

# Nordic Roadmap For Future Fuels

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**Nordic Council  
of Ministers**

## Nordic Roadmap Workshop

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# The Nordic commitment

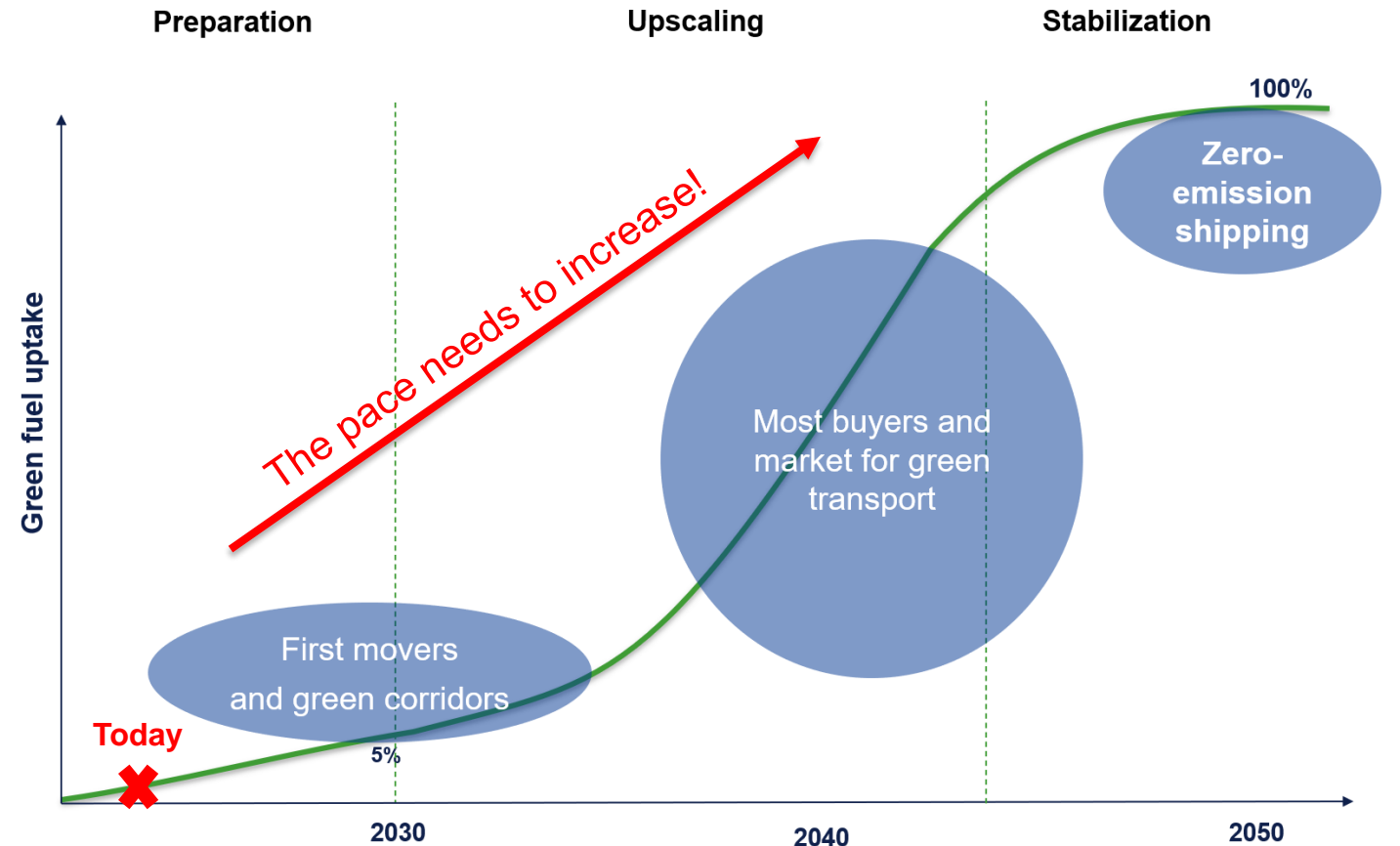
- ❖ **Declaration on Zero Emission Shipping by 2050** (COP26, November 2021)
  - ❖ **Clydebank Declaration for green shipping corridors** (COP26, November 2021)
  - ❖ **Ministerial Declaration on zero emission shipping routes between the Nordic countries** (May 2022)
  - ❖ **Joint Statement by the Nordic Prime Ministers on a Sustainable Ocean Economy and the Green Transition** (August 2022)
- + **The 2023 IMO Strategy on Reduction of GHG Emissions from Ships**

# Nordic Fuel Transition Roadmap

Aims to **accelerate** the uptake of green fuels

- Assumes that the fuel transition follows an **S-curve**
- Details **stakeholder actions** to overcome barriers
- Identifies **green shipping corridors** as key enablers for acceleration

Critical for success to get **input** from all players in the maritime value chain

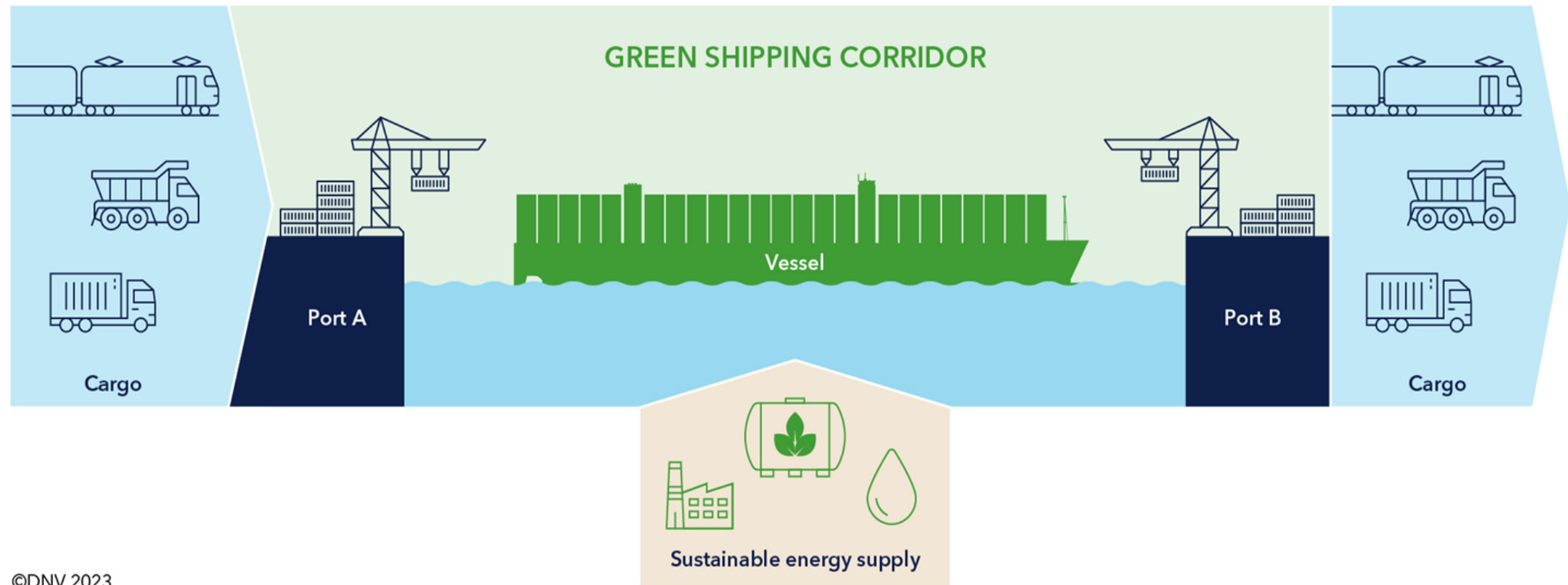


The S-curve can describe the market development of many new technologies, including up-take of LNG and battery powered ships

# What is a green shipping corridor?

## Clydebank Declaration (COP26):

*“Green shipping corridors are zero-emission maritime routes between two (or more) ports”*



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Source: COP 26: Clydebank Declaration for green shipping corridors - GOV.UK ([www.gov.uk](http://www.gov.uk))

# Roadmap content

Zero-emission  
 by 2050



Chapter 1 **Introduction**

Chapter 2 **Goals and vision for Nordic shipping**

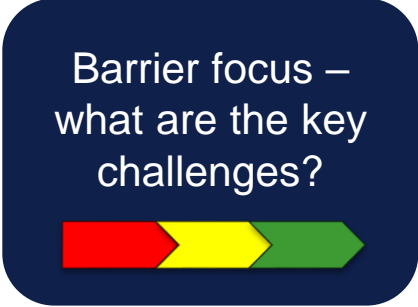
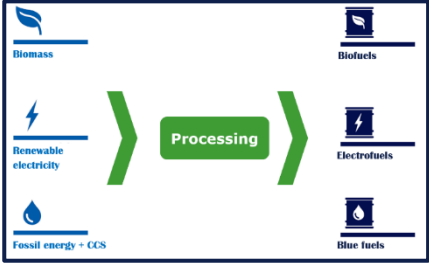
Chapter 3 **Nordic shipping today**

- Status on ship traffic, fuel consumption and emissions
- Current uptake of zero-emission fuels and technologies

Chapter 4 **Zero-emission fuel options and barriers hindering their uptake**

Chapter 5 **The Nordic Fuel Transition Roadmap**

- The Nordic Playground: seven building blocks

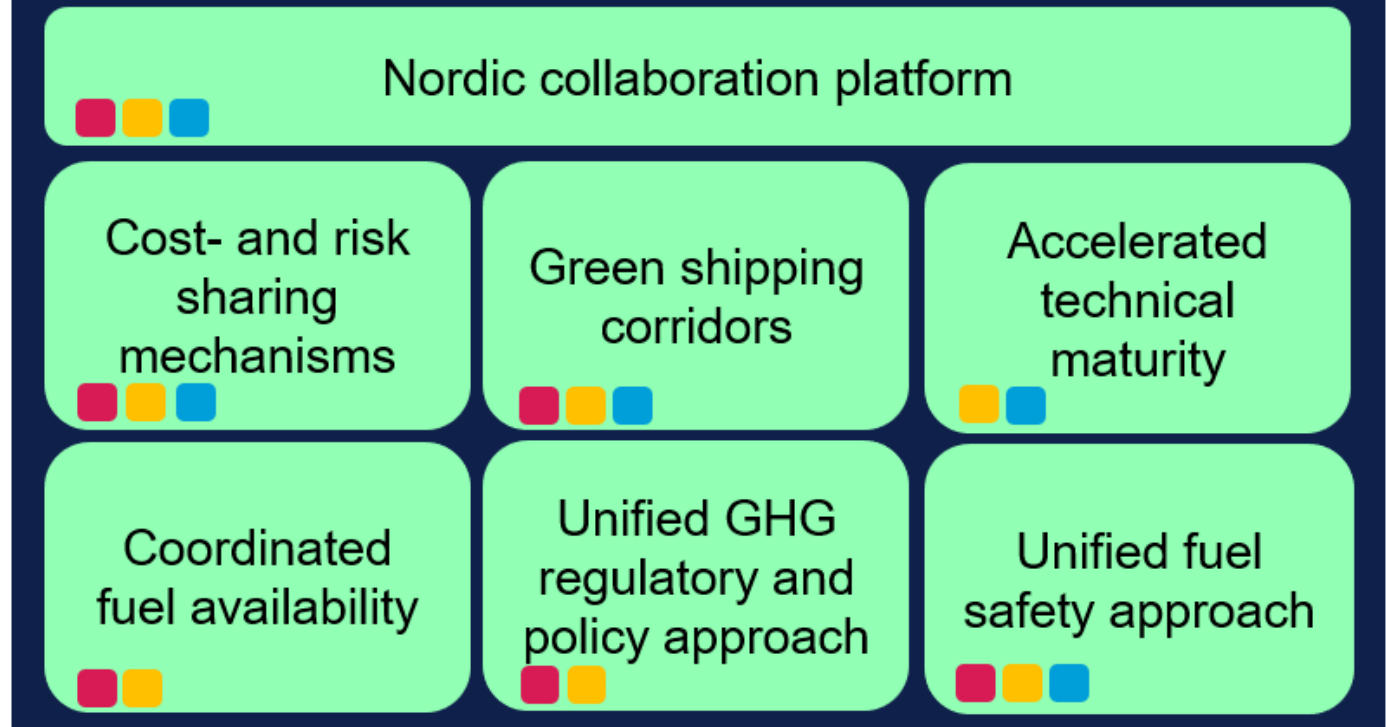


# The Nordic Playground

## THE NORDIC PLAYGROUND

### Key barriers:




-  Lack of **demand** for green transport – related to high costs of future fuels
-  Low **fuel availability** – including production, distribution and bunkering infrastructure
-  Low **technical maturity** and lack of **safety** requirements - both onboard and onshore



# Roadmap workshop – input on key actions

- Focusing on the chicken-or-egg problem (supply vs demand), and closing the cost gap
- Tailormade actions for the Nordics – focusing on the preparation phase towards 2030

**Key barriers:**

-  Demand
-  Fuel availability
-  Technology and safety

## THE NORDIC PLAYGROUND

Cost- and risk  
sharing  
mechanisms



Green shipping  
corridors



Coordinated  
fuel availability





# Roadmap workshop – input on key actions

## Green shipping corridors

- “Zero-emission maritime routes between two (or more) ports”
- Cross-value chain stakeholders involved
- Coordinated development of supply and demand (*“chicken and egg problem”*)
- E.g., solve barriers on a manageable scale
- ....

## Coordinated fuel availability

- Regions, energy hubs
- Fuel production
- Fuel distribution
- Bunkering infrastructure
- Available energy resources
- Relevant fuel options
- E.g., increase fuel production and develop infrastructure
- ....

## Cost- and risk sharing mechanisms

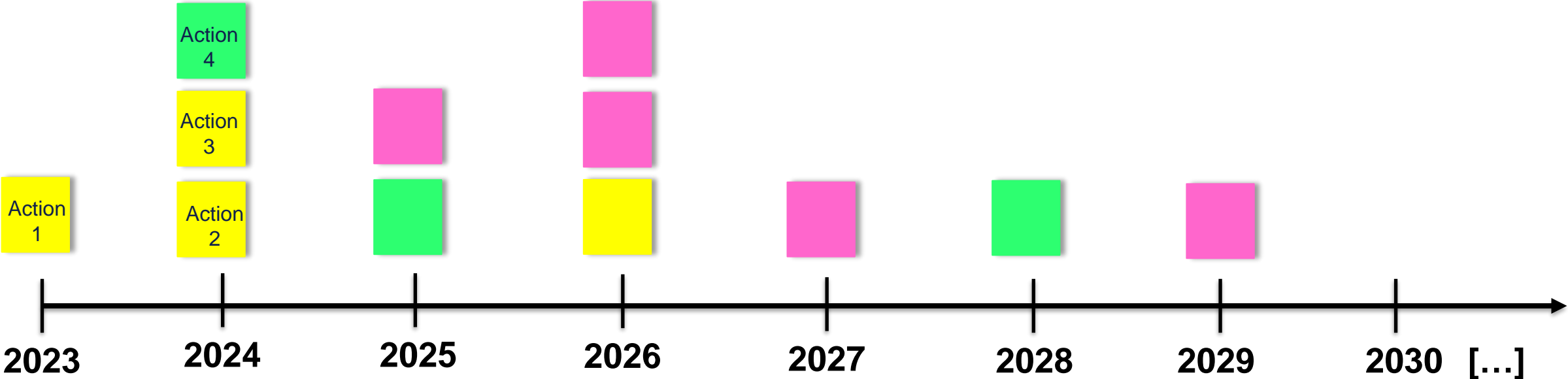
- Closing the cost gap related to additional CAPEX and high fuel price
- Reducing business and market risk
- E.g., CAPEX subsidies and Contract for Difference (CfD)
- ....

# Workshop exercise

1. You will be divided into 6 groups
2. Choose a group leader
3. Each group will focus on one of the building blocks
4. You will receive a timeline and post-it notes
5. Discuss the barriers related to the specific building block in the group
  - List 5-10 actions (**tailor made for the Nordics**) related to each barrier on the post-it notes
6. Put the actions on the timeline: 2023-2030
7. Present the timeline and discussion with the other groups (part 2)



# Illustration of identified actions



## Group 1

### Cost-and risk sharing mechanisms

Facilitator: Ingeranne Strøm-Nakstad

1. *Jeremy Mazzilli*
2. *Ómar Sigurbjörnsson*
3. *Hildur Hauksdóttir*
4. *Matthías Olafsson*
5. *Magnús Dige Baldursson*
6. *Tønnes Svanes*
7. *Almar Barja*
8. *Klas Blomqvist*
9. *Martti Larmi*
10. *Jacob Meyer*

## Group 2

### Fuel availability

Facilitator: Eirill Beckmann Mehammer

1. *Ingrid Furuberg*
2. *Hallmar Halldors*
3. *Halldor Hildimundarson*
4. *Erla Gestsdóttir*
5. *Björn Gudmundsson*
6. *Gestur Gudjonsson*
7. *Edesio Miranda-Barbosa*
8. *Francesco Reda*
9. *Denis Cederholm-Larsen*
10. *Magnus Bjarnason*

## Group 3

### Fuel availability

Facilitator: Øyvind Endresen

1. *Preben Birr*
2. *Emma Mjelstrup Ravnø*
3. *Sofia Fürstenberg Stott*
4. *Dadi Sveinbjörnsson*
5. *Gyda Ingolfsdottir*
6. *Ýmir Örn Finnbogason*
7. *Ragnar Ásmundsson*
8. *Larus Olafsson*
9. *Kirsikka Kiviranta*
10. *Christian Rasmussen*
11. *Svala Birna Þórisdóttir*

## Group 4

### Green shipping corridors

Facilitator: Dorthe Slotvik

1. *Georgia Hanby*
2. *Majid Eskafi*
3. *Nott Thorberg*
4. *Sveinbjorn Finnsson*
5. *Ásta Þorleifsdóttir*
6. *Einar Sigursteinn Bergþórsson*
7. *Ulrika Nilsson*
8. *Gunnar Stefansson*
9. *Gustav Blomberg*
10. *Cary Corcoran*
11. *Håkan Enlund*

## Group 5

### Cost-and risk sharing mechanisms

Facilitator: Julia Hansson

1. *Herbert Bjarnason*
2. *Irene Walinga*
3. *Kolbeinn Óttarsson Proppé*
4. *Michael Försth*
5. *Valgerður B. Eggertsdóttir*
6. *Elina Sjölander*
7. *Teemu Kyläkallio*
8. *Þorlákur Guðjónsson*
9. *Arpad Toldy*
10. *Matei Popescu*
11. *Páll Erland*

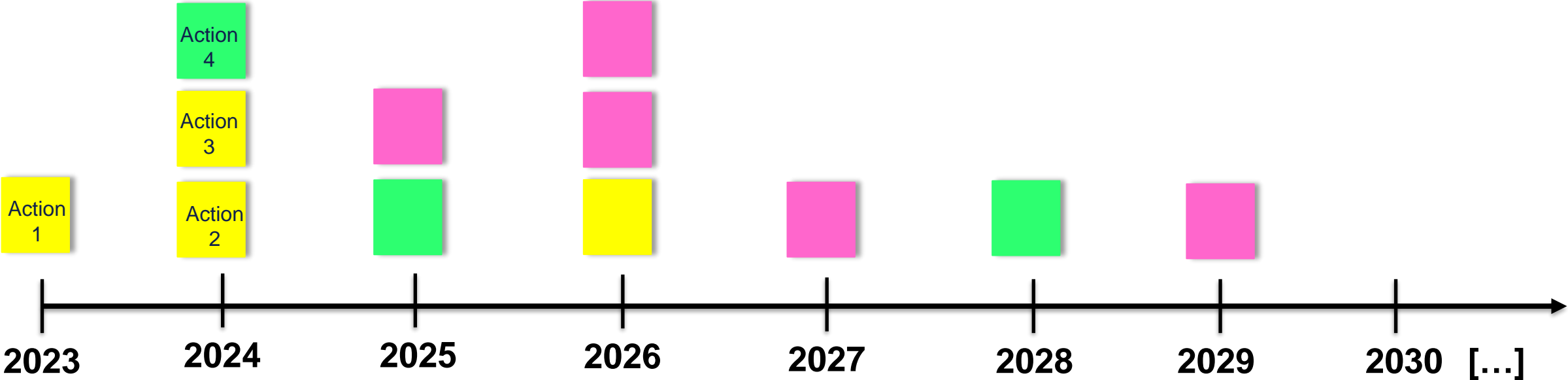
## Group 6

### Green shipping corridors

Facilitator: Dorthe Slotvik

1. *Kristjana Kristjánsdóttir*
2. *Anna Margret Gudjonsdottir*
3. *Nanna Baldvinsdottir*
4. *Geir Gudmundsson*
5. *Steinar Jónsson*
6. *Lise Nielson*
7. *Thomas Bjørdal*
8. *Kjartan Elíasson*
9. *Ossi Kaario*
10. *Zhengmaoz Li*

# Part 2: Discussion





*futurefuelsnordic.com*

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