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D.1.2.4 Passengers' views on emission reduction in island ferry traffic in the Central Baltic Region

Key findings

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Why passenger views matter in emission reduction

- Bargaining power
- To satisfy customer needs and demand
- Possible effects on passengers' travel experience and possibilities
  - Slow steaming with longer travel times
  - Optimised schedules and route changes
  - Changes in service frequency
  - Changes in ticket prices
  - Overall travel experience
- To design measures that are both environmentally effective and socially acceptable



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Cross-country survey and data

- **How do passengers view emission reduction in island ferry traffic and its effects on their travel in the Central Baltic Region?**
- Focus
  - Environmental attitudes
  - Key service attributes: price, departure frequency and travel time
  - Service priorities and trade-offs
- Cross-country passenger survey (N=202)
  - Distributed onboard ferries, at docks and online
  - **Estonia, EE** (N=45); **Finland, FI** (N=115); and **Sweden, SE** (N=42)
- Complementary data
  - Related questions in operators' own customer surveys in **EE** and **FI**
  - Interviews in Stockholm, **SE**



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Surveyed routes in EE, FI and SE

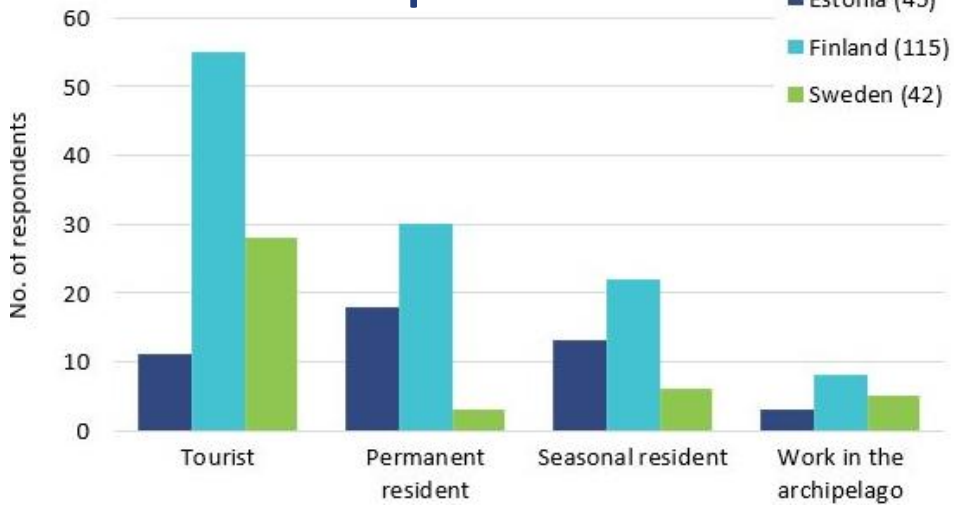


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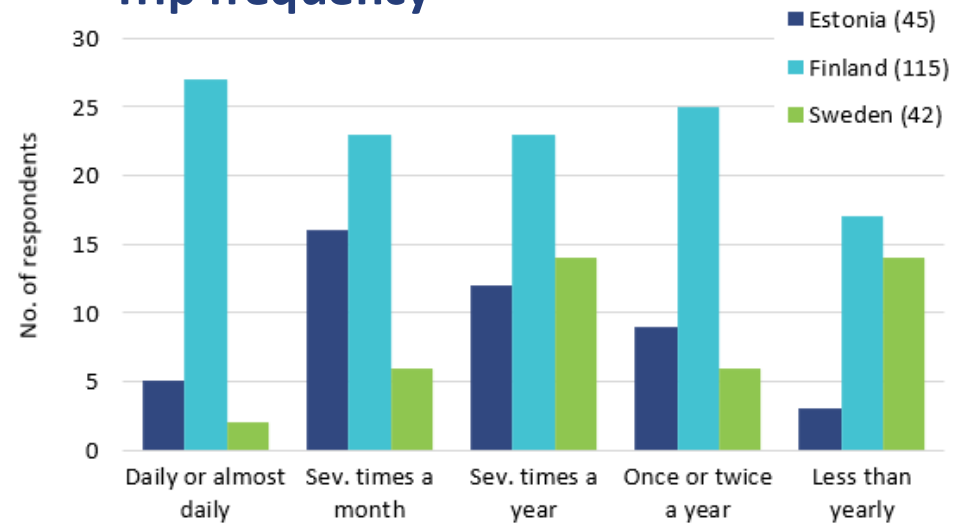
Respondent profile (N = 202)

- The survey captured a diverse mix of ferry users, including permanent and seasonal residents, tourists, and people commuting to work in the archipelago
- Respondents were predominantly residents of the surveyed countries
- Age profiles differed by country
  - **EE** and **FI**: largest group aged 19–34
  - **SE**: largest group aged 50– 64
- Gender distribution relatively balanced, with a slight majority of women in **EE** and men in **FI** and **SE**
- Main travel purpose
  - Mainly permanent and seasonal archipelago residents in **EE**
  - Tourists formed the largest group in **FI** and **SE**

Reason for trip



Trip frequency

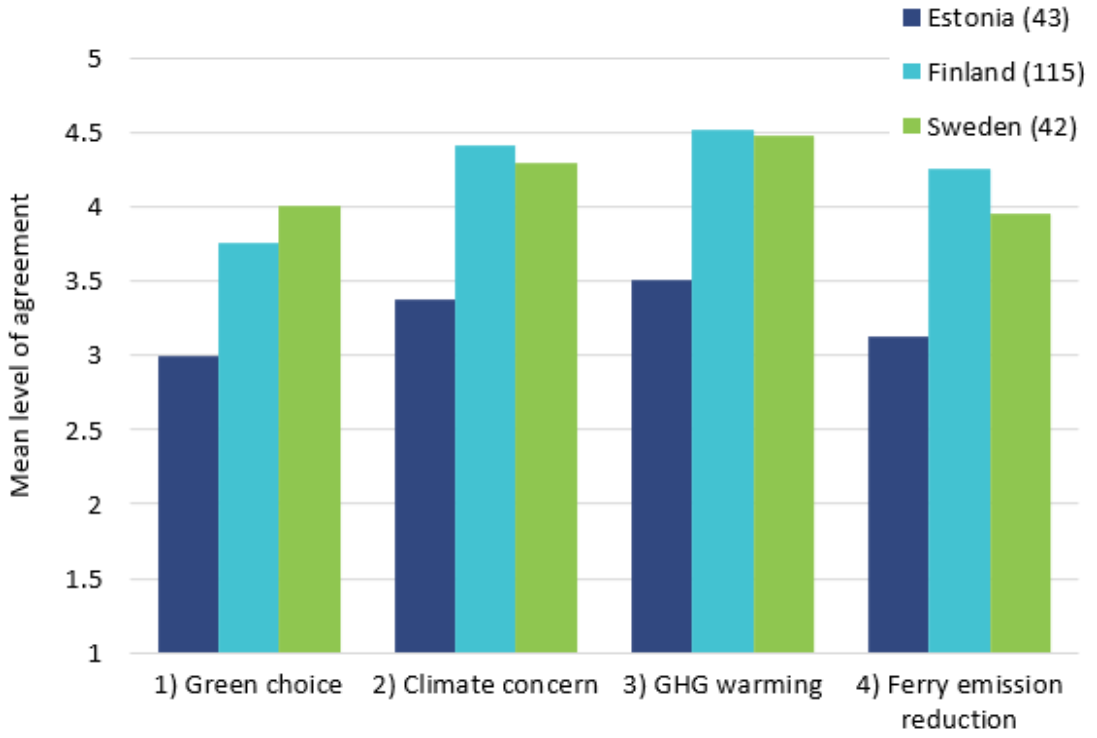


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Environmental attitudes 1/2

- Respondents were asked to indicate the extent to which they agreed with four statements:
  1) As a consumer, I aim to choose the most environmentally-friendly option available.
  2) I am concerned about climate change.
  3) Global average temperature has increased due to greenhouse gas emissions.
  4) Reducing greenhouse gas emissions from ferry traffic is important to me.

- The results suggest generally positive attitudes towards environmental issues in **all countries**
- Most respondents in **all countries** were concerned about climate change
- Respondents in **Finland** and **Sweden** expressed high levels of agreement with all statements
- Respondents in **Estonia** expressed more mixed and neutral views

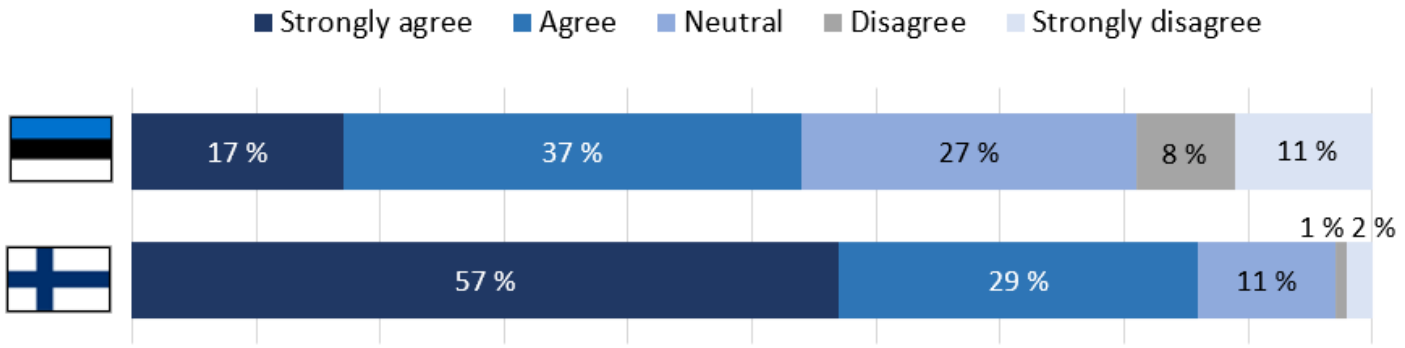


1=Strongly disagree, 2=Disagree, 3=Neutral, 4=Agree, 5=Strongly agree

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Environmental attitudes 2/2

- Complementary data from operators' customer surveys show that reducing CO_2 emissions is important to most passengers
  - Kihnu Veeteed's survey in **Estonia** (N = 144): *"Reducing CO_2 emissions from ferries is important for me"*
  - Finferries' survey in **Finland** (N = 5,793): *"Is reducing CO_2 emissions important to you?"*



- Interviews in **Sweden** (N=55)
  - The majority were aware of human actions on climate; however route and timetable were more influential than climate impact when planning their trip
  - When asked to rank priorities, frequency and cost were most often mentioned as top priorities leaving environmentally-friendly travel choices ranked lower

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Acceptance of longer travel times (1/4)

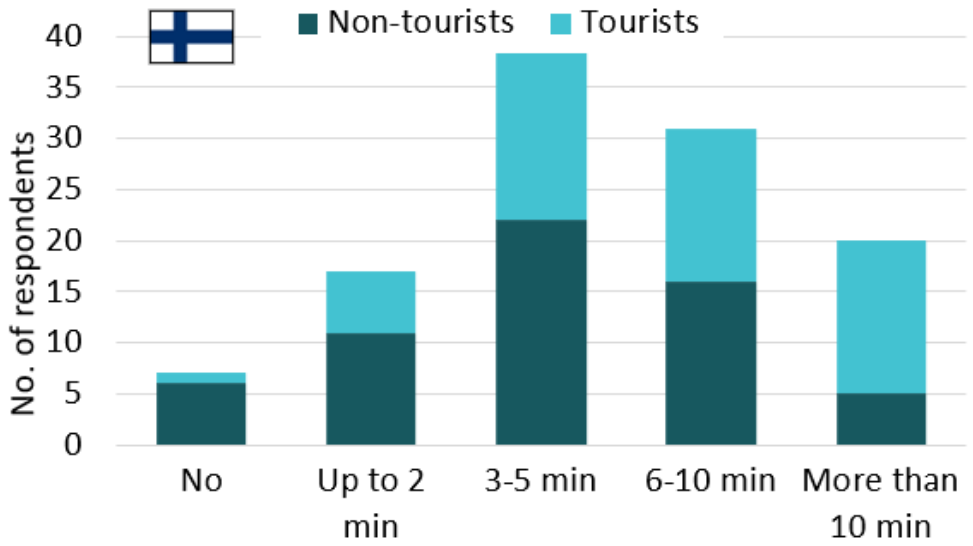
- Even small reductions in vessel speed can generate significant savings in energy consumption and emissions
- Respondents were asked how much additional travel time they would accept on 15-, 30-, and 60-minute ferry journeys if it resulted in lower emissions
- Most respondents were willing to accept **some increase in travel time** in exchange for lower ferry emissions in **all countries**
- **Opposition was relatively low**: only 4% in **FI**, 10% in **SE**, and 27% in **EE** would not accept any increase in travel time in any of the options
- **Tourists were typically more supportive** of longer travel times than local ferry users
- **Acceptance was highest in Finland and lowest in Estonia**, although a majority of respondents in all three countries accepted at least some additional travel time
- In the next slides, answers are categorised by reason for visiting the archipelago
  - Tourists
  - Non-tourists = permanent or seasonal residents and those who travel for work in the archipelago

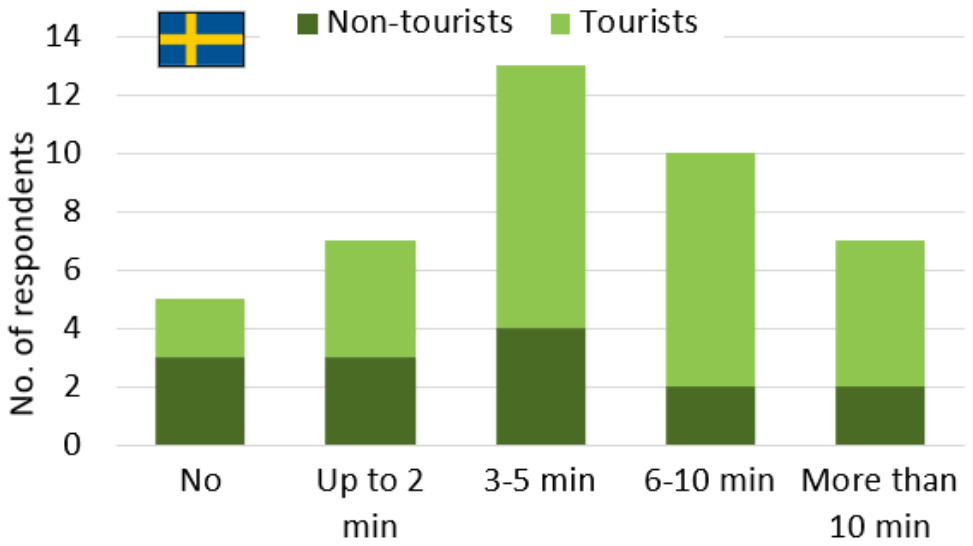
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Acceptance of longer travel times (2/4)

- For short **15-minute** ferry trips, moderate increases in travel time were generally acceptable, especially among tourists
- This question was omitted from the Estonian sample as the journeys are generally longer there

"Would you accept additional travel time to decrease ferry emissions on a **15-minute** journey?"



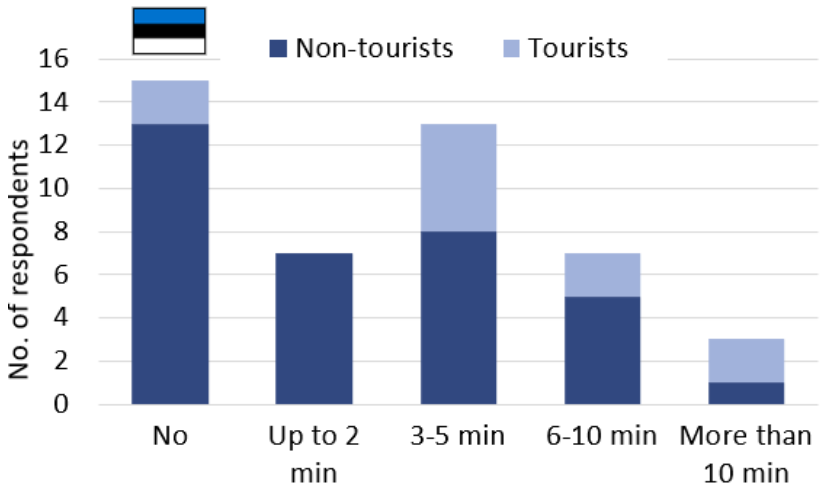


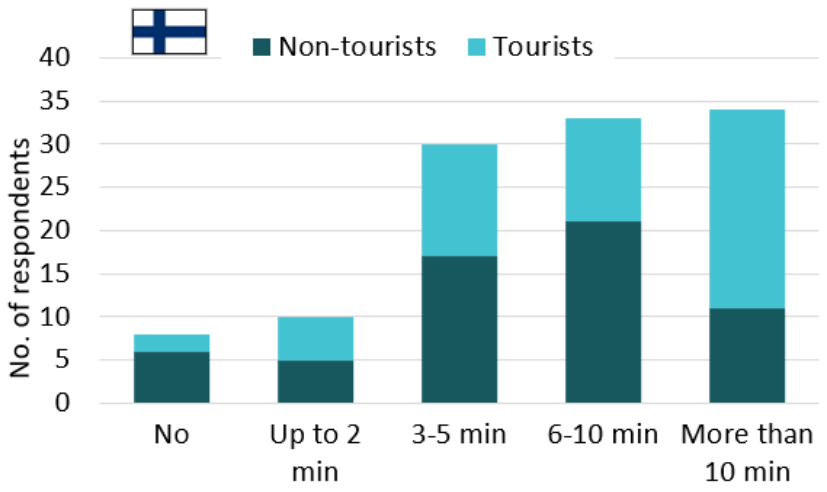
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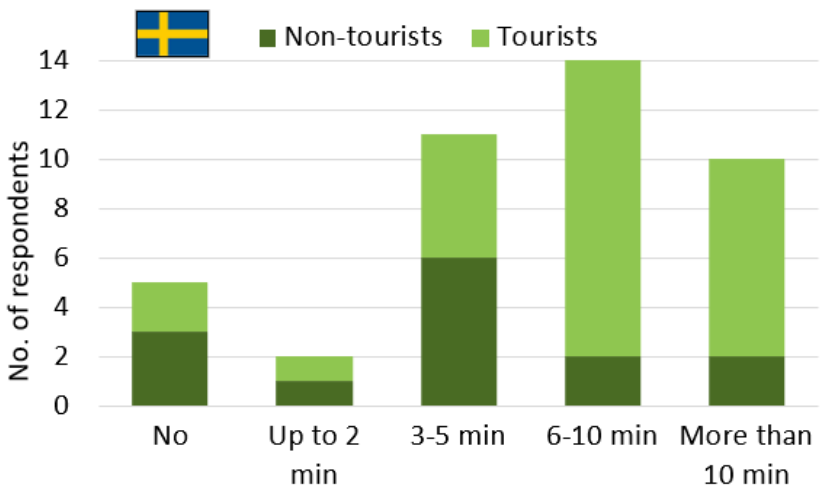
Acceptance of longer travel times (3/4)

- Acceptance of additional travel time remained high on a **30-minute** journey
- Tourists in **Sweden** showed the highest willingness to accept longer travel times
- Locals in **Estonia** were especially against longer travel times

"Would you accept additional travel time to decrease ferry emissions on a **30-minute** journey?





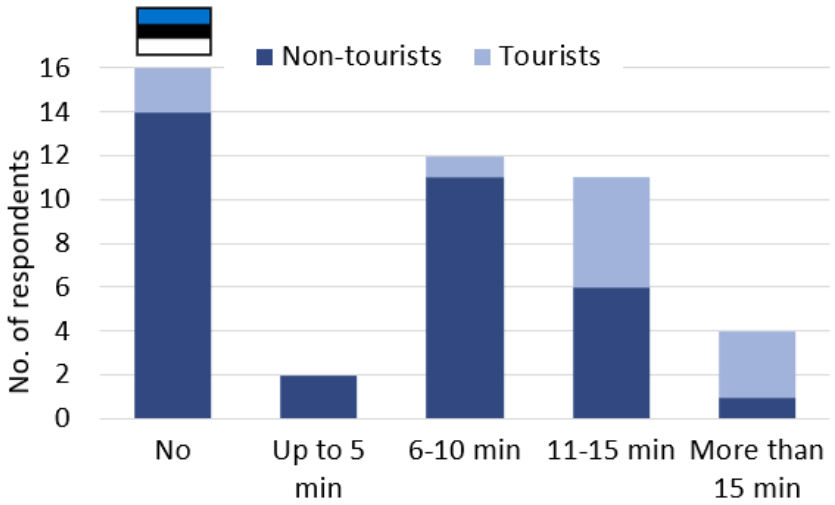


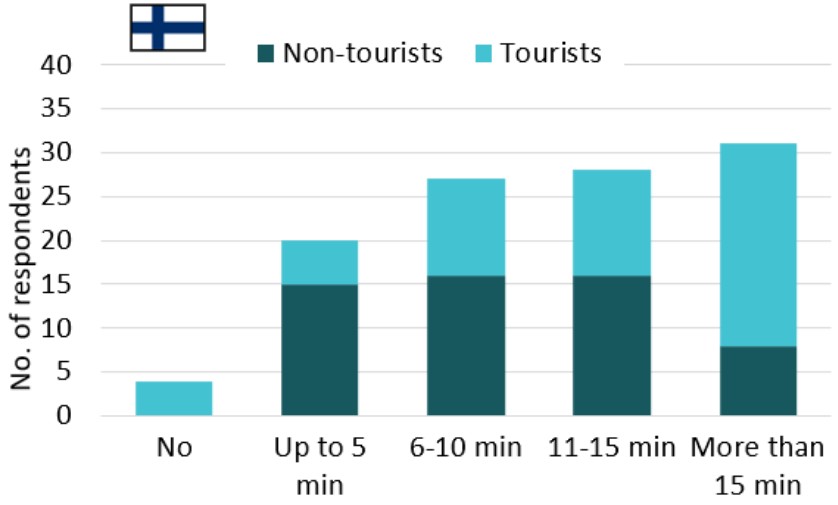
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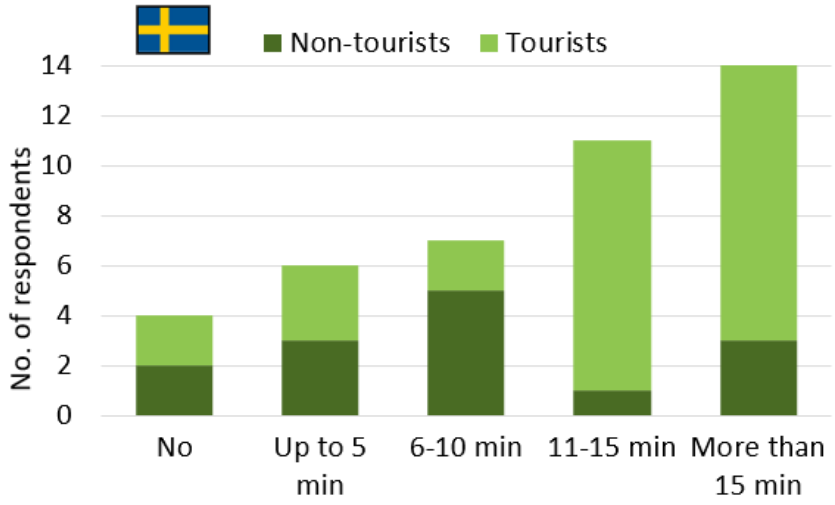
Acceptance of longer travel times (4/4)

- In **Sweden**, over half of respondents accepted an increase of 11–15 minutes or more on a **60-minute** journey, although locals were more willing to accept smaller increases
- In **Finland**, the majority of tourists were willing to accept 11–15+ minutes, while non-tourists mainly accepted 5-15 minutes
- **Estonia** remained the least supportive, although several local ferry users were also willing to accept substantial increases in travel time

"Would you accept additional travel time to decrease ferry emissions on a **60-minute** journey?"





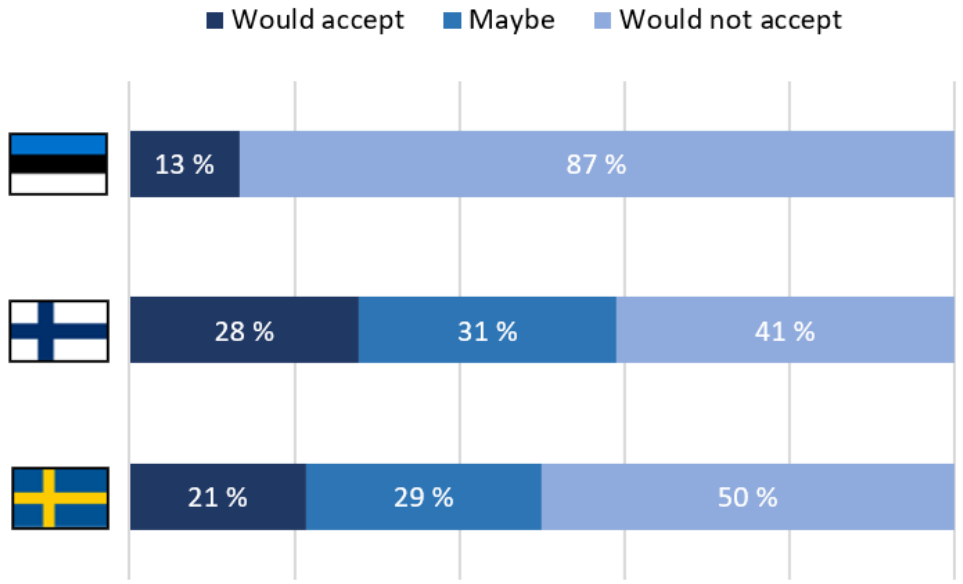


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Acceptance of reduced departure frequency

- Reducing ferry departures is a direct and effective way to lower emissions, but it also reduces transport accessibility
- Respondents were asked whether they would accept a lower frequency of ferry departures to reduce emissions
- **Support for this measure was limited in all three countries**, with “No” being the most common response
- Support was highest among occasional ferry users and tourists
- Permanent and seasonal residents and commuters were generally more opposed, highlighting the importance of service accessibility and reliability
- The survey in **Estonia** did not include a “Maybe” option, which may have increased the share of negative responses

"Would you accept a lower frequency of ferry departures to reduce emissions?"



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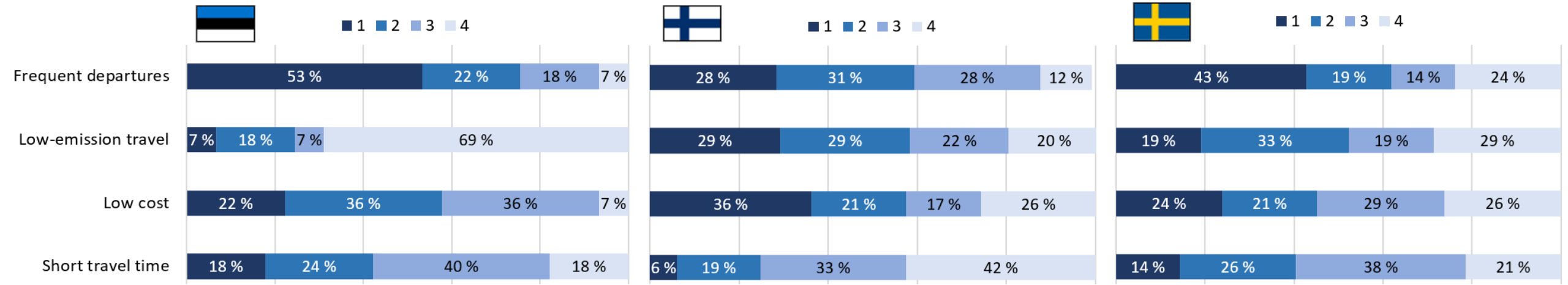
Acceptance of more expensive ticket price

- Passenger willingness to pay higher fares for low-emission travel provides one indication of the social acceptability of emission reduction measures
- Respondents in **EE** and **SE** were asked whether they would be willing to pay an additional fee for ferry services if it resulted in lower emissions
- In both countries, **slightly over half of the respondents answered "yes"**
- However, most of them were more **occasional travelers**, and tourists were willing to pay more than local ferry users
- The most commonly accepted surcharge was €0.50-1.00 in **Estonia** and SEK 10-50 (€0.9-4.4) in **Sweden**

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Ranking of service priorities

- Respondents ranked four service attributes by importance:
  - **Frequent departures, Low-emission travel, Low cost, and Short travel time**
- Frequent departures emerged as the top priority in **EE** and **SE**, while low cost was the top priority in **FI**
- Travel time ranked lowest in **FI** and **SE**; low-emission travel in **EE**
- Low-emission travel was generally less important than service frequency and affordability
- The ranking results show that **passengers place greater importance on service availability and affordability** than on faster travel times or environmental performance



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Insights from open comments

- The main themes in open comments were broadly similar i**n all countries**
- **Estonia** (n=8)
  - Emphasis on maintaining service levels and meeting local residents' needs
  - Both supportive and critical views on the role of island ferries in overall emission reduction
- **Finland** (n=24)
  - Many expressed support for emission reduction, especially through electric or hybrid ferries and a gradual transition
  - Several conditional or critical views highlighting residents' needs and the role of island ferries in overall emission reduction
- **Sweden (**n=12)
  - Some questioned the importance of reducing ferry emissions, arguing that larger emission sources or alternative funding approaches should be prioritised
  - Support for further electrification of the ferry fleet was expressed by some
  - Maintaining or expanding ferry services to preserve accessibility and a vibrant archipelago was also mentioned

Conclusion and discussion (1/2)



- Responses from **FI** and **SE** indicate stronger climate concern and greater acceptance of emission-reduction measures than responses from **EE**
- General willingness to accept moderate increases in travel time to reduce emissions in **all countries**
  - Noteworthy finding, as even modest reductions in speed can significantly reduce fuel consumption and emissions
- Strong opposition to reducing departure frequency in **all countries**
  - Technological solutions appear more socially acceptable than operational measures negatively affecting service availability
- Over half of the respondents in **EE** and **SE** were willing to pay more for low-emission travel, but support was strongest among occasional travellers
- Tourists were generally more open to change while locals emphasised the need to maintain and improve service-levels

Conclusion and discussion (2/2)



- The results suggest that passengers in the Central Baltic Region generally support the transition towards low-emission island ferry transport
- However, this support appears largely conditional on maintaining accessibility and affordability; whereas moderate increases in travel time were generally accepted
- In part, differences between countries are likely explained by variations in respondent profiles, service levels, fare structures, and route characteristics
- **Small sample size → the findings are only indicative**
- Future research could extend these findings using larger, more balanced samples across different regions and routes