	Third parties (truck)	Third parties (train)	Total
State	Gas	Gas	Gas	Liquid	Liquid	Liquid	N/A
2026	75.00	22.50	0.00	0.00	0.00	0.00	97.50
2027-29	300.00	90.00	0.00	0.00	0.00	0.00	390.00
2030	300.00	90.00	156.00	160.00	840.00	2,000.00	3,546.00
2031-34	300.00	390.00	156.00	160.00	840.00	2,000.00	3,846.00
2035-39	300.00	390.00	156.00	320.00	680.00	2,000.00	3,846.00
2040-54	300.00	390.00	156.00	500.00	500.00	2,000.00	3,846.00

As in The Base Case, the volumes for 2026-2040 are derived based on the input from The Technical Report and the third parties' volumes from the May 24 WP2 biweekly meeting presentation[10]. The volumes are also assumed to be steady until the operational project end date, which is assumed to be in ultimo 2054, to allow a 15-year operational period after the last CAPEX investment in 2039.

5.2.2 Liquefaction

The different technical setup of The Alternative Case also affects the Liquefaction facility. In The Alternative Case, there will be much higher volumes passing through the liquefaction from 2026 to 2035 while there will be 200 kt less CO_2 passing through the liquefaction from 2035 and onwards. Table 9 below shows the annual distribution of volumes in the liquefaction facility in The Alternative Case.

Unlike The Base Case, an interim modularized/standardized unit is not needed at the start of The Alternative Case due to the higher initial volumes. Therefore, the liquefaction facility in The Alternative Case will only have two different investment phases, one initially and then an expansion of the capacity in 2030 to accommodate the increase in volumes.

Table 9: Annual liquefaction volumes in kt per partner, The Alternative Case

	Preem	St1	Göteborg Energi	Total
2026	75.00	22.50	0.00	97.50
2027-29	300.00	90.00	0.00	390.00
2030	300.00	90.00	156.00	546.00
2031-34	300.00	390.00	156.00	846.00
2035-39	300.00	390.00	156.00	846.00
2040-54	300.00	390.00	156.00	846.00

As the volumes passing through the liquefaction facilities in 2040 in The Alternative Case are only 81% of the volumes in The Base Case, an equivalent decrease in the potential surplus heating for district heating is assumed. Hence, in The Alternative Case, 22.24 MW_{th} of heat for district heating in 2040 is assumed compared to the 27.5 MW_{th} in The Base Case.

[10] Please see the file "CinfraCap - Biweekly meeting 24.05.22" in WP2 on the joint SharePoint

6. The Tariff Model

In this chapter, The Tariff Model is introduced and discussed. Sections 6.1 and 6.2 introduce the design principles which The Tariff Model is built upon and the specific method applied to calculate the tariffs. Sections 6.3 and 6.4 outline the general assumptions and port fees applicable for both The Base Case and The Alternative Case. Section 6.5 details the specific assumptions related to The Base Case and provides an overview of the calculated tariffs for The Base Case. Finally, section 0 focuses on The Alternative Case and outlines the difference in assumptions to The Base Case and describes the adjusted tariffs under The Alternative Case assumptions. In both sections 6.5 and 0, a sensitivity analysis is conducted on two of the main assumptions, the depreciation of assets and the addition of third-party volumes.

The calculations behind the estimated tariffs described below are attached in Appendix A.

6.1 Design principles

The Tariff Model is built with the following fundamental design principles in mind:

- The tariffs have to be cost-reflective and calculated per infrastructure element to avoid/minimise cross-subsidies between partners.
- Tariffs are paid on a SEK/ton throughput basis per infrastructure element.
- The partners shall only pay for the use of infrastructure elements which they use.
- It is assumed that the partners will pay the same tariff per ton, for the use of the same infrastructure element.
- The tariff for each infrastructure element shall reflect both the CAPEX-related and OPEX-related costs as well as the financing costs.
- For all tariffs, the fees are calculated as the lowest possible tariff per ton which still delivers the required return to CinfraCap.

Based on the principles above, The Tariff Model is designed with one CAPEX-related tariff and one OPEX-related tariff for each infrastructure element. The infrastructure elements are denoted by 1a-10a in Figure 1 for The Base Case and 1b-9b in Figure 2 for The Alternative Case.

As is touched upon in The Term Sheet, it is also assumed that the parties will enter into a take-or-pay model alike the ones known from the LNG and natural gas business, where partners using the CinfraCap infrastructure will pay for a reserved volume and max capacity booking no matter if the system is used or not. This helps reduce the risk for CinfraCap and ensures the lowest possible price for all partners.

6.2 Method

To calculate the lowest possible tariffs which still ensure the required financial return for the CinfraCap owners, a discounted cash flow ("DCF") analysis approach is used. The DCF model reflects the projected project cash flows, under the assumptions described in this report. This is used to find the Net Present Value ("NPV") of all the investments. The NPV analysis is a well-known financial metric used for evaluating projects and investment decisions by estimating their profitability given the time value of money (the required rate of return). The NPV analysis describes the projected difference between the present value of cash inflows and cash outflows throughout the project's lifetime. If the NPV is positive a project delivers the required return to the investors.

The NPV is found by setting up a DCF analysis based on projected revenues and costs. In this case, this is the projected CAPEX and OPEX costs, port fees, district heating revenue, and the revenue from both the CAPEX- and OPEX-related tariffs. The free cash flows ("FCF") which are derived based on these inputs are then discounted by the weighted average cost of capital (the required rate of return) and the sum of all the present values of the cash flows is the NPV.

Based on the input and assumptions described below the tariffs for each infrastructure element are found which correspond to the smallest possible positive NPV. To avoid cross-subsidisation, the NPV analysis has been calculated as if each infrastructure element is an individual project.

6.2.1 A two-step approach to the estimation of tariffs

The tariffs for each infrastructure element, 1a-10a in The Base Case and 1b-9b in The Alternative Case, are calculated in a two-step process:

Firstly, an isolated NPV analysis for the optimal CAPEX-related tariff is conducted to ensure a sufficient payback on the assets. Technically a hypothetical analysis is calculated as if there will only be CAPEX-related costs and only a CAPEX-related tariff as the source of income. The data tables for this analysis are used to find the lowest possible CAPEX-related tariff for each infrastructure element which yields a positive NPV.

Secondly, the calculated CAPEX-related tariff is then used as input for the overall NPV analysis for each infrastructure element and used to solve for the lowest possible OPEX-related tariff, still delivering the smallest possible positive overall NPV. This analysis incorporates both the CAPEX-related and OPEX-related tariffs, as well as all costs and other sources of revenue (e.g. district heating revenue).

6.3 General assumptions

Volumes and project lifetime

The volumes for both The Base Case and The Alternative Case as well as the assumed project timeline of 2023-2055 with operations from 2026-2054 are described in chapter 5. While 2023-2026 are used for the initial construction of the first technical installations, 2055 is assumed to be used for decommissioning activities, as described in section 5.1.1.

Decommissioning

As discussed with CinfraCap, Ramboll has assumed a decommissioning cost of 10% of CAPEX on all assets, and that all assets can be decommissioned in 2055 within that same year. This is based on the previous experience of Ramboll and also discussed with Göteborg Energi based on their experience. In The Tariff Model, provisions of 1% of the CAPEX are assumed for the last ten years of operation, to save up for the decommissioning.

Real prices

The tariffs are calculated in real prices, i.e. in 2022 prices. This is because the input received from WP2 generally is given in 2022 prices. In addition, the high volatility of the international economy at the moment makes it difficult to accurately incorporate inflation into nominal figures. Hence, the real prices give a better starting point for the discussion of the tariffs and the underlying factors and assumptions affecting them.

In the final contracts between the CinfraCap partners, Ramboll suggests the actual nominal tariffs will be regulated based on price indexes to be agreed upon between the parties. This is further discussed in chapter 7 where The Term Sheet is commented on.

Since the first draft report in June, it has come to the attention of Ramboll, that not all OPEX figures provided by Kanfa have been in 2022 prices, as otherwise stated in section 9.1 of The Technical Report. Hence, both the electricity prices and the operator manhour costs have been provided in 2026 prices. If an inflation rate of 2.5% per year is assumed, 100 SEK in 2026 prices would equal 90.60 SEK in 2022. I.e. if the manhour costs are adjusted to 2022 prices, the associated OPEX costs would be ca. 10% lower. However, for the purpose of this report, we have treated/assumed that all prices provided by Kanfa and the work in WP2 are in 2022 real prices.

The alignment to use the same price year for all costs should however be corrected in the next phase where more detailed calculations are conducted. However, it should be noted that adjusting the mentioned costs to 2022 prices, is expected to have a minor overall effect on the tariffs.

Weighted Average Cost of Capital (required rate of return)

The free cash flows of the DCF models for each of the infrastructure elements are discounted by the required rate of return of the CinfraCap owners, considering their capital structure. Nordion Energi and Göteborg Energi have provided a ballpark estimate of a combined real return on debt and equity, i.e. a real Weighted Average Cost of Capital ("WACC") of 8%.

The WACC is applied throughout The Tariff Model, to determine the lowest possible tariffs, while still providing the required rate of return of 8%.

Without knowing the exact capital structure it is not possible to calculate any debt interest payments and the so-called tax shield hereof. The tax shield is the amount which can be deducted from the firm's taxes due to interest payments on the loans which it has. Therefore the free cash flows will appear as if they are 100% equity financed. If debt is introduced, the FCFs will change slightly, as there will be interest payments as well as a tax shield on these interest payments. However, for now, it is assumed that the investments are made with 100% equity and then discounted by the WACC of 8%.

Depreciation

As a starting point, a 15-year straight-line depreciation period for all assets has been applied. This has been chosen to reflect a possible initial commitment of 15 years from the partners.

The depreciation length impacts the tariffs paid, as it is assumed that the CAPEX-related tariffs are only paid as long as there is any value left on the assets to depreciate. This entails that CinfraCap will be able to recoup its investments faster than the overall project lifetime for some infrastructure elements, thus reducing the risk associated with the investment, lowering the required rate of return and ultimately providing the lowest possible tariffs.

The pipelines, truck and train offloading infrastructure only have one investment phase and thus are depreciated in The Tariff Model over the first 15 years in which they are operational. Afterwards, the users of these infrastructure elements will only pay for the OPEX-related tariffs.

The liquefaction has four investment phases with an increasing capacity becoming operational from 2026-2040. This entails that the combined assets will depreciate from 2027-2054 and the CAPEX-related tariffs for the liquefaction are distributed throughout the whole project period. This does not necessarily increase the risks for CinfraCap, as the additional extensions will only be built if such are still necessary.

Finally, the interim storage and loading infrastructure has two investment phases, with the last expansion becoming operational in 2030. This entails that the assets are depreciated from 2027 to 2044.

In The Tariff Model, it is assumed that the depreciation of assets becoming operational in Q4 of 2026 will start depreciating from 2027. This small delay of 3 months has a neglectable impact on the calculations.

Tax

A corporate tax rate of 20.6% has been applied. If the project has a loss in a given year, no tax is paid and it is assumed that any hypothetical negative EBIT is carried forward and deducted from the next positive EBIT years, thus reducing the taxable income and the tax payments.

This has the effect that the consolidated DCF analysis has a slightly higher NPV due to a bigger effect of this tax mechanism when consolidated. This entails that the consolidated DCF has a positive NPV of 947,423 SEK compared to the sum of the NPV analyses for each infrastructure element totalling 240,905 SEK.

Net Working Capital

The Net Working Capital ("NWC") is simply put, the difference between the short-term assets of the company and the short-term liabilities of the company. It has an impact on the free cash flows as the cash is held up in the operation of the project. In The Tariff Model, 45 days for accounts receivable and 30 days for accounts payable have been assumed.

Electricity Prices

In The Tariff Model, the costs associated with the operational electrical power are included in the OPEX costs provided by Kanfa. In these, an electricity price of 0.56 SEK/MWh is assumed. The price assumes a PPA agreement of 0.44 SEK/MWh and the remaining 0.12 SEK/MWh are costs related to subscription, transfer, effect and the reactive effect. The current energy crisis in Europe creates high uncertainties about future electricity prices. The 0.56 SEK/MWh assumption is therefor associated with considerable uncertainty, as the electricity price could be e.g. double the price level assumed. Furthermore, the price assumption does not include tax. There is still a risk that CinfraCap will have to pay the full or partial electricity tax of 0.36 SEK.

A higher electricity cost due to either a price increase or the inclusion of the electricity tax (or both) can especially impact the OPEX tariffs for the liquefaction facility where electricity accounts for ca. three-quarters of the OPEX costs with the current electricity price assumption of 56 SEK/MWh.

As the OPEX-related tariffs are not automatically adjusted according to the electricity price specifically, it is assumed in The Tariff Model that CinfraCap will enter into a Power Purchasing Agreement ("PPA") to secure the cost of the electricity and reduce the price risks related to the volatility in the electricity market.

Boil-off gases

The additional OPEX costs for handling boil-off gasses have not been considered in the OPEX figures provided by WP2 and therefore are also excluded in the calculations for the tariffs provided in this report. The OPEX costs associated with the boil-off gasses can be considered in the next phase of the project when tariffs are calculated with a higher degree of certainty.

Remaining general assumptions

Other remaining assumptions covering the CAPEX, OPEX and the district heating potential are specific to The Base Case and The Alternative Case and are covered in sections 6.5 and 0 below.

Please note specifically for the district heating revenue potential described below, that the associated OPEX costs of enabling the use of the surplus heat from the liquefaction facility have not been considered in WP2 and hence also not included in the calculations for the tariff model.

6.4 Port fees

The Port of Gothenburg has provided us with the following indicative fees to include as an assumption in the estimations of the tariffs:

- 20 SEK/ton for Goods fee (Varuhamnsavgift). I.e. 20 SEK for every ton passing from the interim storage to the ships transporting the CO_2 to the final storage.
- 14 million SEK fixed fee per year for the usage of land and quays, including the land fee (Arrendeavgift).

It is assumed that both fees are paid by CinfraCap. The Goods fee is included as the cost of goods sold for the Interim storage and loading tariff, 9a. The fixed fee is included as OPEX in tariffs calculations for the truck and train offloading, the liquefaction, and the interim storage and loading. The annual fixed fee is split between the infrastructure elements according to the share of the leased area as described in Table 10 below.

It has to be stressed that the fees provided by the Port of Gothenburg as outlined above have not been discussed and negotiated between CinfraCap and the Port and are thus subject to commercial negotiations between the parties.

Table 10: Distribution of the fixed annual fee to the Port of Gothenburg

Infrastructure element	Tariff reference (Alternative Case)	Area (m^2)	Fixed fee (SEK)	Share (% of total)
Pipelines	1a-6a (1b-5b)	0	0.00	0%
Truck offloading	7a (6b)	1,200	1,120,000.00	8%
Train offloading	8a (7b)	3,000	2,800,000.00	20%
Liquefaction	9a (8b)	3,240	3,024,000.00	22%
Interim storage & loading	10a (9b)	7,560	7,056,000.00	50%
SUM		**15,000**	**14,000,000.00**	**100%**

It is assumed that the fixed fee to the Port of Gothenburg is paid throughout the project period, including construction and decommissioning, i.e. from 2023-2055.

In addition to the port fees above, any ship arriving at the port will have to pay a Vessel fee (Fartygshamnsavgift) based on the gross tonnage of the vessel. This is not included as part of The Tariff Model, as it is assumed that this will not be paid by CinfraCap but by the owner of the ship, e.g. the final storage provider, which will include the costs hereof in their fees.

6.5 The Base Case

In this section, the specific assumptions related to The Base Case are discussed and outlined.

6.5.1 Base Case CAPEX

The starting point for the CAPEX figures used in The Tariff Model is the figures provided by Kanfa Group and the work performed in WP2. The most recent CAPEX figures can be found in the SharePoint folder of WP2, with the title "Appendix I1-CAPEX Base case summary all rev 01" ("WP2 Base Case CAPEX Estimates").

The CAPEX figures provided for each infrastructure element are accounted for in WP2 but generally consist of five main elements:

A. Procurement
B. Construction
C. Administration and Engineering manhours
D. Other costs
E. Contingency

In the WP2 Base Case CAPEX Estimates file the CAPEX estimations are divided by year and are split into the pipeline infrastructure (broken down per partner), the train offloading station, the truck offloading station, the liquefaction facility as well as the interim storage and loading facility.

General adjustments

To align with the volume assumptions outlined in section 5.1.2, Ramboll has adjusted these figures slightly by moving the following CAPEX one year forward. This is done, as it is assumed that CAPEX-related costs need to be finalised before the volumes can become operational.

- The CAPEX related to the truck and train offloading facilities have been moved one year forward so that it is finalised in 2029 and is ready to accommodate the expected volumes from third parties from 2030.
- The second investment phase of the liquefaction facility has been moved one year forward so that it is finalised in 2029 and is ready to accommodate the planned volume deliveries from Göteborg Energi and Renova starting in 2030.
- The third and fourth investment phases of the liquefaction facility have likewise been moved one year forward so that they are finalised in 2034 and 2039 and are ready to accommodate the planned increase in volumes from Renova from 2035 and 2040.
- The finalisation of the second investment phase of the interim storage and loading facility expansion has been moved from 2031 to 2030 to accommodate the assumed ramp-up in volumes from 390 kt/year to 3,706 kt per year in 2030.

Pipeline specific adjustments

Kanfa Group has also provided a breakdown per pipeline segment and it has been uploaded to the WP5 SharePoint folder as "Capex pipeline-Basecase pr sections rev01.pdf". In this file, the CAPEX figures are only shown as the total CAPEX for each segment of the pipeline and not divided per year as with the other infrastructure elements. Ramboll has therefore made some adjustments as described below to be able to use the figures in The Tariff Model:

- It is assumed that all the shared pipelines will be built in due time to serve the first partner with planned volumes. This means that the pipelines, infrastructure elements 5a and 6a in Figure 1, shared between St1, Renova and Göteborg Energi will have to be ready in 2026 to be able to serve the volumes of St1.
- The pipeline only serving Göteborg Energi is assumed to be finalised in 2029 to be able to handle their expected volumes from 2030.
- To distribute the CAPEX costs per year, the same yearly split as in the WP2 Base Case CAPEX Estimates file for each of the CAPEX elements has been assumed.

The CAPEX related to the part of the pipeline only serving Renova has been calculated by COWI as part of WP2. In The Tariff Model, it is assumed that the pipeline only serving Renova also will be built in four years like the remaining pipelines and that it will have the same yearly distribution of the CAPEX costs during these years as the average of the remaining pipelines. To be able to serve the expected volumes from Renova in 2030, the pipeline is thus assumed to be constructed in 2026-2029.

The adjusted CAPEX are included as Worksheet 4.2 in The Tariff Model for The Base Case. The CAPEX figures can also be found as a PDF printout in appendix C1.

6.5.2 Base Case OPEX

The starting point for the OPEX figures used in The Tariff Model is the figures provided by Kanfa Group and the work performed in WP2. The most recent OPEX figures can be found in the SharePoint folder of WP2, with the title "21W024 OPEX CinfraCap-Base case-rev01.1 19.06.22" ("WP2 Base Case OPEX Estimates").

The OPEX figures provided for each infrastructure element are accounted for in WP2 but generally consist of five main elements:

A. Maintenance
B. Operation
C. Administration
D. Electrical Power
E. Consumables

In the WP2 Base Case OPEX Estimates file the OPEX estimations provided for 2026-2051 are divided by year and are split into the pipeline infrastructure (broken down per partner), the train offloading station, the truck offloading station, the liquefaction facility as well as the interim storage and loading facility.

General adjustments

To align with volume assumptions outlined in section 5.1.2, Ramboll has adjusted the OPEX figures slightly by moving the following OPEX one year forward. This is done, as it is assumed that there will be OPEX-related costs from the first year the increased volumes become operational.

- The OPEX related to the truck and train offloading facilities have been moved one year forward so that it starts in 2030 and is ready to accommodate the expected volumes from third parties from 2030.
- The OPEX related to the liquefaction facility phase two, three and four expansion are moved forward to accommodate the increased volumes from 2030, 2035 and 2040.
- The OPEX related to the expansion of the interim storage and loading facility has been moved one year forward to accommodate the increase in volumes from 2030.
- In the administration costs, it is assumed by Kanfa that 2 people will be working 50% of their time on liquefaction and 50% on the interim storage and loading facilities in phase one and then 25% for each from phase 2. This is assumed to allow them to work 25% of their time on truck offloading and 25% on train offloading from phase 2. Given the volume assumptions, the switch has been moved forward one year to 2030 so that the administration costs are split 25% for each of the four infrastructure elements already from 2030 instead of 2031.

In general, all OPEX figures have been extended to continue in the same pattern from 2052 to 5054 to accommodate the assumed project timeline which allows 15 years of operation at full capacity.

Pipeline specific adjustments

The OPEX for the pipelines only consists of maintenance costs which include a yearly inspection and an overhaul of coating support etc. every five years. The OPEX for pipelines has only been provided broken down per partner, not per pipeline segment. Ramboll has, therefore, conducted the following adjustments specific to the pipelines:

- As described in the CAPEX adjustments, it is assumed that the shared pipelines are built at the same time. This implies that the OPEX is also to commence from 2026 for the shared pipelines.
- The total OPEX related to the St1, Göteborg Energi and the shared part of the Renova pipeline as presented in the WP2 Base Case OPEX Estimates has been distributed to the pipeline segments according to their share of the equivalent CAPEX
- Finally, the overhaul of insulation every five years has been readjusted so that it happens the same year for all pipelines.

COWI has provided the OPEX estimations for the pipeline only serving Renova. It is estimated that the OPEX costs related to this pipeline are 1% of the total CAPEX costs. 1% of CAPEX as the OPEX for the pipeline has therefore been applied in 2030-2054.

The adjusted OPEX are included as Worksheet 4.3 in The Tariff Model.

6.5.3 Base Case district heating integration with liquefaction

As described in section 5.1.4, it is assumed there is a potential surplus heat from the liquefaction facility of 27.5 MW_{th} at full capacity in 2040. In The Tariff Model, the revenue from the integration of the district heating is included as part of the calculation of the Tariff for the liquefaction, lowering the tariff paid by the partners utilising the liquefaction facility. As a rough estimate, Ramboll has agreed with Göteborg Energi to assume the equivalent of 4,000 hours at a full load of 27.5 MW_{th} for district heating in 2040. The price paid by Götebrog Energi is assumed to be SEK 250 per MW_{th}, thus totalling SEK 27,500,000 in 2040. In The Tariff Model, it is assumed that this can be extrapolated to the other years based on the same ratio to the total volumes being processed in the liquefaction facility. Revenues from district heating are included in the model as illustrated in the table below.

Table 11: Annual revenue from district heating, The Base Case

	Total volume (kt)	MW	MWh	Total revenue (SEK)
2026	22.50	0.59	2,366.2	591,539.2
2027-29	90.00	2.37	9,464.7	2,366,156.8
2030	406.00	10.67	42,696.0	10,673,966.2
2031-34	706.00	18.56	74,244.7	18,561,185,5
2035-39	866.00	22.77	91,070.8	22,767,686,4
2040-54	1,046.00	27.50	110,000.0	27,500,000.0

6.5.4 Base Case tariff estimations

Given the assumptions outlined above and applying the described method for The Tariff Model, Ramboll has calculated the tariffs for The Base Case - outlined in Table 12 below. All prices are shown in 2022 real prices. Detailed calculations can be found in the excel-based tariff model attached in Appendix A: Draft Tariff Model.

Table 12: Tariff overview per infrastructure element, 15 years of depreciation - all figures are given in SEK per ton

Infrastructure element	Short description	CAPEX-related tariff	OPEX-related tariff	Max tariff[11]	Average tariff[12]
1a	Pipeline from Preem	27.86	0.68	28.54	15.72
2a	Pipeline from Göteborg Energi	8.17	0.88	9.05	5.78
3a	Pipeline from St1	0.74	0.07	0.81	0.42
4a	Pipeline from Renova	145.69	8.99	154.68	81.10
5a	Pipeline used by St1 and Renova	3.07	0.25	3.32	1.51
6a	Pipeline used by Göteborg Energi, St1 and Renova	3.80	0.31	4.11	1.92
7a	Truck offloading	3.22	7.09	10.31	9.02
8a	Train offloading	3.15	5.32	8.47	7.21
9a	Liquefaction	119.07	41.27	160.34	160.34
10a	Interim storage & loading	21.86	25.58	47.44	38.56

As can be seen by the table above, the CAPEX-related tariffs, generally account for the biggest share of the tariffs per infrastructure element. The Pipeline from Renova (4a) has the highest CAPEX-related tariff cost per ton, as it has a very large CAPEX cost split over relatively few tons of CO_2 for the first 15 years. However, because Renova will only pay the OPEX-related fee for the remaining operational years, the average tariff per ton is significantly lower. The liquefaction facility tariff (9a) has the highest max tariff which in this case is equal to the average tariff. As there are four investment phases for liquefaction, the assets are depreciated all the years from the operational start date to the operational end date, therefore the partners will pay the same tariff per ton throughout the years in which they use the liquefaction unit.

Figure 3 and the accompanying Table 13 below show the total tariffs paid to CinfraCap split per infrastructure and year.

[11] Max tariff = CAPEX tariff + OPEX tariff.

[12] Average tariff does not equal Max tariff as it will only be paid as long as the assets of the given infrastructure elements are depreciating.

Figure 3: Total tariffs paid split per infrastructure element – 15 years of depreciation

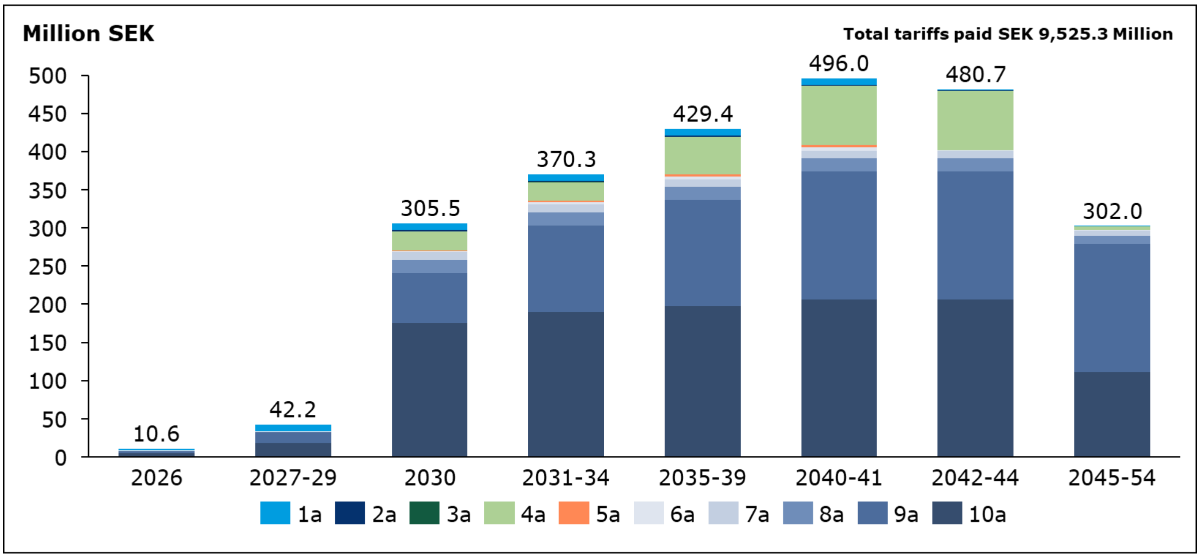


Table 13: Total tariffs paid split per infrastructure element – 15 years of depreciation

Infra. elements – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-41	2042-44	2045-54
1a	2.1	8.6	8.6	8.6	8.6	8.6	0.2	0.2
2a	-	-	1.4	1.4	1.4	1.4	1.4	0.1
3a	0.0	0.1	0.1	0.3	0.3	0.3	0.0	0.0
4a	-	-	24.7	24.7	49.5	77.3	77.3	4.5
5a	0.1	0.3	0.8	1.8	2.4	3.0	0.2	0.2
6a	0.1	0.4	1.7	2.9	3.6	4.3	0.3	0.3
7a	-	-	10.3	10.3	10.3	10.3	10.3	7.1
8a	-	-	16.9	16.9	16.9	16.9	16.9	10.6
9a	3.6	14.4	65.1	113.2	138.9	167.7	167.7	167.7
10a	4.6	18.5	175.8	190.0	197.6	206.2	206.2	111.2
SUM	**10.6**	**42.2**	**305.5**	**370.3**	**429.4**	**496.0**	**480.7**	**302.0**

Liquefaction (9a) and interim storage & loading (10a) account for the largest amount of tariffs paid. This is due to the two infrastructure elements also accounting for the highest CAPEX and OPEX costs. The total amount of annual tariffs paid will peak in 2040-41 with total tariffs paid of SEK 496 million. Given the depreciation of 15 years, most of the infrastructure elements will by 2045 have been depreciated 100%. The total amount of tariffs paid will therefore decrease and from 2045 mainly consist of OPEX, with only CAPEX costs from liquefaction (9a) included in the total tariffs paid.

The table below shows The Base Case tariffs split per Partner instead of per infrastructure element.

Table 14: Tariff overview per partner, 15 years of depreciation – all figures are given in SEK per ton

Partner	Infrastructure elements	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff[13]
Preem	1a+10a	49.72	26.26	75.98	55.42
Göteborg Energi	2a + 6a + 9a + 10a	152.90	68.04	220.94	206.95
St1	3a + 5a + 6a + 9a + 10a	148.54	67.48	216.02	203.31
Renova	4a + 5a + 6a + 9a + 10a	293.49	76.40	369.89	280.76
Third Parties, truck	7a + 10a	25.08	32.67	57.75	47.72
Third Parties, train	8a + 10a	25.01	30.90	55.91	45.91

Göteborg Energi, St1 and Renova will have the highest average tariffs per ton, by a quite significant amount. However, these three partners also use many different infrastructure elements and especially the use of the liquefaction facility is associated with high costs.

Figure 4 and the accompanying Table 15 below show the amount of tariffs paid annually split per partner instead of per infrastructure element.

Figure 4: Total tariffs paid split per partner, 15 years of depreciation

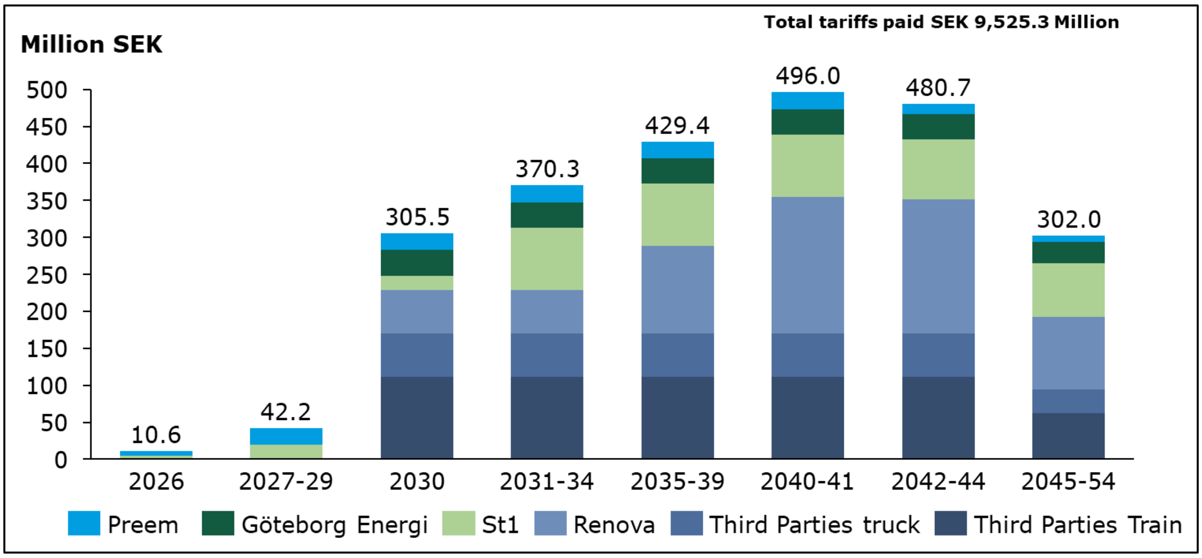


Table 15: Total tariffs paid split per partner, 15 years of depreciation

Partner – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-41	2042-44	2045-54
Preem	5.7	22.8	22.8	22.8	22.8	22.8	14.4	7.9
Göteborg Energi	-	-	34.5	34.5	34.5	34.5	33.9	29.2
St1	4.9	19.4	19.4	84.2	84.2	84.2	81.3	72.8
Renova	-	-	59.2	59.2	118.4	184.9	181.5	97.7
Third Parties, truck	-	-	57.8	57.8	57.8	57.8	57.8	32.7
Third Parties, train	-	-	111.8	111.8	111.8	111.8	111.8	61.8
SUM	**10.6**	**42.2**	**305.5**	**370.3**	**429.4**	**496.0**	**480.7**	**302.0**

[13] Average tariff per partner is slightly different than the sum of average tariff per infrastructure, as partners use the elements for varying years.

As can be seen in the table above, Preem has steady annual tariff payments until 2042 when its dedicated pipeline is fully paid off. The annual tariff payments then decrease from SEK 22.8 million to SEK 14.4 million. This again decreases to SEK 7.9 million in 2045 when the final storage investment is fully depreciated.

Göteborg Energi's annual tariff payment decreases slightly in 2042 when its dedicated pipeline and the shared pipelines are fully depreciated and hence the CAPEX-related tariffs for these infrastructure elements are no longer paid. It decreases again in 2045, as the final storage investment is fully depreciated.

St1's annual tariff payments increase significantly in 2031 due to the large increase in volumes from 90 kt /year to 390 kt/year. Similar to Göteborg Energi, the annual payments of St1 decrease again in 2042 and 2045 as the pipelines and the final storage and loading facility are fully depreciated.

The annual tariff payments of Renova increase in 2035 and 2040 with the sharp increase in volumes. As with Göteborg Energi and St1, the annual tariff payments are decreased as the pipelines and the final storage and loading facility are fully depreciated.

6.5.5 Base Case sensitivity analysis

Ramboll has conducted a sensitivity analysis on The Base Case. The sensitivity analysis investigates how the depreciation of assets and the exclusion of third parties will affect the tariffs split per partner and infrastructure. In each of the three sensitivity analyses, all things else are kept equal. Hence, only one variable is changed in each analysis compared to The Base Case.

The first two sensitivity analyses look at how a change in the depreciation of assets to 20 or 25 years will affect the tariffs. The end operational year of 2054 will remain as a fixed operational end date, which means that all assets have to be fully depreciated by then. This is chosen to better be able to compare the sensitivity analyses with The Base Case. This has the practical implication that the phase four investment for the liquefaction facility will be locked to a maximum of 15 years of depreciation regardless of whether the other assets depreciate at 20 or 25 years. Similarly, the phase three investment for the liquefaction facility will be locked to a maximum of 20 years of depreciation in the sensitivity analysis for 25 years of depreciation for the remaining assets.

20 years of depreciation of assets

If the main depreciation assumption of 15 years is changed to 20 years, the sensitivity analysis shows that the total tariffs paid over the whole period (2026-2054) are approximately 500 million SEK more compared to the 15-year depreciation scenario. However, the CAPEX payments will be stretched out over a longer period of time, and a larger share of the total amount of tariffs paid is paid further out in the future. The table below provides an overview of the tariffs per infrastructure element.

Table 16: Tariff overview per infrastructure element, 20 years of depreciation - all figures are given in SEK per ton

Infrastructure element	Short description	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff
1a	Pipeline from Preem	24.80	0.68	25.48	18.46
2a	Pipeline from Göteborg Energi	7.25	0.87	8.12	6.67
3a	Pipeline from St1	0.63	0.06	0.69	0.49
4a	Pipeline from Renova	117.75	8.99	126.74	97.01
5a	Pipeline used by St1 and Renova	2.43	0.24	2.67	1.79
6a	Pipeline used by Göteborg Energi, St1 and Renova	3.03	0.31	3.34	2.26
7a	Truck offloading	2.85	7.09	9.94	9.37
8a	Train offloading	2.79	5.32	8.11	7.55
9a	Liquefaction	120.93	41.15	162.08	162.08
10a	Interim storage & loading	19.31	25.57	44.88	40.96

The overview above indicates that a 20-year depreciation of assets will decrease the maximum tariffs while making all average tariffs more expensive compared to the 15-year depreciation baseline.

Figure 5 and the accompanying table below show the annual tariffs paid to CinfraCap per infrastructure element per year.

Figure 5: Total annual tariffs split per infrastructure element, 20 years of depreciation

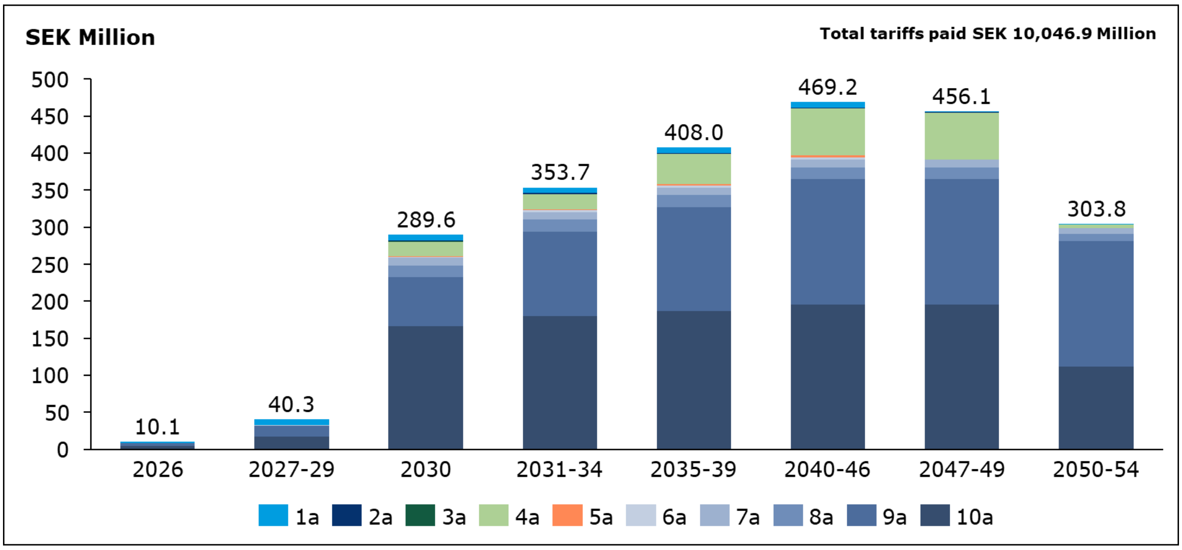


Table 17: Total annual tariffs split per infrastructure element, 20 years of depreciation

Infra. elements – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-46	2047-49	2050-54
1a	1.9	7.6	7.6	7.6	7.6	7.6	0.2	0.2
2a	-	-	1.3	1.3	1.3	1.3	1.3	0.1
3a	0.0	0.1	0.1	0.3	0.3	0.3	0.0	0.0
4a	-	-	20.3	20.3	40.6	63.4	63.4	4.5
5a	0.1	0.2	0.7	1.5	1.9	2.4	0.2	0.2
6a	0.1	0.3	1.4	2.4	2.9	3.5	0.3	0.3
7a	-	-	9.9	9.9	9.9	9.9	9.9	7.1
8a	-	-	16.2	16.2	16.2	16.2	16.2	10.6
9a	3.6	14.6	65.8	114.4	140.4	169.5	169.5	169.5
10a	4.4	17.5	166.3	179.8	187.0	195.0	195.0	111.1
SUM	**10.1**	**40.3**	**289.6**	**353.7**	**408.0**	**469.2**	**456.1**	**303.8**

Total tariffs paid per year will be at their highest in the period 2040-46 (SEK 469.2 million). The tariffs paid in the period 2050-54 will mainly consist of OPEX tariffs, as most CAPEX costs have been depreciated 100% in 2049. This is 5 years later than the baseline scenario with 15 years of depreciation.

Table 18 below shows the same analysis with 20 years of deprecation but split per partner instead of per infrastructure element.

Table 18: Tariff overview per partner, 20 years of depreciation - all figures are given in SEK per ton

Partner	Infrastructure elements	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff
Preem	1a+10a	44.11	26.25	70.36	59.92
Göteborg Energi	2a + 6a + 9a + 10a	150.52	67.90	218.42	212.14
St1	3a + 5a + 6a + 9a + 10a	146.33	67.33	213.66	207.84
Renova	4a + 5a + 6a + 9a + 10a	263.45	76.26	339.71	302.89
Third Parties, truck	7a + 10a	22.16	32.66	54.82	50.39
Third Parties, train	8a + 10a	22.10	30.89	52.99	48.57

The tariff overview per partner indicates that a 20-year depreciation of assets will make CAPEX, and max tariffs lower, while average tariffs will become more expensive compared to the 15-year depreciation baseline.

The annual distribution of the total tariff paid per partner per year is illustrated in Figure 6 and the accompanying Table 19 below.

Figure 6: Total annual tariffs split per partner, 20 years of depreciation

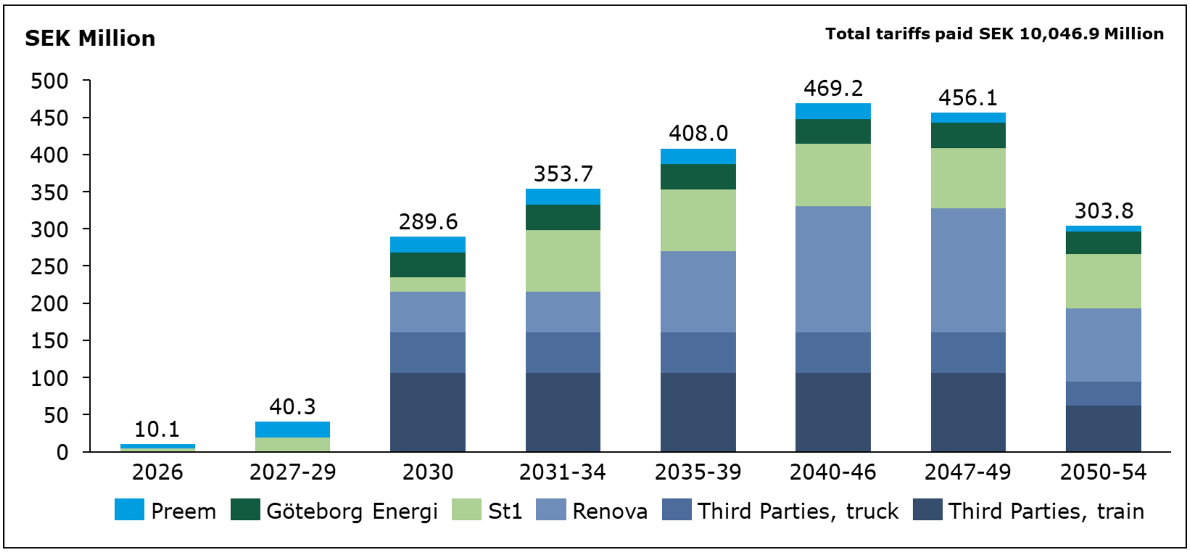


Table 19: Total annual tariffs split per partner, 20 years of depreciation

Partner – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-46	2047-49	2050-54
Preem	5.3	21.1	21.1	21.1	21.1	21.1	13.67	7.88
Göteborg Energi	-	-	34.1	34.1	34.1	34.1	33.60	29.46
St1	4.8	19.2	19.2	83.3	83.3	83.3	80.95	73.42
Renova	-	-	54.4	54.4	108.7	169.9	167.13	98.60
Third Parties, truck	-	-	54.8	54.8	54.8	54.8	54.82	32.66
Third Parties, train	-	-	106.0	106.0	106.0	106.0	105.98	61.78
SUM	**10.1**	**40.3**	**289.6**	**353.7**	**408.0**	**469.2**	**456.1**	**303.8**

The table and figure above show that compared to the baseline 15-year depreciation scenario, the annual tariffs paid by the partners are slightly lower. However, because the CAPEX-related tariffs are paid for a longer time, the total tariffs paid throughout the project's lifetime are slightly higher.

25 years of depreciation of assets

If the main depreciation assumption of 15 years is changed to 25 years instead, the sensitivity analysis shows that the total tariffs paid over the whole period (2026-2054) are approximately SEK 1 billion higher than compared to the 15-year depreciation baseline. The table below provides an overview of tariffs split per infrastructure element, given 25 years of depreciation of assets.

Table 20: Tariff overview per infrastructure element, 25 years of depreciation - all figures are given in SEK per ton

Infrastructure element	Short description	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff
1a	Pipeline from Preem	23.17	0.68	23.85	21.39
2a	Pipeline from Göteborg Energi	6.76	0.87	7.63	7.63
3a	Pipeline from St1	0.57	0.06	0.63	0.56
4a	Pipeline from Renova	104.71	8.98	113.69	113.69
5a	Pipeline used by St1 and Renova	2.13	0.25	2.38	2.09
6a	Pipeline used by Göteborg Energi, St1 and Renova	2.68	0.31	2.99	2.63
7a	Truck offloading	2.66	7.09	9.75	9.75
8a	Train offloading	2.60	5.32	7.92	7.92
9a	Liquefaction	122.40	41.10	163.50	163.50
10a	Interim storage & loading	17.95	25.58	43.53	43.53

OPEX-related tariffs remain almost the same compared to the baseline of 15 years of depreciation of assets. All average costs will be higher compared to the baseline while the max tariff will be lower (9a excluded). The CAPEX-related tariffs are compared to the 15 and 20-year depreciation also decreasing on all infrastructure elements. Liquefaction maintains the highest tariff costs of all the elements. Figure 7 and the accompanying table below show the annual tariffs paid per infrastructure element given depreciation of 25 years.

Figure 7: Total annual tariffs split per infrastructure element, 25 years of depreciation

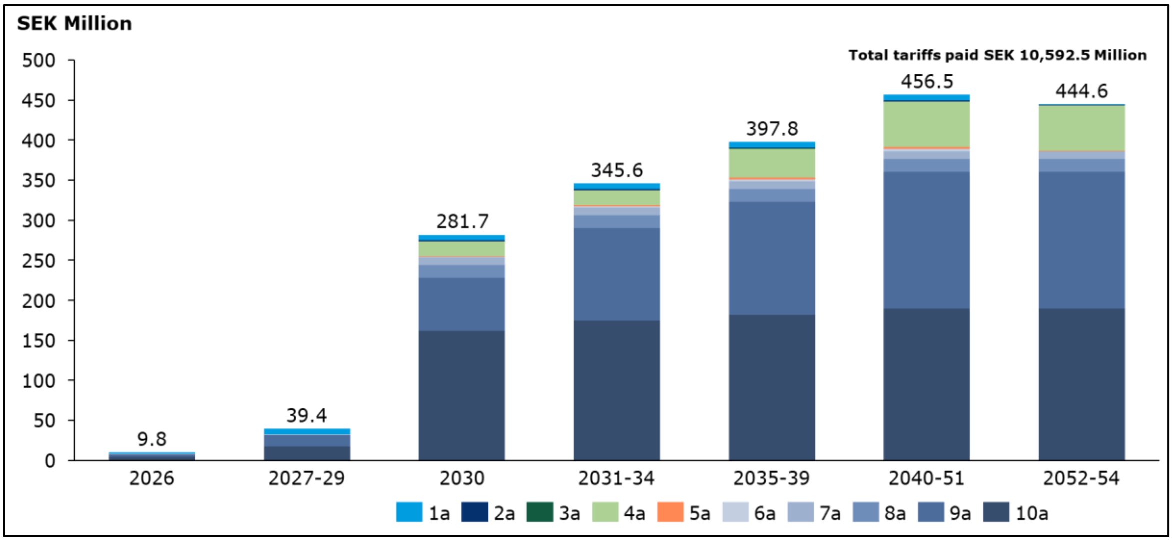


Table 21: Total annual tariffs split per infrastructure element, 25 years of depreciation

Infra. elements – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-51	2052-54
1a	1.8	7.2	7.2	7.2	7.2	7.2	0.2
2a	-	-	1.2	1.2	1.2	1.2	1.2
3a	0.0	0.1	0.1	0.2	0.2	0.2	0.0
4a	-	-	18.2	18.2	36.4	56.8	56.8
5a	0.1	0.2	0.6	1.3	1.7	2.1	0.2
6a	0.1	0.3	1.2	2.1	2.6	3.1	0.3
7a	-	-	9.8	9.8	9.8	9.8	9.8
8a	-	-	15.8	15.8	15.8	15.8	15.8
9a	3.7	14.7	66.4	115.4	141.6	171.0	171.0
10a	4.2	17.0	161.3	174.4	181.3	189.2	189.2
SUM	**9.8**	**39.4**	**281.7**	**345.6**	**397.8**	**456.5**	**444.6**

The figure and table above show that the total annual tariffs paid will be lower than the baseline 15-year deprecation in all years from 2026 to 2040. Tariffs will be at their highest in the period between 2040-2051 (SEK 456.5 million). This is due to the volumes reaching full capacity and in contrast to the 15-year and 20-year depreciation scenarios, none of the assets has been fully depreciated.

Table 22 below shows the tariffs split per partner assuming 25 years of depreciation of assets.

Table 22: Tariff overview per partner, 25 years of depreciation - all figures are given in SEK per ton

Partner	Infrastructure elements	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff
Preem	1a+10a	41.12	26.26	67.38	64.92
Göteborg Energi	2a + 6a + 9a + 10a	149.79	67.86	217.65	217.33
St1	3a + 5a + 6a + 9a + 10a	145.73	67.30	213.03	212.38
Renova	4a + 5a + 6a + 9a + 10a	249.87	76.22	326.09	325.36
Third Parties, truck	7a + 10a	20.61	32.67	53.28	53.28
Third Parties, train	8a + 10a	20.55	30.90	51.45	51.45

The tariff overview per partner indicates that a 25-year depreciation of assets will give all partners except Renova smaller CAPEX-related tariffs compared to the 20 years depreciation case. At the same time, OPEX will be slightly the same for all partners. The max tariffs and average tariffs are nearly all increased compared to the 20-year depreciation.

In Figure 8 and Table 23 below, the annual tariffs are shown per partner.

Figure 8: Total annual tariffs split per partner, 25 years of depreciation

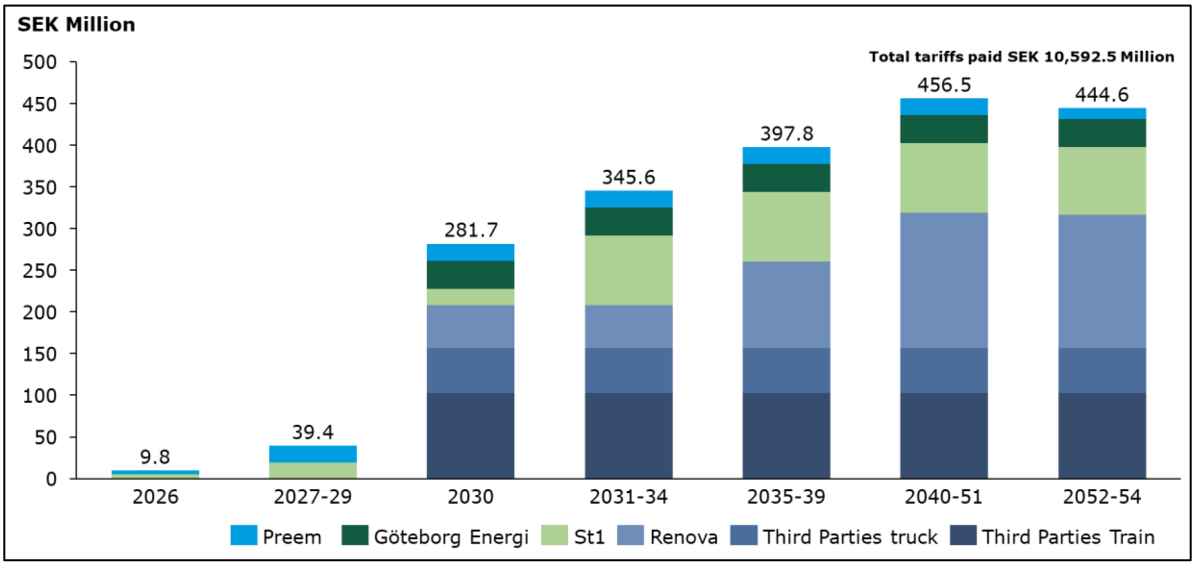


Table 23: Total annual tariffs split per partner, 25 years of depreciation

Partner – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-51	2052-54
Preem	5.1	20.2	20.2	20.2	20.2	20.2	13.3
Göteborg Energi	-	-	34.0	34.0	34.0	34.0	33.5
St1	4.8	19.2	19.2	83.1	83.1	83.1	81.0
Renova	-	-	52.2	52.2	104.3	163.0	160.6
Third Parties, truck	-	-	53.3	53.3	53.3	53.3	53.3
Third Parties, train	-	-	102.9	102.9	102.9	102.9	102.9
SUM	**9.8**	**39.4**	**281.7**	**345.6**	**397.8**	**456.5**	**444.6**

As assets are depreciated over a longer period, the CAPEX-related tariffs are also paid over a longer period. This results in total tariffs per year remaining high until 2054. The total tariffs paid over the full period are SEK 10,592.5 million. However, this does not consider the time value of money and the lower value of future cash flows.

Excluding third parties

The last sensitivity analysis conducted shows the effect on the tariffs if the third-party volumes are excluded from The Base Case. The analysis investigates how tariffs are split between infrastructure elements and partners without third parties. Except for the exclusion of third parties, the analysis assumes the same assumptions as in The Base Case, including the original 15-year depreciation baseline.

Because the third parties are excluded in this sensitivity analysis, so are the truck and train offloading facilities and the CAPEX and OPEX related to these facilities as no other partner will be using these facilities if there are no third parties.

This has the effect that the fixed annual fee to the Port of Gothenburg is only split between the interim storage and loading and the liquefication facilities. It is assumed that the share paid by the liquefaction facility will remain the same (22%), meaning that the interim storage & loading facility will increase its total share from 50% to 78%.

Table 24 below shows the updated assumption on the distribution of the annual fee which has been applied in the following sensitivity analysis.

Table 24: Distribution of the fixed annual fee to the Port of Gothenburg – excluding third parties

Infrastructure element	Tariff reference	Area (m^2)	Fixed fee (SEK)	Share (% of total)
Pipelines	1a-6a	0	0.00	0%
Liquefaction	9a	3,240	3,024,000.00	22%
Interim storage & loading	10a	11,760	10,976,000.00	78%
SUM		**15,000**	**14,000,000.00**	**100%**

Table 25 below shows an overview of the tariff split per infrastructure element if third-party volumes are excluded.

Table 25: Tariff overview per infrastructure element, excluding third parties - all figures are given in SEK per ton

Infrastructure element	Short description	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff
1a	Pipeline from Preem	27.86	0.68	28.54	15.72
2a	Pipeline from Göteborg Energi	8.17	0.88	9.05	5.78
3a	Pipeline from St1	0.74	0.07	0.81	0.42
4a	Pipeline from Renova	145.69	8.99	154.68	81.10
5a	Pipeline used by St1 and Renova	3.07	0.25	3.32	1.51
6a	Pipeline used by Göteborg Energi, St1 and Renova	3.80	0.31	4.11	1.92
9a	Liquefaction	119.07	41.27	160.34	160.34
10a	Interim storage & loading	64.09	44.29	108.38	73.35

As would be expected, only the 10a tariffs are affected by the exclusion of the third-party volumes, besides that 7a and 8a are excluded. However, the interim storage & loading (10a) tariffs increase significantly with the loss of third-party volumes, as they account for slightly above two-thirds of the total volumes passing through the interim storage and loading infrastructure in The Base Case. While the CAPEX-related tariff for 10a increases nearly threefold, the OPEX-related tariff increases with ca. 75%, resulting in the max tariff changing from SEK 47.44/ton in the baseline scenario to SEK 108.38/ton when third parties are excluded. The average tariff for 10a has changes from SEK 38.56/ton in the baseline case to SEK 73.35/ton.

Figure 9 and the accompanying table below show the annual tariffs per infrastructure element if the third parties are excluded.

Figure 9: Total annual tariffs split per infrastructure element, excluding third parties

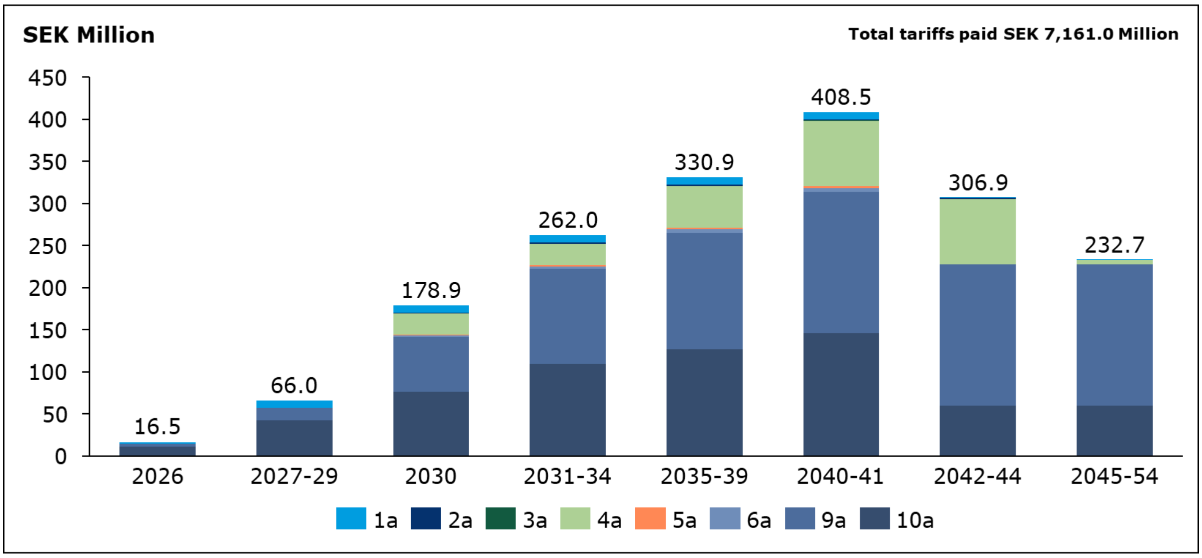


Table 26: Total annual tariffs split per infrastructure element, excluding third parties

Infra. elements – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-41	2042-44	2045-54
1a	2.1	8.6	8.6	8.6	8.6	8.6	0.20	0.20
2a	-	-	1.4	1.4	1.4	1.4	1.41	0.14
3a	0.0	0.1	0.1	0.3	0.3	0.3	0.03	0.03
4a	-	-	24.7	24.7	49.5	77.3	77.34	4.50
5a	0.1	0.3	0.8	1.8	2.4	3.0	0.22	0.22
6a	0.1	0.4	1.7	2.9	3.6	4.3	0.32	0.32
9a	3.6	14.4	65.1	113.2	138.9	167.7	167.72	167.72
10a	10.6	42.3	76.5	109.0	126.4	145.9	59.61	59.61
SUM	**16.5**	**66.0**	**178.9**	**262.0**	**330.9**	**408.5**	**306.9**	**232.7**

Again the figures show unchanged tariffs for 1a-6a and 9a but a slight change in the total tariffs paid for 10a compared to The Base Case with third parties included.

Table 27 below shows the impact on each of the four partners. As they all utilise the 10a infrastructure element, the impact of the significant increase of the 10a tariffs can be seen in the tariffs paid by each partner.

Table 27: Tariff overview per partner, excluding third parties – all figures are given in SEK per ton

Partner	Infrastructure elements	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff
Preem	1a+10a	91.95	44.97	136.92	94.61
Göteborg Energi	2a + 6a + 9a + 10a	195.13	86.75	281.88	243.31
St1	3a + 5a + 6a + 9a + 10a	190.77	86.19	276.96	239.65
Renova	4a + 5a + 6a + 9a + 10a	335.72	95.11	430.83	310.66

With the exclusion of third parties, all partners will experience much higher tariffs compared to The Base Case. Preem's average tariff increases from 55.42 to 94.61 SEK/ton. Göteborg Energi's average tariffs increase ca. 18% from 206.95 to 243.31 SEK/ton. Likewise, St1's average tariffs also increase by ca. 18% from 203.31 to 239.65 SEK/ton. Finally, Renova's average tariffs increase from 280.76 to 310.66 SEK/ton.

Figure 10 and the accompanying table below show the annual distribution of the total tariffs paid by each partner excluding third parties.

Figure 10: Total annual tariffs split per partner, excluding third parties

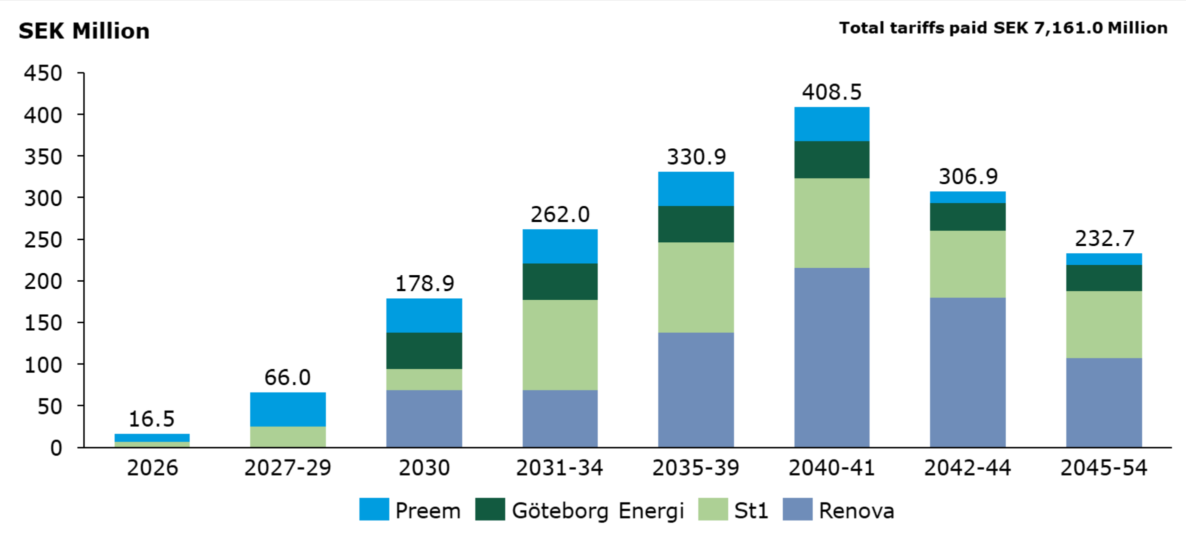


Table 28: Total annual tariffs split per partner, excluding third parties

Partner – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-41	2042-44	2045-54
Preem	10.3	41.1	41.1	41.1	41.1	41.1	13.49	13.49
Göteborg Energi	-	-	44.0	44.0	44.0	44.0	33.38	32.11
St1	6.2	24.9	24.9	108.0	108.0	108.0	80.05	80.05
Renova	-	-	68.9	68.9	137.9	215.4	179.94	107.09
Sum	**16.5**	**66.0**	**178.9**	**262.0**	**330.9**	**408.5**	**306.9**	**232.7**

6.6 The Alternative Case

In this section, the specific assumptions related to The Alternative Case are discussed and outlined. Unless otherwise stated, the same assumptions described for The Base Case still apply to The Alternative Case.

The following deviations to The Base Case affect the tariffs in The Alternative Case:

- As Preem will deliver gaseous CO_2 in The Alternative Case, their pipeline will connect with the shared pipeline of Göteborg Energi and St1. All three partners will then share the remaining pipeline segment towards the liquefaction facility
- On the other hand, Renova will no longer make use of the liquefaction facility as they will deliver their CO_2 in a liquid state and by truck in The Alternative Case.
- Overall, the liquefaction facility will receive higher volumes than in The Base Case from 2026 to 2035 and then less in the remaining years of the project.
- Because Renova will take up some of the truck offloading capacity in The Alternative Case, the third-party volumes for trucks are decreased corresponding to the volumes provided by Renova.

In addition, the change in the volumes flowing through the liquefaction facilities also entails that the income from the district heating integration will change. This will be discussed in more detail in section 6.6.3.

The difference in the technical setup is described in more detail in section 5.2.

6.6.1 Alternative Case CAPEX

The starting point for the CAPEX figures used in The Tariff Model for The Alternative Case is the figures provided by Kanfa Group and the work performed in WP2. The most recent CAPEX figures for the Alternative Case can be found in the SharePoint folder of WP2, with the title "Appendix I3 - CAPEX - Alternative Case" ("WP2 Alternative Case CAPEX Estimates").

General adjustments

To align with the volume assumptions outlined in section 5.2.1, Ramboll has adjusted these figures slightly by moving the following CAPEX one year forward. This is done, as it is assumed that CAPEX-related costs need to be finalised before the volumes can become operational.

- The CAPEX related to the truck and train offloading facilities have been moved one year forward so that it is finalised in 2029 and is ready to accommodate the expected volumes from third parties and Renova from 2030. Please note that the CAPEX costs for the truck and train offloading facilities are the same in both cases.
- The second investment phase of the liquefaction facility has been moved one year forward so that it is finalised in 2029 and is ready to accommodate the planned volume deliveries from Göteborg Energi starting in 2030.
- The finalisation of the second investment phase of the interim storage and loading facility expansion has been moved from 2031 to 2030 to accommodate the assumed ramp-up in volumes from 390 kt/year to 3,546 kt per year in 2030.

Please note that there are slight differences to The Base Case in the CAPEX for the interim storage and loading facilities in the figures provided by WP2. The total costs are ca. SEK 1 million lower in The Alternative Case compared to The Base Case. However, this difference only corresponds to a difference of ca. 0.2% to The Base Case. It is not clear why there is a difference.

Pipeline specific adjustments

Unlike in The Base Case, no breakdown of the pipeline costs per segment has been provided for The Alternative Case. It is not possible to calculate the costs of the different pipeline segments from the total costs per partner provided in the WP2 Alternative Case CAPEX Estimates. Instead, the pipeline costs for The Alternative Case are based on the same costs provided per segment in The Base Case and the file "Capex pipeline-Basecase pr sections rev01.pdf".

In The Alternative Case, Preem's dedicated pipeline will connect with a pipeline shared by Göteborg Energi and St1 before the liquefaction unit. This is because Preem will deliver gaseous instead of liquid CO_2 in The Alternative Case. The cost of the pipeline still dedicated to Preem, illustrated by 1b in Figure 2, is assumed to be the total CAPEX for the Preem Pipeline given in the WP2 Alternative Case CAPEX Estimates, subtracting one-third of the total CAPEX for the Pipeline shared between Preem, Göteborg Energi and St1 illustrated by 5b in Figure 2.

These assumptions and adjustments to the pipeline costs make it possible to still compare the method of the tariffs between the two cases although the exact costs of the pipelines are still associated with high uncertainty. As we comment on in the recommendation for further analyses, streamlining the calculations of the pipeline costs and detailing them further will help develop more accurate tariffs for these infrastructure elements. However, compared to the total CAPEX costs of the project, the degree of uncertainty related to the pipelines is still relatively low.

In addition, Ramboll has made the same adjustments to the pipeline CAPEX as in The Base Case:

- It is assumed that all the shared pipelines will be built in due time to serve the first partner with planned volumes. This means that the pipeline, infrastructure element 4b in Figure 2, shared between St1 and Göteborg Energi will have to be ready in 2026 to be able to serve the volumes of St1. Similarly, Preem and St1 will also need the pipeline segment 5b shared with Göteborg Energi to be ready already in 2026.
- The pipeline only serving Göteborg Energi is assumed to be finalised in 2029 to be able to handle their expected volumes from 2030.
- To distribute the CAPEX costs per year, the same yearly split as in the WP2 Base Case CAPEX Estimates file for each of the CAPEX elements has been assumed.

The adjusted CAPEX for The Alternative Case are included as Worksheet 4.2 in the attached Appendix A2: Draft Tariff Model. The CAPEX figures can also be found as a PDF printout in Appendix C2.

6.6.2 Alternative Case OPEX

The starting point for the OPEX figures used in The Tariff Model for The Alternative Case is the figures provided by Kanfa Group and the work performed in WP2. The most recent OPEX figures can be found in the SharePoint folder of WP2, with the title "21W024 OPEX Alt. case CinfraCap-19.06.22" ("WP2 Alternative Case OPEX Estimates").

In the WP2 Alternative Case OPEX Estimates file the OPEX estimations provided for 2026-2051 are divided by year and are split into the pipeline infrastructure (broken down per partner), the train offloading station, the truck offloading station, the liquefaction facility as well as the interim storage and loading facility.

The OPEX figures provided in the WP2 Alternative Case OPEX Estimates file for the pipelines, the train and truck offloading facilities and for the interim storage and loading facility are the same as in the WP2 Base Case OPEX Estimates. The only change in the OPEX between the two cases is in the costs for electrical power and consumables for the liquefaction unit.

Because of the changed volumes flowing through the liquefaction facilities in The Alternative Case, the OPEX for the electricity and the consumables changes slightly for the liquefaction unit. Despite the decreased volumes from third parties in The Alternative Case, the OPEX for the interim storage and loading facilities remain unchanged compared to The Base Case.

General adjustments

To align with volume assumptions outlined in section 5.2.1, Ramboll has adjusted the OPEX figures slightly by moving the following OPEX one year forward:

- The OPEX related to the truck and train offloading facilities have been moved one year forward so that it starts in 2030 and is ready to accommodate the expected volumes from third parties from 2030.
- The OPEX related to the expansion of the interim storage and loading facility has been moved one year forward to accommodate the increase in volumes from 2030.
- In the administration costs, it is assumed by Kanfa that 2 people will be working 50% of their time on liquefaction and 50% on the interim storage and loading facilities in phase one and then 25% for each from phase 2. This is assumed to allow them to work 25% of their time on truck offloading and 25% on train offloading from phase 2. Given the volume

assumptions, the switch has been moved forward one year to 2030 so that the administration costs are split 25% for each of the four infrastructure elements already from 2030 instead of 2031.

The electrical power costs of the liquefaction facility have been adjusted in 2030 to align with the use of electricity in 2030 indicated by the worksheet "Electrical" in WP2 Alternative Case OPEX Estimates.

In general, all OPEX figures have been extended to continue in the same pattern from 2052 to 5054 to accommodate the assumed project timeline.

Pipeline specific adjustments

The OPEX provided by WP2 in The Base Case and The Alternative Case is exactly the same for the pipelines, except that the dedicated pipeline for Renova is excluded of course. The OPEX figures have not been provided per pipeline segment. Ramboll has, therefore, conducted the following adjustments specific to the pipelines:

- As described in the CAPEX adjustments, it is assumed that the shared pipelines are built at the same time. This implies that the OPEX is also to commence from 2026 for the shared pipelines.
- The total OPEX related to the St1, Göteborg Energi and the shared part of the Renova pipeline as presented in the WP2 Alternative Case OPEX Estimates has been distributed to the pipeline segments according to their share of the equivalent CAPEX.
- The OPEX for the dedicated pipeline segment for Preem, for the tariff element 1b, is assumed to stay the same as the OPEX for the dedicated pipeline for Preem in The Base Case.
- Finally, the overhaul of insulation every five years has been readjusted so that it happens the same year for all pipelines.

The adjusted OPEX are included as Worksheet 4.3 in the attached Appendix A2: Draft Tariff Model.

6.6.3 Alternative Case district heating integration with liquefaction

As described in section 5.2.2, it is assumed there is a potential surplus heat from the liquefaction facility of 22.24 MW_{th} at full capacity in 2031. In The Tariff Model for The Alternative Case, the revenue from the integration of the district heating is included as part of the calculation of the tariff for the liquefaction, lowering the tariff paid by the partners utilising the liquefaction facility. The price paid by Götebrog Energi is still assumed to be SEK 250 per MW_{th}, thus totalling SEK 22,241,874 in 2031 at full capacity. In The Tariff Model, it is assumed that this can be extrapolated to the other years based on the same ratio to the total volumes being processed in the liquefaction facility. Revenues from district heating are included in the model as illustrated in the table below.

Table 29: Annual revenue from district heating, The Alternative Case

	Total volume (kt)	MW	MWh	Total revenue (SEK)
2026	97.50	2.56	10,253.35	2,563,336.52
2027-29	390.00	10.25	41,013.38	10,253,346.08
2030	546.00	14.35	57,418.74	14,354,684.51
2031-54	846.00	22.24	88,967.50	22,241,873.80

6.6.4 Alternative Case tariff estimations

Given the assumptions outlined above and applying the described method for The Tariff Model, Ramboll has calculated the tariffs for The Alternative Case - outlined in the table below. All prices are shown in 2022 real prices. Detailed calculations can be found in the excel-based tariff model attached in Appendix A2: Draft Tariff Model.

Table 30: Tariff overview per infrastructure element in The Alternative Case, 15 years of depreciation - all figures are given in SEK per ton

Infrastructure element	Short description	CAPEX-related tariff	OPEX-related tariff	Max tariff[14]	Average tariff[15]
1b	Pipeline from Preem	28.40	0.68	29.08	16.01
2b	Pipeline from Göteborg Energi	8.17	0.88	9.05	5.78
3b	Pipeline from St1	5.78	0.51	6.29	3.28
4b	Pipeline used by Göteborg Energi and St1	4.01	0.35	4.36	2.27
5b	Pipeline used by Preem, Göteborg Energi, and St1	0.86	0.08	0.94	0.51
6b	Truck offloading	3.22	7.09	10.31	9.02
7b	Train offloading	3.15	5.32	8.47	7.21
8b	Liquefaction	120.69	31.94	152.63	106.47
9b	Interim storage & loading	23.38	26.04	49.42	40.16

In The Alternative Case, the technical setup of the pipelines differs from The Base Case. The Renova pipeline is removed, and the remaining partners use different pipeline segments which are shared differently between the partners. Therefore the pipeline tariffs cannot be directly compared to The Base Case, except for the 2b tariff which covers the same pipeline segment in both cases and thus is unchanged. However, the pipeline tariffs are within the same low range in both cases.

The tariffs for the truck and train facilities also remain the same because the volumes flowing through these infrastructure elements are assumed to remain unchanged in The Alternative Case, with Renova gradually taking up more and more of the third-party truck capacity. The average tariffs for the liquefaction facility change the most of all the tariffs, decreasing 34% from SEK 160.34 per ton of CO_2 to SEK 106.47 per ton, despite slightly lower volumes throughout the project lifetime.

The tariffs for the interim storage increase slightly compared to The Base Case, as there are fewer volumes from third-party trucks coming into the system, as the capacity is taken up by Renova.

[14] Max tariff = CAPEX tariff + OPEX tariff.

[15] Average tariff does not equal Max tariff as it will only be paid as long as the assets of the given infrastructure elements are depreciating.

Figure 11 and the accompanying Table 31 Table 13below show the total tariffs paid to CinfraCap split per infrastructure and year.

Figure 11: Total tariffs paid in The Alternative Case split per infrastructure element, 15 years of depreciation

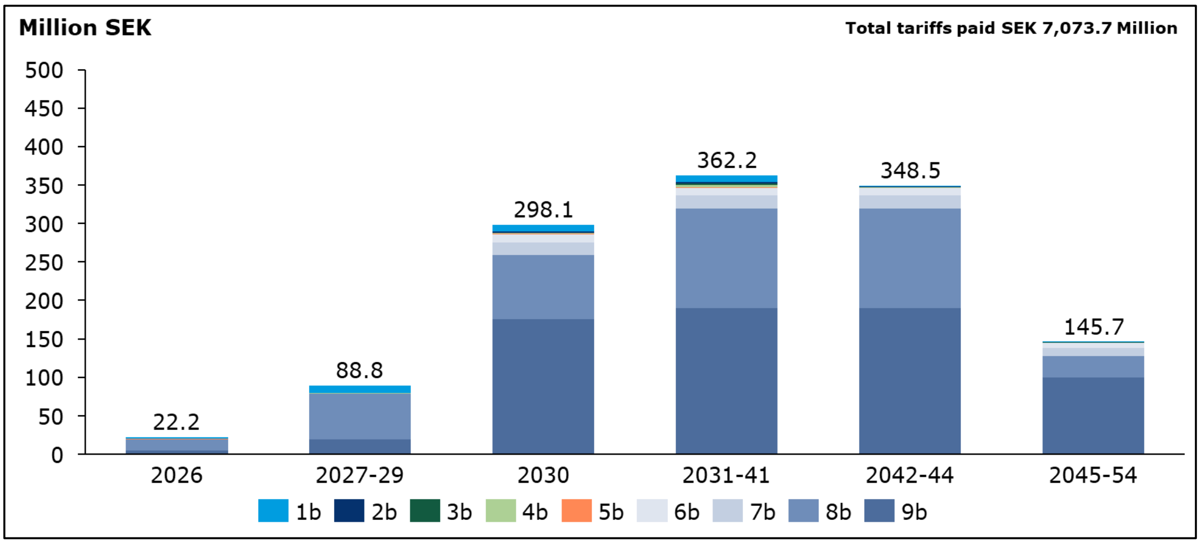


Table 31: Total tariffs paid in The Alternative Case split per tariff, 15 years of depreciation

Infra. elements – Million SEK	2026	2027-29	2030	2031-41	2042-44	2045-54
1b	2.2	8.7	8.7	8.7	0.2	0.2
2b	-	-	1.4	1.4	1.4	0.1
3b	0.1	0.6	0.6	2.5	0.2	0.2
4b	0.1	0.4	1.1	2.4	0.2	0.2
5b	0.1	0.4	0.5	0.8	0.1	0.1
6b	-	-	10.3	10.3	10.3	7.1
7b	-	-	16.9	16.9	16.9	10.6
8b	14.9	59.5	83.3	129.1	129.1	27.0
9b	4.8	19.3	175.2	190.1	190.1	100.1
SUM	**22.2**	**88.8**	**298.1**	**362.2**	**348.5**	**145.7**

The total tariffs paid in The Alternative Case are ca. 26% lower than in The Base Case. Initial tariffs received in 2026-2029 are however nearly double than in The Base Case, largely due to Preem also using the liquefaction facilities. The total amount of tariffs is also more stable from 2031 to 2041 as volumes are stable in The Alternative Case due to Renova substituting the truck capacity of third parties. Finally, the tariffs for the last 10 years are significantly lower in The Alternative Case, because no assets are depreciating at this point, due to the liquefaction facilities being built in two instead of four phases.

The table below shows The Alternative Case tariffs split per partner instead of per infrastructure element.

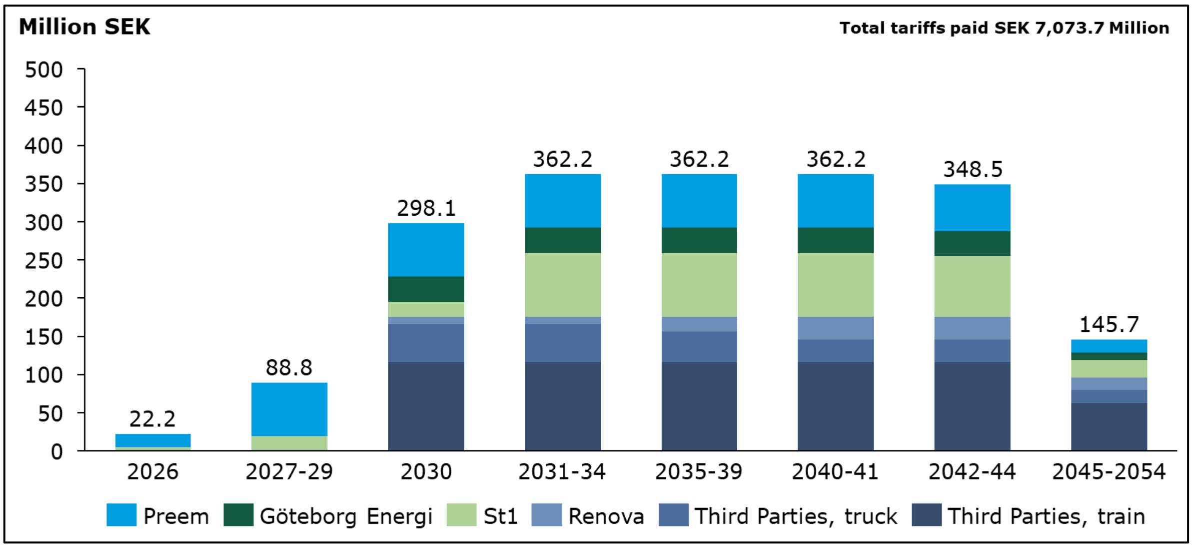
Table 32: Tariff overview per partner in The Alternative Case, 15 years of depreciation – all figures are given in SEK per ton

Partner	Infrastructure elements	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff[16]
Preem	1b + 5b + 8b + 9b	173.33	58.74	232.07	167.61
Göteborg Energi	2b + 4b + 5b + 8b + 9b	157.11	59.29	216.40	152.97
St1	3b + 4b + 5b + 8b + 9b	154.72	58.92	213.64	150.43
Renova	6b + 9b	26.60	33.13	59.73	46.30
Third Parties, truck	6b + 9b	26.60	33.13	59.73	50.92
Third Parties, train	7b + 9b	26.53	31.36	57.89	47.28

The average tariff of Preem is nearly threefold the amount in The Alternative Case compared to the Base Case, mostly due to the use of the liquefaction facilities. Göteborg Energi and St1 on the other hand see a ca. 25% decrease in their average tariff, largely driven by the decreased cost of liquefaction as explained above. Renova's average tariff is decreased by ca. 85%, as Renova will have its own liquefaction process and arrange truck deliveries to the CinfraCap site themselves. The third parties' average tariff remains largely the same.

Figure 12 below shows the amount of tariffs paid annually split per partner instead of per infrastructure element.

Figure 12: Total tariffs paid in The Alternative Case, split per partner, 15 years of depreciation



[16] Average tariff per partner is slightly different than the sum of average tariff per infrastructure, as partners use the elements for varying years.

Table 33: Total tariffs paid in The Alternative Case, split per partner, 15 years of depreciation

Partner – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-41	2042-44	2045-54
Preem	17.4	69.6	69.6	69.6	69.6	69.6	60.8	17.6
Göteborg Energi	-	-	33.8	33.8	33.8	33.8	33.0	9.2
St1	4.8	19.2	19.2	83.3	83.3	83.3	79.2	23.0
Renova	-	-	9.6	9.6	19.1	29.9	29.9	16.6
Third Parties, truck	-	-	50.2	50.2	40.6	29.9	29.9	16.6
Third Parties, train	-	-	115.8	115.8	115.8	115.8	115.8	62.7
SUM	**22.2**	**88.8**	**298.1**	**362.2**	**362.2**	**362.2**	**348.5**	**145.7**

Due to the changed technical setup in The Alternative Case, the total tariffs paid by Preem and Renova changes significantly compared to The Base Case. Göteborg Energi and St1 experience a less but still significant decrease in the tariffs paid due to the decreased cost of liquefaction. Third parties delivering by truck and train only experience minor changes to the overall tariff payments.

6.6.5 Alternative Case sensitivity analysis

Ramboll has also conducted a sensitivity analysis on The Alternative Case. As with The Base Case, the sensitivity analysis investigates how the depreciation of assets and the exclusion of third parties will affect the tariffs split per partner and infrastructure. In each of the three sensitivity analyses, all things else are kept equal and not changed. Hence, only one variable is changed in each analysis compared to The Alternative Case.

The first two sensitivity analyses look at how a change in the depreciation of assets to 20 or 25 years will affect the tariffs. The end operational year of 2054 will remain as a fixed operational end date, to be able to compare with the other scenarios. In the final sensitivity analysis, the impact of excluding third parties is investigated.

20 years of depreciation of assets

If the main depreciation assumption of 15 years is changed to 20 years, the sensitivity analysis shows that the total tariffs paid over the whole period (2026-2054) are approximately 600 million SEK more compared to the 15-year depreciation scenario. However, the CAPEX payments will be stretched out over a longer period of time, and a larger share of the total amount of tariffs is paid further out in the future. The table below provides an overview of the tariffs per infrastructure element.

Table 34: Tariff overview per infrastructure element in The Alternative Case, 20 years of depreciation - all figures are given in SEK per ton

Infrastructure element	Short description	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff
1b	Pipeline from Preem	25.29	0.67	25.96	18.80
2b	Pipeline from Göteborg Energi	7.25	0.87	8.12	6.67
3b	Pipeline from St1	4.87	0.51	5.38	3.82
4b	Pipeline used by Göteborg Energi and St1	3.37	0.35	3.72	2.64
5b	Pipeline used by Preem, Göteborg Energi, and St1	0.74	0.08	0.82	0.59
6b	Truck offloading	2.85	7.09	9.94	9.37
7b	Train offloading	2.79	5.32	8.11	7.55
8b	Liquefaction	108.82	31.95	140.77	119.96
9b	Interim storage & loading	20.79	26.03	46.82	42.70

As was seen in The Base Case when the deprecation is increased to 20 years, the maximum tariffs are decreased while all average tariffs become more expensive compared to the 15-year depreciation baseline.

Figure 13 and the accompanying table below show the annual tariffs paid to CinfraCap per infrastructure element per year.

Figure 13: Total annual tariffs in The Alternative Case split per infrastructure element, 20 years of depreciation

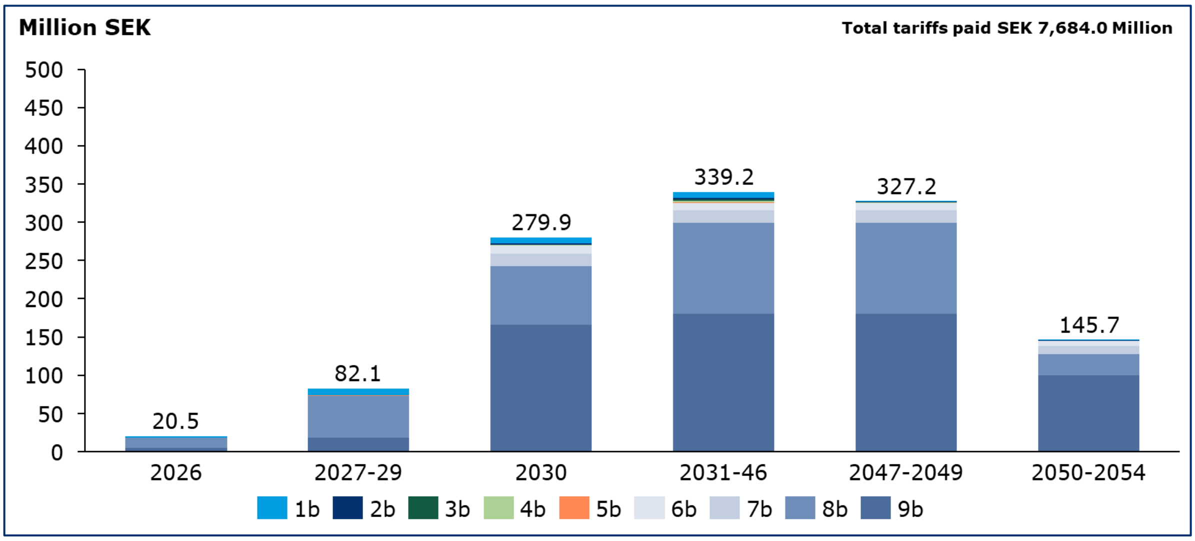


Table 35: Total annual tariffs in The Alternative Case split per infrastructure element, 20 years of depreciation

Infra. elements – Million SEK	2026	2027-29	2030	2031-46	2047-49	2050-54
1b	1.9	7.8	7.8	7.8	0.2	0.2
2b	-	-	1.3	1.3	1.3	0.1
3b	0.1	0.5	0.5	2.1	0.2	0.2
4b	0.1	0.3	0.9	2.0	0.2	0.2
5b	0.1	0.3	0.4	0.7	0.1	0.1
6b	-	-	9.9	9.9	9.9	7.1
7b	-	-	16.2	16.2	16.2	10.6
8b	13.7	54.9	76.9	119.1	119.1	27.0
9b	4.6	18.3	166.0	180.1	180.1	100.1
SUM	**20.5**	**82.1**	**279.9**	**339.2**	**327.2**	**145.7**

The annual payments are slightly lower at the beginning of the project compared to The Alternative Case with 15 years of depreciation. However, the period with only OPEX-related tariffs is reduced by five years for all infrastructure elements.

Table 36 below shows the same analysis with 20 years of deprecation but split per partner instead.

Table 36: Tariff overview per partner in The Alternative Case, 20 years of depreciation - all figures are given in SEK per ton

Partner	Infrastructure elements	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff
Preem	1b + 5b + 8b + 9b	155.64	58.73	214.37	184.06
Göteborg Energi	2b + 4b + 5b + 8b + 9b	140.97	59.28	200.25	171.56
St1	3b + 4b + 5b + 8b + 9b	138.59	58.92	197.51	168.69
Renova	6b + 9b	23.64	33.12	56.76	50.79
Third Parties truck	6b + 9b	23.64	33.12	56.76	52.85
Third Parties train	7b + 9b	23.58	31.35	54.93	50.21

The tariff overview per partner indicates that a 20-year depreciation of assets will make the CAPEX-related and the max tariffs lower, OPEX-related tariffs will remain the same, while average tariffs will become more expensive compared to the 15-year depreciation baseline.

The annual distribution of the total tariffs paid per partner per year is illustrated in Figure 14 and the accompanying Table 37 below.

Figure 14: Total annual tariffs in The Alternative Case split per partner, 20 years of depreciation

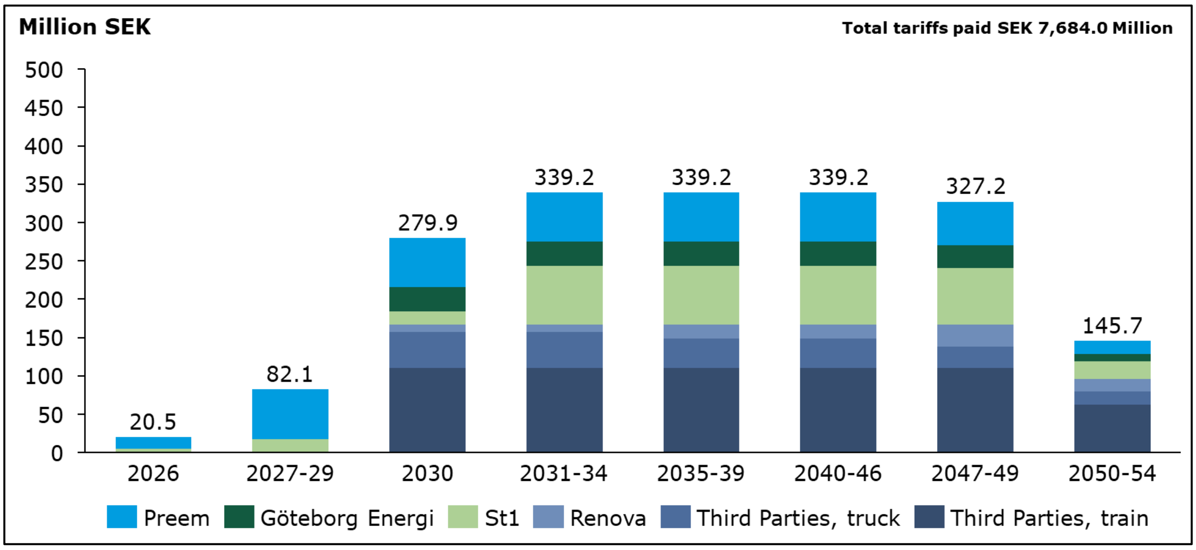


Table 37: Total annual tariffs in The Alternative Case split per partner, 20 years of depreciation

Partner – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-46	2047-49	2050-54
Preem	16.1	64.3	64.3	64.3	64.3	64.3	56.5	17.6
Göteborg Energi	-	-	31.2	31.2	31.2	31.2	30.6	9.2
St1	4.4	17.8	17.8	77.0	77.0	77.0	73.5	23.0
Renova	-	-	9.1	9.1	18.2	28.4	28.4	16.6
Third Parties, truck	-	-	47.7	47.7	38.6	28.4	28.4	16.6
Third Parties, train	-	-	109.9	109.9	109.9	109.9	109.9	62.7
SUM	**20.5**	**82.1**	**279.9**	**339.2**	**339.2**	**339.2**	**327.2**	**145.7**

The table and figure above show that compared to the baseline 15-year depreciation scenario, the total annual tariffs reach a peak of SEK 339.2 million instead of SEK 362.2 million in the 15-year depreciation scenario. However, because the CAPEX-related tariffs are paid for a longer time, the total tariffs paid are slightly higher.

25 years of depreciation of assets

If the main depreciation assumption of 15 years is changed to 25 years instead, the sensitivity analysis shows that the total tariffs paid over the whole period (2026-2054) are approximately SEK 1,260 million higher than compared to the 15-year depreciation baseline. The table below provides an overview of tariffs split per infrastructure element, given 25 years of depreciation of assets.

Table 38: Tariff overview per infrastructure element in The Alternative Case, 25 years of depreciation - all figures are given in SEK per ton

Infrastructure element	Short description	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff
1b	Pipeline from Preem	23.62	0.68	24.30	21.79
2b	Pipeline from Göteborg Energi	6.76	0.87	7.63	7.63
3b	Pipeline from St1	4.41	0.51	4.92	4.39
4b	Pipeline used by Göteborg Energi and St1	3.05	0.36	3.41	3.04
5b	Pipeline used by Preem, Göteborg Energi, and St1	0.68	0.08	0.76	0.68
6b	Truck offloading	2.66	7.09	9.75	9.75
7b	Train offloading	2.60	5.32	7.92	7.92
8b	Liquefaction	102.37	31.95	134.32	134.32
9b	Interim storage & loading	19.40	26.03	45.43	45.43

As can be expected, the OPEX-related tariffs remain almost the same compared to the baseline of 15 years of depreciation of assets. All average and CAPEX-related tariffs will be slightly higher compared to the baseline while the max tariff will be lower.

Figure 15 and the accompanying table below show the annual tariffs paid per infrastructure element given depreciation of 25 years.

Figure 15: Total annual tariffs in The Alternative Case split per infrastructure element, 25 years of depreciation

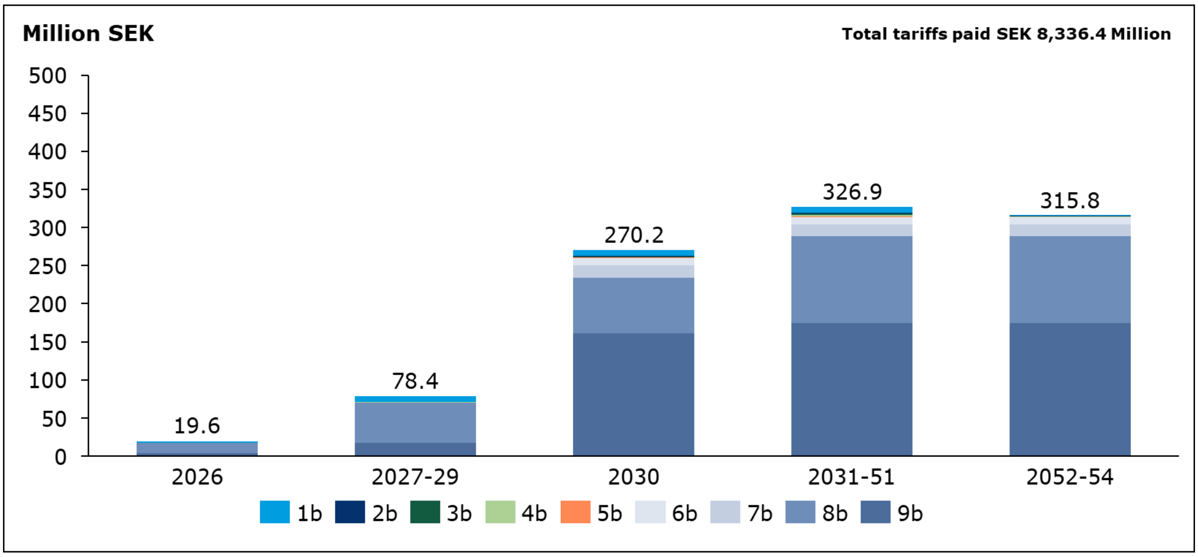


Table 39: Total annual tariffs in The Alternative Case split per infrastructure element, 25 years of depreciation

Infra. elements – Million SEK	2026	2027-29	2030	2031-51	2052-54
1b	1.8	7.3	7.3	7.3	0.2
2b	-	-	1.2	1.2	1.2
3b	0.1	0.4	0.4	1.9	0.2
4b	0.1	0.3	0.8	1.9	0.2
5b	0.1	0.3	0.4	0.6	0.1
6b	-	-	9.8	9.8	9.8
7b	-	-	15.8	15.8	15.8
8b	13.1	52.4	73.3	113.6	113.6
9b	4.4	17.7	161.1	174.7	174.7
SUM	**19.6**	**78.4**	**270.2**	**326.9**	**315.8**

The figure and table above show that the total annual tariffs paid will be lower than the baseline 15-year deprecation in all years from 2026 to 2044. However, because the assets related to the liquefaction and the interim storage and loading facilities are depreciating until the very last year of the project, the CAPEX-related fees for these assets are also paid throughout the project's lifetime. This entails that the total annual payments are nearly doubled from 2045-2054 compared to the 15-year depreciation case.

Table 40 below shows the tariffs split per partner assuming 25 years of depreciation of assets.

Table 40: Tariff overview per partner in The Alternative Case, 25 years of depreciation - all tables are given in SEK per ton

Partner	Infrastructure elements	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff
Preem	1b + 5b + 8b + 9b	146.07	58.74	204.81	202.23
Göteborg Energi	2b + 4b + 5b + 8b + 9b	132.26	59.29	191.55	191.10
St1	3b + 4b + 5b + 8b + 9b	129.91	58.93	188.84	187.86
Renova	6b + 9b	22.06	33.12	55.18	55.18
Third Parties truck	6b + 9b	22.06	33.12	55.18	55.18
Third Parties train	7b + 9b	22.00	31.35	53.35	53.35

The tariff overview per partner shows that a 25-year depreciation of assets will increase the average tariff for the four core partners between 19% and 25% compared to the 15-year deprecation scenario. Similarly, the maximum tariffs are decreased by 8-12%.

In Figure 16 and Table 41 below, the annual tariffs are shown per partner.

Figure 16: Total annual tariffs in The Alternative Case split per partner, 25 years of depreciation

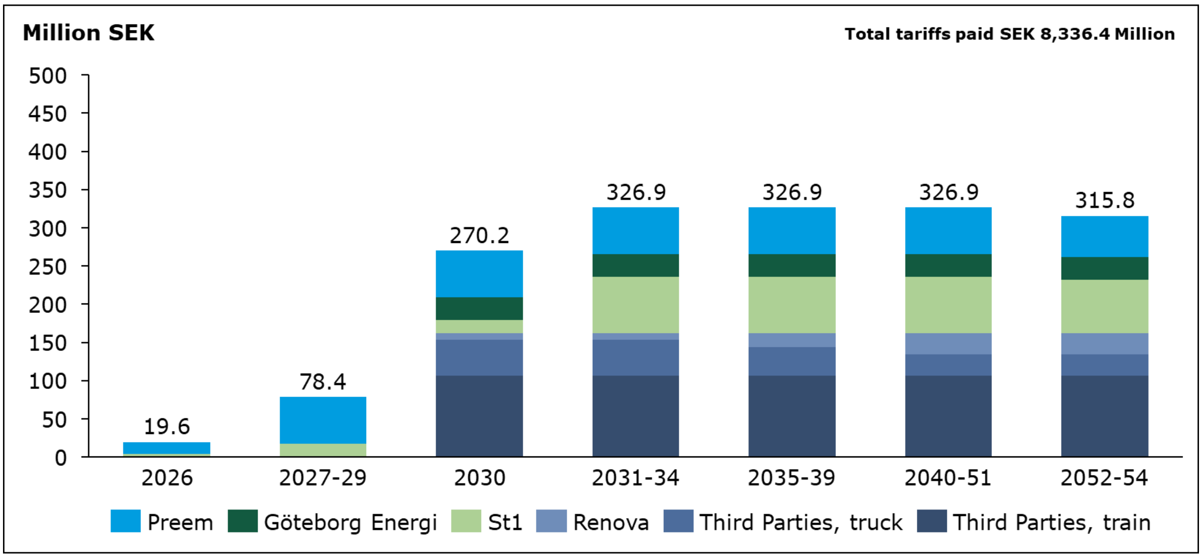


Table 41: Total annual tariffs in The Alternative Case split per partner, 25 years of depreciation

Partner – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-51	2052-54
Preem	15.4	61.4	61.4	61.4	61.44	61.4	54.2
Göteborg Energi	-	-	29.9	29.9	29.88	29.9	29.3
St1	4.2	17.0	17.0	73.6	73.65	73.6	70.5
Renova	-	-	8.8	8.8	17.66	27.6	27.6
Third Parties, truck	-	-	46.4	46.4	37.52	27.6	27.6
Third Parties, train	-	-	106.7	106.7	106.70	106.7	106.7
SUM	**19.6**	**78.4**	**270.2**	**326.9**	**326.9**	**326.9**	**315.8**

As assets are depreciated over a longer period, the CAPEX-related tariffs are also paid over a longer period. This results in total tariffs per year remaining high until 2054.

Excluding third parties

The last sensitivity analysis conducted shows the effect on the tariffs if the third-party volumes are excluded from The Alternative Case. The analysis investigates how tariffs are split between infrastructure elements and partners without third parties. Except for the exclusion of third parties, the analysis assumes the same assumptions as in The Alternative Case, including the original 15-year depreciation baseline.

Because the third parties are excluded in this sensitivity analysis, so are the train offloading facilities and the CAPEX and OPEX related to these facilities as no other partner will be using these facilities. However, unlike in The Base Case, the truck offloading facilities remain as Renova will be utilising them in The Alternative Case.

This has the effect that the fixed annual fee to the Port of Gothenburg is only split between the interim storage and loading, the liquefication, and the truck offloading facilities. It is assumed that the share paid by the liquefaction and the truck offloading facilities will remain the same, meaning that the interim storage & loading facility will increase its total share from 50% to 70%.

Table 42 below shows the updated assumption on the distribution of the annual fee which has been applied in the following sensitivity analysis.

Table 42: Distribution of the fixed annual fee to the Port of Gothenburg in The Alternative Case, excluding third parties

Infrastructure element	Tariff reference (Alternative Case)	Area (m^2)	Fixed fee (SEK)	Share (% of total)
Pipelines	1b-5b	0	0.00	0%
Truck offloading	6b	1,200	1,120,000.00	8%
Liquefaction	8b	3,240	3,024,000.00	22%
Interim storage & loading	9b	10,560	9,856,000.00	70%
SUM		**15,000**	**14,000,000.00**	**100%**

Considering these assumptions, Table 43 below shows an overview of the tariff split per infrastructure element if third-party volumes are excluded.

Table 43: Tariff overview per infrastructure element in The Alternative Case, excluding third parties, 15 years of depreciation - all figures are given in SEK per ton

Infrastructure element	Short description	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff
1b	Pipeline from Preem	28.40	0.68	29.08	16.01
2b	Pipeline from Göteborg Energi	8.17	0.88	9.05	5.78
3b	Pipeline from St1	5.78	0.51	6.29	3.28
4b	Pipeline used by Göteborg Energi and St1	4.01	0.35	4.36	2.27
5b	Pipeline used by Preem, Göteborg Energi, and St1	0.86	0.08	0.94	0.51
6b	Truck offloading	11.31	22.09	33.40	27.69
8b	Liquefaction	120.69	31.94	152.63	106.47
9b	Interim storage & loading	63.97	42.60	106.57	71.61

As would be expected, only the truck offloading and the interim storage & loading tariffs are affected by the exclusion of the third-party volumes – of course, besides that the train offloading tariffs are excluded. The average tariff for the truck offloading facilities triples from SEK 9.02/ton to SEK 27.69/ton as Renova will have to bear all the costs entirely based on their volumes.

As with The Base Case, the interim storage & loading tariffs increase significantly with the loss of third-party volumes – although not as significantly as there are fewer third-party volumes assumed in The Alternative Case. Still, the average tariff for the interim storage & loading facility increases from SEK 40.16/ton to SEK 122.87/ton.

Figure 17 and the accompanying table below show the annual tariffs per infrastructure element if the third parties are excluded.

Figure 17: Total annual tariffs in The Alternative Case split per infrastructure element, 15 years of depreciation, excluding third parties

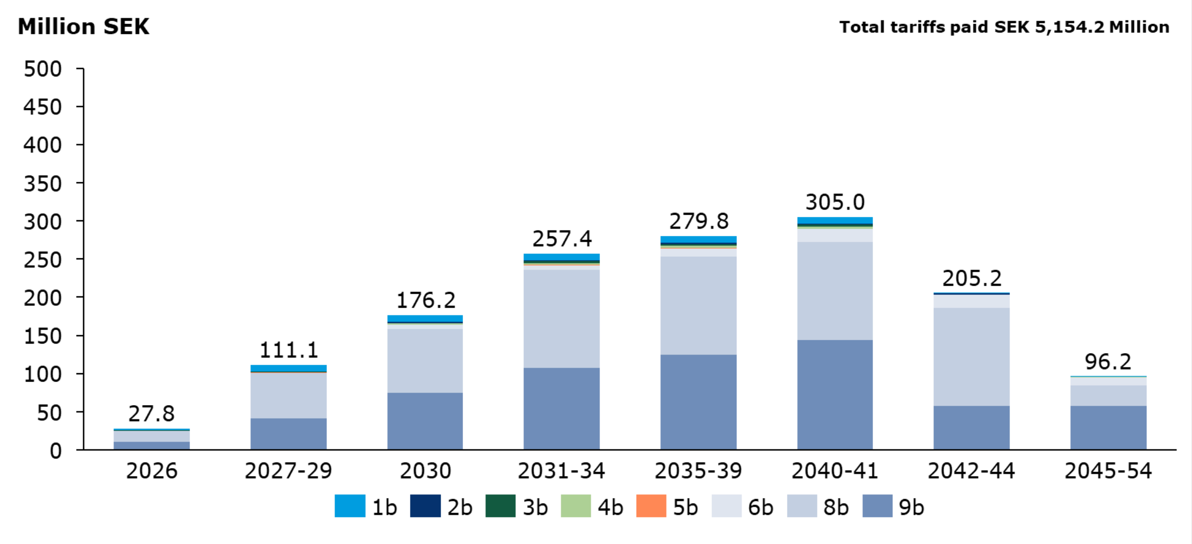


Table 44: Total annual tariffs in The Alternative Case split per infrastructure element, 15 years of depreciation, excluding third parties

Infra. elements – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-41	2042-44	2045-54
1b	2.2	8.7	8.7	8.7	8.7	8.7	0.2	0.2
2b	-	-	1.4	1.4	1.4	1.4	1.4	0.1
3b	0.1	0.6	0.6	2.5	2.5	2.5	0.2	0.2
4b	0.1	0.4	1.1	2.4	2.4	2.4	0.2	0.2
5b	0.1	0.4	0.5	0.8	0.8	0.8	0.1	0.1
6b	-	-	5.3	5.3	10.7	16.7	16.7	11.0
8b	14.9	59.5	83.3	129.1	129.1	129.1	129.1	27.0
9b	10.4	41.6	75.2	107.2	124.3	143.4	57.3	57.3
SUM	**27.8**	**111.1**	**176.2**	**257.4**	**279.8**	**305.0**	**205.2**	**96.2**

Again, the figures show unchanged tariffs for all but the 6b and 9b tariffs.

Table 45 below shows the impact on each of the four partners. As they all utilise the interim storage & loading facility, the impact of the significant increase of the 9b tariffs can be seen on the tariffs paid by each partner.

Table 45: Tariff overview Case per partner in The Alternative Case, 15 years of depreciation, excluding third parties – all figures are given in SEK per ton

Partner	Infrastructure elements	CAPEX-related tariff	OPEX-related tariff	Max tariff	Average tariff
Preem	1b + 5b + 8b + 9b	213.92	75.30	289.22	203.60
Göteborg Energi	2b + 4b + 5b + 8b + 9b	197.70	75.85	273.55	186.21
St1	3b + 4b + 5b + 8b + 9b	195.31	75.48	270.79	183.64
Renova	6b + 9b	75.28	64.69	139.97	92.26

With the exclusion of third parties, all partners will experience much higher tariffs. The average tariff of Preem, Göteborg Energi, and St1 increases by 54-59% while Renova's increases by 221%. The significant increase for Renova is due to the majority of Renova's paid tariffs being related to the interim storage and loading, which is heavily affected by the exclusion of third parties.

Figure 18 and the accompanying table below show the annual distribution of the total tariffs paid by each partner when excluding third parties.

Figure 18: Total annual tariffs in The Alternative Case, split per partner, 15 years of depreciation, excluding third parties

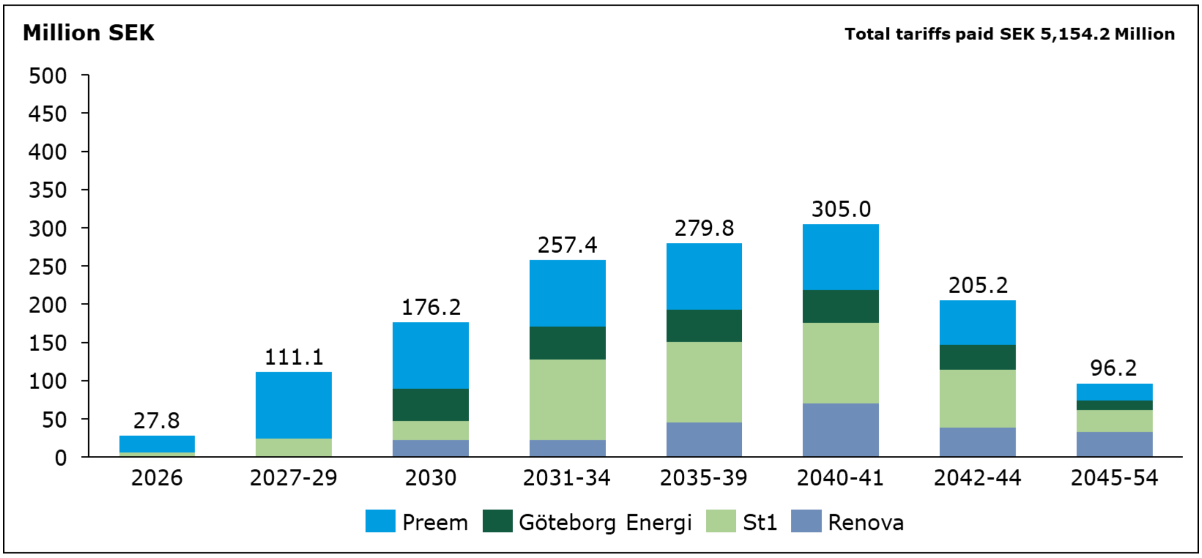


Table 46: Total annual tariffs in The Alternative Case, split per partner, 15 years of depreciation, excluding third parties

Partner – Million SEK	2026	2027-29	2030	2031-34	2035-39	2040-41	2042-44	2045-54
Preem	21.7	86.8	86.8	86.8	86.8	86.8	58.80	22.59
Göteborg Energi	-	-	42.7	42.7	42.7	42.7	31.93	11.83
St1	6.1	24.4	24.4	105.6	105.6	105.6	76.51	29.44
Renova	-	-	22.4	22.4	44.8	70.0	38.00	32.35
Sum	**27.8**	**111.1**	**176.2**	**257.4**	**279.8**	**305.0**	**205.2**	**96.2**

6.7 Discussion of the four scenarios in The Base Case and The Alternative Case

In sections 6.5 and 6.6 the tariffs for The Base Case, The Alternative Case, and the sensitivity analyses for both cases are described and analysed separately. In this section, the differences between the scenarios are discussed and compared.

The two tables below show a comparison of the average and maximum tariffs paid by each partner across the four scenarios of The Base Case and The Alternative Case.

The first table below shows the comparison of The Base Case Scenarios.

Table 47: Comparison of the four scenarios in The Base Case– all figures are given in SEK per ton

Partner	Infrastructure elements	Excl. 3rd parties (15 years dep)		15 years of depreciation		20 years of depreciation		25 years of depreciation	
		Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.
Preem	1a+10a	136.92	94.61	75.98	55.42	70.36	59.92	67.38	64.92
Göteborg Energi	2a + 6a + 9a + 10a	281.88	243.31	220.94	206.95	218.42	212.14	217.65	217.33
St1	3a + 5a + 6a + 9a + 10a	276.96	239.65	216.02	203.31	213.66	207.84	213.03	212.38
Renova	4a + 5a + 6a + 9a + 10a	430.83	310.66	369.89	280.76	339.71	302.89	326.09	325.36
Third Parties, truck	7a + 10a	N/A	N/A	57.75	47.72	54.82	50.39	53.28	53.28
Third Parties, Train	8a + 10a	N/A	N/A	55.91	45.91	52.99	48.57	51.45	51.45

The second table below shows the comparison of The Alternative Case Scenarios.

Table 48: Comparison of the four scenarios in The Alternative Case – all figures are given in SEK per ton

Partner	Infrastructure elements	Excl. 3rd parties (15 years dep)		15 years of depreciation		20 years of depreciation		25 years of depreciation	
		Max	Avg.	Max	Avg.	Max	Avg.	Max	Avg.
Preem	1b + 5b + 8b + 9b	289.22	203.60	232.07	167.61	214.37	184.06	204.81	202.23
Göteborg Energi	2b + 4b + 5b + 8b + 9b	273.55	186.21	216.40	152.97	200.25	171.56	191.55	191.10
St1	3b + 4b + 5b + 8b + 9b	270.79	183.64	213.64	150.43	197.51	168.69	188.84	187.86
Renova	6b + 9b	139.97	92.26	59.73	46.30	56.76	50.79	55.18	55.18
Third Parties, truck	6b + 9b	N/A	N/A	59.73	50.92	56.76	52.85	55.18	55.18
Third Parties, Train	7b + 9b	N/A	N/A	57.89	47.28	54.93	50.21	53.35	53.35

As expected, if the third parties are excluded, the maximum and average tariffs per partner increase significantly. This is because the costs of the interim storage and loading facilities are distributed on significantly fewer tons of CO_2. This is the case, even when accounting for that fewer storage tanks are needed without the third parties. Thus, it is in all the partners' interests to maximise volumes flowing through the system. The CinfraCap JV also gains from higher volumes, as it will entail higher CAPEX and OPEX costs which it will earn a required rate of return on.

However, when it comes to the impact of increasing the number of years in which assets are depreciated, the effect on the maximum and average tariffs differs.

Increasing the years of depreciation generally has the following impact on the calculated tariffs:

- OPEX-related tariffs are more or less the same, as they are calculated after the CAPEX-related tariffs have been determined.
- CAPEX-related tariffs are decreased, as the CAPEX costs are distributed across more tons of CO_2 when the depreciation period is increased.
- Because of the decreased CAPEX-related fee per ton, the maximum tariffs per ton paid by each partner also decreases, as can be seen in the table above.
- However, the CAPEX-related tariffs are also paid for more years when the depreciation period is extended. This has the overall effect that the average tariff per ton paid during the project lifetime increases when the depreciation period is extended.

This effect on the average tariffs is further supported by the required rate of return, as future cash flows are valued less and less. Therefore the total amount of tariffs paid to CinfraCap has to be higher, if the tariffs are paid further out in the future, to obtain the same required return on the investment. This can be seen by the total amount of tariffs paid in the case of 25 years of depreciation is ca. SEK 1 billion higher than in the baseline scenario with 15 years of depreciation – both cases have the same rate of return to the investors.

Because the calculated tariffs consider the required rate of return in all scenarios, CinfraCap could be indifferent as to how many years of depreciation are chosen, as their adjusted return is essentially the same. However, from the perspective of the CinfraCap, increasing the depreciation of assets also means increased risks as the infrastructure is repaid (through the CAPEX-related tariffs) over a longer period. The increased timeline entails slightly higher risks, e.g. increased bankruptcy risks and risks of external disturbances during the project period.

The preference for one or the other scenario of depreciation also depends, among other factors, on each party's risk profile, willingness to commit, and required rate of return on investments.

While these preferences may vary in each organisation, the 15 years of depreciation seems like a good starting point, given that the partners will have lower average tariffs, the risks are reduced for CinfraCap and the total amount of tariffs are minimised while still securing the required return to the CinfraCap investors.

7. The Term Sheet

In the following two sections, Appendix B: Draft Term Sheet ("The Term Sheet") is introduced and commented on.

7.1 Introduction to The Term Sheet

The Term Sheet covers the basic issues regarding the terms for the activities performed by CinfraCap including pipeline transportation, liquefaction and interim storage and loading of CO_2. The Term Sheet thus describes the relevant key technical, operational and economical aspects which should be included in the final contract ("The Final Agreement") between the relevant parties. The Term Sheet does not cover the general legal issues which have to be covered in The Final Agreement.

The detailed Final Agreement has to be negotiated/agreed upon between the final parties. It has to be drafted by relevant and competent lawyers with extensive experience from e.g. the LNG business to be able to comprehend the contractual complexity and consequences hereof and apply this in the negotiations. The Term Sheet still includes several areas which are to be commercially negotiated between the relevant parties in due time and to be included in The Final Agreement. The Term Sheet shall not be considered a legal document as such but may form the basis for The Final Agreement. Ramboll recommends that The Final Agreements are signed simultaneously and in connection with agreements made with final storage providers.

For The Term Sheet, Ramboll has used experience from both the natural gas and the LNG (Liquefied Natural Gas) business as an inspiration. In the LNG business, natural gas is transported in pipelines, cooled down to LNG and transported as a liquid, by ship, rail or truck. A kind of international contractual standard has with time developed for the LNG business. The advantage of using this standard is that all contractual aspects will be covered. However, a challenge of using the LNG standard as the basis for the CinfraCap terms is that LNG compared to CO_2 is a very big business with large volumes and huge investments, so the standards are very detailed. Given the immature nature of the CCS market, it may be a challenge to keep the terms for CO_2 handling simple – reflecting the size of the business - and at the same time make sure that all relevant aspects are covered. Based on our experiences in the LNG and natural gas business and the distinct characteristics of the CinfraCap project and CCS, Ramboll has drafted The Term Sheet to cover the relevant aspects.

The following comments on the terms described in The Term Sheet for the cooperation between CinfraCap and the four partners Preem, St1, Göteborg Energi, and Renova ("The Partners"). The Partners and the third parties are collectively referred to as ("The Clients"). The Clients and CinfraCap are collectively referred to as ("The Parties").

7.2 Specific comments on The Term Sheet

In the following, the specific heads of terms from The Term Sheet are commented on. General comments to the Term Sheet are also provided. Ramboll recommends that you read the relevant section of The Term Sheet first and have the below comments available simultaneously.

General comments

Dates are intentionally left as generic, as the final start and end dates of operation are still not set in stone, as well as the leasing period of the port area.

In The Term Sheet, it is assumed that each Client will individually enter into an agreement with final storage providers ("The CO_2 Final Storage Companies"). However, as will be briefly discussed in the comments to section 2.7, there can be benefits of having some kind of a joint negotiation or agreement with The CO_2 Final Storage Companies. This could also be in the form of a framework agreement negotiated by CinfraCap on behalf of The Clients. This is something which CinfraCap is currently analysing more thoroughly and is covered in more detail in WP4.

Section 2.1 Infrastructure

In this section, the infrastructure which The Term Sheet covers should be outlined and The Final Agreement should be linked to a detailed description of the technical setup.

CinfraCap is responsible for the investment and construction of the necessary infrastructure for CinfraCap activities and for negotiating the land lease with the Port of Gothenburg. This includes making sure that the port facilities are ready and able to receive the ships arriving to collect the CO_2, i.e. the construction/modification of existing jetties, berths and ship mooring facilities, the capacity to accept certain sizes of CO_2 ships (length, width and depth) and CO_2 loading arms.

It is recommended that CinfraCap reviews the CO_2 ship fleet – present and future – to make sure that the infrastructure facilities are built to match – or can be expanded to – large liquefied CO_2 vessels.

If CinfraCap chooses The Alternative Case, the text has to be adapted to reflect that CinfraCap is not responsible for the pipeline infrastructure for Renova.

Section 2.2 Founding Partners

This section might be included as a clause if the founding partners find it relevant to define some specific rights that are not valid for third parties.

Section 2.3 Start-up schedule

When a project depends on infrastructure to be in place at a certain time it is normal to agree on specific consequences in case of delays.

In addition, The Parties have to agree on how to handle the "retainage volume", which is the volume in the storage tanks which for physical reasons cannot be taken out of the tanks or will be lost during tank maintenance work. The retainage volume is not specified in The Techincal Report but should be investigated in a later phase of the project.

Section 2.4 Operations

This section describes the operational agreement, which needs to be in place in the Final Agreement, describing CinfraCap's and The Clients' obligations and responsibilities.

Section 2.5 Title (ownership)

This section simply describes who has the ownership of the CO_2 within the CinfraCap infrastructure.

Section 2.6 Term

This section describes the length of the agreement and thus the commitment of the parties.

Section 2.7 CO_2 Quality and CO_2 specifications

Each of The Clients has to meet the quality specifications of the Final CO_2 Storage Company. The Clients may contract with different companies. This may lead to a difficult task for CinfraCap to secure that all parties at any time meet the specifications. The problem will disappear if all The

Clients team up with the same Final CO_2 Storage Company, establish a Joint Venture making the contract with the storage company, or if CinfraCap negotiates a framework agreement. This may also lead to a better negotiating position and better terms for The Clients towards the Final CO_2 Storage Company.

If CinfraCap chooses The Alternative Case, the tables have to be adapted to reflect that Renova will have a different hourly maximum capacity due to the use of trucks instead of a pipeline.

Section 2.8 Capacity and throughput reservations

The maximum annual throughput reservation is the basis for the tariff. The maximum hourly capacity reservation is needed for CinfraCap to define the capacity of the infrastructure and to understand what capacity is available for third parties.

The maximum hourly capacity for the third parties by truck of 125 tons is based on 2.5 trucks of 50 Tons per hour based on the information from sections 3.8.1 and 4.1.5 of The Technical Report.

The maximum hourly capacity for the third parties by train is based on an unloading flow rate of 500 m^3 per hour based on the information from table 3.9 of The Technical Report. This is equivalent to ca. 536 tons per hour.

Sections 2.9 Planning and scheduling for deliveries and 2.10 Planning and scheduling of loading

These terms have to be aligned with the terms agreed with the Final Storage Company and the Port Regulations.

The matching of steady flowing pipe deliveries into the CinfraCap facilities/tanks with the loading of batches of CO_2 onto a ship may cause problems for the individual Clients. Ships can be delayed and thereby cause full or blocked tank capacity at the CinfraCap system.

In the above-described CinfraCap facilities, the CO_2 molecules of each Client are mixed in the pipe and tank systems. The Clients are effectively sharing the storage capacity. Such shared capacity facilities form the basis for trading and swapping of CO_2 between The Clients.

A shared capacity facility requires specific agreements between The Clients regulating i.e. trading, swapping of CO_2 and possible swapping of storage and capacity rights. Such agreements could be made an integral part of The Final Agreements or they could be negotiated alongside The Final Agreements negotiations.

The upside of trading and swapping of CO_2 is to increase the utilization of the facility and may ease the individual Client's opportunities to optimize loading and shipping of CO_2 for The CO_2 Final Storage Companies. The downside is that it will be complicated to make such agreements.

Section 2.11 Tariffs, fees and payments

For the tariffs, the business model for the transport of natural gas has been used as a basis. In the natural gas business, it is common for clients to make a reservation for a certain period of time and pay a fee based on the throughput and/or capacity. Such capacity reservations are made on a so-called take-or-pay basis, which essentially means that the client pays for the reserved capacity no matter whether the capacity is used or not. The same principle has been applied to the tariffs model for CinfraCap – based on the annual volumes each partner commits to instead of capacity. This is chosen, to be able to follow the cost per ton through the CO_2 tax, the CinfraCap infrastructure and the final storage provider, which provide estimates at a cost per ton basis.

The tariffs are based on input in 2022 prices and the tariffs are shown in 2022 prices.

In The Final Agreement, the parties have to agree on the final tariffs and the indexation of each of the tariff elements to adjust for inflation. If the indexation is fixed from the beginning, CinfraCap will gain if the cost increases are smaller than the inflation rate. Likewise, The Clients will gain if the cost increases are bigger than the actual inflation. However, the parties can also agree on a more cost-reflective price adjustment mechanism.

Due to the high fluctuation of the electricity prices, it is suggested that CinfraCap enters into a PPA to reduce the commercial risks related to the volatile electricity market. This is further discussed in section 6.3 of this report.

Chapter 6 on The Tariff Model above describes our suggestion for the tariffs in both The Base Case and The Alternative Case. The final tariffs at the time of the signing of contracts should be included directly in The Final Agreement.

Section 2.12 Other contractual legal terms

Ramboll has based on experience in the gas and LNG business listed several legal contractual terms that might be included in The Final Agreement.

Section 2.13 Contact persons

The parties must agree on contact persons who can be in contact in case of accidents, unforeseen events etc. These persons must have a procedure for what to do in different situations.

8. Suggestions for further investigations for the next project phase

Ramboll has the following suggestions for items which could be beneficial to investigate further to increase the understanding of the business model and reduce the commercial uncertainties which arise when simplistic assumptions are used:

- Integrate technical and commercial considerations more closely. It would be highly beneficial to collaborate closely between the commercial and the technical work packages already from the scoping of the next project phase. This will align cost estimates with the development and elaboration of the tariff model and minimise the risk that a technical scope is pursued which is not commercially feasible.
- Clarify the project timeline and align it with the final investment decision. Identify what needs to be in place before the partners and Nordion and Göteborg Energi can take the final investment decision and develop a roadmap for how to reach this decision.
- Analyse the demand from third parties more in-depth. It could be beneficial to conduct a market analysis to firmly establish the future market potential for CO_2 volumes delivered to the Port of Gothenburg. Once the mapping of potential participants is conducted, it is essential to engage with them as early as possible to qualify the potential volumes. Currently, up to 3 million tons are assumed annually from third parties already from 2030.
- Similarly, it would be a benefit to establish more firmly how much volume each partner is willing to commit to and for how long a period of time.
- Analyse the commercial value for the district heating integration more in-depth. Currently, the value is calculated using simple assumptions of the full load hours and the price per MWh. Mapping and negotiating a long-term price and offtake will make the OPEX-related tariff calculations for the liquefaction more precise.
- Investigate the electricity price assumptions and the effect on the tariffs. According to Göteborg Energi, the electricity price of 0.56 SEK/MWh used for the basis of the Kanfa OPEX figures assumes a PPA price of 0.44 SEK/MWh, which might be a bit optimistic considering the current electricity market. Moreover, the price does not include the electricity tax, and there is still a risk that CinfraCap will have to pay the full electricity tax of 0.36 SEK/MWh. The assumed PPA price for the electricity of the liquefaction facility will therefore affect the OPEX-related tariff of the liquefaction potentially quite significant as electricity currently accounts for 75% of the OPEX costs for this infrastructure element.
- Apply the same method to calculate the CAPEX/OPEX for all sections of the pipeline. This will increase the accuracy of the pipeline tariffs. Currently, the method used for the Renova pipeline and the remaining pipelines differ. It is also recommended to split the pipeline costs according to the segments described in The Tariff Model.
- Clarify port fees. The current port fees are based on a rough estimate provided by the Port of Gothenburg without any commercial discussions or negotiations. As the project matures a more clear understanding of the port fees should be feasible.
- Agree on project end date. Once the volumes and commitments from the project partners and the third parties are clarified, the assumption of the project end date should be revised.
- Clarify the interface with final storage providers. Clarify if the partners will contract separately, collectively, or under a framework agreement negotiated by CinfraCap with the third-party CO_2 final storage providers. This will impact the complexity of the agreements between the partners, the collaboration in terms of coordination with the collection of the CO_2 for final storage as well as the potential negotiation power of each party.

9. Appendices

Please find an overview of the attached appendices in Table 49 below.

Table 49: List of appendices

Appendix	Comment
Appendix A1: Draft Tariff Model, Base Case	Spreadsheet with detailed calculations for The Base Case
Appendix A2: Draft Tariff Model, Alternative Case	Spreadsheet with detailed calculations for The Alternative Case
Appendix B: Draft Term Sheet	PDF
Appendix C1: Adjusted CAPEX estimates, base case	PDF printout of the adjusted CAPEX (from the excel model)
Appendix C2: Adjusted CAPEX estimates, alternative case	PDF printout of the adjusted CAPEX (from the excel model)