

STAFF MEMO

How do climate-related conditions affect Norwegian enterprises?

RESULTS OF THREE SURVEYS IN NORGES BANK'S REGIONAL NETWORK

NR. 5 | 2023

HENRIETTE BREKKE,
SOLVEIG K.
ERLANDSEN AND
SARA SKJEGGESTAD
MEYER



NORGES BANK

The papers in the Staff Memo series present reports and documentation written by staff members and other authors affiliated with Norges Bank, the central bank of Norway. The views and conclusions expressed in these papers do not necessarily represent those of Norges Bank.

© 2023 Norges Bank

This paper may be quoted or referenced provided the author and Norges Bank are acknowledged as the source.

ISSN 1504-2596 (online)

ISBN 978-82-8379-267-6 (online)

NORGES BANK
STAFF MEMO
NR 5 | 2023

HOW DO CLIMATE-RELATED
CONDITIONS AFFECT
NORWEGIAN ENTERPRISES?
- RESULTS OF THREE
SURVEYS IN NORGES
BANK'S REGIONAL
NETWORK

How do climate-related conditions affect Norwegian enterprises? - Results of three surveys in Norges Bank's Regional Network

NORGES BANK
STAFF MEMO
NR 5 | 2023

HOW DO CLIMATE-RELATED
CONDITIONS AFFECT
NORWEGIAN ENTERPRISES?
- RESULTS OF THREE
SURVEYS IN NORGES
BANK'S REGIONAL
NETWORK

Henriette Brekke, Solveig K. Erlandsen and Sara Skjeggstad Meyer¹

Climate change and the transition to a low-carbon economy affect the Norwegian and global economy in many ways. To gain greater insight into how these changes affect the Norwegian economy, Norges Bank has asked a selection of Norwegian enterprises on three occasions in recent years how climate-related conditions affect their operations. This report presents the results of the three surveys.

In summary, the results show that climate-related conditions are important for most companies. In particular, factors related to the transition to a low-carbon economy, such as changing customer preferences and climate policy, are important for many of the companies. Climate change in the form of changing weather conditions is also important for many, but a smaller proportion state that this is very important for the company. Many companies see business opportunities in climate changes, but climate-related conditions also lead to higher costs and higher prices.

Key words: Climate change, climate transition, Regional network

1. Introduction

Climate change and the transition to a low-carbon economy entail major structural changes for the Norwegian and global economy. In order to increase our understanding of how these changes affect the Norwegian economy, Norges Bank has on three occasions asked enterprises in its Regional Network how their activities are affected by climate-related conditions.² The surveys were conducted in January/February 2020, in January/February 2021 and in August 2022, and in each of them about 300 enterprises participated.

The survey results show that climate-related conditions affect large parts of Norwegian business and industry. In particular, factors related to the transition to a low-carbon economy, such as changing customer preferences and climate policy, are important for many of the companies.

¹ The views expressed in this paper are those of the authors and do not necessarily reflect those of Norges Bank. We would like to thank Per Espen Lilleås, Snorre Evjen, Kathrine Lund and Bjørn Naug for their comments and input.

² The surveys have been conducted as a special topic for the regular rounds in the Regional Network. Norges Bank plans to have an annual special topic on climate-related issues in the period ahead.

Climate change in the form of changing weather conditions is also important for many companies, but a smaller proportion state that this is very important for the company. Furthermore, the surveys show that climate-related conditions lead to more investment in new technology, increase the need for new expertise and increase investments. Many companies see business opportunities in climate-related conditions, but the companies also report that the climate-related changes lead to higher costs and higher prices.

In general, the three surveys provide a fairly similar picture of how climate-related conditions affect companies, but two results stand out. The share of companies that believe that climate-related conditions lead to reduced travel activity increased significantly from 2020 to 2021, while the share of companies that report that climate-related conditions lead to increased costs rose sharply from 2021 to 2022. These changes can probably be seen in the light of developments in society in the period between the surveys. The pandemic-related travel restrictions, which were introduced between the surveys in 2020 and 2021, have probably made it easier to reduce travel activity also for climate reasons. The rapid rise in prices in 2022, partially reflecting the war in Ukraine and the consequences of the pandemic, was amplified by several climate-related conditions. This may have made companies more aware of the cost effects of climate-related changes.

The survey results must be viewed in the light of the fact that companies have been asked to assess the effects within a relatively short time horizon, from the current situation and over the next three years. The restructuring that the Norwegian oil and gas sector is facing in the longer term, which may partly be affected by climate-related conditions, will therefore probably not be reflected to any great extent in these surveys.

The purpose of this report is to present and compare the results of the surveys. Not all questions are the same in the three surveys, and all results are therefore not directly comparable. The survey results from 2020 and 2021 have previously been presented in [Brekke and Erlandsen \(2020\)](#) and [Eger, Brekke and Erlandsen \(2021\)](#), respectively, while the 2022 survey results are presented in [Erlandsen and Meyer \(2023\)](#) and in a forthcoming blog post.³

The remainder of the report is organised as follows. Sections 2 to 6 present the main survey results, while all results are presented in tables in the appendices. More specifically, Appendix A shows the questions and answers from the 2020 survey, both in total and by sector, while Appendices B and C show the same for the surveys from 2021 and 2022 respectively.⁴

³ The blog posts are published on [Bankplassen blogg \(norges-bank.no\)](#).

⁴ Note that all results are unweighted and therefore do not take into account the location, production share or sector size. The results of the ordinary regional network surveys are, in contrast, [weighted](#).

2. The transition to a low-carbon economy affects the majority of companies

NORGES BANK
STAFF MEMO
NR 5 | 2023

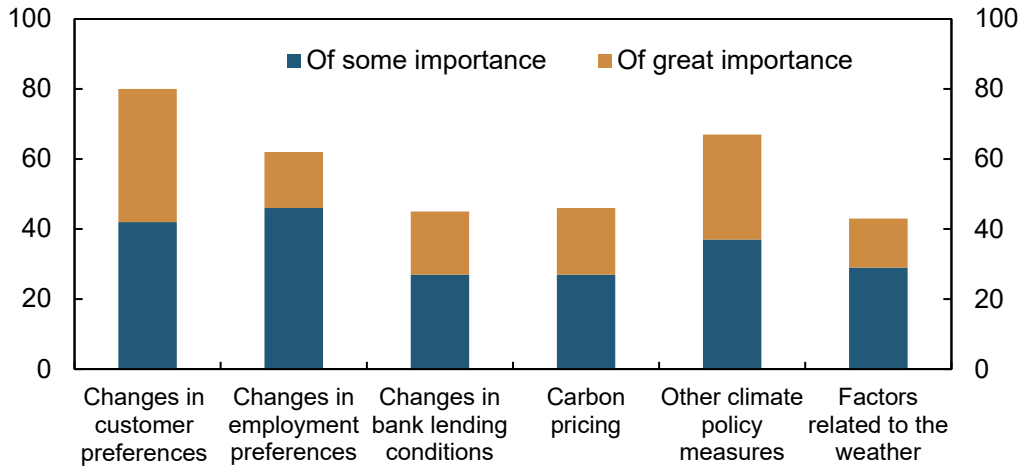
HOW DO CLIMATE-RELATED
CONDITIONS AFFECT
NORWEGIAN ENTERPRISES?
- RESULTS OF THREE
SURVEYS IN NORGES
BANK'S REGIONAL
NETWORK

All three surveys show that climate-related conditions, particularly those related to the transition to a low-carbon economy, are of great importance to many of the companies. In the surveys in 2020 and 2021, companies are asked which climate-related factor is most important for their business. More than 40 percent of the companies in both surveys respond that changing customer preferences is the main climate-related factor affecting their business, while climate policy is most important for a quarter of companies. Weather-related conditions, which are affected by physical climate change, are most important for about one in six companies. Changes in bank's lending conditions or "other" are cited as the main climate condition for about five percent of companies.

In the 2022 survey, companies are asked to grade the significance of various climate-related factors for the company's operations. For 80 percent of companies, climate-related changes in customer preferences are either *slightly* or *very* important (Chart 1). Policy measures to mitigate climate change, both through higher carbon prices and through other instruments, are also important for a majority of companies. The share who states that climate policy is important is highest in building and construction. Many of the companies, particularly among suppliers to the petroleum industry, also notice that more employees emphasise sustainability considerations when choosing a job. Furthermore, almost half of the companies report that their company's bank lending conditions are affected by climate-related conditions. Factors related to the weather are also highlighted by many enterprises, but only 14 percent state that this is *very* important for the company. It is particularly in retail trade and other household services that companies report that weather conditions are of importance.

Between eight and ten percent of the enterprises in the three surveys respond that climate-related factors have no or little impact on the company's operations. This share is highest among small and medium-sized service providers.

Chart 1. What do the following climate-related factors mean for your company today?¹ Response rate of all enterprises. Unweighted. Percent. Special topic Regional Network 2022/3

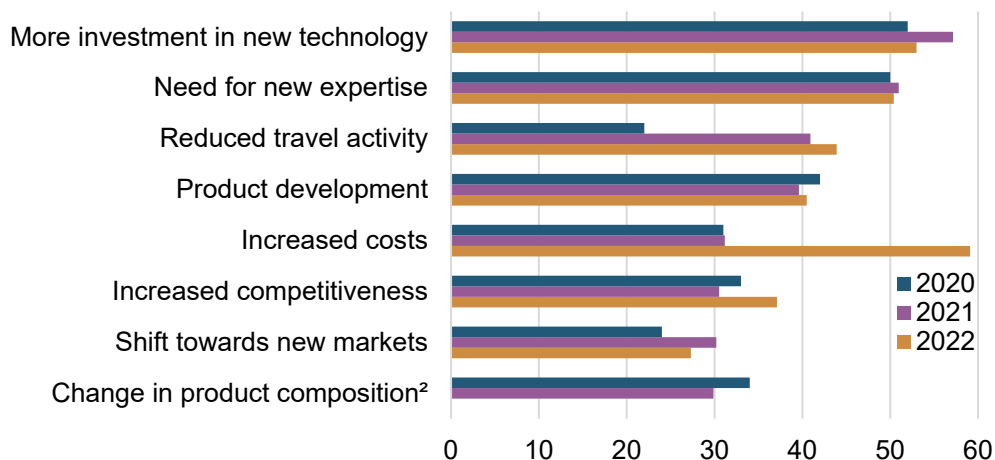


¹ The other companies responded 'not important'.
 Source: Norges Bank

3. Climate-related conditions lead to increased investment in new technology ...

Climate-related conditions can have many different consequences for companies. In all the surveys, more than half of the companies respond that climate-related conditions lead to more investment in technology, while about half of the companies indicate that these factors increase the need for new expertise (Chart 2). A large proportion of the companies also report that climate-related conditions lead to increased competitiveness, product development, a shift towards new markets and a change in product composition.

Chart 2. Do climate-related conditions lead to ...
 Check all current conditions.¹ Percent. Special topics Regional network
 2020/1, 2021/1 and 2022/3



¹ Only the most answered response alternatives are included in this table. See the appendices for results from all responses.

² This answer option is not included in 2022.

Source: Norges Bank

Overall, the three surveys provide a fairly similar picture of what climate-related conditions lead to for companies, but two individual results stand out. First, there is a sharp increase in the proportion of companies that respond that climate-related changes lead to *reduced travel activity* from the 2020 survey to the 2021 and 2022 surveys. This is probably because the first survey was conducted *before* the pandemic, while the last two were conducted after physical meetings had been largely replaced by video meetings due to containment measures. This has probably made it easier to reduce travel activity also for climate reasons.

Second, almost twice as many companies report that climate-related conditions lead to *higher costs* in the 2022 survey, as in the 2021 and 2020 surveys. This change is probably attributable to the fact that the higher level of inflation in both Norway and globally in 2022, partially reflecting the war in Ukraine and the after-effects of the pandemic, but also various climate-related conditions.⁵ This may in turn have made the companies more aware of these cost channels.

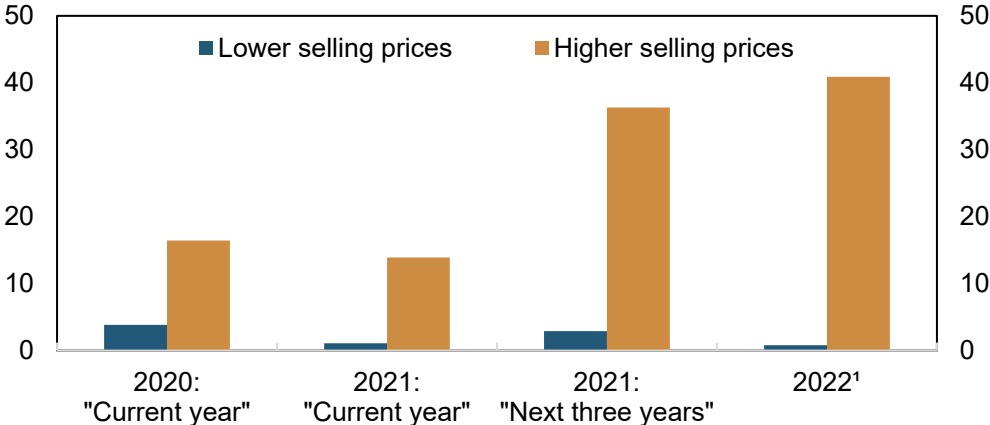
4.... and higher prices

One consequence of higher costs for the companies may be that selling prices also increase. The survey results show that this is the case for some companies. Around 15 percent of the enterprises in the 2020 and 2021 surveys report that climate-related conditions contributed to pushing up selling prices compared with the previous year (Chart 3). Almost 40 percent of the companies in the 2021 survey expect climate-related conditions to contribute to higher prices in the coming years. In the 2022 survey, more than 40 percent of the companies respond that

⁵ See, for example, box on page 16 of [Monetary Policy Report 1/22](#).

climate-related conditions lead to higher prices, while only one percent believe this leads to lower prices.

Chart 3: Do climate-related conditions lead to... Response rate. Unweighted. Percent. Special topics Regional Network 2020/1, 2021/1 and 2022/3

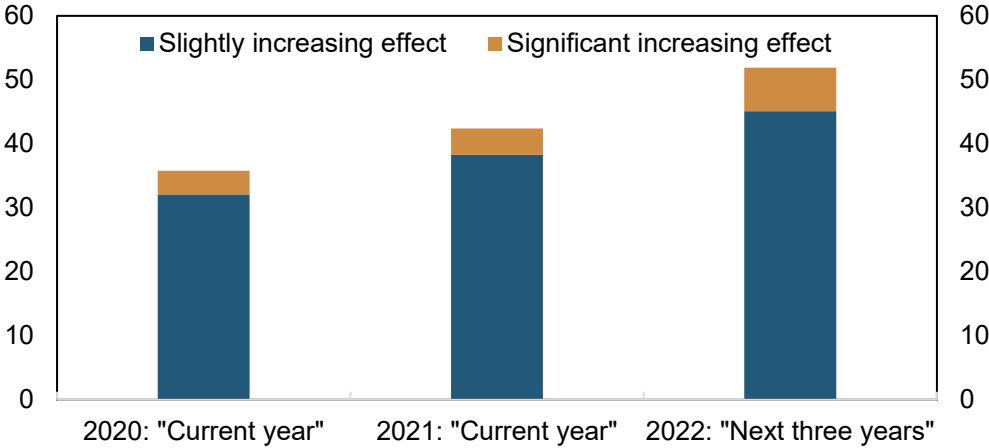


1 In 2022, the time horizon was not specified.
 Source: Norges Bank

5. Climate-related conditions increase investment

All three surveys show that climate-related conditions are pushing up investment in many companies. In 2020 and 2021, about 40 percent of companies report that climate-related conditions are raising investment this year, while only two percent expect a dampening effect (Chart 4). In the 2022 survey, more than half of the companies respond that climate-related conditions will increase investment over the next three years, while just under two percent believe that such conditions dampen them. The share of companies expecting increased investment due to climate-related conditions in the coming years is particularly large in manufacturing, at just over 70 percent.

Chart 4. Will climate-related conditions affect the company's investments in the current year/the next three years? Net shares¹ of companies' responses. Unweighted. Percent. Special topics Regional Network 2020/1, 2021/1 and 2022/3



¹ Net shares = Share 'slightly increasing effect' less share 'somewhat dampening effect' and proportion 'significantly increasing effect' less share 'significant dampening effect'.
 Source: Norges Bank

The survey responses indicate that climate-related conditions will have a slightly greater effect on investment in the coming years than in previous years. In the 2022 survey, companies are asked several other questions related to climate-related investments. These results will be discussed in more detail in an upcoming blog post on [Bankplassen blog](#).

6. Many companies see business opportunities in the climate transition

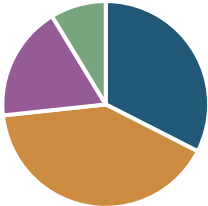
In all the surveys, a large proportion of the companies respond that climate-related changes, especially those related to the climate transition, can have an overall positive effect on the company. A high and increasing share believe that the overall effect is positive, while only a few consider the overall effect to be negative (Chart 5). In the 2021 survey, companies are asked if they see business opportunities in climate-related changes, and over 60 percent answer "yes" to this question. The high share of companies that report that climate-related conditions have positive net effects/provide business opportunities for their own operations must probably be seen in light of the fact that the climate transition within the relatively short time horizon assessed in the surveys increases the need for investments, new technology and new expertise. This provides opportunities for many businesses.

In the 2022 survey, companies in manufacturing and building and construction in particular report that climate-related changes are positive for their business, while suppliers to the petroleum industry are least likely to believe that climate-related conditions are positive for the company.

The sectoral distribution has changed somewhat from 2020, particularly as several oil suppliers seemed to see positive net effects of climate-related conditions to a greater extent than at present.

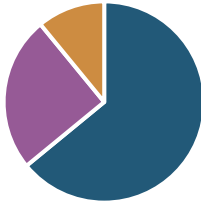
Chart 5. How is your company affected overall by climate-related conditions? Response rate. Unweighted. Percent. Special topics Regional Network 2020/1, 2021/1 and 2022/3

2020: How is your company affected overall by climate-related factors?



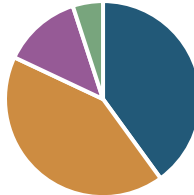
- Positively
- No net effect
- Negatively
- Not relevant

2021: Does your company see business opportunities in climate-related changes?



- Yes
- No
- Don't know/not relevant

2022: How is your company affected overall by climate-related factors?



- Positively
- No net effect
- Negatively
- Not relevant

Source: Norges Bank

Appendix A: Survey of climate-related conditions in 2020

Survey date: 27 January-14. February 2020⁶

Table A0: Number of companies and public enterprises that participated in the survey

	Total	Manufacturing	Oil suppliers	Building and construction	Services excluding wholesale and retail	Wholesale and retail	Public sector
Number of enterprises	311	80	24	37	107	42	21

Table A1: Which is the main climate-related condition for your company today? One answer per company. Response rate. Percent

	Weather-related conditions	Policy measures	Changes in customer preferences	Changes in bank lending conditions	Other	Not Applicable
Manufacturing	12.5%	35.0%	43.8%	0.0%	0.0%	8.8%
Oil suppliers	0.0%	20.8%	62.5%	12.5%	0.0%	4.2%
Building and construction	21.6%	24.3%	40.5%	0.0%	2.7%	10.8%
Wholesale and retail	11.9%	21.4%	52.4%	2.4%	4.8%	7.1%
Services	13.1%	21.5%	43.9%	5.6%	5.6%	10.3%
Public sector	57.1%	33.3%	0.0%	4.8%	0.0%	4.8%
Total¹	15.8	26.0	43.1	3.5	2.9	8.7

¹ Based on the unweighted average of all companies' responses.

⁶ The survey was conducted about one month before the coronavirus was detected in Norway.

Table A2: What is the net effect of climate-related conditions for your company? One answer per company. Response rate. Percent

	Positive	Neutral	Negative	Not Applicable
Manufacturing	33.8%	37.5%	20.0%	8.8%
Oil suppliers	33.3%	45.8%	16.7%	4.2%
Building and construction	35.1%	48.6%	5.4%	10.8%
Wholesale and retail	21.4%	47.6%	23.8%	7.1%
Services	39.3%	36.4%	14.0%	10.3%
Public sector	9.5%	42.9%	42.9%	4.8%
Total¹	32.5%	40.8%	18.0%	8.7%

¹ Based on the unweighted average of all companies' responses.

Table A3: Have climate-related conditions affected demand for your main products/services during the previous year? One answer per company. Response rate. Percent

	Significant dampening impact	Some dampening impact	No impact	Somewhat increasing impact	Significantly increasing impact
Manufacturing	1.3%	10.1%	58.2%	26.6%	3.8%
Oil suppliers	0.0%	4.3%	78.3%	13.0%	4.3%
Building and construction	0.0%	2.7%	56.8%	37.8%	2.7%
Wholesale and retail	0.0%	19.5%	43.9%	31.7%	4.9%
Services	0.0%	5.7%	64.2%	28.3%	1.9%
Public Sector ¹	-	-	-	-	-
Total²	0.3%	8.4%	59.8%	28.3%	3.1%

¹ Public sector enterprises did not answer this question. ² Based on the unweighted average of all company responses.

Table A4: Do you expect climate-related conditions to affect demand for your main products/services over the next three years? One answer per company. Response rate. Percent

	Significant dampening impact	Some dampening impact	No impact	Somewhat increasing impact	Significantly increasing impact
Manufacturing	2.5%	10.1%	35.4%	38.0%	13.9%
Oil suppliers	4.3%	8.7%	34.8%	52.2%	0.0%
Building and construction	0.0%	8.1%	35.1%	48.6%	8.1%
Wholesale and retail	0.0%	29.3%	29.3%	31.7%	9.8%
Services	0.0%	6.6%	39.6%	45.3%	8.5%
Public Sector ¹	-	-	-	-	-
Total²	1.0%	11.2%	36.0%	42.3%	9.4%

1 Public sector enterprises did not answer this question. **2** Based on the unweighted average of all company responses.

Table A5: Have climate-related conditions affected selling prices for your main products/services during 2019? One answer per company. Response rate. Percent

	Significant dampening impact	Some dampening impact	No impact	Somewhat increasing impact	Significantly increasing impact
Manufacturing	1.3%	6.3%	77.2%	15.2%	0.0%
Oil suppliers	0.0%	0.0%	87.0%	13.0%	0.0%
Building and construction	0.0%	2.7%	75.7%	18.9%	2.7%
Wholesale and retail	0.0%	2.4%	73.2%	19.5%	4.9%
Services	0.0%	2.8%	84.0%	11.3%	1.9%
Public sector	0.0%	0.0%	75.0%	25.0%	0.0%
Total¹	0.3%	3.3%	79.4%	15.4%	1.6%

1 Based on the unweighted average of all companies' responses.

Table A6: Will climate-related conditions affect your investments this year? One answer per company. Response rate. Percent

NORGES BANK
STAFF MEMO
NR 5 | 2023

HOW DO CLIMATE-RELATED CONDITIONS AFFECT NORWEGIAN ENTERPRISES? - RESULTS OF THREE SURVEYS IN NORGES BANK'S REGIONAL NETWORK

	Significant dampening impact	Some dampening impact	No impact	Somewhat increasing impact	Significantly increasing impact
Manufacturing	0.0%	1.3%	57.1%	35.1%	6.5%
Oil suppliers	0.0%	4.3%	39.1%	56.5%	0.0%
Building and construction	0.0%	2.7%	62.2%	29.7%	5.4%
Wholesale and retail	0.0%	2.4%	65.9%	29.3%	2.4%
Services	1.0%	1.0%	69.9%	25.2%	2.9%
Public sector	0.0%	0.0%	33.3%	61.9%	4.8%
Total¹	0.3%	1.7%	60.3%	33.8%	4.0%

¹ Based on the unweighted average of all companies' responses.

Table A7. I: Do climate-related conditions lead to ... Check all current answer options. Response rate. Percent

	Need for new expertise	Increased employment	Reduced employment	Easier access to labour	More difficult access to labour	Increased competitiveness	Reduced competitiveness	More investment in new technology
Manufacturing	38.8%	13.8%	2.5%	8.8%	1.3%	41.3%	6.3%	55.0%
Oil suppliers	58.3%	12.5%	4.2%	8.3%	8.3%	20.8%	0.0%	70.8%
Building and construction	56.8%	21.6%	2.7%	5.4%	5.4%	35.1%	0.0%	51.4%
Wholesale and retail	57.1%	7.1%	2.4%	0.0%	2.4%	26.2%	9.5%	52.4%
Services	47.7%	14.0%	3.7%	4.7%	2.8%	38.3%	2.8%	45.8%
Public sector	61.9%	9.5%	0.0%	9.5%	0.0%	4.8%	0.0%	52.4%
Total¹	49.5%	13.5%	2.9%	5.8%	2.9%	33.4%	3.9%	52.1%

¹ Based on the unweighted average of all companies' responses.

Table A7.II: Do climate-related conditions lead to ... Check all current answer options. Response rate. Percent

NORGES BANK
STAFF MEMO
NR 5 | 2023

	Reduced costs	Increased costs	Reduced travel activity	Change in seasonal pattern	Product development	Change in product mix	Shift towards new markets	Other
Manufacturing	8.8%	30.0%	15.0%	11.3%	47.5%	38.8%	30.0%	5.0%
Oil suppliers	0.0%	16.7%	12.5%	0.0%	66.7%	41.7%	45.8%	4.2%
Building and construction	0.0%	32.4%	10.8%	2.7%	51.4%	35.1%	27.0%	10.8%
Wholesale and retail	7.1%	38.1%	35.7%	9.5%	38.1%	61.9%	23.8%	7.1%
Services	3.7%	26.2%	24.3%	7.5%	39.3%	25.2%	18.7%	6.5%
Public sector	14.3%	52.4%	42.9%	9.5%	0.0%	0.0%	0.0%	4.8%
Aggregert¹	5.5%	30.5%	22.2%	7.7%	42.1%	34.4%	24.1%	6.4%

¹ Based on the unweighted average of all companies' responses.

Appendix B: Survey of climate-related conditions in 2021

NORGES BANK
STAFF MEMO
NR 5 | 2023

The interviews in the survey were mainly conducted in the period 25 January-12 February 2021.

Table B0: Number of companies and public enterprises that participated in the survey

HOW DO CLIMATE-RELATED CONDITIONS AFFECT NORWEGIAN ENTERPRISES? - RESULTS OF THREE SURVEYS IN NORGES BANK'S REGIONAL NETWORK

	Total	Manufacturing	Oil suppliers	Building and construction	Wholesale and retail	Services excluding wholesale and retail	Public Sector ¹
Number of enterprises	314	84	23	41	41	111	14

¹ Public sector = Municipal and hospital sector.

Table B1: Which is the main climate-related condition for your company today? One answer per company. Response rate. Percent

	Weather-related conditions	Policy measures	Change in customer preferences	Changes in bank lending conditions	Other	Not Applicable
Manufacturing	13.9%	27.8%	45.6%	0.0%	3.8%	8.9%
Oil suppliers	0.0%	33.3%	50.0%	5.6%	0.0%	11.1%
Building and construction	15.2%	27.3%	48.5%	0.0%	3.0%	6.1%
Wholesale and retail	21.1%	21.1%	39.5%	0.0%	5.3%	13.2%
Services	9.8%	18.6%	49.0%	3.9%	1.0%	17.6%
Public sector	33.3%	50.0%	0.0%	0.0%	0.0%	16.7%
Total¹	13.5%	24.8%	44.7%	1.8%	2.5%	12.8%

¹ Based on the unweighted average of all companies' responses.

Table B2: Have climate-related conditions affected demand for your key products/services during 2020? One answer per company. Response rate. Percent

	Significant dampening impact	Some dampening impact	No impact	Somewhat increasing impact	Significantly increasing impact
Manufacturing	0.0%	6.4%	53.8%	33.3%	6.4%
Oil suppliers	0.0%	10.0%	70.0%	15.0%	5.0%
Building and construction	0.0%	0.0%	84.2%	13.2%	2.6%
Wholesale and retail	0.0%	0.0%	70.0%	25.0%	5.0%
Services	0.0%	2.9%	66.7%	28.4%	2.0%
Public Sector ¹	-	-	-	-	-
Total²	0.0%	3.6%	66.2%	26.3%	4.0%

1 Public sector enterprises did not answer this question. **2** Based on the unweighted average of all company responses.

Table B3: Do you expect climate-related conditions to affect demand for your main products/services over the next three years? One answer per company. Response rate. Percent

	Significant dampening impact	Some dampening impact	No impact	Somewhat increasing impact	Significantly increasing impact
Manufacturing	1.3%	10.4%	26.0%	51.9%	10.4%
Oil suppliers	0.0%	15.0%	35.0%	50.0%	0.0%
Building and construction	0.0%	0.0%	50.0%	44.7%	5.3%
Wholesale and retail	0.0%	5.0%	47.5%	37.5%	10.0%
Services	0.0%	6.8%	43.7%	40.8%	8.7%
Public Sector ¹	-	-	-	-	-
Total²	0.4%	7.2%	39.6%	44.6%	8.3%

1 Public sector enterprises did not answer this question. **2** Based on the unweighted average of all company responses.

Table B4: Have climate-related conditions affected retail prices for your main products/services during 2020? One answer per company. Response rate. Percent

	Significant dampening impact	Some dampening impact	No impact	Somewhat increasing impact	Significantly increasing impact
Manufacturing	0.0%	0.0%	87.2%	11.5%	1.3%
Oil suppliers	0.0%	0.0%	100.0%	0.0%	0.0%
Building and construction	0.0%	2.6%	66.7%	30.8%	0.0%
Wholesale and retail	2.4%	0.0%	85.4%	9.8%	2.4%
Services	0.0%	1.0%	87.4%	11.7%	0.0%
Public Sector ¹	-	-	-	-	-
Total²	0.4%	0.7%	85.1%	13.2%	0.7%

1 Public sector enterprises did not answer this question. **2** Based on the unweighted average of all company responses.

Table B5: Do you expect climate-related conditions to affect the selling prices of your main products/services over the next three years? One answer per company. Response rate. Percent

	Significant dampening impact	Some dampening impact	No impact	Somewhat increasing impact	Significantly increasing impact
Manufacturing	0.0%	1.3%	54.5%	42.9%	1.3%
Oil suppliers	0.0%	0.0%	85.0%	15.0%	0.0%
Building and construction	0.0%	2.6%	42.1%	55.3%	0.0%
Wholesale and retail	0.0%	5.0%	60.0%	30.0%	5.0%
Services	0.0%	3.9%	68.0%	26.2%	1.9%
Public Sector ¹	-	-	-	-	-
Total²	0.0%	2.9%	60.8%	34.5%	1.8%

1 Public sector enterprises did not answer this question. **2** Based on the unweighted average of all company responses.

Table B6: Have climate-related conditions impacted your investments during 2020? One answer per company. Response rate. Percent

	Significant dampening impact	Some dampening impact	No impact	Somewhat increasing impact	Significantly increasing impact
Manufacturing	0.0%	1.3%	68.8%	24.7%	5.2%
Oil suppliers	0.0%	0.0%	75.0%	20.0%	5.0%
Building and construction	0.0%	0.0%	57.9%	39.5%	2.6%
Wholesale and retail	0.0%	0.0%	59.0%	41.0%	0.0%
Services	0.0%	1.0%	69.6%	23.5%	5.9%
Public sector	0.0%	0.0%	64.3%	35.7%	0.0%
Total¹	0.0%	0.7%	66.6%	28.6%	4.1%

¹ Based on the unweighted average of all companies' responses.

Table B7: Will climate-related conditions affect your investments this year? One answer per company. Response rate. Percent

	Significant dampening impact	Some dampening impact	No impact	Somewhat increasing impact	Significantly increasing impact
Manufacturing	0.0%	2.6%	51.9%	40.3%	5.2%
Oil suppliers	0.0%	0.0%	45.0%	50.0%	5.0%
Building and construction	0.0%	2.6%	44.7%	50.0%	2.6%
Wholesale and retail	0.0%	0.0%	52.5%	45.0%	2.5%
Services	0.0%	2.0%	60.8%	32.4%	4.9%
Public sector	0.0%	0.0%	61.5%	38.5%	0.0%
Total¹	0.0%	1.7%	54.1%	40.0%	4.1%

¹ Based on the unweighted average of all companies' responses.

Table B8. I: Do climate-related conditions lead to ... Check all current answer options. Response rate. Percent

	Need for new expertise	Increased employment	Reduced employment	Easier access to labour	More difficult access to labour	Increased competitiveness	Reduced competitiveness	More investment in new technology
Manufacturing	46.4%	13.1%	4.8%	8.3%	2.4%	37.0%	2.4%	57.1%
Oil suppliers	47.8%	0.0%	0.0%	8.7%	13.0%	4.4%	0.0%	47.8%
Building and construction	65.9%	9.8%	0.0%	0.0%	7.3%	41.5%	0.0%	70.7%
Wholesale and retail	41.5%	4.9%	2.4%	4.9%	9.8%	29.3%	0.0%	56.1%
Services	49.6%	6.3%	0.9%	2.7%	2.7%	30.6%	0.9%	55.0%
Public sector	71.4%	7.1%	0.0%	0.0%	0.0%	0.0%	0.0%	57.1%
Total¹	50.6%	8.0%	1.9%	4.5%	4.8%	30.3%	1.0%	57.3%

¹ Based on the unweighted average of all companies' responses.

Table B8.II: Do climate-related conditions lead to ... Check all current answer options. Response rate. Percent

	Reduced costs	Increased costs	Reduced travel activity	Change in seasonal pattern	Product development	Change in product mix	Shift towards new markets	Other
Manufacturing	2.4%	33.3%	33.3%	4.8%	50.0%	29.8%	32.1%	3.6%
Oil suppliers	4.4%	4.4%	17.4%	4.4%	30.4%	39.1%	52.2%	0.0%
Building and construction	7.3%	51.2%	34.2%	4.9%	34.2%	24.4%	22.0%	4.9%
Wholesale and retail	4.9%	34.2%	46.3%	14.6%	53.7%	48.8%	22.0%	12.2%
Services	8.1%	24.3%	49.6%	5.4%	34.2%	23.4%	32.4%	2.7%
Public sector	0.0%	42.9%	64.3%	7.1%	7.1%	21.4%	7.1%	0.0%
Total¹	5.4%	30.9%	41.1%	6.4%	39.5%	29.6%	29.9%	4.1%

¹ Based on the unweighted average of all companies' responses.

Table B9: Does your company see business opportunities in climate-related changes? One answer per company. Response rate. Percent

	And	In the	Don't know/not applicable
Manufacturing	73.4%	17.7%	8.9%
Oil suppliers	80.0%	15.0%	5.0%
Building and construction	45.9%	37.8%	16.2%
Wholesale and retail	60.0%	27.5%	12.5%
Services	60.7%	22.4%	16.8%
Public Sector ¹	-	-	-
Total²	63.6%	23.3%	13.1%

1 Public sector enterprises did not answer this question. **2** Based on the unweighted average of all company responses.

Appendix C: Survey of climate-related conditions in 2022

NORGES BANK
STAFF MEMO
NR 5 | 2023

The interviews in the survey were mainly conducted in the period 1 - 19 August 2022.

Table C0: Number of companies that participated in the survey

	Total	Manufacturing	Oil suppliers	Building and construction	Wholesale and retail	Services excluding wholesale and retail
Number of enterprises	264	71	18	30	40	105

HOW DO CLIMATE-RELATED CONDITIONS AFFECT NORWEGIAN ENTERPRISES? - RESULTS OF THREE SURVEYS IN NORGES BANK'S REGIONAL NETWORK

Table C1. I: How important are the following climate-related conditions for your company today? One answer per answer option. Response rate. Percent

	Change in customer preferences			Change in employee preferences			Changes in bank lending conditions		
	Not important	Some what important	Very important	Not important	Some what important	Very important	Not important	Some what important	Very important
Manufacturing	20%	43%	37%	41%	47%	11%	59%	27%	14%
Oil suppliers	17%	22%	61%	28%	67%	6%	50%	28%	22%
Building and construction	10%	43%	47%	40%	40%	20%	47%	23%	30%
Wholesale and retail	18%	43%	40%	43%	38%	20%	58%	28%	15%
Services	25%	42%	33%	35%	47%	18%	54%	28%	17%
Total¹	20%	41%	39%	38%	46%	16%	55%	27%	18%

¹ Based on the unweighted average of all companies' responses.

Table C1.II: How important are the following climate-related conditions for your company today? One answer per answer option. Response rate. Percent

	Increased carbon prices			Other policy measures			Conditions related to the weather		
	Not important	Some what important	Very important	Not important	Some what important	Very important	Not important	Some what important	Very important
Manufacturing	46%	29%	25%	30%	34%	36%	56%	29%	16%
Oil suppliers	67%	6%	28%	39%	44%	17%	94%	6%	0%
Building and construction	41%	28%	31%	24%	24%	52%	52%	38%	10%
Wholesale and retail	48%	33%	20%	35%	33%	33%	48%	30%	23%
Services	63%	27%	10%	37%	43%	20%	59%	30%	12%
Total¹	54%	27%	19%	33%	37%	30%	58%	29%	14%

¹ Based on the unweighted average of all companies' responses.

Table C2. I: Do climate-related conditions lead to ... Check all current answer options. Response rate. Percent

	Increased competitiveness	Reduced competitiveness	Increased costs	Reduced costs	Higher prices	Lower prices
Manufacturing	46%	3%	63%	6%	41%	0%
Oil suppliers	17%	0%	67%	0%	44%	0%
Building and construction	60%	3%	73%	13%	60%	3%
Wholesale and retail	38%	8%	75%	5%	58%	3%
Services	29%	8%	45%	3%	28%	0%
Total¹	37%	5%	59%	5%	41%	1%

¹ Based on the unweighted average of all companies' responses.

Table C2.II: Do climate-related conditions lead to ... Check all current answer options. Response rate. Percent

	Need for new expertise	Reduced travel activity	More investment in new technology	Product	Shift towards new markets
Manufacturing	51%	43%	61%	47%	29%
Oil suppliers	50%	39%	56%	28%	72%
Building and construction	67%	40%	47%	53%	33%
Wholesale and retail	50%	55%	48%	38%	30%
Services	45%	43%	51%	36%	15%
Total¹	50%	44%	53%	41%	27%

¹ Based on the unweighted average of all companies' responses.

Table C3: Overall. how do climate-related conditions affect your company? One answer per company. Response rate. Percent

	Positive	Neutral	Negative	Not Applicable
Manufacturing	47%	43%	10%	0%
Oil suppliers	17%	50%	22%	11%
Building and construction	47%	47%	7%	0%
Wholesale and retail	35%	38%	25%	3%
Services	39%	42%	10%	10%
Total¹	40%	42%	13%	5%

¹ Based on the unweighted average of all companies' responses.

Table C4: Does your company have a concrete ambition to reduce its climate footprint by 2030? Check all applicable options. Response rate. Percent

	Yes. We plan to cut emissions associated with production by 2030	Yes. We plan to cut emissions associated with the value chain by 2030	Yes. We plan to cut emissions by 2030. But have not quantified our ambition	No. we do not have such goals
Manufacturing	15.7%	17.1%	55.7%	15.7%
Oil suppliers	27.8%	16.7%	55.6%	16.7%
Building and construction	26.7%	26.7%	56.7%	6.7%
Wholesale and retail	12.5%	20.0%	45.0%	30.0%
Services	13.3%	10.5%	48.6%	31.4%
Total¹	16.3%	15.9%	51.5%	23.1%

¹ Based on the unweighted average of all companies' responses.

Table C5: Have climate-related conditions affected your investment level in recent years? One answer per company. Response rate. Percent

	Significant dampening effect (10% or more)	Somewhat dampening effect	No impact	Slightly increasing effect	Significantly increasing power (10% or more)
Manufacturing	0.0%	0.0%	44.3%	45.7%	10.0%
Oil suppliers	0.0%	0.0%	50.0%	44.4%	5.6%
Building and construction	0.0%	0.0%	60.0%	40.0%	0.0%
Wholesale and retail	0.0%	0.0%	60.0%	32.5%	7.5%
Services	0.0%	1.0%	66.7%	26.7%	5.7%
Total¹	0.0%	0.4%	57.6%	35.2%	6.8%

¹ Based on the unweighted average of all companies' responses.

Table C6: Will climate-related conditions affect your investment level over the next three years? One answer per company. Response rate. Percent

	Significant dampening effect (10% or more)	Somewhat dampening effect	No impact	Slightly increasing effect	Significantly increasing power (10% or more)
Manufacturing	1.4%	0.0%	27.1%	64.3%	7.1%
Oil suppliers	0.0%	0.0%	50.0%	38.9%	11.1%
Building and construction	0.0%	3.3%	40.0%	50.0%	6.7%
Wholesale and retail	0.0%	0.0%	47.5%	42.5%	10.0%
Services	0.0%	1.9%	57.1%	35.2%	5.7%
Total¹	0.4%	1.1%	45.1%	46.2%	7.2%

¹ Based on the unweighted average of all companies' responses.

A few more questions related to climate-related investments were asked to the companies in the 2022 survey. These tables will be available in a later version.