

NRK CLIMATE DASHBOARD

A user-friendly platform
for reliable
climate information



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- The prototype should be tested in a browser on a computer.
- Figures and statistics in the prototype are fictitious.
- The prototype has limited functionality.

Test the prototype here:

<https://www.figma.com/proto/4nOCDzZelm7JHVnaH2IOQn/Klimadashbord-Prototype?node-id=726%3A0&scaling=scale-down>

Watch a walkthrough video of the prototype here:

<https://www.youtube.com/watch?v=QuDI1vT-FII&feature=youtu.be>

Read more

This specification was written as an exam assignment at MIX202 Design for Media Use in the spring of 2020. The course is part of the Bachelor's program Media and Interaction Design at the Department of Information and Media Science at the University of Bergen. The course leader was Professor Lars Nyre. Subject teachers were Professor Andy Opel (Florida State University), senior engineer Zulfikar Fahmy, PhD fellow Fredrik Håland Jensen, PhD fellow Oda Elise Nordberg and master's student Jonathan Lindø Meling. The specification is translated into English by Kristin Eidsheim.

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An important point of reference in everyday-media

One of the most important debates of our time is the climate debate. To be able to approach a solution, it is essential to have objective facts available. This gives us and future generations a secure basis for a media everyday characterized by untruths and alternative facts. As a public broadcaster, NRK has a responsibility to make the population equipped to participate in the climate debate. In connection with NRK's climate initiative¹, we have developed a prototype that will help inform the population. Which we have called the Climate Dashboard.

The climate dashboard is an interactive platform that presents complex climate statistics in an easy and precise way. Here, users will find reliable information in a format tailored to their everyday life and needs. The design of the prototype is based on results from The Hidden Potential For Improvement (Gisholt, Ullaland, Ødegård, Munthe-Kaas and Ness, 2020), in addition to relevant design principles. Existing advice for good climate communication is mainly about how images affect the audience's emotions. The climate dashboard addresses neutral climate statistics, thus it has not been relevant to use these tips in the development of the dashboard.

¹ At the end of 2019, NRK started a climate initiative (Flaarønning, 2020).

The climate dashboard is adapted to users and NRK

Users have busy days

Earlier this year we conducted an evaluation of a selection of media content from NRK. Using interviews in addition to eye tracking and stress bracelets, we gained insight into users' media habits and preferences.

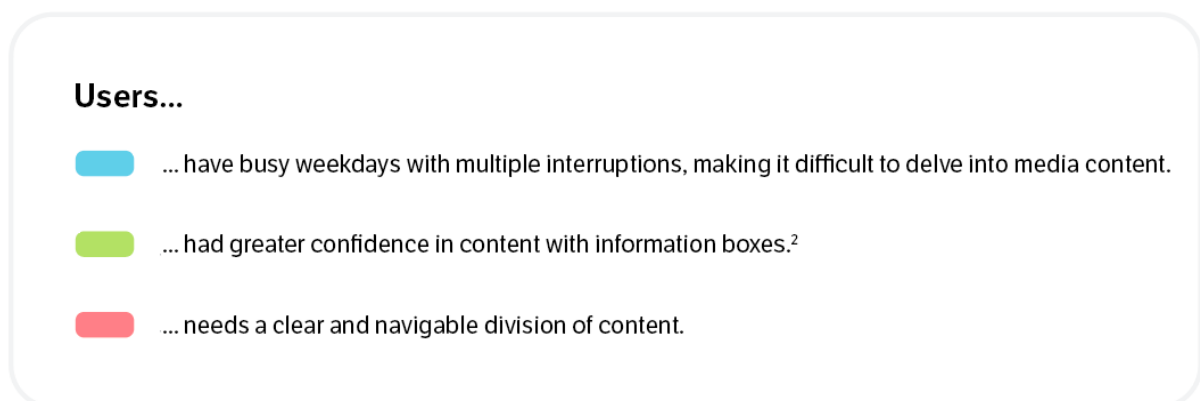


Figure 1: Results from The Hidden Potential For Improvement (Gisholt et al., 2020).

The users in the evaluation are in the target group of parents with children younger than 16, but it is reasonable to assume that the findings we made are relevant for several of NRK's users (see Figure 1). Based on the insight from the users, the Climate Dashboard is designed for a busy day. A clear and navigable section makes it easy to continue where you left off if you are interrupted.

² By "information boxes" it is meant interactive buttons that open windows, giving the user additional information about a theme and about where the information is taken from (Gisholt et al., 2020).

NRK can enable the population to participate in the climate discussions

"The goal of NRK's climate journalism is to enable everyone in Norway to participate in the climate discussions [...]" (NRK, 2020). By launching a clear Climate Dashboard tailored to users' everyday lives and needs, NRK makes information more accessible to its audience. When information is available to users, it becomes easier to participate in the climate discussions. The climate dashboard is based on facts and established research, which reflects the principles of NRK Climate.

NRK has high credibility in the population³, and a large majority make use of NRK's web content daily⁴. This is why NRK is eligible to launch the Climate Dashboard. The dashboard will reach large sections of the population and create a platform where users know they are getting credible climate information. The platform can establish a reliable reference for complex climate statistics in a simple and clear way.

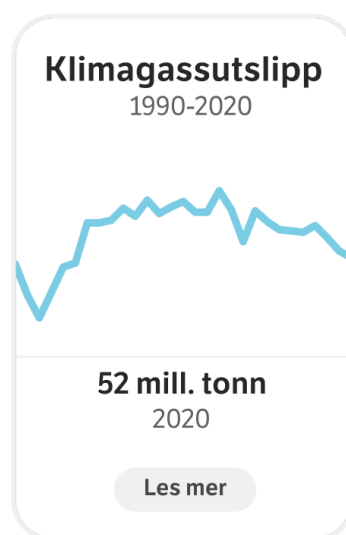


Figure 2: Module for the theme "Greenhouse gas emissions".

In the Climate Dashboard various climate-related themes are presented in modules⁵ as shown in figure 2. These modules can also be implemented in

³ 81% of the population have confidence in NRK (2019) (NRK Analysis, p. 25)

⁴ 73% of the population over the age of 12 use NRK's online services daily (2019) (NRK Analysis, p. 2)

⁵ By "module" it is meant an interactive box that presents climate statistics.

NRK's articles. Like the information boxes from the evaluation, the use of these modules will increase the users' confidence in the content. Therefore, the modules from the dashboard are also a useful tool for journalists in NRK.

Features and design of the prototype

Top position on NRK Climate

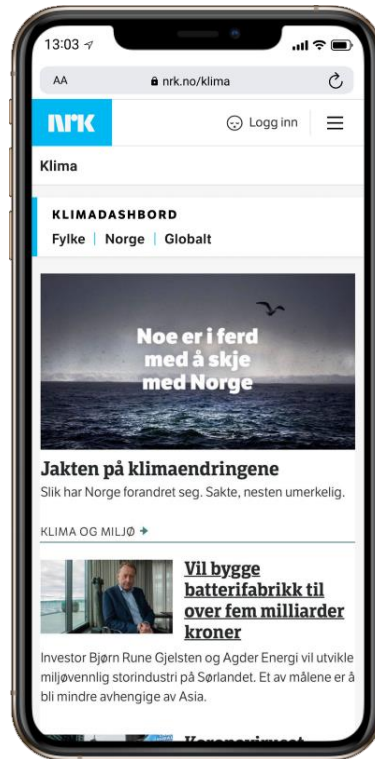


Figure 3: Frontpage of NRK Climate with entrance to the Climate Dashboard.

The first thing that meets you in the prototype is NRK Climate's website. At the top of the page is a header consisting of the heading "Climate Dashboard" and the subtitles "County", "Norway" and "Global" (see Figure 3). Here you can press the heading or "Norway" to enter the Climate Dashboard.

A modular design with a clear layout

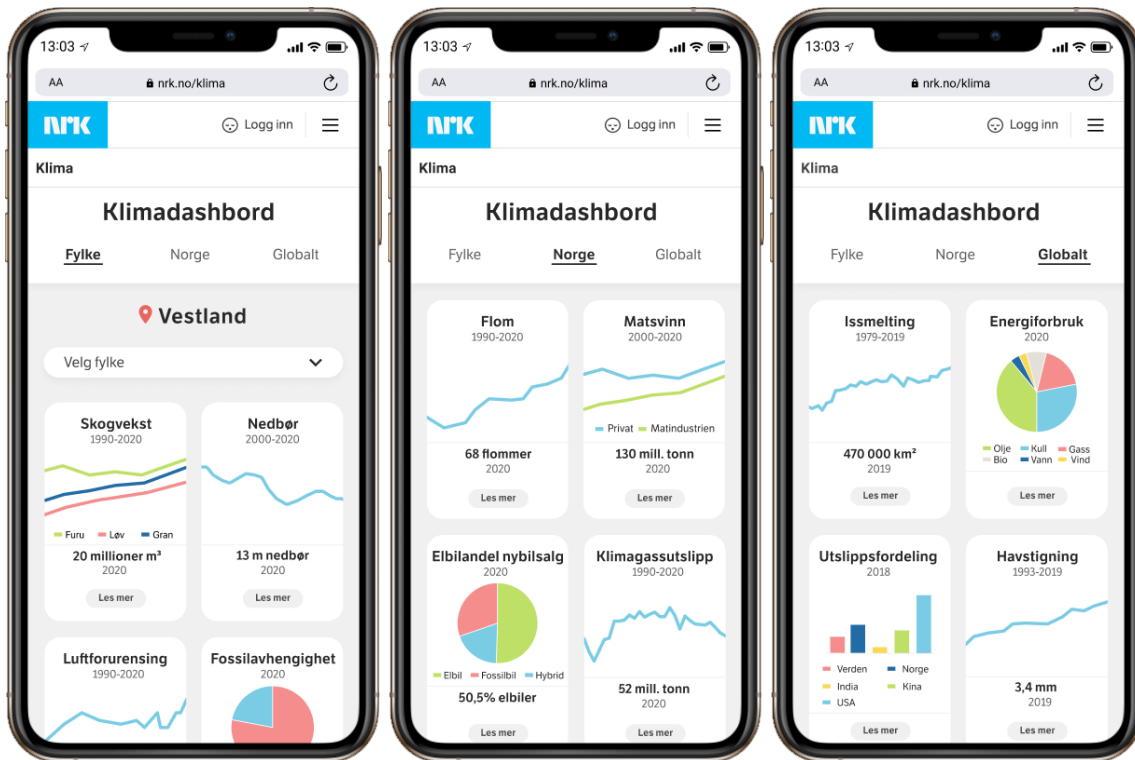


Figure 4: The three pages show climate statistics at the levels county, Norway and globally.

The climate dashboard has three different pages to choose from, which show climate statistics at different levels (see Figure 4). As you navigate between these, you will get clear feedback⁶ on what choice you have made, by highlighting the selection with an underline and bold text. The three pages of the dashboard show you modules that present complex climate statistics in a simple and clear way in diagrams. The modules are divided into different themes, but have a consistent design⁷ with similar interactions. It makes it clear what to expect in the rest of the modules. The clear division into levels and modules is based on results from the Hidden Potential for Improvement (Gisholt et al., 2020, p.26). The diagrams in the modules show different information. Line charts show trends over time, pie charts show percentages and bar charts show quantities. These chart types are well known and illustrate statistics in an understandable way.

⁶ Feedback is one of Don Norman's design principles and involves sending back information about what action has been taken and what has been achieved that allows the person to continue with the activity (Preece, Rogers and Sharp, 2015, p.26).

⁷ The design principle of consistency involves designing interfaces with similar operations and elements to perform similar tasks (Preece et al., 2015, p.29).

Menu to select county

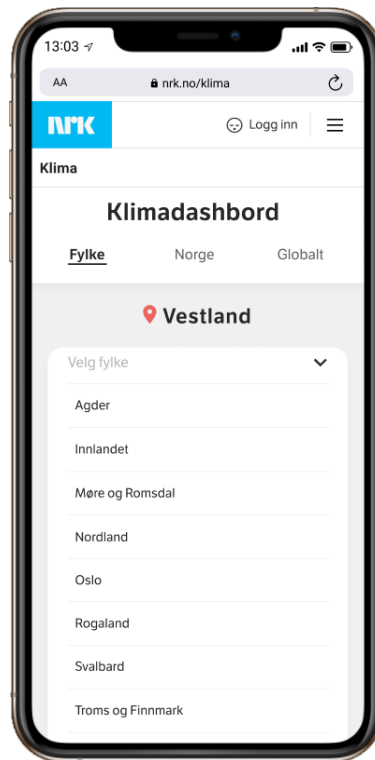


Figure 5: Open drop-down menu.

The NRK poster states that “NRK must reflect the geographical diversity in Norway and have a good local offer. NRK must be present in all counties. ” (NRK Communication, 2020, § 20). Including a county page in the dashboard helps fulfill this section. The climate dashboard has its own page where you can see climate statistics for Vestland and you can open a drop-down menu that shows other counties (see Figure 5).

Hover interaction shows statistics

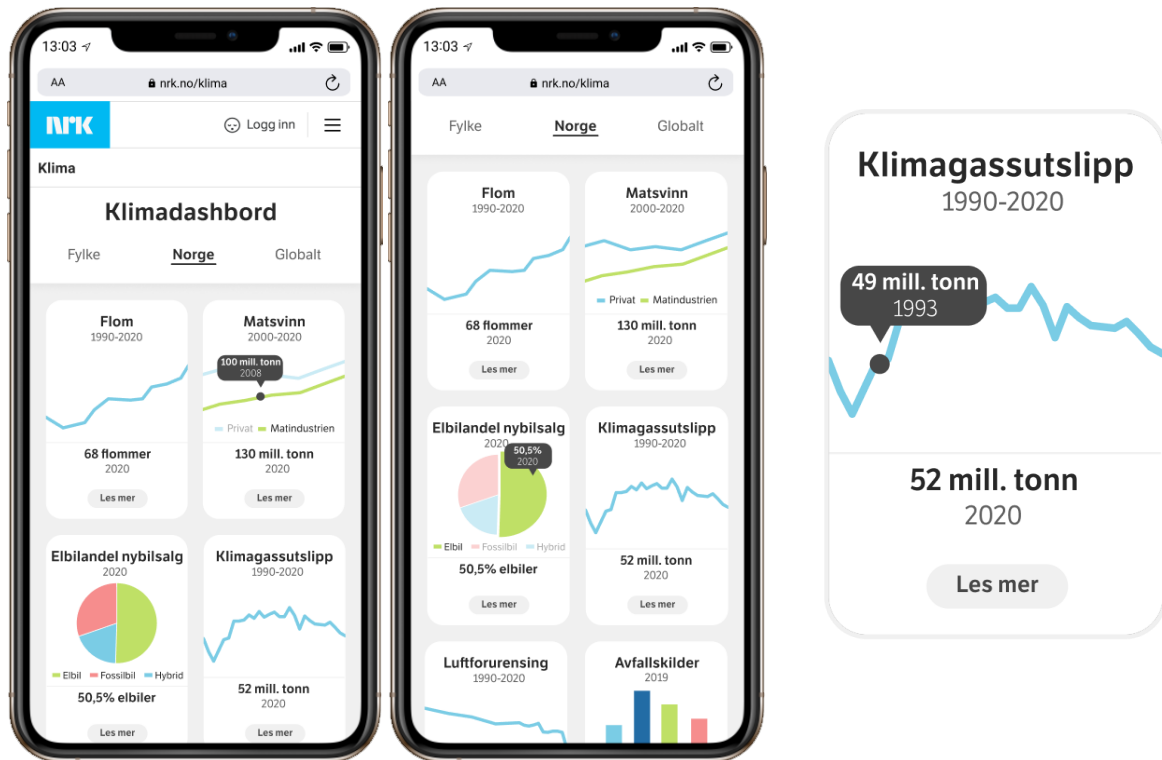


Figure 6: You can browse the charts on the front page for more information.

When you hover⁸ over a chart, the area you are hovering over is highlighted and a speech bubble displays statistics for the current year (see Figure 6). The speech bubble is dark with white text and overlies the other elements. If there are several categories in a chart, only one part will be highlighted along with the corresponding chart explanation. This provides good feedback and visibility⁹, making it clear that you are interacting with the chart. The Hover interaction is consistent across all chart types and helps you understand how it works across all modules.

⁸ By "hovering" it is meant to hover over an element with the cursor.

⁹ The design principle of visibility means that the more visible a function is, the more likely it is that the user will understand how the function works (Preece et al., 2015, p.26).

In-depth information in pop-up window



Figure 7: Pop-up window with more information on the theme “Greenhouse gas emissions”.

Clicking on the “Greenhouse gas emissions” or “Read more” button in the module opens a pop-up window¹⁰ with supplementary information on the theme (see Figure 7). Having the opportunity to get more fact-based information on the topic, as well as seeing where it is taken from, helps to increase confidence in the content (Gisholt et al., 2020, p. 15-16). An in-depth explanation is in line with NRK Climate's goal of basing facts and established research on its climate journalism (NRK, 2020). To close the pop-up window, click “X” in the upper right corner or “Close” at the bottom of the window. The "Close" button is designed similar to the "Read More" button and thus has a consistent design.

¹⁰ By "pop-up window" it is meant a window that opens on top of the current page.

The timeline allows you to explore data from a specific time period

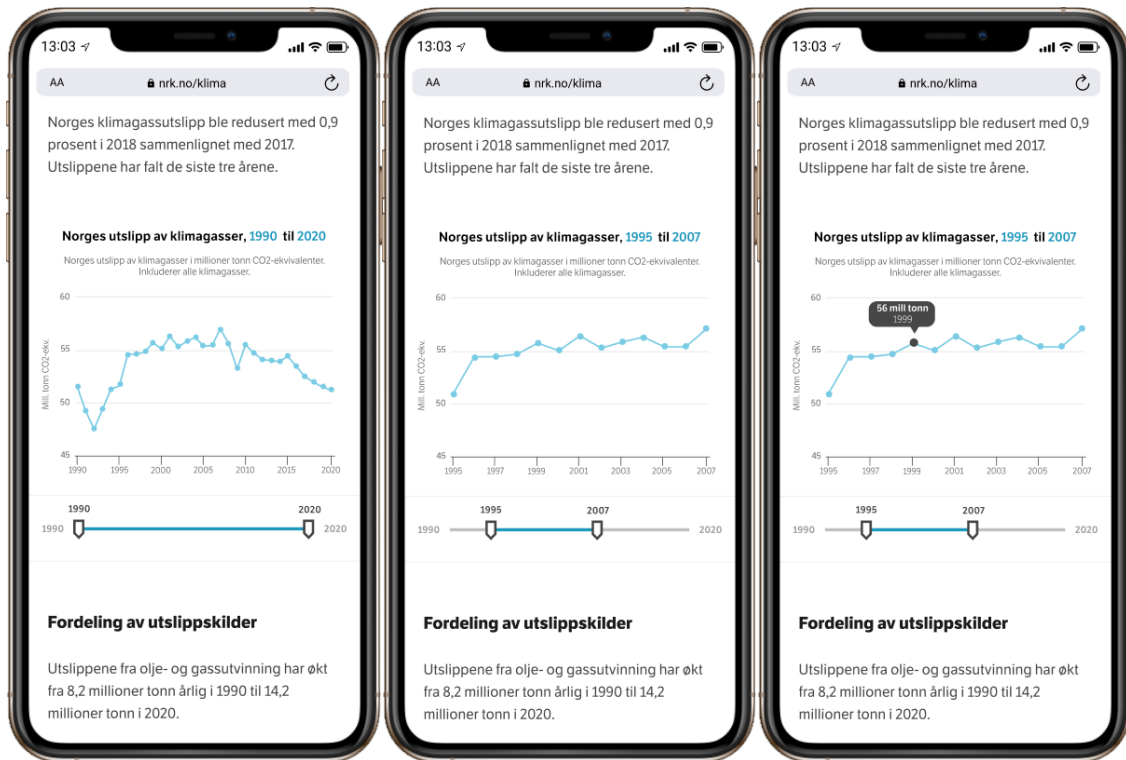


Figure 8: Interactive timeline in line chart.

Inside the pop-up window you will see the diagram from the module you clicked on.

The chart is now enlarged and has axes and coordinate points. All charts in the pop-up window still have the same hover interaction as the frontpage (see Figure 8).

Below the chart, you can adjust the timeperiod you want to view information about by using the timeline. It is clear what choice you made when updating the graph and year in the heading and highlighting the line between the pointers.

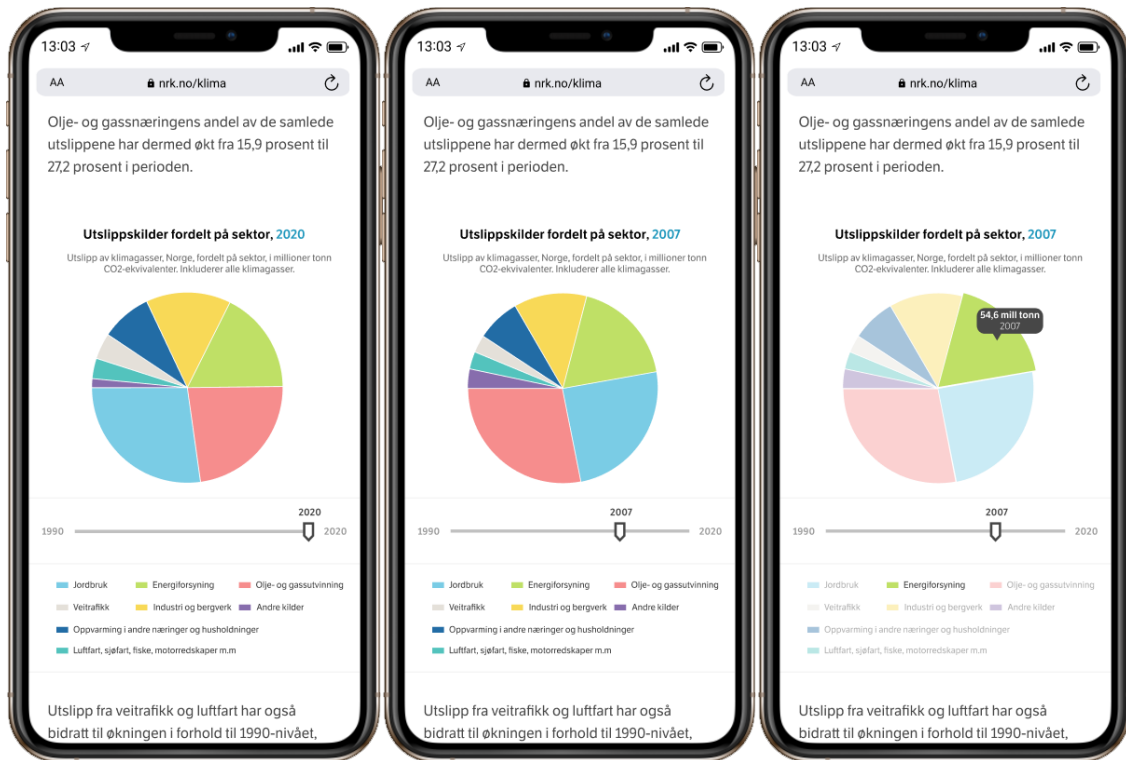


Figure 9: Displays interactions in a pie chart.

As you scroll further in the pop-up window, you see an interactive pie chart (see Figure 9). Here, too, you can click on the timeline to change the year you want to look at. This moves the pointer and updates the chart and year in the header. The design of the charts and timelines ensures good feedback and visibility.

Modules can be bookmarked

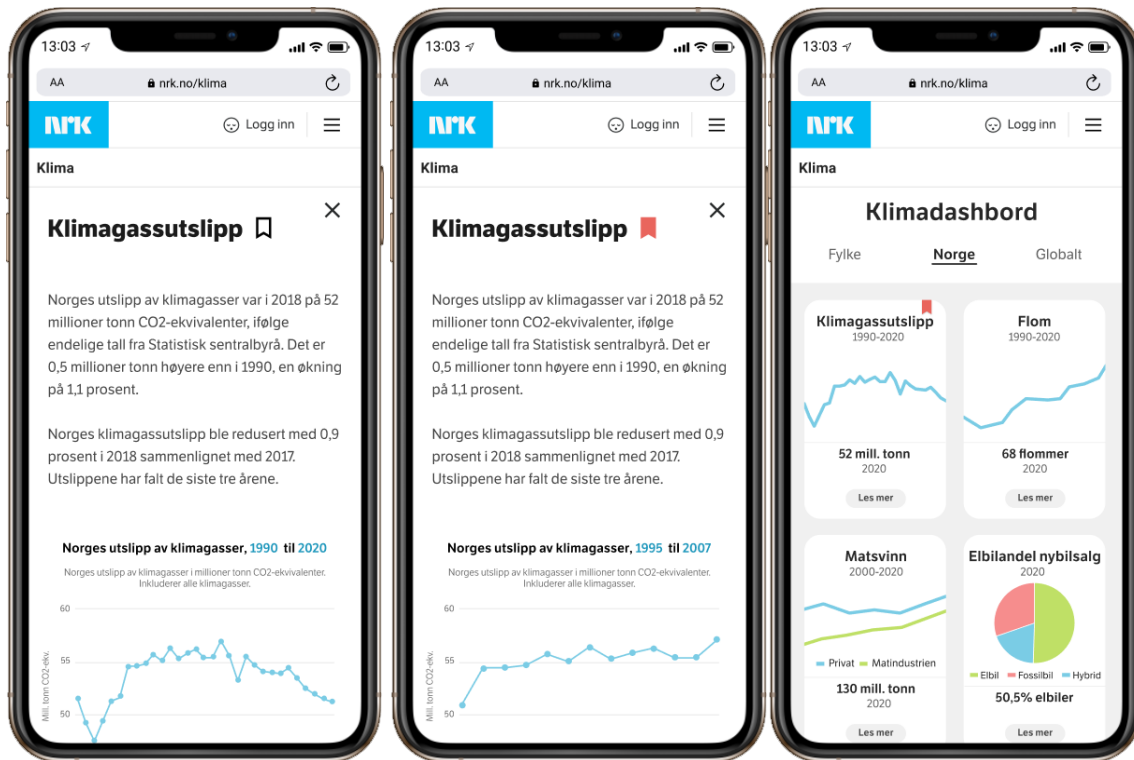


Figure 10: “Greenhouse gas emissions” with and without bookmark.

To make a topic more easily accessible, you can bookmark it. The feature is useful when you want to keep track of a theme or not explore everything. By touching the bookmark icon to the right of the title in the pop-up window, the icon turns red (see Figure 10). When the theme is bookmarked, the module moves to the top of the front page and is highlighted with the red icon. This gives good feedback and makes life easier for you in a busy day.

The colors ensure good visibility

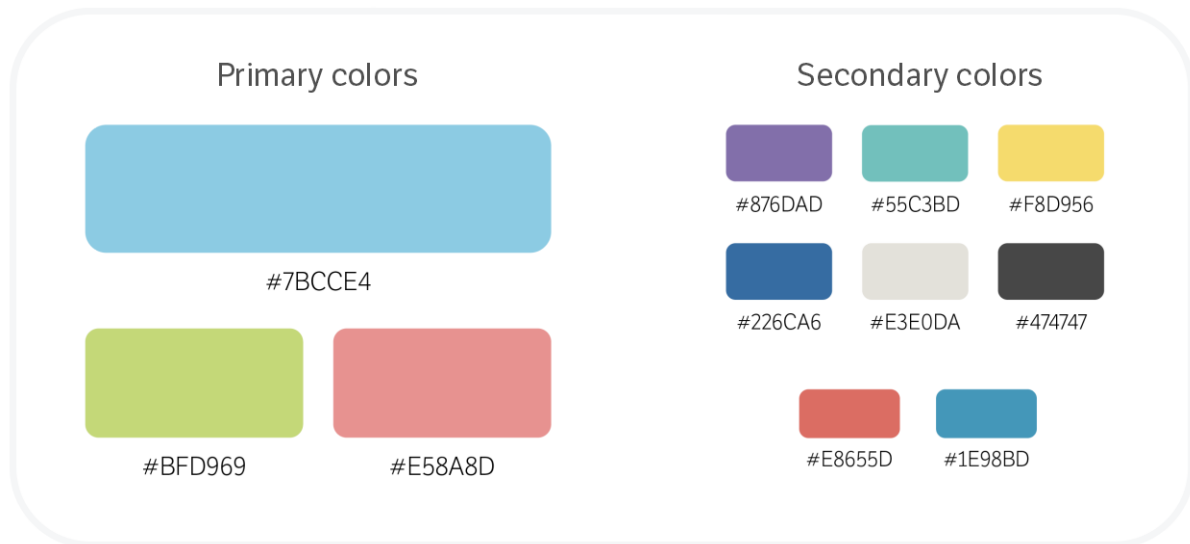


Figure 11: The color palette of our design.

The colors in the Climate Dashboard are based on NRK's own colors, and are further toned down so that none of the colors receive too much attention (see Figure 11). This allows the colors to blend well with each other while increasing the visibility of all the elements in the dashboard and in articles where the modules are used. The colors in the charts have good contrast and a white border that sets them apart for increased visibility even for the visually impaired. Green and red often indicate positively and negatively charged information. The climate dashboard should present objective statistics, so these two colors are not used alone.

The way forward

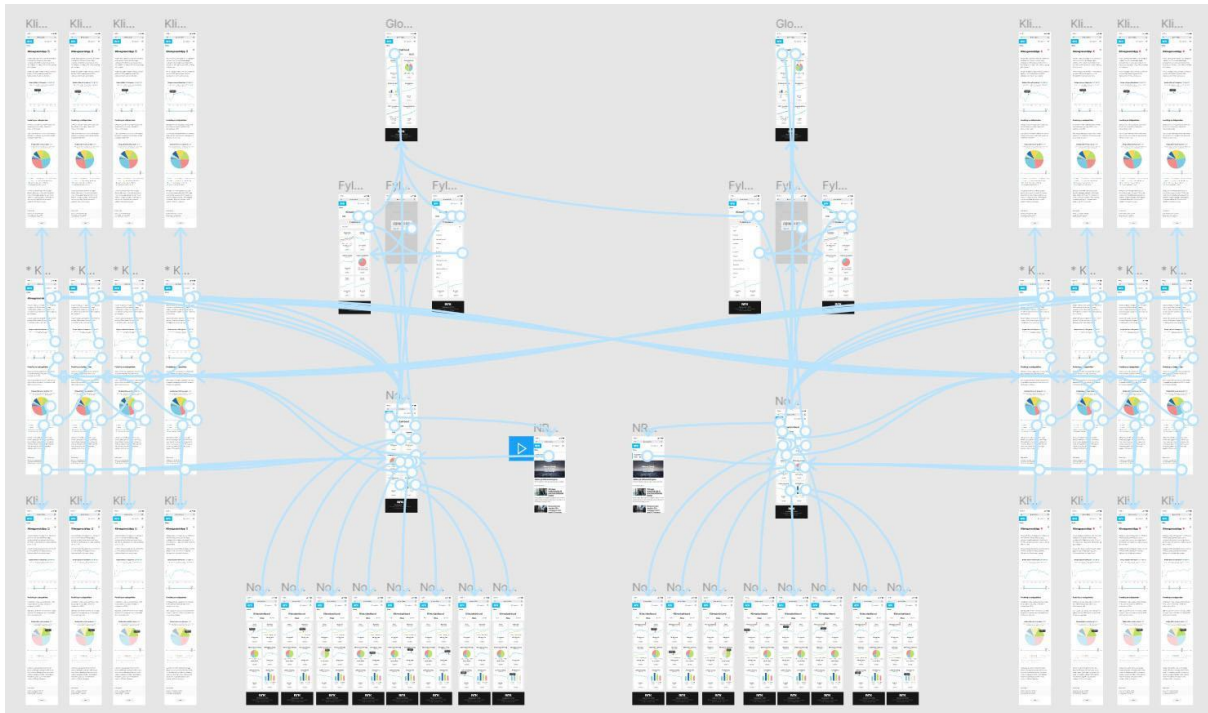


Figure 12: Overview of the prototype's working file with interactions in Figma.

The prototype of the Climate Dashboard was constructed in Figma¹¹ (see Figure 12). Graphs and charts were created in Highcharts¹²'s editing tool, and then imported into Figma. The purpose of the prototype is to be able to test its use and design, therefore it has limited functionality. In further development of the dashboard, the prototype should be user-tested to ensure that user needs are met. We also want the Climate Dashboard to be developed for computers and tablets as well as phones. It is important that NRK makes climate information available to everyone regardless of entity (NRK Communication, 2020). In a finished version, all functionality will be in place, and it will be possible to use modules in other content from NRK Climate.

¹¹Figma is a prototype and design tool that makes it possible to test the functionality of a design by making it interactive.

¹² Highcharts is a charting tool created by the company Highsoft.

Complete functionality

In the final version, all modules should be associated with a pop-up window that opens by pressing the module's header or the "Read more" button. In the prototype this can be done on the module "Greenhouse gas emissions". Text and charts in the modules and pop-ups will vary based on the themes they present.

We want the hover interaction to be retained in the dashboard on the computer version, while on touch screens such as tablets and phones, it should be replaced by a "push-and-hold" interaction. This should work on all the charts in the three main pages and in the pop-up windows. The speech bubble will always display information for the part of the chart that is marked¹³. In addition, we want the timeline feature inside the pop-up window, which can be clicked on in the prototype, to have a "push-and-pull" interaction. This interaction should be the same for all types of devices.

Inside the county page, the first thing that encounters the user should be climate statistics from the county in which the user is located, using GPS. Here it should also be possible to choose between all the counties in Norway and obtain climate statistics from these. If the user chooses not to share location with the Climate Dashboard, the county page will be empty until a county is selected from the drop-down menu.

¹³ By "marking" we mean hovering over on a computer and "touch and hold" on a touch screen.

Modules in articles

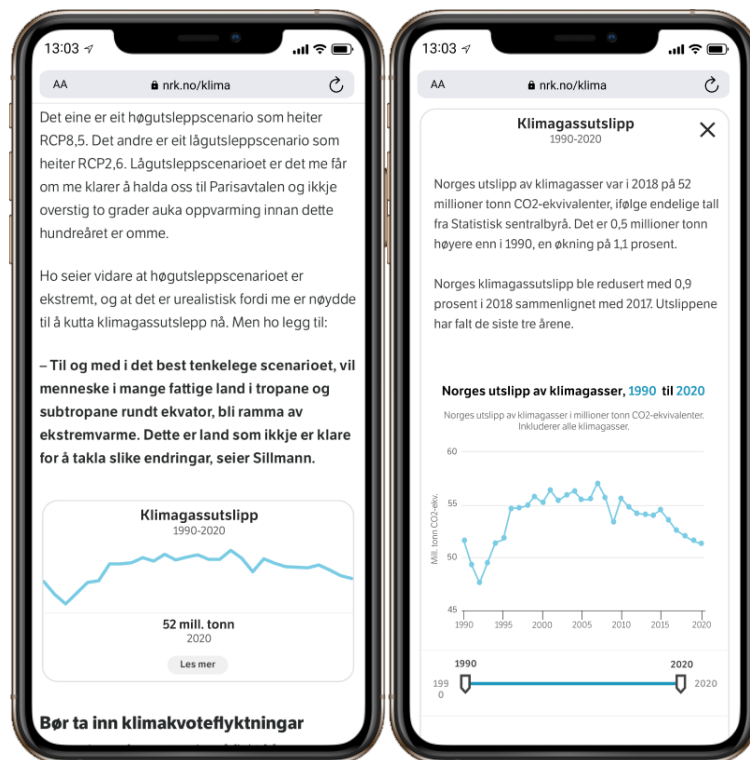


Figure 13: Module used in an article.

The modules from the Climate Dashboard can also be implemented in articles and other content from NRK Climate (see Figure 13). With an adaptable design, the modules will fit naturally. This will help increase user confidence in the content (Gisholt et al., 2020, p. 15-16). When the module is in an article, the chart in the module will be possible to interact with and you can click “Read more” to open the pop-up window. The pop-up window will have the same look and features as it has in the Climate Dashboard. In addition, you will have the opportunity to tap into the dashboard from here. If you close the window, you return to the same place in the article.

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