Please check the examination details below before entering your candidate information

Candidate surname	Other names

Centre Number | Candidate Number

Pearson Edexcel
Level 1/Level 2 GCSE (9–1)

Thursday 13 June 2019

Morning (Time: 1 hour 30 minutes) | Paper Reference **1GB0/03**

Geography B

Paper 3: People and Environment Issues – Making Geographical Decisions

You must have:
Resource Booklet (enclosed)
Calculator

Total Marks

Instructions

- Use **black** ink or ball-point pen.
- **Fill in the boxes** at the top of this page with your name, centre number and candidate number.
- Answer **all** questions.
- Answer the questions in the spaces provided – *there may be more space than you need.*
- Where asked you must **show all your working out** with **your answer clearly identified** at the **end of your solution**.

Information

- The total mark for this paper is 64.
- The marks for **each** question are shown in brackets – *use this as a guide as to how much time to spend on each question.*
- The marks available for spelling, punctuation and grammar and use of specialist terminology are clearly indicated.

Advice

- Read each question carefully before you start to answer it.
- Try to answer every question.
- Check your answers if you have time at the end.

Turn over

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P 5 6 3 3 9 A 0 1 1 6

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SECTION A

People and the Biosphere

Answer ALL questions. Write your answers in the space provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

1 Use Section A (pages 2, 3 and 4) in the Resource Booklet to answer this question.

(a) Study Figure 1.

Identify **three** local factors affecting where the forest can grow.

(3)

1 .....

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2 .....

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3 .....

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(b) Study Figure 2.

Identify biome X.

(1)

☐ **A** temperate grassland

☐ **B** tropical grassland

☐ **C** desert

☐ **D** tundra

(c) State **two** characteristics of the temperate forest biomes.

(2)

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(d) Explain **one** way increased forest growth could affect the atmosphere.

(2)

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(Total for Question 1 = 8 marks)

TOTAL FOR SECTION A = 8 MARKS

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SECTION B

Forests Under Threat

Answer ALL questions. Write your answers in the space provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

2 Use Section B (pages 5 and 6) in the Resource Booklet to answer this question.

(a) Study Figure 3.

(i) Identify which of the following is most likely to be species Y.

(1)

☐ **A** gorilla

☐ **B** rat

☐ **C** wolf

☐ **D** lion

(ii) State **one** adaptation that helps many taiga animals to survive.

(1)

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(b) Define what is meant by the term **abiotic**.

(1)

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(c) Study Figure 4.

Explain **two** reasons why temperature changes shown in Figure 4 may threaten the biodiversity of Norway's taiga forest.

(4)

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(Total for Question 2 = 7 marks)

TOTAL FOR SECTION B = 7 MARKS

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SECTION C

Consuming Energy Resources

Answer ALL questions. Write your answers in the space provided.

Some questions must be answered with a cross in a box ☒. If you change your mind about an answer, put a line through the box ☒ and then mark your new answer with a cross ☒.

3 Use Section C (pages 7, 8, 9, 10 and 11) in the Resource Booklet to answer this question.

(a) Study Figure 5.

(i) Calculate the percentage change in the use of energy from HEP sources between 1973 and 2015.

Show your working.

(2)

..... %

(ii) State **two** pieces of evidence indicating that Norway is trying to reduce its carbon footprint.

(2)

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(b) Study Figure 6.

(i) Identify the year when total oil production was highest.

(1)

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(ii) Identify which of the following is the best estimate of Norway's total oil production per day in 1992.

(1)

☒ **A** 200

☒ **B** 1,500

☒ **C** 150,000

☒ **D** 2,000,000

(c) Study Figure 7.

Explain why Norway exports a high percentage of the oil it produces.

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(d) Study Figure 7 and Figure 8.

Explain **two** social benefits for Norway's people from selling its oil.

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(e) Study Figure 9.

Assess the challenges Norway faces in developing new offshore oil sources.

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(f) (i) Explain **two** energy efficiency strategies that can help fossil fuel supplies last longer.

(4)

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(ii) Study Figure 10.

Assess the economic costs and benefits for local people of developing this oil.

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(Total for Question 3 = 33 marks)

TOTAL FOR SECTION C = 33 MARKS

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SECTION D

Making a Geographical Decision

Answer ALL questions. Write your answers in the space provided.

In this question, up to four additional marks will be awarded for your spelling, punctuation, grammar and your use of specialist terminology.

4 Study the **three** options below for Norway.

Option 1: Set an example to other countries by stopping oil production altogether.

Option 2: Use up existing oil resources but stop looking for new oil fields.

Option 3: Continue to explore and develop all new oil fields.

Select the option that offers the best future for Norway's people and its environment.

Justify your choice.

Use information from the Resource Booklet and knowledge and understanding from the rest of your geography course to support your answer.

(12)

Chosen option .....

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(Spelling, punctuation, grammar and use of specialist terminology = 4 marks)
(Total for Question 4 = 16 marks)

TOTAL FOR SECTION D = 16 MARKS
TOTAL FOR PAPER = 64 MARKS

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Geography B

Paper 3: People and Environment Issues – Making Geographical Decisions

Resource Booklet

Do not return this Resource Booklet with the question paper.

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SECTION A

People and the Biosphere

The issue: Conflicts over oil and the environment for Norway and its people.

- Norway meets much of its own energy needs with hydro-electric power (HEP), a renewable source.
- Since the 1970s, vast amounts of oil and gas have been discovered offshore and exploited, most of which Norway exports.
- Existing oil fields may soon run dry, forcing Norway to either look for new oil sources or find other ways of maintaining economic growth.
- Oil production in deep offshore waters is challenging and expensive, while production in coastal waters threatens the land environmentally.
- Many Norwegians think it may be time for the country to turn its back on fossil fuel production.

Introduction

- Norway is a developed country in northern Europe which is home to only 5 million people. Much of its wealth comes from oil fields, most of which are owned and managed by the government.
- The country is extremely vulnerable to climate change. Much of the taiga (boreal) forest, which covers large areas of Norway, is threatened by rising temperatures.
- Norway is a signatory to the Kyoto Protocol and has agreed to significantly reduce carbon emissions from the oil and gas it still uses to power cars and heat homes.
- The government of Norway has proposed that the country should reduce its carbon footprint to zero by 2050. Greenpeace has called on Norway to also take responsibility for the 500 million tonnes of overseas carbon emissions caused by its exports of oil and gas.
- Norway is an important global player in trying to tackle climate change using technology.

Figure 1

Taiga forest in northern Norway

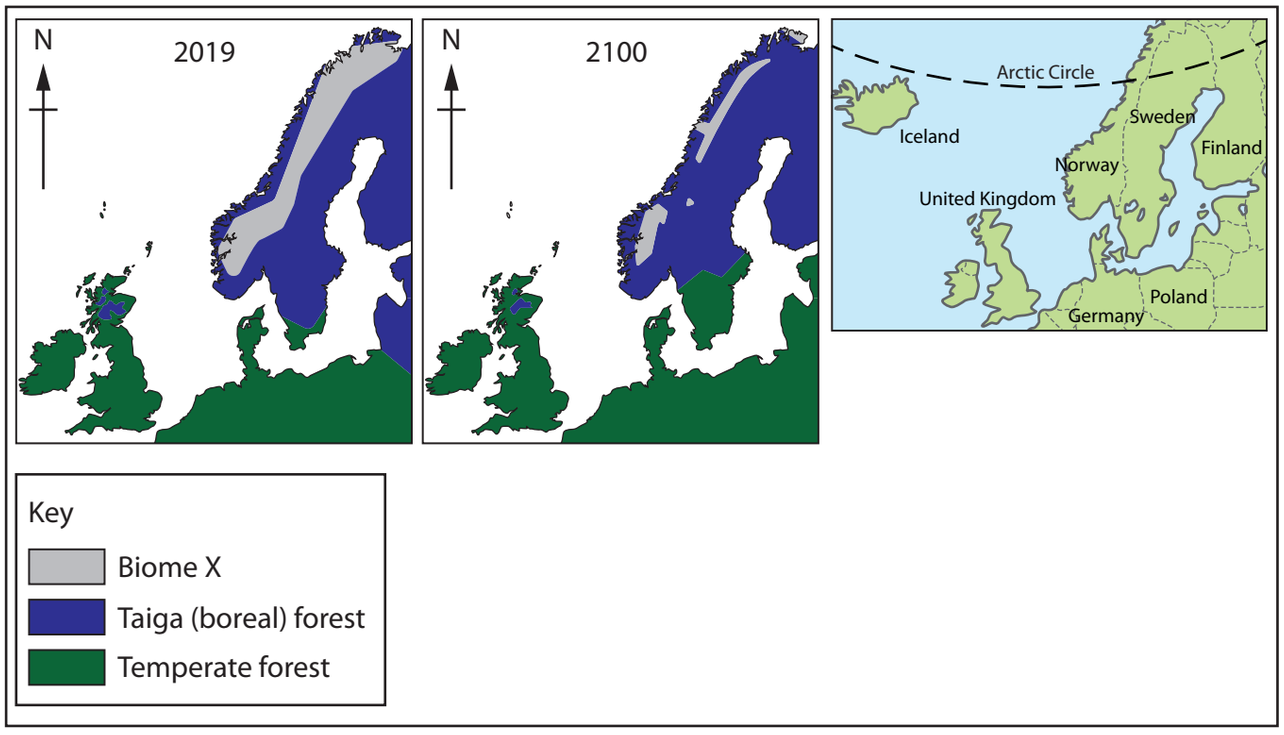


Figure 2

Predicted changes in the distribution of biomes in northern Europe, 2019–2100

SECTION B

Forests Under Threat

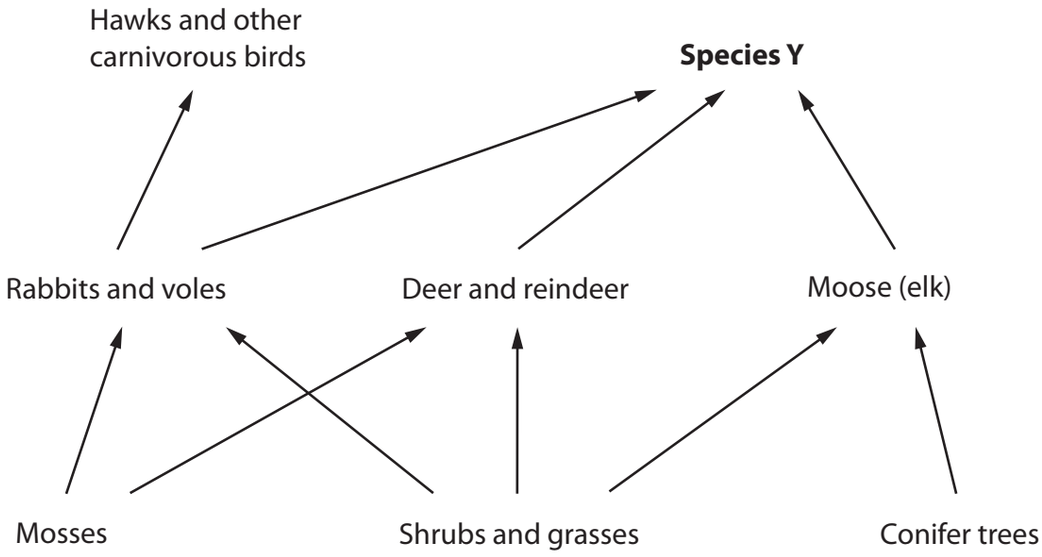
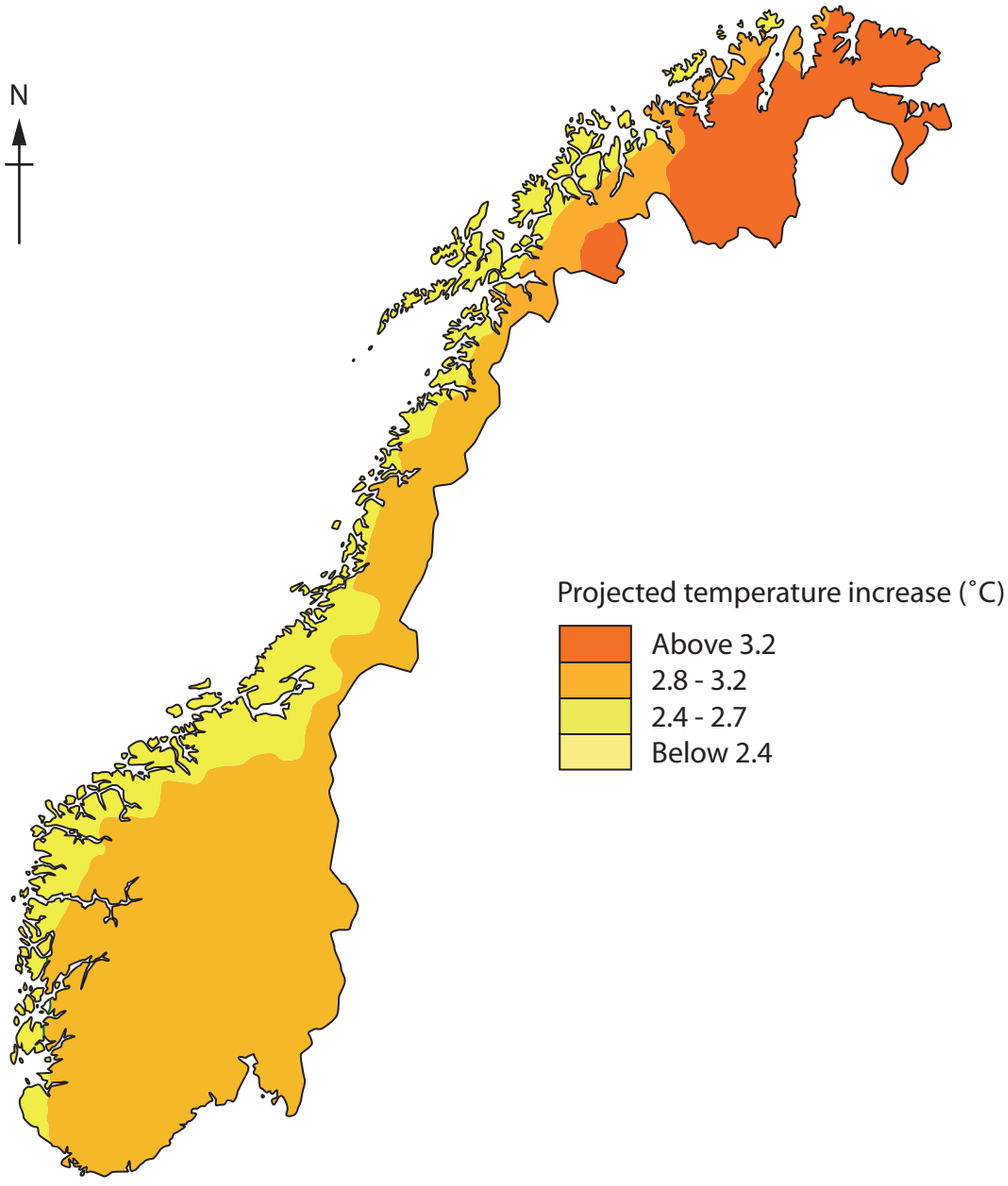


Figure 3

A simplified taiga (boreal) forest food web for northwest Europe



Higher temperatures could increase the chance of fires from lightning strikes.

A warmer summer will help parasites and pests to spread.

Low temperatures currently make it difficult for some invading species to become established.

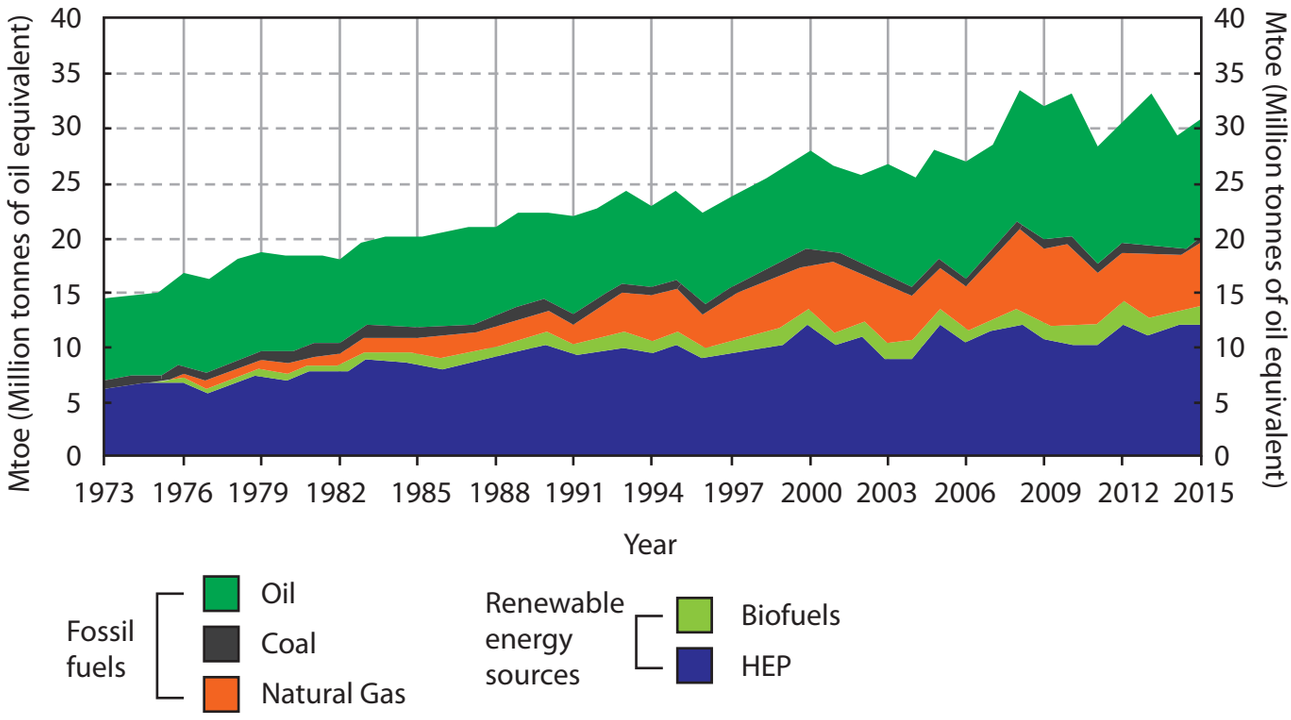
Species in high latitudes are most at threat because they have nowhere else to go.

Figure 4

Projected temperature change (2100) and its possible impacts on Norway's environment

SECTION C

Consuming Energy Resources



- Norway uses about 10 million tonnes of oil annually, most of it for transport.
- A significant proportion of the energy Norway uses comes from HEP, including 95% of all electricity production.
- Norway was the first country to use a carbon capture and storage (CCS) project. This works by trapping carbon dioxide from burning gas and storing it underground. Although a small-scale pilot project, it offers hope for the future.

Figure 5

Energy use fact file for Norway

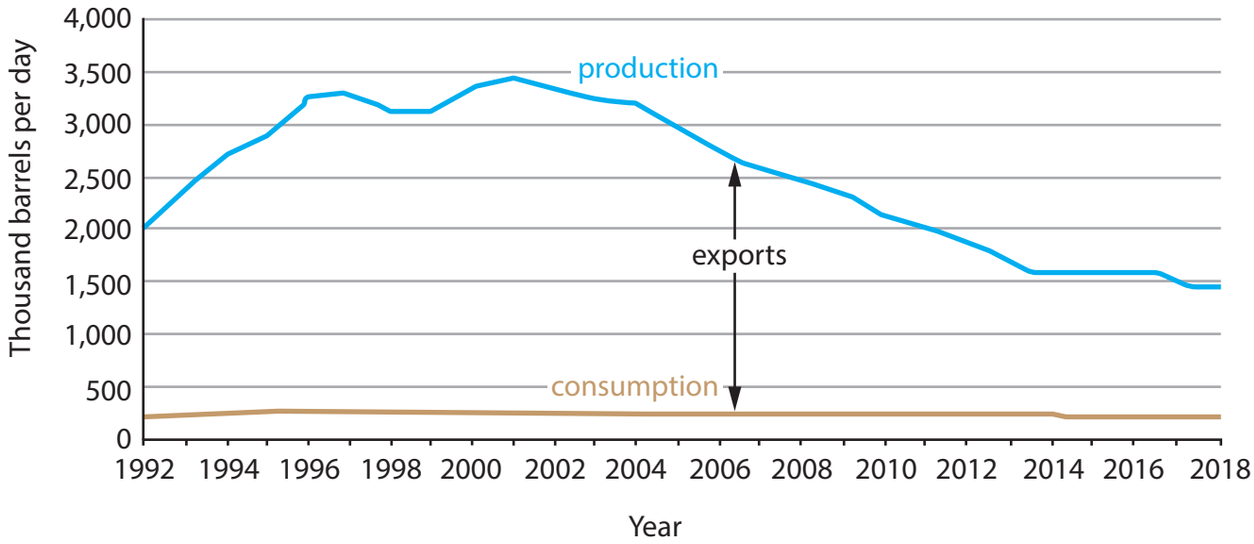


Figure 6

Oil production and domestic consumption in Norway, 1992–2018

Country	Oil exports as a percentage (%) of total oil production	Population (millions)	Land area (thousand km^2)	Gross domestic product (GDP) per capita (US $)	World ranking as an oil exporter
Norway	85	5	323	71,000	12
Russia	77	144	17,125	28,000	2
Saudi Arabia	88	32	2,150	55,000	1

Figure 7

A comparison of three major oil-exporting countries, 2016

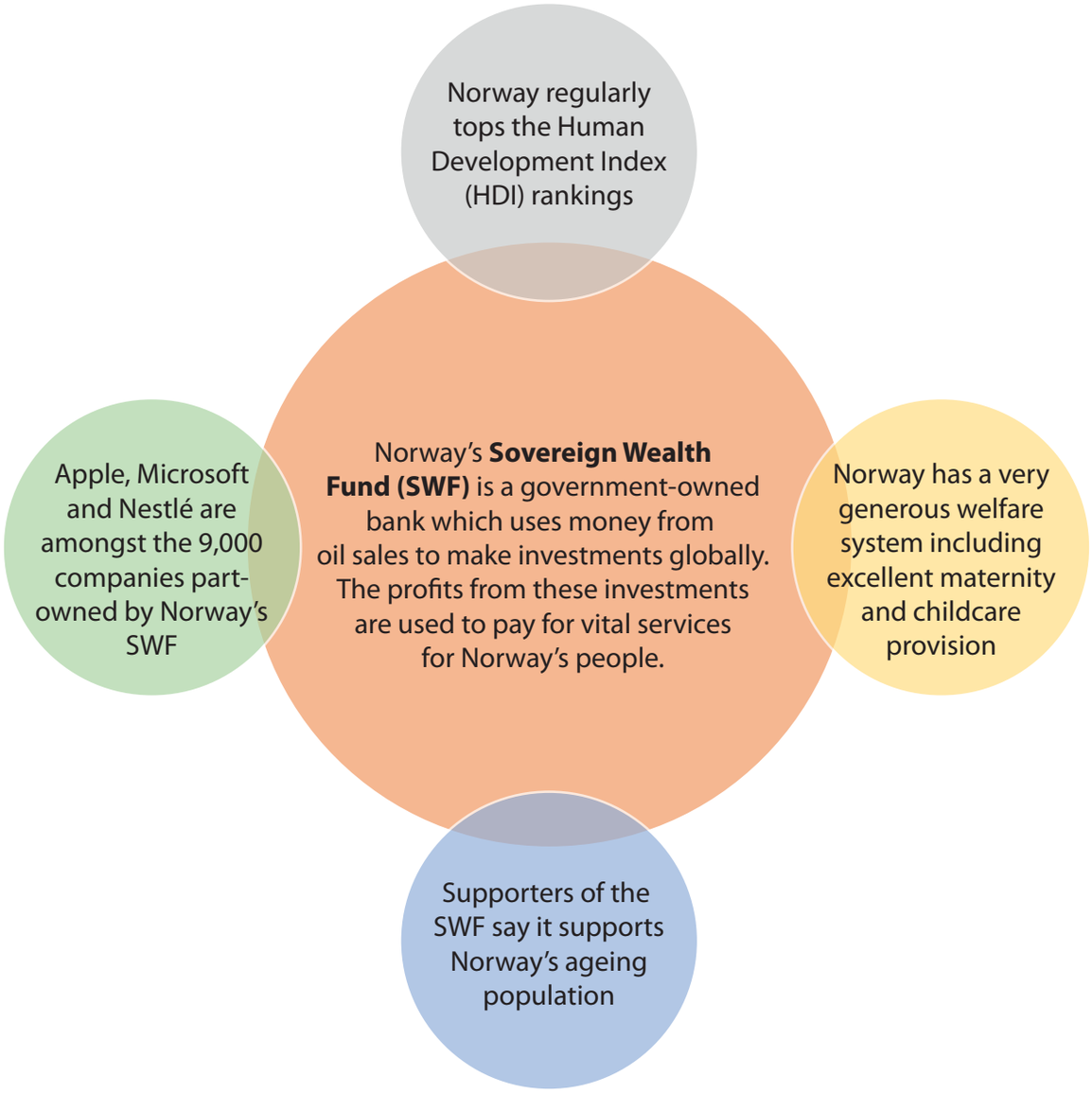


Figure 8

Information about Norway's Sovereign Wealth Fund (SWF)

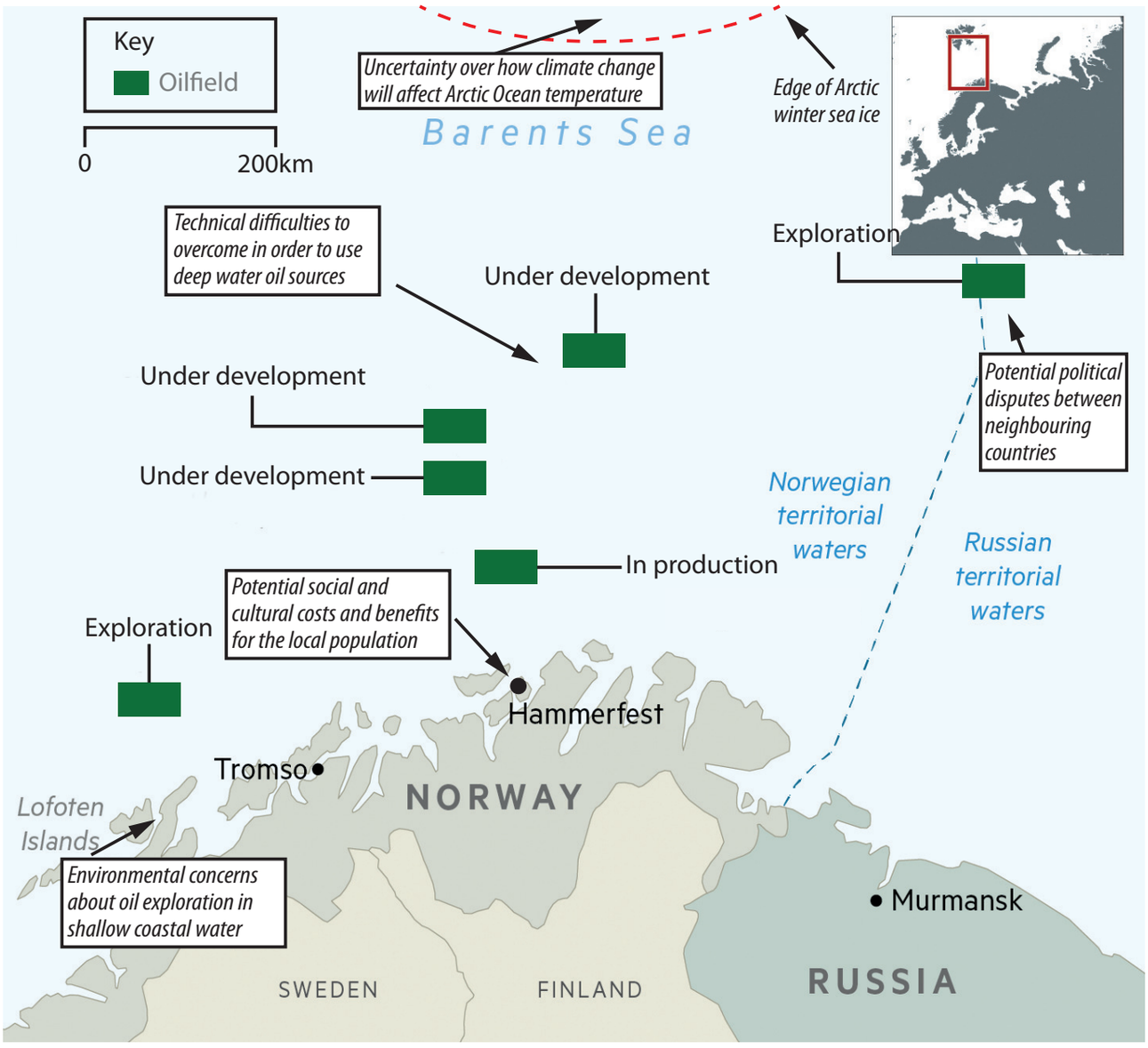


Figure 9

Factors that may affect Norway's future development of new offshore oil sources

It is totally idiotic to start producing oil here in the Lofoten Islands. There will be oil spills and the fish will die. The government says oil production will bring 400 new jobs but that's a pathetic number.

Lofoten Islands fisherman

We have always survived as a nation by making the most of our energy resources. Our Sovereign Wealth Fund has long supported remote and challenging regions in our country, such as the Lofoten Islands. We still need as much oil as possible to maintain this fund.

Government minister

Lofoten is "the Amazon rainforest of Norway." It is the most unique area, but exploiting oil resources here will ruin everything, and visitors will stop coming. That is why this battle is so important.

Lofoten Islands hotel owner

The Norwegian government is two-faced. On the one hand they say it is time to stop climate change, but they keep selling oil to countries where not enough is being done to reduce carbon footprints. Nowhere will prosper, including the Lofoten Islands, if the world keeps warming.

Norwegian university student

We need Norway to stay rich. There are fewer young people than there used to be to keep the economy running. The world is becoming a dangerous place and we need to look out for ourselves.

Norwegian pensioner

I can't see why the fishing and oil industries can't coexist responsibly. And we'll use the profits from the Lofoten Islands' oil to keep researching and developing new energy technology that could have global benefits.

Oil company representative

Figure 10

Conflicting views about developing the oil resources around Norway's Lofoten Islands

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Figure 1: © Guillermo Avello/Alamy Stock Photo

Figure 9: Oil exploration in Norwegian Arctic faces sea of opposition by Richard Milne © Financial Times - September 2017

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