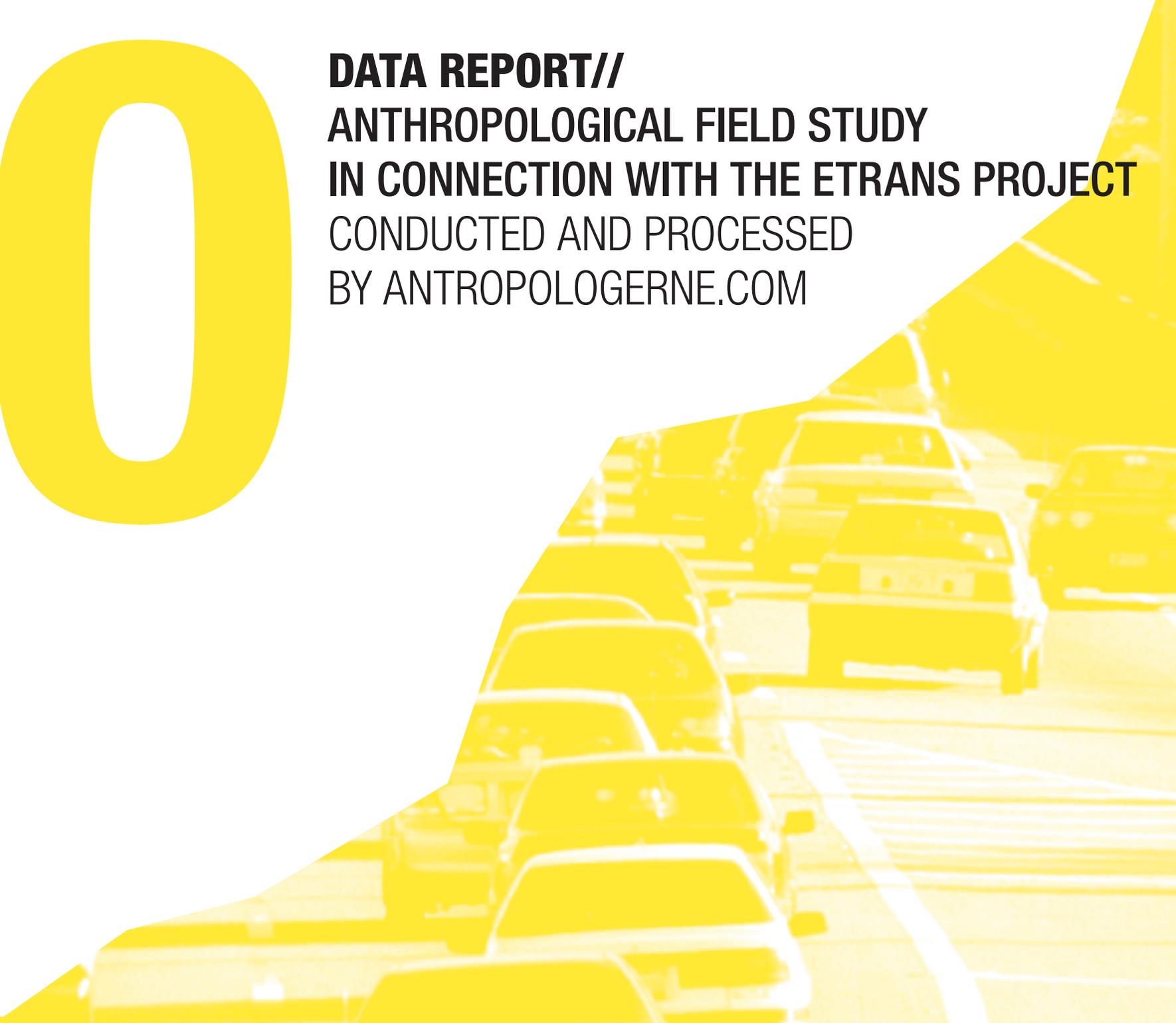


REPORT 0

DATA REPORT//
ANTHROPOLOGICAL FIELD STUDY
IN CONNECTION WITH THE ETRANS PROJECT
CONDUCTED AND PROCESSED
BY ANTROPOLOGERNE.COM





THE EUROPEAN UNION

The European Regional
Development Fund



Investing in your future

“Data Report – Anthropological field study in connection with the etrans project, conducted and processed by antropologerne.com”

1st edition, 1st print run 2009

Author: Chief anthropologist Rikke Ulk with contributions from anthropologists Susanne Rud, Michi Hesting, Janice Petersen and Linda Nielsen

Journalistic editing: Ida Vesterdal

Cover and graphic preparation: JE;SU/Gul Stue

The cards at the front of the book were designed by Kira Winther

Publisher: etrans, Designskolen Kolding

ISBN: 978-87-90775-05-6

Paper: CoCoon Offset

Printed by: Silkeborg Bogtrykkeri

Copyright: Antropologerne.com and etrans, Designskolen Kolding

All rights reserved

Photographic, mechanical, digital or any other form of reproduction from this book is permitted only in accordance with the agreement between Copy-Dan and the Ministry of Education. Any other usage without the written consent of the publisher is prohibited by the applicable Copyright Act. Excepted are extracts for use in reviews and discussions.

REPORT

O

DATA REPORT//
ANTHROPOLOGICAL FIELD STUDY
IN CONNECTION WITH THE ETRANS PROJECT
CONDUCTED AND PROCESSED
BY ANTROPOLOGERNE.COM



// CONTENTS

PART 1 – INTRODUCTION // 07

- 1 Front page // 08
- 2 Summary // 10
- 3 Differences between electric cars and ordinary cars // 12
- 4 Analysis model // 14
- 5 Having a car // 16
- 6 Driving a car // 18
- 7 Choosing a car // 20
- 8 Switching to an electric car // 22
- 9 Users // 24
- 10 Workshops // 26

PART 2 – DATA REPORT // 28

1. BACKGROUND // 30

2. METHODOLOGY // 32

- 2.1 Approach and methodology // 33
- 2.2 Description of field methods // 34
- 2.3 Description of method design // 36
- 2.4 Field visits // 42
- 2.5 Processing of data material // 45
- 2.6 Assessment of method design // 46

3. EMPIRICAL DATA // 48

- 3.1 Users – segmentation and recruitment // 49
- 3.2 Scope of the data material // 54
- 3.3 Assessment of the data material // 55

4. ANALYSIS // 56

- 4.1 Summary – petrol motorists, domestic // 58
- 4.2 Summary – petrol motorists, business // 62
- 4.3 Summary – petrol motorists, public sector // 65
- 4.4 Summary – drivers of electric cars // 68
- 4.5 Summary of video interviews – questions across the segments // 74

5. USERS // 82

- 5 User portraits – development based on eight people // 83
 - Lone, aged 52, R13 // 84
 - John, aged 63, R15 // 85
 - Carl, aged 32, R01 // 86
 - Janus, aged 32, R03 // 87
 - Hannah, aged 29, R42 // 88
 - Janni, aged 28, R34 // 89
 - Poul, aged 52, R09 // 90
 - Niller, aged 33, R06 // 91

6. RESULTS // 92

- 6.1 Development cards // 93
- 6.2 Themes // 94

7. RECOMMENDATIONS // 98

- 1 Improve on ordinary features // 99
- 2 Increase knowledge and create a larger interface // 99
- 3 Dispel mental images of small, toy cars and low speeds // 99
- 4 Make dreaming and driving green easy // 99
- 5 The car in your life – not for life // 99
- 6 An enjoyable drive // 100
- 7 Long live the car as an enhancement to masculinity // 100
- 8 Differentiate user understanding – even more // 100

// INTRODUCTION

In this first issue in the etrans series concerning the work of making electric cars a success in Denmark, you can read about the material and insights from project phase 1: the anthropological field study of 50 users. The field study is a forum for analysis – an empirical foundation. Antropologerne.com has created the conditions and the material to make etrans an example of thorough, innovative, user-driven innovation.

For the benefit of those who only want a quick insight into what we know about Danish people and their relationship with the car and the electric car, we have chosen to present ten of the cards from a box of 70 cards, with the data report, workshop results and challenge card displayed in graphic form at the end of phase 1.

For those who want to go into greater depth, we present a processed data report. If you are interested in how antropologerne.com has produced the user knowledge on which etrans is based, and hence in the more methodological and practical aspects of user-driven innovation, the data report is for you!

The data report presents methodologies, empirical exposition, user insight, segment analysis, responses to interview questions, provisional results and the recommendations made by the anthropologists prior to

the involvement workshops at Designskolen Kolding in June 2009 and the month's joint analysis and work on the material.

As mentioned, we visited 50 users and drove with them; we talked, helped, ate and drank, went shopping, had breaks, worked, refuelled, charged, washed and walked with them. We looked, filmed, took photographs, listened, asked, perceived, guided and surveyed, probed and – although we tried not to make a nuisance of ourselves – no doubt we surprised, exhausted and challenged the participants. On our own behalf and on behalf of the project, we would like to express our immense gratitude to these courageous, patient people who – both in the run-up to and after the five-hour field visit – expended time and attention to give us their unique stories and input for a new, first-hand understanding of car usage and of the conditions, options and challenges for driving electric cars in Denmark today.

Rikke Ulk

Chief anthropologist

INSIGHT IN PRAXIS & INSPIRATION FOR INNOVATION

antropologerne.com

1
FROM BOX CARD
FRONT PAGE

etrans

ANTHROPOLOGICAL FIELD STUDY AND PROCESSING

The etrans project works towards successful popularisation of electric cars in Denmark. In April 2009, the parties in etrans entered a contract with antropologerne.com in order to implement field studies with 50 users and to involve and engage Designskolen Kolding, DONG Energy, associated organisations and companies, the design school's students and researchers as well as other players with an interest in electric cars in user-driven innovation.

SUMMARY of insights from the field study

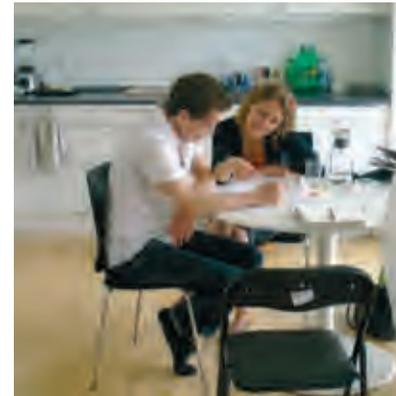
10
FROM BOX CARD
SUMMARY

'A motorist is a user is a person', we learn from the 50 different participants in this field study.

The motorist dimension offers insights into what it means to have a car, to drive a car and to choose a car.

The user perspective shows us the car as a part not only of the shopping, utility, maintenance and replacement scenario, but also of people's everyday lives, working lives and social lives. A signal to those around us about the self – and a signal that our relationship with the car also creates and embodies our identity.

The human angle is all about understanding that customers/buyers/users of any service, product or campaign for electric cars – just like the 50 different participants in the study – are unique, complex, contradictory, moveable, social and very different people with just as many different needs, preferences and circumstances of life.



5
FROM BOX CARD
DIFFERENCES

ELECTRIC CAR

ORDINARY CAR



ELECTRIC CAR

Charging while parked

Full charge: 1.5 – 8 hours

Limited charging options
(domestic or public places)

Access to electricity everywhere

High acceleration capacity without gears

Noiseless

Odourless/cables get dirty

Limited range

Always a clear conscience with regard to the environment

Limited makes/models/shapes

Few dealers/mechanics

Exempt from car tax, and free parking

Few are familiar with the feel of an electric car

ORDINARY CAR

Refuelling independent of parking

Full tank in 10 minutes

Plenty of filling stations in public places

Access to fuel only in special places

Gear-driven acceleration

Noisy

Petrol/diesel odour/dirty

Long range

Slight guilty conscience about the environment

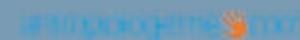
All makes/models/shapes

Many dealers/mechanics

Car tax and parking charges

Everyone is familiar with the feel of a car

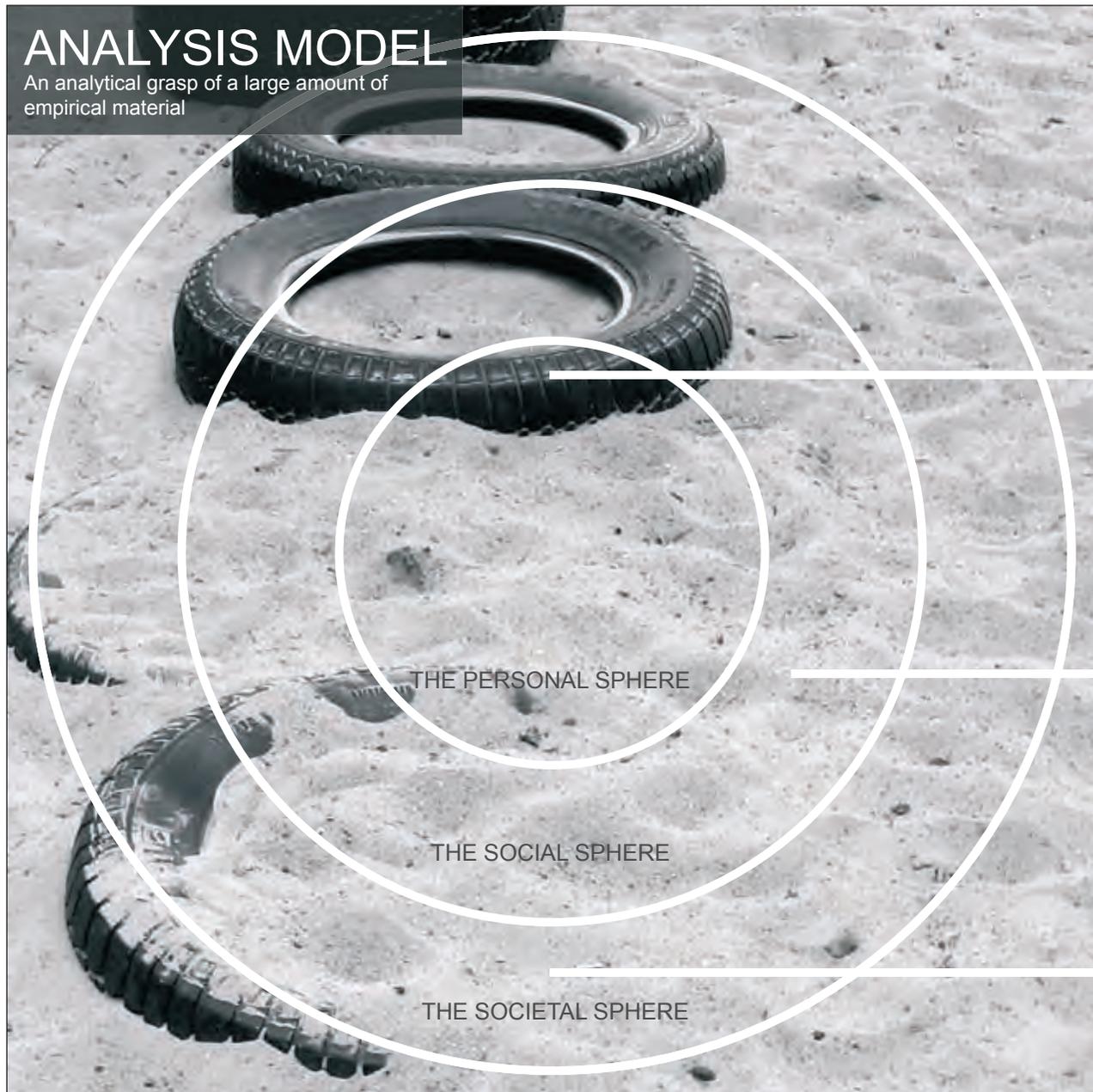
6 FROM BOX CARD DIFFERENCES



7
FROM BOX CARD
ANALYSIS MODEL

ANALYSIS MODEL

An analytical grasp of a large amount of empirical material



8 FROM BOX CARD ANALYSIS MODEL

A car has doors, wheels, an engine/battery and a cab to separate the exterior from the interior
Personal space (you can think, relax, listen to the radio, unwind)
People either have their own car or share one with others
Motorists are aware of their own driving style
People like to personalise their cars
The car is a tool for transportation and storage
The car is an identity marker and a reflection of 'me'/my workplace
Environmental awareness is related to the body, health and personal lifestyle
Vehicles that get you from place to place in a seated position

THE PERSONAL SPHERE/INTIMACY

The car is a practical tool in everyday life
The social sphere (you can talk while sitting in the car)
Social 'cement' (you fetch, bring, help, lend)
People recognise you by your car (neighbours, in the car park, at the baker's)
You interact with other people when you fill up, charge, maintain and repair your car
You or your work pay for refuelling/charging/maintenance/parking/repairs
Environmental awareness is a status symbol on a par with buying organic products; attitude and action
A means of transport that also promotes human contact

THE SOCIAL SPHERE/LOCAL AREA

In the media and in political circles, electric cars are strongly linked with eco-friendliness
There are lots of different attitudes to cars and motoring
Motorists are either subject to or exempt from VAT and duty schemes
Citizens can use most of the local and national infrastructure free of charge
You or your work sometimes pay for infrastructure solutions (user payment)
Environmental awareness with regard to motoring is something many want, but the responsibility for making this attractive and feasible is left with 'others' (politicians, infrastructure, manufacturers)
A means of transport that transports and connects

THE SOCIETAL SPHERE/INFRASTRUCTURE



57
FROM BOX CARD
HAVING A CAR



HAVING A CAR IS ALL ABOUT:

58
FROM BOX CARD
HAVING A CAR

IDENTITY

A car that expresses something about the person

COMMITMENT

The level of commitment can be either high or low
From doing things yourself or leaving them to others to do

RELATIONSHIP WITH THE CAR

From the rational/pragmatic to the emotional/interactive

AN OBJECT FOR NEGOTIATION

During acquisition, use, maintenance, loaning to others and on disposal

59
FROM BOX CARD
DRIVING A CAR



DRIVING A CAR IS ALL ABOUT:

60
FROM BOX CARD
DRIVING A CAR

TIME

The car in the slow lane: Enjoyment, a break and a pass-time

The car in the fast lane: Busyness and getting there

SPACE

Despite the 'my car' perception, the car has space for others besides the driver/owner

(The power to decide)

ACQUISITION

Small actions in the car

Embellish it with personal objects

Take your seat belt off to show that you're home now

DRIVING STYLE

Qualification and competency

Self perception, differentiation, qualities and culture

61
FROM BOX CARD
CHOOSING A CAR



CHOOSING A CAR IS ALL ABOUT:

62
FROM BOX CARD
CHOOSING A CAR

INVOLVING THE HEART AND THE HEAD

A compromise between what's ideal and what's realistic

FINANCE AND PRACTICALITY

Higher priority than environmental awareness

BEING A CREATURE OF HABIT AND LOYAL TO A MAKE

IS OFTEN LINKED WITH LIFE PHASES/CHANGES

In the home, job or family situation



63
FROM BOX CARD
SWITCHING
TO AN ELECTRIC CAR



SWITCHING TO AN ELECTRIC CAR

INVOLVES A NEW STANCE ON:

ELECTRICITY AND THE UTILITY COMPANY

Energy consumption

THE ENVIRONMENT

As well as the working environment and driving environment

GENDER AND THE JOY OF DRIVING

Women want to get from A to B

Men enjoy the trip, and the car often serves as an identity marker

PARKING

When you switch from refuelling to charging, parking becomes central

FINANCING

Insurance, budgets and the bank

Few one-off amounts and low day-to-day costs

SERVICING AND SAFETY

Warranty, repair shop

The design and styling of the actual car

PRACTICALITIES AND INTERACTION WITH THE CAR

Charging at home

Think ahead, not retrospectively

SIZE AND SHAPE

64
FROM BOX CARD
SWITCHING
TO AN ELECTRIC CAR



11
FROM BOX CARD
50 USERS

50
USERS



8 USERS



NILLER, 32

Pulling power, operational reliability, modular solutions, the car as an office/workplace, space, the car as an identity creator.



CARL, 32

The electric car as an identity creator, front-runner, retro, cool, idealist. Signal value.



POUL, 52

The car as a hobby, mechanic enthusiasm, planning your driving, experience, economy.



JOHN, 63

Commuter, planning of finances, grey gold, loyalty to a make of car.



JANUS, 32

The car as a practical tool; children in the car.



HANNAH, 29

Freedom, independence, the car as a luxury, shares car with friends.



JANNIE, 28

Signal value, marketing, new user of an electric car, mother, salesperson.



LONE, 52

Ergonomics, comfort, the car as a workplace, no ownership of the car, little personalisation of the car.

12
FROM BOX CARD
50 USERS



51 FROM BOX CARD WORKSHOPS

As part of the delivery, communication and preparation of the etrans user study, antropologerne.com put on nine days of workshops with research scientists/students from Designskolen Kolding, the project partners and external stakeholders. Central to the approach was a co-creative approach, with the partners participating actively in the anthropological process: from the field focus, to development and user journeys and the realms of possibility to the creation of a concept catalogue comprising 100 potential ideas.



WORKSHOPS

52 FROM BOX CARD WORKSHOPS

WS 1 – INTERNAL NEEDS AND PREPARATION OF RESEARCH // 27.04.2009

WS 2 – STAKEHOLDERS' NEEDS AND NEW QUESTIONS FOR THE FIELD // 30.04.2009

WS 3 – LEAD USERS AND EXPERT INPUT ON USER INSIGHTS // 26.05.2009

WS 4 – DAY 1 // KNOWLEDGE OF THE USERS // 02.06.2009

WS 4 – DAY 2 // GOING IN-DEPTH WITH THE USERS // 03.06.2009

WS 4 – DAY 3 // ANALYSIS OF USERS AND REALMS OF POSSIBILITY // 04.06.2009

WS 4 – DAY 4 // HOW MIGHT WE (HELP THE USERS)? // 08.06.2009

WS 4 – DAY 5 // ANALYSIS AND PROTOTYPING // 09.06.2009

WS 4 – DAY 6 // RESULTS, PERSPECTIVES AND CONCEPT CATALOGUE // 10.06.2009



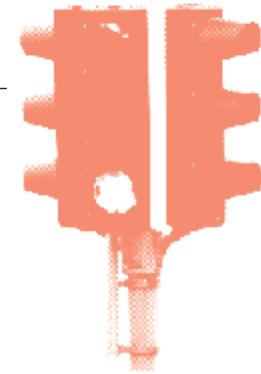
PARBIT

2





// 1 BACKGROUND



The etrans project works towards successful popularisation of electric cars in Denmark. The partners involved include Designskolen Kolding, DONG Energy, Fredericia Municipality and Trekantområdets Innovationsforum/TRIN (the Triangle Region Denmark Innovation Forum). You can see an overview of all the parties at www.etrans.dk

In April 2009, the etrans parties entered into an agreement with antropologerne.com. The assignment comprised on the one hand delivering a first-hand insight into Danish people's car use as well as the conditions, options and challenges facing electric car drivers in Denmark today and, on the other hand, putting these insights to work in workshops with the participation of business, people with technological insight, designers and research scientists, including research scientists and students at Designskolen Kolding and representatives of the project partners.

The present report was prepared based on the field study and presents the knowledge underlying the workshops that were subsequently conducted.

The report presents a wide-ranging insight into (petrol car and electric car) motorists' use and perception of their cars and makes recommen-

dations concerning what etrans should focus on to take user-driven innovation work forward, both in the forthcoming workshops and in subsequent development work. In addition, this report presents antropologerne.com's working methodologies and the tools used in etrans, and antropologerne.com's reflections on how they worked in practice.

The etrans field study and data material are extensive and very much visually conveyed (images, videos and various designs). By contrast, the present report is primarily in writing and presents a synthesis of the extensive material as of 31 May 2009. As such, it is a status indicator prior to the intensive workshops in June, when antropologerne.com and the etrans partners jointly forged ahead with the design-anthropological analysis and development process. This material is intended to provide inspiration for concepts, prototypes and communication for the entire three-year duration of the etrans project. It can be revisited for analysis purposes and used for many years to come.

We want this data report to be inspiring and to provide an insight into how field studies are used in user-driven innovation processes – and, above all, to facilitate research into the “realms of possibility” we enter into when we attentively visit people in their lives, their homes and at work and are invited into their cars, their everyday lives and their thoughts.



METHODOLOGY

// 2.1 APPROACH AND METHODOLOGY

In recent decades, anthropology has been widely applied in the area of design methods and design research and it is used increasingly as a qualitative method in the development and innovation work of companies, organisations and projects. This wide application paved the way for the popularisation of user-driven innovation as a trend and approach.

Antropologerne.com combines classic anthropological/ethnographic methods with participatory, generative and visual design methods. Our work – our approach, methods and reporting – is based on principles of participation, involvement, usability and anchoring.

In the field study in connection with the “Introduction of electric-powered cars in Denmark, etrans” project, antropologerne.com’s approach and methodology were developed taking due account of the project partners’ wishes (and especially the project team and Designskolen Kolding’s students and researchers’ wishes) for openness in the field

process and the need for sound anchoring of the insights from the field study; insights which, after this first phase, would be used to take etrans forward to exciting and visionary development work.

Accordingly, we endeavour to convey this presentation of data material in a manner so as to make the thematic insights understandable, discussable and directly applicable in the consolidation, focusing and ongoing work of the project.

The emphasis of the assignment is on extensive image and video documentation. This material, supplemented by antropologerne.com’s development of specific materials such as word and pictorial card games and user journals, provides extensive visual and physical material which, in a vivid and concrete way, gives anyone with the necessary curiosity the ability to find out about a great many aspects of the users and their multifaceted relationships with their car(s).

Method & mindset

METHOD & MINDSET

Our user-studies are:

- Qualitative
- Explorative
- Communicative

We focus on **PEOPLE**:

- Experiences
- Attitudes
- Wishes & needs
- Everyday life & context

Our results are:

- Not facts & evidence
- Insights & inspiration



 © 2012 antropologerne.com | Design | 7. Maj 2012



// 2.2 DESCRIPTION OF FIELD METHODS

PARTICIPANT OBSERVATION

Participant observation is a classic ethnographic method. It is based on a sort of dual role embracing both participation and observation. Through participation, the field worker observes in his or her own body what it means to “experience” what the subjects of study are experiencing. Thus, participation enables “a more lavish description” and a more meaning-based analysis of the field. In terms of methodology and analysis, however, the field worker's participation is tempered by a distance from the field subjects and by the field worker's constant awareness of the questions under study. The observation is the analysing half of the concept of participant observation. The anthropologist records, illustrates, notes and wonders all the time – about events, interiors, statements or actions. And reflects along the way on his/her own assumptions concerning the field and conclusions concerning the practices he/she encounters. Participant observation is the cornerstone of exploration work, i.e. you allow the field and the field subjects to guide the field work.

PARTICIPANT OBSERVATION IN THE ETRANS PROJECT

In the etrans project, we conducted participant observation with and of 50 different people who, with the exception of two non-users, have

in common the fact that they live in Denmark and all drive cars. We visited and drove with them; we talked, helped, ate and drank, went shopping, had breaks, worked, refuelled, charged, washed and walked with them. We looked, filmed, took photographs, listened, asked, perceived, guided and surveyed, probed and – although we tried not to make a nuisance of ourselves – no doubt we surprised, exhausted and challenged the participants.

CO-CREATION VIA MAPPING EXERCISES AND DESIGN GAMES

Whereas participant observation is used to allow the field to lead and guide the study, mapping exercises are a method of producing a more concrete understanding of the field. Mapping exercises are developed specially for each instance of field work and may take the form of a game, a pictorial card game, a model or a drawing with a particular theme and purpose. Mapping exercises and design games are generative methods. Within the delineated micro-universe of the exercises, the field worker, together with the field subjects, creates a pattern, game or collage, and through dialogue and implementation, aspects of the theme the anthropologist is studying emerge which can then be probed further.



You learn what meaning the participant ascribes to his/her life-world

This method also has the capacity to avoid the limitations of the interview and its linguistically epistemological limitations. It gives the subject scope to express himself/herself other than in words, but also has the effect of enabling the subject, on encountering these tools, to describe aspects that, without them, would have remained subconscious. With etrans, we have developed and used three concrete exercises and games, which are described under point 2.3.

GUIDED TOUR

Guided tour is another method used to support an exploratory approach to knowledge. Asking the field subject to give the guided tour ensures that the subject himself/herself guides the field worker. During the guided tour, the field worker uses his/her “estranged” vantage point in order to be able to ask questions that give the field subject the opportunity to explain things that normally appear obvious in the person's everyday life.

During etrans' user visits, the anthropologist was shown the interior and exterior of the cars and their function; interior fittings and sub-components were explained. Also, participant observation included

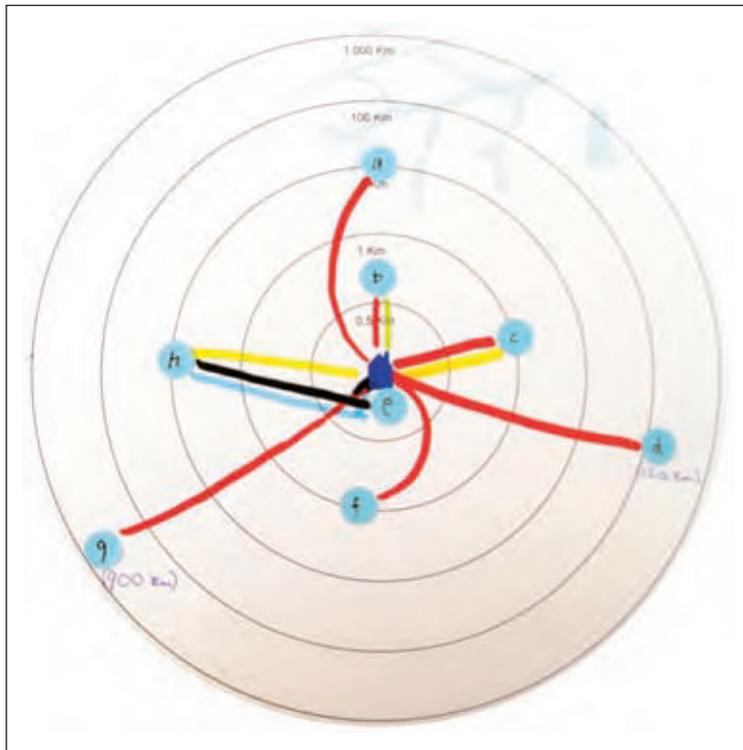
tours of the field subject's home, garden, workplace and petrol stations, as well as tours in the street and traffic. Observations and reflections from the detailed tours are primarily reported via Codes and Quotations in Atlas.ti and are incorporated into the field worker's notes and user portraits.

SEMI-STRUCTURED INTERVIEW

The semi-structured interview is a method that ensures that all research questions are posed to the field subjects. The interview guide comprises a number of questions/themes which the field worker ensures are covered with the participants in the study. A semi-structured interview is based on an interview technique that includes both contrast questions (how does it differ from?), descriptive questions, scenario questions (what-if scenarios) and exploratory questions (where hypotheses are proposed and jointly examined). The semi-structured and qualitative approach to an interview has the advantage of the interviewer not slavishly going through specific questions but rather being able to go in depth and explore and hence learn what meaning the participant himself/herself ascribes to his/her life-world.

// 2.3 DESCRIPTION OF METHOD DESIGN

The method design covers the media, methodologies and tools we developed and used to create user insight that we were subsequently able to analyse and convey. Some elements were used exclusively by us during the visit; others were used by the user prior to our visit, and still others were used during the visit in a collaborative venture between the participant and the anthropologist.



Altogether, the following materials and methodologies were developed and implemented:

- a user journal; to give us an insight into users' practical, everyday lives with their vehicle(s)
- a prioritisation game; to give us an insight into users' priorities with regard to the choice of vehicle and their definitions of various relevant concepts
- a pictorial card game; to shed light on users' perceptions and understanding of different types of vehicle and their characteristics
- videos; including shadowing, spoken word and interview recordings, which show users and situations from the field and present their contexts and physical expressions, both away from and during the interview.

As a rule of thumb, the user journal was implemented first, followed by the games. Before, during and after these elements, various video recordings were made. Below are descriptions of the individual methodologies and how they were developed.

THE USER JOURNAL

The user journal comprises a series of tasks issued to each user up to one week before the agreed anthropological field visit. During the visit, the anthropologist reviews the journal with the user and uses the journal as a focal point/object of interaction to create dialogue and insight into the user's everyday life with vehicles. In the case of quite a few visits, the user journal was only written up together with the user – if practicalities or postal delays got in the way, or if the user did not have time to do so or felt unsure about writing it up himself/herself.

The user journal comprises the following elements:

Introduction

Brief background to the project and welcome to the project participant.

Page 1: A day with my vehicle

Purpose: To gain micro-insights into the small, everyday events that occur during a 24-hour period with the vehicle. During the visit, the anthropologist reviews this mapping together with the user to further map details, specific needs and the roles of various players.

The task is described as follows:

“During one day, make a note of the events that occur to do with the vehicle.” The report form comprises a number of timelines showing the times of the day. The following timelines are described: Where is the vehicle? What is the situation? Who is involved? How does it feel?

Page 2: My profile

Purpose: To collect top-level data about users' profiles.

Page 3: My most important modes of transport

Purpose: To collect data comprising vehicle models, types, years, annual expenditure and monthly expenditure.

Page 4: My vehicle's history

Purpose: To gain a macro-overview of the events the user has encountered and the choices he/she has made in the acquisition and use of

the vehicle. During the visit, the anthropologist reviews the mapping together with the user to further map important media, players and stakeholders.

The task is described as follows:

“Describe the events concerning your vehicle from the time you considered acquiring it to the purchase situation and on into everyday use.”

The report form covers the following situations/phases in this order: Pre-acquisition, acquisition, normal use (from repairs to cleaning), disposal. The following questions are asked about each phase: What happens? Where does it happen? Who are you with?

Page 5: One year's transportation

Purpose:

- 1) To map the key destinations to and from which the user is transported/travels.
- 2) To map the choice of the means of transport in relation to the distance. During the visit, the anthropologist reviews the mapping with the user in order to further map details concerning destinations, infrastructure and any options for refuelling/charging.

The task is described as follows:

“Based on the different situations, position the stickers relative to the distance you travel. Then use the coloured pens to mark the different means of transport you used for the journey out to the dot.” The form comprises an icon of a house with 5 circles around it. The circles are marked 1 km, 5 km, 10 km, 50 km, 100 km and 500 km.

6: My usage

The task is described as follows:

- 1) Write the names of some of the objects and brands you have or use in your everyday life within the following categories: Personal, home and outside
- 2) Put a green circle around the ones you consider to be eco-friendly.

After the review of the user's journal, two different tasks were carried out jointly with the motorist. Both tasks comprised a set of pre-defined word/pictorial cards. The cards were used to create dialogue and insight into the user's attitudes, opinions and values in relation to a set of major themes pertaining to vehicles in general.

DEVELOPING THE USER JOURNAL

The user journal was developed based on a presentation by Anne Flemmert Jensen, head of research, at etrans Designskolen Kolding, and Toke Barter, consultant to antropologerne.com and instructor for Designskolen Kolding's one-year project concerning Transition Transport. It was first tested on two users (R2, R3) and then fine-tuned with corrections and adjustments which in the main comprised clarifications. Next, we defined three income brackets (which users could underline instead of having to disclose the exact amount of their annual income), developed the layout further and worked towards a more detailed statement of distances and times in connection with car use.

The second version, which had seven pages, was used with five participants (R4 – R8), and afterwards, during Workshop 1 concerning method design, we decided to omit the user's views on the electric car and the advantages (“drivers”, i.e. motivators) and disadvantages (barriers) on different levels: personal (home/location), social (local area) and societal (including infrastructure). The decision to omit this exercise from the journal was made based on the field workers' findings that it took too long to fill in the user journal during the field visits, and because several users had expressed polite frustration about the number of pages and tasks. User journals R9 – R50 were implemented using the final, amended version.

PRIORITISATION GAME

The prioritisation game describes a number of hard and soft concepts for the motorist to rank according to his/her own wishes/needs concerning both the electric car and the petrol car.





As with the user journal, the game exercises were developed on the fly and during the initial field visits

The word cards are divided into the following concepts: Freedom, Safety, Price, Comfort, Speed, Range, Spaciousness, Smartness, Design, Signal Value and Environment. The user prioritises the cards according to qualities/needs.

The prioritisation game provides an insight into how the motorist/the segment relates to the electric car and the petrol car:

- values (what values are considered to be the most important in a vehicle and why?)
- definition of terms concerning cars (what is the meaning of freedom, range, design, etc.)
- environmental awareness (how is the concept defined and in what context?)
- actual knowledge versus perception (clarification of any prejudices)
- ranking of needs/barriers (clarification of how new initiatives can create most value for the motorist)
- weighting of priorities (ranking that can be expressed statistically)
- differing needs (electric car versus petrol car)

DEVELOPMENT OF THE PRIORITISATION EXERCISE

As with the user journal, the game exercises were developed on the fly and during the initial field visits. During the visit to R1, no prioritisation games were introduced, because the visit with him was an initial field visit to teach us the “jargon”.

The prioritisation game was subsequently developed in the course of

field visits R2-R5. Developments concerned layout, content and materials: Ultimately, the words were presented on small pieces, which were easy to get hold of. In terms of content, the word “coolness” was changed to “smartness”, and the word “signal value” replaced the word “risk”, because these turned out not to make sense to the users.

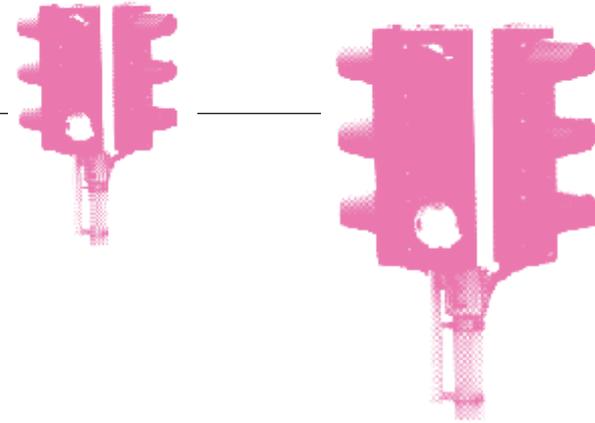
The prioritisation game and the selected words were not established until visit R6.

PICTORIAL CARD GAME

The pictorial cards illustrate types of cars, each representing an archetypal car. Using the cards, users were asked to define: The dream car, the practical car, the old banger and the eco-car.

The pictorial card task provides an insight into the motorist's/the segment's:

- values (what is considered to be a practical car and why?)
- identity and status (what does he/she dream of; what are the actual needs?)
- branding impact (how important are brands, stories, design, driving properties?)
- environmental awareness (how is the concept defined and in what contexts?)
- actual knowledge versus perception (clarification of any prejudices in relation to vehicles).



DEVELOPMENT OF PICTORIAL CARD GAME

At the initial methodology design meeting, we decided to supplement the words of the prioritisation game with specific pictures of cars. The purpose of using pictures is to access the more subconscious levels and non-linguistic preferences of the participant. Other aspects emerge when a person is presented with pictures, shapes, colours and stereotypes.

We surfed the net and came up with 30 different types, makes and modes of transport. A few electric cars were among the images. Naturally, we did not explain this to the participants – we listened to and recorded only their explanations and the expression of their inner dialogue concerning the placement and description of a given card.

VIDEO

Shadowing video clips are video clips that show the user interacting with the car or related objects to do with the car. In recording these videos, the field worker endeavours as far as possible to be a “fly on the wall” and simply observes what the user is doing. For example, we filmed ordinary driving in the car, refuelling, parking, charging, moving seats around, arrival at work/home. Shadowing video clips are good for doing pure observation exercises of practice, and particular aspects and undiscovered problem areas can become evident to the person watching the video. This is also a brilliant tool for creating identification and

empathy with the user's actual situation in everyday life without the observer having been there in person.

Spoken video clips are a group of video clips in which the user talks about his/her car or another object of interest to the study. Spoken video clips show the informal interview that the field worker conducts during the field visit. They provide a good perception and understanding of the individual user and how he/she perceives her own situation, and where he/she places the most emphasis, for example. Spoken video clips also include recordings of the prioritisation and pictorial card games.

Interview video clips (seven times approximately two minutes) consist of responses to the interview questions posed to all users by the field workers. We have endeavoured to record the video interviews in a natural environment (with the user doing something else at the same time). This is to allow thoughts to flow and, in terms of format, to avoid the “Queen's Christmas Day speech” format that – regardless of the extent of familiarity and informality the anthropologist has established – a set-up interview can easily fall into. The natural setting was not always possible, however, because some users either could not concentrate on answering the questions while they went about their work, or because users did not want to direct their full attention towards the anthropologist and the question being asked while they were performing demanding work tasks.

The following questions were recorded on video and delivered as stand-alone clips:

Q1
Me and my car – a presentation

Q2
What do your choice of car and your use of the car say about you as a type/profession?

Q3
Before buying or acquiring the car, what did you think/consider concerning the car? Is it different now (everyday use of the car)?

Q4
What prejudices are there about electric cars and drivers of electric cars? (what is the back-chatter/what do other people say?)

Q5
In your opinion, what positive arguments are there for the electric car? – what could be improved?

Q6
What disadvantages and challenges do you see with the electric car today? – what gets in the way of its popularity?

Q7
Would you be prepared to change or limit your consumption of electricity in relation to different prices of electricity at different times of the day and night?

DEVELOPMENT OF QUESTIONS

The interview questions were developed and tested during the first field visit (R1). At a meeting between antropologerne.com, Anne Flemmer of etrans and representatives of DONG on 7 May 2009, it was decided that a seventh question should be added to address the problem areas concerning user attitudes to limitations and/or making changes to their consumption of electricity. Because the field process was already underway, question seven was therefore only answered by R21–R50.

// 2.4 FIELD VISITS

The 50 field visits, all of which lasted at least five hours, were conducted in the period 7 April to 29 May 2009 (one lasted only two hours; some took six hours and a few between seven and eight hours). Antropologerne.com designed a “Field Manual” for the field work, which exhaustively describes instructions for all the elements of the field work.

The field visits comprised three elements, which the field worker was to cover during the five hours.

ELEMENT 1 – PARTICIPANT OBSERVATION AND SHADOWING: (distributed across the five hours)

The field worker follows the user and pays attention to parking, charging, refuelling, style, needs, activities, preferences and features of the car and of other technological devices. The anthropologists' approach is inductive – what we focus on is what contributes to a holistic, de-



tailed understanding of this particular user's life, everyday routine and circumstances. Participant observation is a balance between ordinary chatting and informal interviewing. During the process, we undertook video shadowing with the video camera.

ELEMENT 2 – MATERIAL // EXERCISES: (two hours)

Review of the user journal and implementation of the prioritisation game and pictorial card game.

ELEMENT 3 – INTERVIEW WITH VIDEO CAMERA (THE FIELD): (seven times approximately two minutes)

As far as possible, we endeavoured to conduct the interview towards the end of the five hours so that the interview serves as a kind of summing up/rounding off.

GUEST OBSERVERS

As part of the assignment, we planned for the field study to be assisted by what we termed “guest observers” who were involved in etrans. The purpose was to enable them to experience the users and the field for themselves, while also experiencing the anthropologist's working methods live. In purely practical terms, the guest observer assisted the field worker by taking photographs and asking follow-up questions during the interview. Guest observers had been informed as far as possible not to speak in a manner loaded with values about electric cars during the field exercise and especially not before the interview, so that the words the user chooses about his/her attitudes to and knowledge of electric cars and other cars are the person's own and not something he/she has heard being spoken about.



The environmental debate is full of things we take for granted and “shoulds”

METHODOLOGY REFLECTION IN CONNECTION WITH GUEST OBSERVERS

Antropologerne.com should have briefed and debriefed the guest observers more in connection with their visits to the users. First, to give the co-observer a broader understanding of anthropology as a working method and of the field work as a zone. Secondly, to gain access to any information that was not shared with the anthropologist, but with the field observer, as well as to evaluate impressions and insights.

It is important for the field observer to be aware of the following prior to a field visit:

1. The focus is on the user's everyday routine: the task of the anthropologist is to accompany the user, and during the time we have agreed to be with them, they have our full attention.
2. Ethnographic small-talk is not the same as ordinary small-talk. The unstructured elements of the field visits have an underlying methodology. Anthropologists often probe statements that would be taken for granted in normal small-talk. This is in order to deliberately listen closely and steer the conversation in a specific direction.
3. It is important for the field observer to be aware of this and to be determined to influence the participant in the study as little as possible with his/her own statements. The participant is the key person. Value-based statements and one's own attitudes, etc., are not of interest. We

must not validate, judge or assess what is said; anthropologists strive for communication with the subjects of the study that is as open as at all possible. It is important for the field observer to know and to be aware that he/she must not express personal attitudes pertaining to what we are studying (e.g. that electric cars are good, that we should look after the environment, etc.), because that creates normative values in the conversation. The environmental debate is full of things we take for granted and “shoulds”.

4. It is important for the field observer to respect the anthropologist's internal plan. Although the elements of the field visit are improvised in accordance with the user's everyday routine, there is an underlying plan which is continuously readjusted in the anthropologist's head. Therefore, it is important for the field observer not to ask questions that the anthropologist has planned for a later time in the process, or to make statements that could influence the participant's answers later on in the process.
5. It is important for the field observer to be aware of and know that the responsibility for documentation lies with the anthropologist. The anthropologist is the filter for data collection. If the anthropologist is not present (or is out of earshot), there is no data, and if the anthropologist has not understood what is happening, there is also no data. Take care not to have conversations with the respondent when the anthropologist is not present, and not to set the pace of conversation faster than the anthropologist is able to take notes.



6. The field observer must respect the ethnographic tempo, and the fact that it is important that we anthropologists have understood the meaning behind a statement so that we do not unnecessarily ascribe our own interpretations to them. This means it is important to be aware not to introduce new topics of conversations too quickly as a field observer, because it is not certain that the anthropologist feels he/she has gained sufficient understanding and knowledge yet.

THE FOLLOWING GUEST OBSERVERS PARTICIPATED:

04.05.09, 4 pm – 9 pm // Copenhagen

(R15: Male, petrol car, domestic, experienced, city, age 35-50)
JP // Elin Sørensen, University of Southern Denmark

07.05.09, 7:30 am – 12:30 pm // Suburbs

(R18: Male, petrol car, business, extreme, suburbs, age 35-50)
JP // Jakob Hansen, Designskolen Kolding

11.05.09, 10 am – 3 pm // Copenhagen

(R20: Male, petrol car, extreme user, racing driver, age 20-35)
RU // Christoffer Hansen, Designskolen Kolding

13.05.09, 9 am – 2 pm // Copenhagen K

(R26: Male, electric car, business, city, experienced, age 36-50)
SR // Christoffer Hansen, Designskolen Kolding

13.05.09, 12 noon – 5 pm // Fredericia

(R29: Male, petrol car, civil servant, provincial, extreme, age 36-50)
LN // Jakob Hansen, Designskolen Kolding

15.05.09 10 am – 3 pm // Middelfart

(R31: Male, petrol car, business, experienced, suburbs, extreme, age 51-65)
JP // Anne Flemmert Jensen, Designskolen Kolding

18.05.09, 9 am – 2 pm // Copenhagen

(R34: Female, new user of an electric car, business driver, city, age 20-35)
SR // Arne Mariager, Politiken newspaper

20.05.09, 10 am – 3 pm // Fredericia

(R39: Female, petrol car, civil servant, provincial, experienced, age 36-50)
LN // Mette Mikkelsen, Designskolen Kolding

22.05.09, 12 noon – 5 pm // Fredericia

(R44: Female, petrol car, civil servant, provincial, experienced, age 36-50)
LN // Ahmet Gunes, Peugeot

25.05.09, 2 pm – 7 pm // Southern Jutland

(R46: Male, electric car, domestic, countryside, Lead User, age 51-80)
LN // Jakob Hansen, Designskolen Kolding

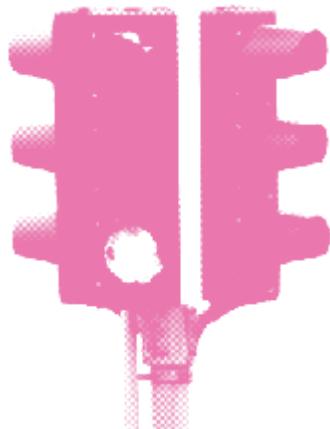
22.05.09, 3 pm – 8 pm // North Zealand

(R37: Female, petrol car, domestic, experienced, provincial, age 51-80)
RU // Christoffer Hansen, Designskolen Kolding

// 2.5 PROCESSING OF DATA MATERIAL

FIELD NOTES

After the field visit, the field worker has written field notes about the user containing a brief description of the field process, a portrait, a description of the person's driving, costs, brand and environmental awareness, an extensive collection of quotations, any interview notes and the field worker's reflections after the meeting with the user.



// 2.6 ASSESSMENT OF METHOD DESIGN

ELEMENTS THAT WORKED WELL:

– The modular structure of the field visits worked very well in terms of variety and planning. Because the field visits took very different courses, the different options for combinations made it easy to adapt the field visit to the circumstances.

– Prioritisation game: Worked well every time. The task was easy to understand and simple for everyone to do. We did not encounter a single instance of people being unable to justify their choices and priorities. In relation to comparing data for all the participants, however, it should be noted that the respondents defined the words very differently. The visual aspect can only stand alone to a certain extent (the pictures). Conversely, the video recordings provide an explanation of the participants' understanding of and response to the concept. Safety means different things to different people, and the same applies to freedom and the other words. We recommend collating the clips of all definitions and reflections on each individual sub-element and analysing each one separately. In what different ways are words such as design and environment perceived? And are there interesting similarities or differences between the perceptions of the two sexes or the three segments?

Such tasks were not part of antropologerne.com's remit, but are possibilities for those collaborative and research projects which are to follow up on and use the material.

– The pictorial card game worked well because it gave the participants shapes, colours and something very concrete when looking at and re-





Both the prioritisation games and the pictorial card game seemed effective tools to pull out of the hat. A little element of surprise, to which there were only positive responses

sponding to the car images. However, users generally found it was a little unclear. The car pictures engaged the users, and the anthropologist's final images of the participants' specific placement of cars in categories are in many cases quite telling in terms of how the respondents relate to cars. The exercise worked best on those occasions when the field worker was in continuous dialogue with the user about why they chose the cars they chose. Or when we allowed them to add Post-it notes of their own.

Both the prioritisation games and the pictorial card game seemed effective tools to pull out of the hat. A little element of surprise, to which there were only positive responses. With regard to the modular structure, they also lasted just the right amount of time.

ELEMENTS THAT COULD BE IMPROVED:

– To some extent, the user journal was difficult to write up in advance. This was especially the case for business motorists and public sector motorists, because the wordings in the user journal were mostly addressed to domestic motorists. The user journal ended up taking up a lot of time during the field visits and was often difficult to get through. It is very academically oriented. Some participants were not comfortable with all the things they had to write in it. For example, some par-

ticipants apologised and said they were not particularly academic or had never been very good at school. Another problem was that many participants who had received the user journal in advance had in most cases interpreted the wording “my vehicle” as referring to their own personal vehicle/private car, even though they were supposed to be talking about their work vehicle.

We did test the journal, but even more critical and systematic testing would have been preferable.

The visits were often under pressure of time, and there were big differences in the amounts of time the anthropologist actually spent with participants one to one. There was a lack of peace and quiet for the observations, especially for taking good shadowing clips. Questions of time frequently also become questions of breadth versus depth.

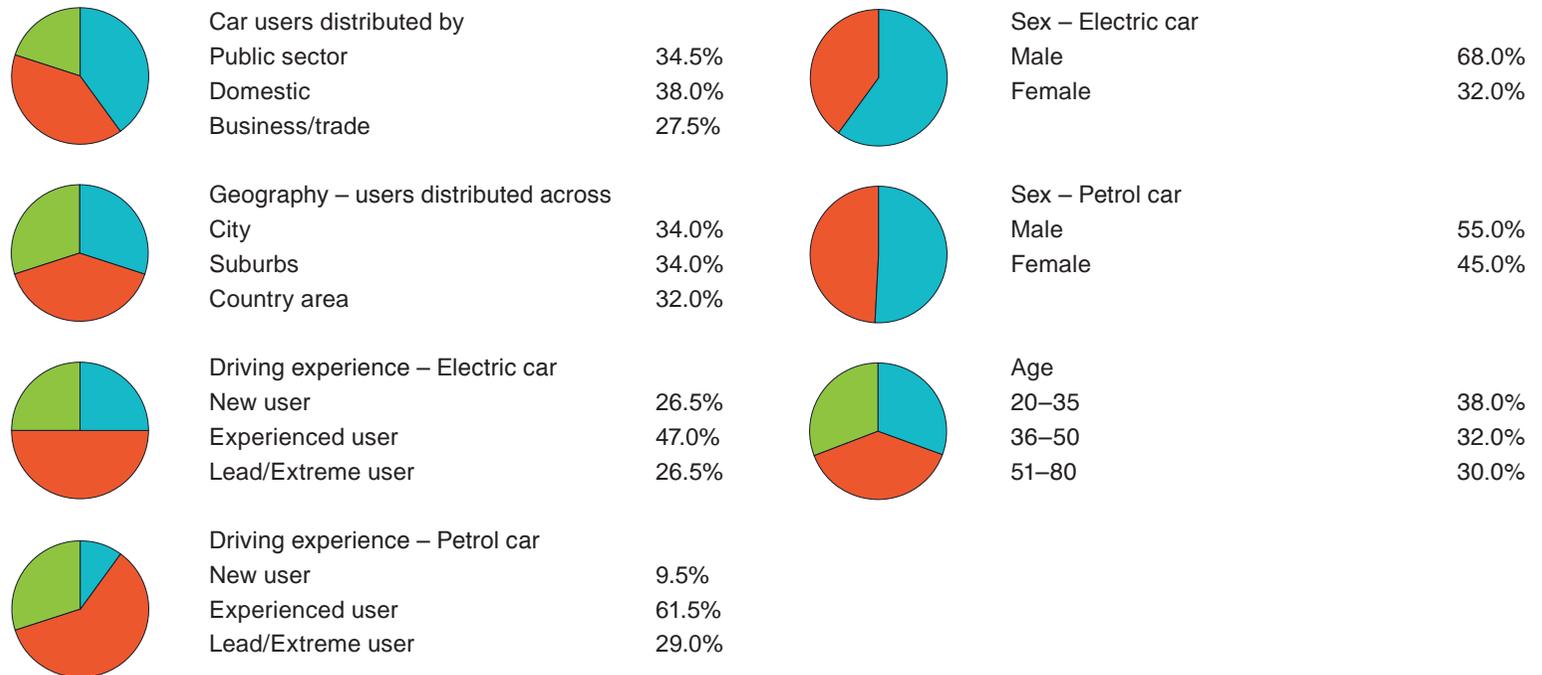
There were several instances when the anthropologist had to opt not to pursue statements or ask follow-up questions due to pressure of time. This is a pity, when the project is in fact interested in in-depth answers. If better explanations for statements and more background, etc., are desired, there should be fewer elements, or there should be greater freedom not to include all elements for all the respondents.

3

EMPIRICAL DATA

// 3.1 USERS – SEGMENTATION AND RECRUITMENT

DISTRIBUTION BY SEGMENTS IS AS FOLLOWS:



	Køn		Alder			Bopæl			Erfaring		Brugertype	
	Mand	Kvinde	20-29	30-39	40-49	Årby	Frihavn	Landsby	Bykøkken	Lilleby	Årby	Lilleby

BENZINBILISTER

INDVIRT BILISTER

R02 – Jonas, 43	X			X			X					X
R03 – Janus, 32	X		X				X					X
R14 – Katerina, 39		X		X		X				X		
R15 – John, 63	X				X			X		X		
R16 – Allan, 36	X			X		X				X		
R23 – Dikke, 32		X	X			X			X			
R36 – Joachim, 67	X				X		X			X		
R37 – Tine, 62		X			X			X		X		
R42 – Hanneh, 29		X	X			X				X		
R43 – Maren, 29			X					X		X		X
R47 – Aida, 25		X	X			X				X		

OFFENTLIGE BILISTER

R11 – Annika, 61		X			X	X				X		
R13 – Lone, 52		X			X	X				X		
R17 – Asger, 30	X		X					X		X		
R21 – Jesper, 35	X		X					X		X		
R25 – Pernille, 49		X		X				X		X		
R29 – Kristian, 46	X			X			X					X
R33 – Morten, 43	X			X				X		X		
R39 – Liibeth, 43		X		X			X			X		
R40 – Gustav, Asger og Jens	X				X	X				X		
R44 – Ursula, 46		X		X			X			X		

BRANDPISMEDLER

R06 – Riller, 32	X		X			X				X		
R18 – Mikkel, 48	X			X			X					X
R20 – Jan, 27	X		X			X						X
R31 – Keld, 52	X				X			X				X
R32 – Lise, 40		X		X				X		X		
R35 – Bettina, 26		X	X					X				X
R41 – Rashed, 36	X			X			X					X
R45 – Søren, 51	X				X		X					X

Køn		Alder			Bopæl			Erfaring		Brugertype	
Mand	Kvinde	20-35	36-50	51-80	Storby	Provins	Landskommune	Ny bruger	Erfaren	Lead user	Ekstrem

ELBILISTER

Person	Mand	Kvinde	20-35	36-50	51-80	Storby	Provins	Landskommune	Ny bruger	Erfaren	Lead user	Ekstrem
R01 – Carl, 32	X		X			X					X	
R04 – Eva, 53		X			X			X		X		
R07 – Mads, 25	X		X				X			X		
R08 – Peter, 63	X				X		X				X	
R09 – Poul, 52	X				X		X				X	
R10 – Annemarie, 49		X		X			X			X		
R12 – Palle, 53	X				X			X			X	
R24 – Karen, 47		X		X			X		X			
R30 – Ibent, 27		X	X				X			X		
R48 – Vibe, 74		X			X			X		X		
R50 – Lars, 32	X		X					X		X		

Person	Mand	Kvinde	20-35	36-50	51-80	Storby	Provins	Landskommune	Ny bruger	Erfaren	Lead user	Ekstrem
R19 – Rune, 31	X		X			X			X			
R22 – Mathias, 31	X		X				X		X			
R26 – Jørgen, 50	X			X		X				X		
R27 – Anders, 36	X			X		X			X			
R34 – Janni, 28		X	X			X			X			
R38 – Christoffer, 62	X				X		X			X		
R46 – Jens, 58	X				X			X			X	
R49 – Jeppe, 26	X		X					X		X		

NON USERS

Person	Mand	Kvinde	20-35	36-50	51-80	Storby	Provins	Landskommune	Ny bruger	Erfaren	Lead user	Ekstrem
R05 – Kasper, 29	X		X			X			X			
R28 – Julie, 27	X		X			X			X			



There were some deviations in the percentages of the proposed and final segments. These concerned:

Age of the electric car drivers

During our recruitment, it became clear that in relation to the electric car driver group, many potential candidates were in the 20–35 and 51–80 age brackets, while there were fewer in the intermediate age bracket. Our participant group reflects this trend.

Electric car drivers' experience

There are relatively many new users among electric car drivers. This deviation is due to the fact that there are many new electric car drivers

among business drivers. Within the past year, the electric car has become more popular, with the result that, in studying how the electric car is used in relation to business driving, there are many new users.

In addition, in consultation with the etrans project group, it was decided that it would be relevant to examine non-users – those who have opted not to have a car, typically people living in urban areas. Accordingly, there are two non-users among the 50 users. Thus, the distribution between electric car drivers and petrol car drivers was changed from 20/30 to 19/29.

RECRUITMENT – Concerning focus group involvement, the snowball method, network and recruitment company

The initial recruitment process began with recruitment of users R1 and R2, who each in their own way are conspicuous in the field of electric cars – in one case, by being an enterprise participating in etrans and in the other, by being project manager of the electric car art project CO2 E Race.

The snowball method (when “being in the field” leads to an additional recruitment) began at an electric car event in Køge on 14 April 2009, which took place on the initiative of Nordsjællands Miljø- og Energikontor (“the North Zealand Environment and Energy Office”) and Det Grønne Hus (“The Green House”) in Køge. A number of electric car drivers attended this event to make their electric cars available so that curious fellow citizens could have a test drive.



After each visit to an electric car driver, we asked if they knew any other electric car drivers, and if they would put us in touch

The chairman of the Danish electric car committee also spoke. Thus participants included electric car drivers and curious petrol car drivers.

At this event, antropologerne.com made contact with a number of potential participants and entered into agreements with seven people who are involved in the study. Here, we also made contact with a petrol car driver who wished to be involved in the project (R36). The subsequent recruitment process consisted of using the snowball method which, as the name suggests, is a matter of letting the field roll out and allowing the Lead Users and the networks already in existence in the electric cars field manage recruitment. Specifically, after each visit to an electric car driver, we asked if he or she knew any other electric car drivers and if they would put us in touch. This is how all the electric car drivers were recruited.

In general, etrans experienced such expressions of interest that the project team and hence also antropologerne.com had envisaged an uncomplicated recruitment process, but that turned out to be not entirely the case. Petrol motorists from the public sector were recruited primarily via Fredericia Municipality and the City of Copenhagen. Unfortunately, the internal recruitment process by the local authorities was leisurely at times, and since – due to the tight schedule of the project – they were given relatively short deadlines, this resulted in some ad-

ministrations being unable to contribute the relevant users by the deadline. There was plenty of interest in the project, but in practice it was often difficult to prioritise giving employees the necessary time to have a long visit from an anthropologist.

The proportion of public sector users was further reduced because, during the recruitment process, it became apparent that several public sector tasks had been outsourced to private companies. Accordingly, we made adjustments following discussions with Anne Flemmert Jensen, head of research at etrans. This resulted in a change in the ratio of public sector and trade/business motorists, with a larger percentage allocated to trade/business motorists. This was to ensure coverage of a variety of work tasks and motoring needs and problem areas.

The business motorists – overwhelmingly extreme users – were recruited by approaching private companies, although some were recruited via antropologerne.com's own network and by approaching companies that had received support from the Danish Energy Agency's pilot scheme for electric cars. Originally, we had envisaged that we would mainly use candidates from the project focus group, but recruiting from this group proved more difficult than anticipated. Domestic petrol motorists were recruited both via antropologerne.com's own network and through a recruitment firm.

// 3.2 SCOPE OF THE DATA MATERIAL



Photographs

5,443 photos from the field study user visits have been uploaded and coded in Atlas.ti

Video clips

907 video clips from the field study user visits have been uploaded and coded in Atlas.ti

User journals

There are 49 completed user journals. (R27 had misunderstood the scope of the interview and did not have time – even retrospectively – to complete the user journal). After the visits, we selected a portrait photo and a photo of the user with, in or near his or her means of transport and inserted them into the completed user journals. All user journals were scanned and are available in digital format.

Prioritisation game

Altogether, there are 173 documents (images and videos) from the prioritisation game.

Pictorial card game

Altogether, there are 152 documents (images and videos) from the pictorial card game.

Material from users

Material that the anthropologists have obtained from the participants during the field visits was brought to the workshop on 2 June and then handed over to etrans.

Material in the “project realm”

At www.etrans.ourhoist.com as of 31 May 2009 there were a total of 66 members, 33 blog posts, 11 comments and 73 Wiki pages.

// 3.3 ASSESSMENT OF THE DATA MATERIAL

There is a vast amount of data material which incorporates a balanced mix of images, video clips and text documents. Per user, on average, the material includes 118 images and video clips as well as approximately 10 pages of field notes and user journal text. As of 31 May 2009, a total of 16,510 Codes have been created in Atlas.ti and 7,789 Quotations Covering 6,445 Primary Documents.

Joint development and antropologerne.com's collection of Cultural Probe material (user journals and games) ensure direct access to the field and, in conjunction with the images and the points, practices, attitudes and actions of the many video clips can make the participants in the study relevant and real to curious onlookers and/or developers.

In our opinion, the data material will prove to be rich, multi-faceted and detailed for users – for rapid/superficial use as well as thorough, dedicated analysis. It is well suited to teaching and exercises and, because the many video clips have only been coded and commented on as a continuous whole and not as numerous small sound bites, it is suitable for further analysis and processing.

Comment on the video interview material

There is a high response percentage to the seven video questions (98% in the first six questions and 87% in the seventh question). Some video interview questions have been lost for technical reasons, or it may not have been possible to record in the field due to pressure of time, the work situation or external disturbances. In Atlas.ti, there are a total of 179 documents (both images and videos) in this “family”.

ATLAS.TI

Antropologerne.com tried to create Super Families, which are a combination of different Families, but the system was unable to cope with the large amount of data. The project's Atlas.ti consultant Susanne Friese has never known Atlas.ti to be used for such a large amount of data material as this, and in her opinion, the data material cannot cope with the use of Super Families. Susanne Friese recommends creating Super Families manually. A copy of the crashed HU file of Super Families has been sent to the data developers at Atlas.ti.

4#

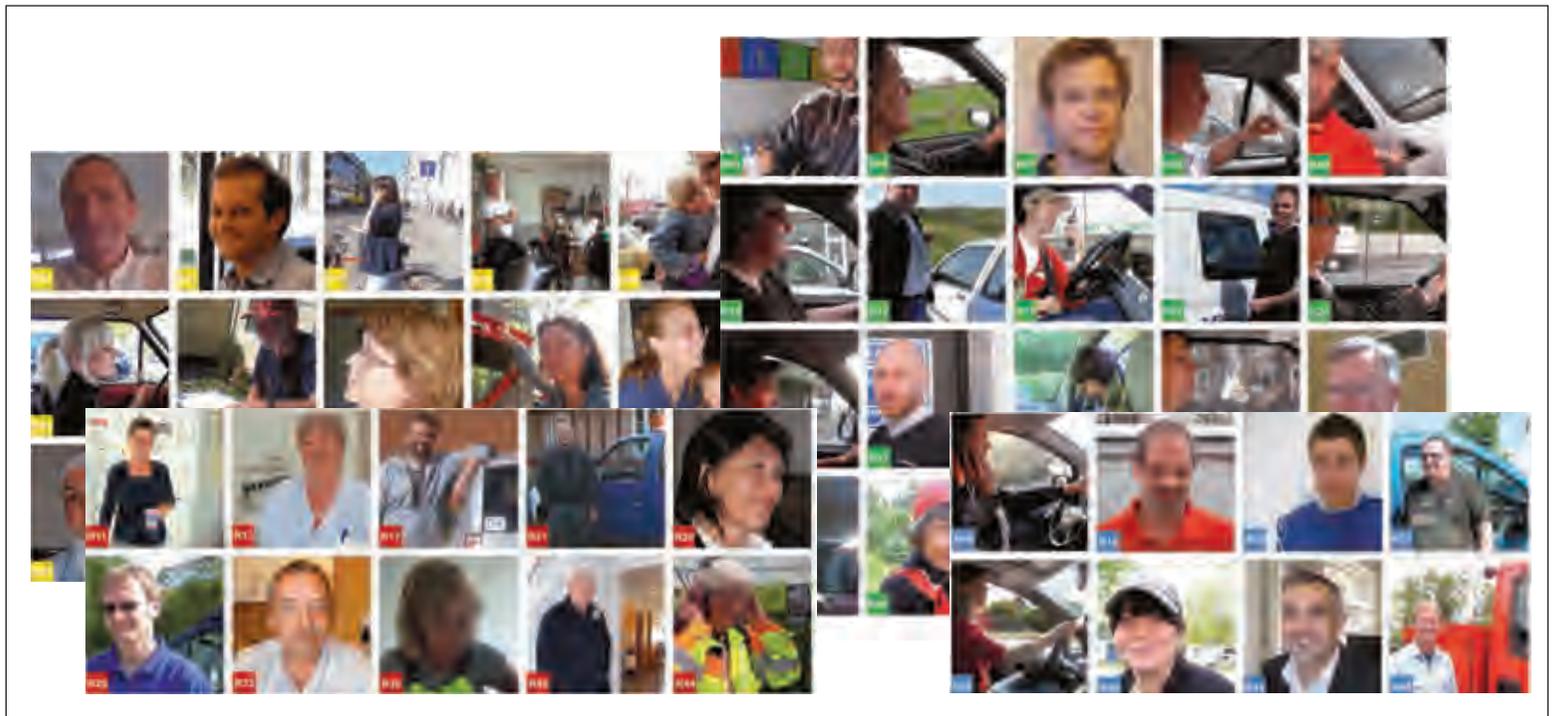
ANALYSIS

This chapter presents an analytical summary of what we have learnt about, and from, the users in the pre-defined main segments of the field study: domestic motorists, public sector motorists and business motorists, as well as drivers of electric cars.

In the field work, we took an interest in what users do, what they want, what they are able to do and what they say – we paid attention to eve-

ryday practice and what works, what motivates them and what makes sense to the individual. In the analysis, we present what generally characterises the segment across the many individuals.

At the end of the chapter is a summary of the many answers to the seven user questions of the study, recorded on video.



// 4.1 SUMMARY – PETROL MOTORISTS // DOMESTIC

THE CAR AS AN INTEGRAL TOOL IN A DYNAMIC LIFE

Representation

- **Hannah, aged 29** // classical musician // city (R42)
- **Joachim, aged 67** // pensioner // country area (R36)
- **Allan, aged 35** // project manager // city (R16)
- **Janus, aged 32** // building technician // provincial/suburbs (R03)
- **John, aged 63** // production assistant // country area (R15)
- **Jonas, aged 43** // entrepreneur/investor // provincial/suburbs (R02)
- **Dikte, aged 32** // design promoter // city (R23)
- **Katarina, aged 39** // architect // city (R14)
- **Tine, aged 62** // lab technician // country area (R37)
- **Maren, aged 29** // executive and part-time student // country area (R43)
- **Aidah, aged 25** // dentist // city (R47)

The vast majority of these users live on Zealand. The geographical distribution is balanced, but slightly short of users from provincial/suburban areas. Women and men of all ages are represented. Slightly fewer than half live in flats and the rest in houses. A broad spectrum of user occupations is covered. One-half work in creative fields, with the majority of these being self employed. One-half are wage earners. One is a pensioner. Work is a prime factor of identity within the group (architect, businessman, design promoter, etc.). The group are very active, dedicated and committed, but mainly with regard to their own

immediate lives (job, children and hobbies). That said, John and Tine stand out from this characterisation, being wage earners who live their lives through their leisure with a high degree of stability and fixed habits they have cultivated for many years (R15, R37).

BRAND AWARENESS

The overwhelming majority in the domestic car segment are very style conscious and know exactly what their preferences are. They pay close attention to what they bring into their homes. It has to be quality, with some heart to it; it must be beautifully designed, and both modern designed furniture and genuine second-hand discoveries fill their homes. Users with less brand awareness expend their energies on passions such as birds, riding and music.

ENVIRONMENTAL AWARENESS

The vast majority say they are environmentally aware, but also recognise that they do not always act accordingly. The majority buy selected eco-friendly items, and it is especially here – in their everyday consumption – that this awareness is translated into action. In most cases, it is apparent that environmental awareness extends to one's immediate surroundings and often only to personal health or the health of one's children. When it comes to day-to-day car use, only a few spare a thought for the environment. Here, practical needs take precedence over environmental concerns.



His hobby is keeping an eye on the budget, including the cost of motoring

FINANCE CONSCIOUSNESS

The majority are not particularly finance conscious and are more concerned about living life and finding satisfaction than spending time gaining an overview of their finances and behaving in a financially sound manner. John stands out by being extremely finance conscious – he has made a hobby out of keeping a close eye on his household budget, including motoring expenditure. His second car is a Fiat Panda for the same reason, and this aspect is also what concerns him most when electric cars come up in conversation: the low cost of power and maintenance (R15).

CAR USAGE

Most drive their cars every day, and the car is a constant companion in their routines and patterns of day-to-day living. They not only use the car to commute to work, for the school run and for shopping but also for transporting large items, either in connection with work or for leisure activities/hobbies. The car also plays an important role in family visits and as transportation to a weekend cottage.

A small group mainly cycle on a daily basis, but they use the family car to visit friends, go on trips, pursue leisure interests or visit their weekend cottage (R42, R23, R14, R36). Two young women (R43 and R47) use their cars as little as possible, but for different reasons: one for the sake of the environment (R47), and the other in the interest of getting exercise (R43).

For older people coming up to retirement or already retired, it is very important for the car to have room for the grandchildren (R15, R36).

PARKING

Town dwellers face challenges with parking, but these are not insurmountable, and they seem to have accepted this or found various different solutions. The challenges of city parking are often linked with another challenge: Dense traffic and thus lots of time spent, which means there is no point taking the car. This is why they choose to travel at other times or go by bicycle instead.

TRANSPORT COMBINATIONS

Several town dwellers have transport habits that combine car use with cycling, or they choose to take the car when they could equally have cycled. Several consider what is actually justifiable in terms of the environment, but most choose to cycle for convenience rather than environmental awareness. Only a few make extensive use of the public transport system: the vast majority consider it is too expensive, too much hassle and takes too long. An exception is a pensioner who prefers to take the Metro instead of going by car because this allows him to read a book as he travels, whereas he considers time spent behind the wheel as time wasted (R36). Few go by train – and none go by bus. In cases where cycling is the primary mode of transport, there are no children in the household. In many ways, the car is a necessary tool for families with children.



To some, the car seems almost to be an extension of their own body

GENDER AND RELATIONSHIPS WITH CARS

All the *men* deliberate their choice of car makes and models and have their own clear preferences concerning the car they wish to drive.

Several of the men are deeply passionate about this and work on converting the types of cars they love on a daily basis.

For the men, the car is very much an indicator of identity. Several make a strong distinction between the practical family car that serves functional needs, which they do not seem to care too much about, and their own car (or the car they used to own), as being something very special, strongly linked to their identity and the way they perceive themselves. In general, they have life-long relationships with car makes which are not easily changed.

The women are predominantly highly style conscious with regard to consumption and their homes, but when it comes to cars and car makes, the brand/style is less important. As Katarina says, she would have liked to have a Citroën instead of the old banger she drives around in, but to her, there were more important priorities than “the perfect car”. In other words, a car does not seem to play as important a role as an identity indicator as it does with men.

Above all, it must work, and it must be a utility vehicle. That said, the other woman and her husband had jointly purchased a veteran car and retained the original seat belts, mirrors, etc., even though these were impractical (R23). Finally, it should be added that the fact that women do not use their cars as an identity indicator can in itself be

interpreted as an identity indicator. Not taking too much of an interest in the car and its appearance can be a signal that cars do not matter very much.

There are indications that men, far more than women, feel at home in their cars and relax in them. To some, the car seems almost to be an extension of their own body.

RELATIONSHIP WITH THE ELECTRIC CAR

Here, the group is divided into two: petrol motorists who have a very good knowledge of electric cars – some whose jobs even involve converting petrol cars to run on electricity (R2, R16) – and those who have only a passing knowledge of electric cars and whose assumptions about electric cars are based to some extent on their limited knowledge of the single-seater Ellert.



Those with a knowledge of electric cars:

They are very much aware of the potential, but they also know what it would take to make the electric car a success. They are aware of the marketing challenges and of how the public feels about the electric car, which in the Danish mind conjures up an image of the Ellert and its rather poor design look, which most are unable to identify with. They try to reconcile emotions, luxury and irresistible design with the fact that it makes sense to drive an electric car. Another group with a knowledge of electric cars opt out of an electric car based on an assessment of what best fits their motoring requirements. The electric car is not regarded as a relevant alternative due to concerns about range, economy, spaciousness, parking/charging and infrastructure. Several in this category associate electric cars with small cars/smart cars.

Those ignorant of electric cars:

They perceive electric cars as expensive, with large batteries and taking a long time to charge. Concerns relate mainly to where you could possibly charge the car – especially for those who live in flats. There is also a concern regarding whether mechanics know about electric cars and would be able to repair them. Generally, they think the electric cars they have come across are ugly and nowhere near spacious enough for their requirements, etc.

With regard to advantages, they mention the environmental benefits of not running a car on petrol, and that they are inexpensive to maintain and run. However, the challenges outweigh their goodwill. The majority

acknowledge that the electric car is making a comeback, and that there is goodwill towards electric cars in the public debate. They seem open to what may come of this. The vast majority in this category seem to conjure up an image of an Ellert whenever an electric car is mentioned.

SUMMARY

A car equates to opportunities; the freedom to do exactly what you want, when you want. It is the tool for leading a modern, dynamic life with many different agendas and pursuing day-to-day living that includes other opportunities for exploration besides everyday routines. Especially for self-employed people, where the work–leisure boundary is less defined and the demands placed on a car vary depending on the type of work tasks the person is currently involved in, the car is an important tool. Similarly, families with children feel very dependent on their cars. The domestic car segment is not particularly finance conscious. Finances have to be adjusted to accommodate everyday needs. They identify very much with the current focus on the environment, although ease and day-to-day living get the better of some of the environmentally responsible actions. Brand awareness is high, and they are aware of the signal value conveyed by the things they surround themselves with and consume. They are generally positive about electric cars, but they cannot quite grasp what an electric car would mean in terms of their everyday life and the immediate life they prioritise. With four exceptions (R2, R16, R15, R36), their lack of knowledge of electric cars is remarkable.

// 4.2 SUMMARY – PETROL MOTORISTS // BUSINESS

A PRACTICAL MEASURE THAT MUST WORK

Representation

- **Mikkel, aged 48** // business driver // provincial (R18)
- **Keld, aged 52** // haulier // country area (R31)
- **Lise, aged 40** // actress // country area (R32)
- **Niller, aged 33** // master bricklayer // city (R06)
- **Morten, aged 43** // works operative // country area (R33)
- **Betinna, aged 26** // trainee farmer // country area (R35)
- **Simon, aged 58** // truck-mounted crane driver // suburbs (R45)
- **Jan, aged 27** // racing driver // city (R20)
- **Rasheed, aged 36** // estate agent // suburbs (R41)

This group mainly covers owners of independent small businesses. There is a slight preponderance of country users, but otherwise the group covers the three geographical levels.

They comprise a haulier, a business driver, an actress, a master bricklayer, a works operative at a water purification plant, a farmer, an estate agent, a racing driver and a truck-mounted crane driver. There are fewer women and young people. Owners and employees alike have their own cars (not shared with others).

ENVIRONMENTAL AWARENESS

Environmental awareness in relation to driving petrol cars is largely absent, except in the case of a young man with children and an urban lifestyle. He thinks every day about how much he is consuming in the course of a working day, and he is considering buying an electric car for domestic use next time he changes his car (R6). The young female farmer (R35) is environmentally aware because she lives and works in a place where environmental awareness permeates everything, both business and domestic.

Someone who is self employed in the country was offered the opportunity by his employer to switch to bio fuel, but he declined, because it meant he would have to fill up a long way away and this would lengthen his working day (R31). Thus, including our young man who is aware but does not act accordingly when it comes to his car, the choice and use of a car is not linked to environmentally aware behaviour. However, the environment, in the sense of the working environment, is very decisive. Here, they are all very much aware that the practicality of the car is the top priority for aspects such as lifting, packing, loading, space, getting in and out, etc.

BRAND AWARENESS

Brand awareness when it comes to choosing a car is also absent in the way business motorists relate to their cars. There are a few exceptions, however: Keld, aged 52, has always driven an Opel, but this is brand awareness expressed as a habit, conservatism and security, not as signal value (R31).

Young urban-dwelling bricklayer Niller, on the other hand, is very much aware that he drives a black Mercedes, which clearly fits in with the creative musical environment he lives in and where he does business (R6). He also surrounds himself with other brands of great signal value in categories such as furniture and technology. Rasheed (R41), too, is very into brands when it comes to his car, which he changes regularly. Unlike Niller, however, he is not too bothered about the look of his home. His aesthetic preferences and quality-consciousness apply only to his car.

FINANCE CONSCIOUSNESS

Unlike civil servants, self-employed business motorists are very finance conscious, and finance is the most important factor in the purchase/



lease and use of a car. All drive bought, often used cars, with the exception of Niller and Keld, who lease their business cars (R6 and R31). Here, a distinct difference emerges between the self-employed, middle-aged country-dweller, who has had the same occupation and everyday routine for many years and who buys his own car – and the young man from the city who perceives life as changeable and has therefore decided to lease his business cars “so that you can get rid of them again quickly if your needs change” – Niller (R6). Keld, too, leases his cars because this gives him a degree of security in an uncertain world.

ACQUIRING A BUSINESS CAR

As already alluded to, “usual” is a factor here, as regards what car make a person decides to drive and rely on. In addition, several mention that they are interested in new technology, and that this could influence their choice of car.

The gender aspect is an important factor in the purchase stories, and a picture emerges whereby men are responsible for the acquisition in

the majority of cases. For women, buying a car is often an unfamiliar path to tread. Lise, aged 40, mentions that she was on her own following a divorce and was faced with buying a new car. It took a lot of work and mental effort to seek out the information and choose the right car, because this was an unfamiliar situation for her (R32).

REQUIREMENTS FOR BUSINESS CARS

The same parameters apply to business cars as to public sector service cars: practicality, comfort, power, spaciousness – depending on the motorist's occupation.

PARKING

Parking is no problem for self-employed people operating in the country. Parking the car is easy, so they are not under any time-constraint challenges as far as parking is concerned. Self-employed people in the city do face this challenge, however. For example, Niller has serious problems finding a parking space and spends a lot of time doing so, but he has covered this by charging customers DKK 1,000 an hour for the time he spends finding a parking space, in addition to DKK 100 per day for his actual parking expenses.

Mikkel, who also drives in the city, reports that he frequently incurs parking fines and that his boss pays, because otherwise he and his colleagues would take “two hours more to do the work” (R18). Thus, the boss must consider it to be financially worthwhile to pay the parking fines to enable his employees to be efficient in their use of work time and to reduce fuel costs.

THE TIME FACTOR

As previously mentioned, the challenge of parking equates to spending time – and hence money. For self-employed people in country districts,



The boss pays the parking fines so his employees can be efficient in their use of work time and minimise fuel costs

however, being able to drive right up to the speed limit, or perhaps a little faster, means everything in terms of getting through the working day without wasting time. For self-employed hauliers, who have lots of stops during a day (R18 and R31), safety is compromised by not always wearing a seat belt in the interests of comfort and more rapid deliveries.

GENDER

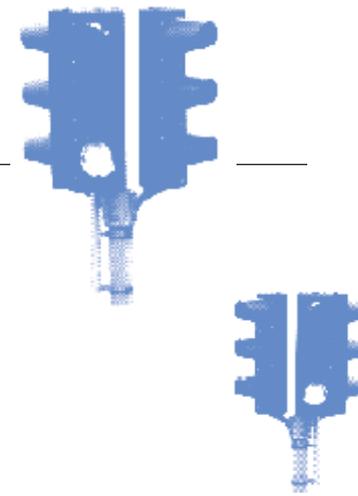
Lise mentions how demanding driving is and the importance of comfort (R32). That is not the first thing the men mention. They mention the power, capacity and stability of the car first.

In addition, the men seem to be accustomed – and hence prepared – to make the decision about buying a car, whereas the women are in new territory which they feel uncertain about navigating (R32).

RELATIONSHIP WITH ELECTRIC CARS

In general, business drivers have no knowledge of electric cars and what they have to offer, but they are generally positive because of the environmental benefits and the exciting new technology.

The only person who is quite dismissive is Mikkel, who thinks electric cars are “hideous – I wouldn't dream of driving around in a post-box”.



In the same vein, he mentions that electricity is all very well, but it (the car) would benefit from a decent shape (R18). In this context, he is thinking mainly of the electric car as a domestic vehicle, but he is more positive about electric or hybrid cars as business vehicles, provided they are as good as or better than the petrol cars. Simon is also very sceptical with regard to electric cars, mainly because he doubts whether an electric car will have the acceleration or power of his current work tool, the truck-mounted crane.

In general, they are not very well informed about the potential benefits of an electric car in terms of their own specific situation.

SUMMARY

It is extremely important to business drivers for the car to be designed to accommodate specific needs. Even more important, however, is economy, including time spent. Here, the difference between business people in the city and in the countryside is very marked. Their needs and challenges are different (e.g. parking and speed). In addition, their mentality appears to be different with regard to brand awareness and environmental awareness. However, age could equally well account for these factors.

// 4.3 SUMMARY – PETROL MOTORISTS // PUBLIC SECTOR

PROVIDING THE WORKPLACE ON WHEELS

Representation

- Ursula, aged 46 // gardener (R44)
- Gustav, Jens and Asger // middle aged/older, municipal admin practical work (R40)
- Lisbeth, aged 43 // landscape gardener (R39)
- Annika, aged 61 // home carer (R11)
- Lone, aged 52 // social work and health assistant (R13)
- Morten, aged 43 // works operative (R33)
- Kristian, aged 46 // landscape gardener (R29)
- Jesper, aged 35 // forester (R21)
- Asger, aged 30 // social educator (R17)
- Pernille, aged 49 // nurse with training responsibilities (R25)

This group covers public sector employees including gardeners/foresters, supervisor, home carers and works operatives. Most are men – young, middle aged and older. The women are middle aged and older and work in gardening and home caring. Wide span of city and provincial. More than half are from Zealand.

Overall, the participants are in two groups:

- those who work in teams and share the car with others
- those who have their own car.

The former want the car to be as anonymous as possible and always to be clean and tidy. The latter want to be able to personalise the car and for it to serve as a home from home.

ENVIRONMENTAL AWARENESS

Environmental awareness is not particularly widespread and is not

something that affects the way they do their jobs. However, there is one exception among a group of older men who report that they tease their close colleague about his environmental awareness (R40).

One of the workplaces provides a lot of information about reducing carbon emissions in employee areas, but this does not appear to affect the day-to-day routines of the person we spoke to. However, she believes communicating environmental messages is absolutely fine (R13).

Several mention that consuming less – or avoiding buying – is also to do with environmental awareness, but it is clear that, above all, the financial incentive of saving money is their primary motivation when it comes to not consuming.

BRAND AWARENESS

All replied that the make and design do not matter, but that features, practicality and stability are absolutely crucial. However, reading between the lines, it does appear that the two men with their “own office on wheels” are somewhat interested in the van matching what they stand for. They tend to put more emphasis on the car as an identity builder; however, this is not associated with particular makes of car, but with types of car in relation to the work (R21).

FINANCE CONSCIOUSNESS

Because these civil servants cannot influence the budget for buying the car, the price of the car is not something they have explored or know anything about. No great significance is attached to this matter. However, several say the work car should not look too expensive or flashy, because that would send out the wrong signals (i.e. there are more important things for the local authority or the institution to spend money on). It should suit its intended purpose and not be “excessive” with regard to horsepower or design.

ACQUIRING WORK CARS

Based on the respondents' answers, there do not appear to be any rules regarding how local authorities acquire cars: there are instances of leasing, hiring and purchasing. The extent of employee involvement in the purchase varies greatly: Those who will be using the car exclusively and

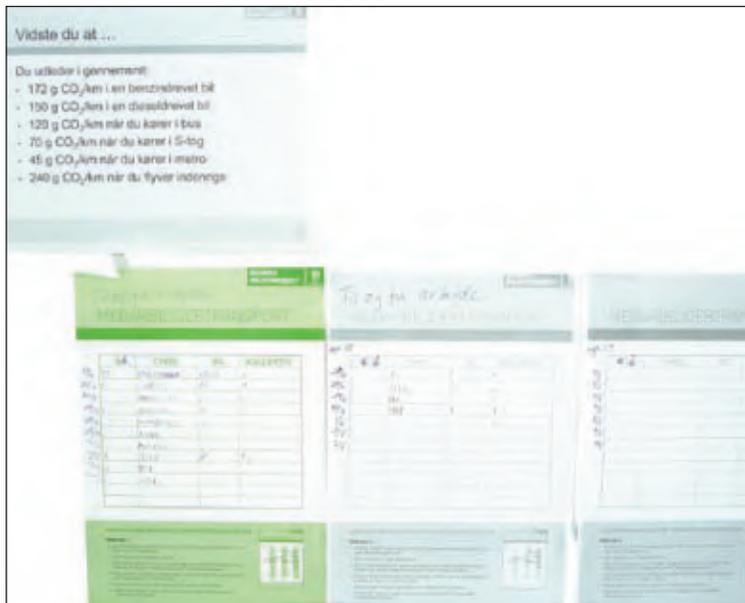
use it for specific work tasks buy it themselves based on an approved budget. Some tell their boss what their needs are and he makes the final decision. Several had no influence on the purchase whatsoever, and one had been asked for advice (although that advice was not followed). With hired cars, there were problems with employees not being able to permanently attach various devices to facilitate transportation of their tools.

DEMANDS ON WORK CARS

There are special requirements for cars depending on the job function. Several older people cite unobstructed views as a crucial factor, however. Overall, the car is an extension of the workplace or perhaps even the primary workplace. In none of these cases was the car just a means of transport between tasks. These people work while driving: they exchange information, co-ordinate with a colleague, do admin and undertake training assignments.

PARKING

Those who work in the city mention the challenges of parking, and several cite this as a stressful factor. However, they also report that they make use of various "emergency signs" and blue flashing lights if they are on the verge of parking illegally or if they are parked illegally. This limits the inconvenience.





Several had no influence on the purchase whatsoever, and one had been asked for advice (although that advice was not followed)

RELATIONSHIP WITH ELECTRIC CARS

The men doubt whether electric cars could cope with their specific and extreme needs in a car. Asger, a social educator, mentions that it is vital for the work car to be available 24 hours a day and to be ready to drive at all times (R17). In home caring, there are differences of opinion about changes that would not involve personal benefit. Annika mentions that she would not want such a small car. They are not safe enough. At the same time, she recognises that she does not know very much about electric cars (R11).

Lone, on the other hand, does not have a problem with change. She has previously been involved in a pilot project for PDAs and thinks electric cars would be a good thing for home care work, although she does not know very much about them.

This is a factor to bear in mind, for example, if electric cars are to be introduced to home care work. Knowledge is scant, and there is resistance to innovation; in particular, resistance could be anticipated if it were introduced as a time-saving measure (= more community visits). One workplace on Funen, Denmark, will soon be getting an extra car, powered by electricity. The employees are of the opinion that the boss will mainly be using it because the car will only be capable of meeting his needs (personal transportation) (R33).

Gustav, Jens and Asger mention that electric cars could be charged

overnight when they are parked anyway. If charging (or regulations concerning charging) got in the way of their access to the car during the day, there would be a rebellion! The introduction of electric cars must not change their work routines (R40).

GENDER

Several women mention they would be afraid an electric car would be too light and weak a road user among heavier cars.

SUMMARY

The work car is an office on wheels, and the prime needs and requirements are for the car to suit its intended purpose. It is a work tool and must not get in the way of doing the job. It must be reliable and offer comfort, and in addition there are a great many special considerations depending on the job function in question. Here, you would have to dig deeper to identify the specific needs and wants, if electric cars are to be introduced into a particular aspect of the public sector.

When it comes to the acquisition of work cars, there do not seem to be any clear guidelines. One recommendation, therefore, would be to speak to the decision-makers who determine what cars their employees drive. They are crucial if electric cars are to be implemented in the public sector.

// 4.4 SUMMARY – DRIVERS OF ELECTRIC CARS

PROUD DRIVERS OF ELECTRIC CARS – pro-electric car enthusiasm, smartness and financial common sense

Representation

- **Mads, aged 25** // certified electrical contractor // domestic (R7)
- **Rune, aged 31** // student // business (R19)
- **Mathias, aged 31** // chef // business (R22)
- **Annemarie, aged 49** // social work and health assistant // domestic (R10)
- **Eva, aged 53** // school teacher // domestic (R4)
- **Karen, aged 47** // CEO // domestic (R24)
- **Carl, aged 32** // project manager // domestic (R1)
- **Iben, aged 27** // modelling seamstress // domestic (R30)
- **Janni, aged 28** // key account manager // business (R34)
- **Peter, aged 63** // product developer // domestic (R8)
- **Poul, aged 52** // software developer // domestic (R9)
- **Palle, aged 53** // school teacher // domestic (R12)
- **Jørgen, aged 50** // butcher // business (R26)
- **Anders, aged 36** // leases electric cars // business (R27)
- **Christoffer, aged 62** // business (R38)
- **John, aged 58** // electric car mechanic // business (R46)
- **Vera, aged 74** // pensioner // domestic (R48)
- **Jeppe, aged 27** // conservatory student and entrepreneur // domestic (R49)
- **Lars, aged 32** // warehouse operative // business (R50)

Drivers of electric cars are a good mix of domestic and business motorists and, looking at how they use the car, it is often also used for a combination of work and domestic driving. A possible explanation for this is that the day-to-day running costs are so low that there is no need to make a sharp distinction here. For example, one employee who drives an electric car at work has got his boss' permission to use it for daily commuting (R22). And people who have bought their own electric cars also use them at work. One exception is an employee who only drives an electric car at work (R38).

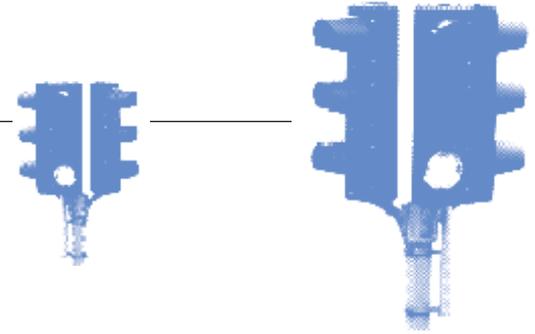
Apart from those who have been “given” an electric car, all drivers of electric cars have strong opinions about why they drive an electric car, and their decision was quite deliberate.

Several motivations come into play and are combined in different ways: (not in order of priority)

- finance
- signal value
- pro-electric car enthusiasm
- practicality/time saving (city)
- environmental awareness.

Signal value

People who are motivated by the signal value did not always have an opinion on the environment, but “took on board” environmental aware-



ness in order to signal the modern values inherent in it: community, responsibility, less consumption for consumption's sake, etc. This signal value on a personal level is very closely associated with a signal value linked to their work and/or company and what they “sell” here: environmentally focused services closely associated with luxury. For example: foods, hotel breaks, etc. This group is not necessarily young, but they are very much urban in their lifestyles, with a lot of cultural investment, which is why they are also people of influence and very much aware of this. They are not handymen and they could not care less about technology.

They pay to have repairs done, etc. The other main motivation for this group is the practicality of driving an electric car. They have a dynamic working life in the town, where they run errands and drive to meetings, and here they find it liberating to be able to park wherever they wish, without even having to pay, and to be able to manoeuvre the car easily. Driving an electric car makes them feel more worthy, and it seems to boost their self esteem quite a lot. When women and children also wave and smile, and men – slightly sceptically – just have to come over and have a look at the car, it could hardly get any better!

Carl, a young, trendy, single guy, even mentions that he used to tremble as he drove up in his Ellert to varnishing days/events (R1). He was very much aware that he stood out, and of the strong signals he conveyed, and – in our opinion – he was also nervous about whether the signal would now hit home. But it did: his friends think it is “ultra cool”,

and today he is extremely happy. For these people, being in tune with the times, combined with the practical aspects (being out in front with the smart city driving solution) is exactly what they want to exude to the world around them.

With regard to the signal value segment, no one from this group is a member of an organised electric car forum. To them, it seems to be very much an individual affair. However, they do sing the praises of electric cars: For example, one woman always puts a flyer on the car when she parks in the inner city, explaining about the benefits of driving an electric car. This also gives her a platform for advertising her hotel chain (R24).

Pro-electric car enthusiasm

Those whose primary motivation is pro-electric car enthusiasm are overwhelmingly the middle aged/older generation who have been driving electric cars for many years, and they typically first got interested with the Ellert. In general, their work involves science/technology. They are not environmentally aware in the modern sense (consumption-aware), but in the sense that they do their own repairs, and are thrifty and careful in their consumption. Thus, their environmental awareness is closely linked to their financial awareness, which makes the two motivations more difficult to distinguish in the case of these people. This also applies to the handful of young electric car enthusiasts who share the older generation's love of all things mechanical and technical.

There are also some flower children (not technically savvy) to be found in the older generation and in some cases, the children of flower children, who have a different sort of environmental awareness. This group comprises mostly women. They worry about and take responsibility for the state of the planet, and act accordingly on an individual basis. Their interest in electricity seems to arise from their interest in the environment.

These middle-aged/older electric car enthusiasts are the ones who were politically active in promoting electric cars and they are still active in various associations, where they continue to fight for better conditions. However, this also goes for younger people, who have been brought up in an environmentally aware spirit and choose to continue the fight (R49). This group do not live within city limits or the suburbs. They mainly live in the provinces or in the country.

Finance

In addition, there are drivers of electric cars who have chosen electric cars mainly for financial reasons: Represented here are young and middle-aged motorists, both domestic and business motorists. Domestic motorists are not particularly well-heeled and typically compare the benefits and properties of an electric car to cycling or using public transport. Accordingly, they regard the electric car as something that saves them money and is comfortable. For instance, one student mentions that the electric car is brilliant because it is not very expensive to maintain, the parking is free, and charging it is also free because he charges it where he is studying (R7). He would never be able to afford

an ordinary car. Another person points out that she saves money compared to getting the bus, which she did previously (R10).

Business motorists mention that the boss got electric cars for financial reasons (R34).

Above all, therefore, it is safe to say that this is a group of old, dedicated electric car enthusiasts for whom electro-mechanics is a guiding factor in combination with environmental awareness, a new group of highly style-conscious, urban people who use the signal value of electric cars being different and signifying environmental awareness, and then a rather motley crew who – because of the way the infrastructure for electric cars is currently set up – see a definite financial benefit in electric motoring.

The interesting aspect here is that the signal value and finances, from an overall perspective, exceed the environmental awareness factor.

DRIVING AN ELECTRIC CAR

Acquisition

The vast majority have bought their own electric cars. Many buy them second hand or as ex-demonstrators or ex-display models. This means the majority have paid something in the region of DKK 50,000 – DKK 80,000 for it. Several mention that they do not want to spend more than DKK 100,000 for an electric car as we know them today, but that in the future they may well pay the same as they would for a petrol car if it offers the same range and comfort.

A small group are leasing and expect to lease new, more spacious types of electric cars when these come on the market. Many drive a



I charge my electric car the same way as I charge my mobile

Citroën Berlingo or Saxo; the leased cars are Buddy; some drive an Ellert.

Use

Wage earners: Use the electric car for commuting and other activities within a maximum radius of 50 km.

Self employed: Use the electric car as a work tool, for everyday errands/meetings and commuting

Employees: Delivering food and goods; meetings and customer visits.

Combination with another car

The business people typically have one or more diesel vans which they combine with the electric car. Domestic users typically have a more spacious petrol car for driving to their weekend cottage, going abroad and ferrying the grandchildren around.

Several explain that they had bought the electric car as the second car, but that it now serves the purpose of the primary car. In other words, they have organised their lives to fit around what the electric car is capable of, without feeling they have had to compromise too much.

Some have two or more electric cars and co-ordinate driving them depending on what they are going to do and how much of a charge the individual electric car currently has. Some electric car owners are interested in motor vehicles as a hobby, including vehicles that run on electricity and those that run on fossil fuels. They take a particular interest in what is unique about these vehicles, and their fuel car(s) is/are a veteran car, which they mainly drive on special occasions, such as a veteran car rally.

Parking

A huge benefit for drivers of electric cars is that they can park wherever they want to, free of charge. For some, this is a key reason for having an electric car. Most also enjoy being a bit cheeky and leaving them wherever they like, taking advantage of the fact that the rules are not yet fully established, and neither is knowledge about electric cars. For Ellert owners, it is actually very important that they do not need room to open the side doors, because they raise the cab in order to climb in and out of the vehicle.

Charging

With regard to charging, electric car drivers show a good spread of charging at home and at work, in public areas and at their place of study. Some self-employed people have even had charging stands installed by their business, and that appears to be a good solution. When the car is not in use, they just park it by the charging stand and leave it to charge so it will be ready the next time they want to use it. This solution is only viable, however, if you have your own reserved parking area. Charging options and battery capacity – or the lack thereof – are very significant in terms of how people end up using the car. Several mention that they have modified the way they use their electric car so that its capacity suits particular tasks in their everyday routine.

Many mention that more planning is required to be a driver of an electric car due to the need for charging. The young trend-setter who grew up with the mobile phone and its demands for regular charging responds dismissively to this, however: “I charge my electric car the same way as I charge my mobile” (R1).



Drivers of electric cars experience a great deal of positive feedback from those around them when driving about

Repairs

Older drivers of electric cars, in particular, take care of their own repairs or get help from other drivers of electric cars. The urban newly adopted electric car drivers have a nominated repair shop which takes care of this. They have absolutely no inclination or ability to be handymen.

Women whose husbands are interested in the technology of their electric cars do not themselves show any interest in this. If their husbands did not take care of the repairs, they would not know what to do. Because there is not much networking concerning repair shops for electric cars, it is vital for those who cannot repair their own electric cars to know someone who can – often an acquaintance rather than a mechanic/electrician. When it comes to repairs, there are definite problems associated with being a first mover.

Spaciousness

Many people want more space and have plenty of suggestions as to how matters could be improved here. Partly because modern life is associated with a lot of moving to and fro, but also because they would like to be able to carry a third passenger when there is a social need to do so. To some, the limited space seems “selfish”.

Appearance

There is a spread of attitudes regarding whether an electric car should look like other cars, or whether it should be obvious that it is an elec-

tric car. This spread covers the question of whether electric cars should signify luxury, or whether they should signify environmental awareness – and hence, in this case, moderation and perhaps even recycled materials. One person thinks things are changing with regard to what electric cars should signify – that they are no longer strongly associated with their traditional status. As one older electric car driver comments: “Electric cars are utility cars”.

Gender and electric car driving

City drivers of electric cars report: When a man drives up in an electric car, women and children wave. When a woman parks her electric car, men come up and examine it rather sceptically, while women remain in the background. Thus, city drivers of electric cars experience a great deal of attention from the opposite sex when driving an electric car. And that's not bad! A male colleague explains: “Driving it [a Buddy] for the first time was like breaking through a barrier. I didn't like it. Driving an electric car signifies environment, not status – and there's just this clash between men and soft values.” (R34's male colleague). I would categorise this man as urban, but not of the trend-setting type. On the other hand, our male trend-setter explains that the Ellert suits him perfectly: “Disarming and charming” (R1).

Thus, the way a man relates to his masculinity and his attitude to what it means to be a man today determine whether driving an electric car alienates him from his identity.



Just as is the case with the domestic petrol motorist segment, the women are much less focused on the signal value of their electric cars – apart from those who use it directly as part of their business strategy. Hence, a different motivation is also more prominent: finances. No one had acquired an electric car exclusively for these reasons, but having acquired one, they cite this as a positive factor.

A completely different but significant difference between the sexes is that women do not want to get dirty when handling their electric cars. At the same time, the women appear to be more concerned about safety when driving an electric car. More of the women also mention that they do not like being a nuisance on the roads (the low speed of an electric car).

Surroundings and reputation

Drivers of electric cars experience a great deal of positive feedback from those around them when driving about in their electric cars. Some feel it's a bit much (especially the women), but most enjoy it. Women and children wave, whereas men seem more sceptical about what electric cars have to offer (see Gender). Drivers of Citroën Berlingo and Saxo electric cars experience less of a reaction in traffic because these cars look like ordinary petrol cars. Although drivers of electric cars experience positive attention on a daily basis, they also feel there is a great deal of prejudice surrounding electric cars, and that the Ellert, its style and its early introduction on the Danish mar-

ket is to blame for this. A great deal has happened in the meantime concerning electric cars, but this has not got through to the public at large. Many drivers of electric cars talk about how they now look down on petrol motorists, and that they try to limit their use of their petrol car (if they have one).

SUMMARY

Overall, an older generation and a new generation of electric car drivers emerge:

The old, scientifically trained electric car enthusiasts who buy and repair their own cars, with a community built up around their “old” cars. This group includes a few new users from the younger generations.

The younger (or the young at heart) urban, creative trend-setters who lease/drive electric cars for their signal value (environmental awareness) and effectiveness (town driving), and as something to make them stand out from the crowd.

A more disparate group of finance-conscious self-employed people, students, wage earners, who “stumbled” across electric cars in various ways and found they were easy on the conscience and made financial sense for their transport needs and, at times, the size of their wallet.

// 4.5 SUMMARY OF VIDEO INTERVIEWS

Q1

Me and my car – a presentation

Because the users have only presented facts about themselves and their cars here, no summary has been compiled of the answers to this question.

Q2

What do you choice of car and your use of your car say about you as a type/profession?

INSIGHT

Driving an electric car signifies first and foremost environmental awareness, responsibility for our surroundings, an interest in technology and daring to be different. It also signifies that a person has limited motor-ing needs. To many, it also indicates that the driver does not have much money, because the car is generally perceived as being less expensive to run than a petrol car.

Domestic drivers of electric cars emphasise that driving an electric car is a sort of modern hippie identity, as well as being on the cutting edge, reliable and sensible. Driving an electric car signifies that you want to stand out from the crowd, that you are modern and with-it by acting in an environmentally aware manner. It shows that quality is also about doing things the right way. By their choice of car, petrol motorists primarily signify quality consciousness, stability, practicality, comfort, that they are doing well, and that they care about the car looking good.

Many domestic motorists feel it is more important for the car to be cool or beautiful than for it to be eco-friendly or inexpensive. The car exudes being something out of the ordinary, having a good history, and offering a positive driving experience.

To many people, the car says something about their practical needs – primarily, that they need plenty of space, that they have a family life,

and that they use it a lot. If the car is also eco-friendly, that is just an added bonus.

Among motorists who use their cars in their everyday business, the car reflects their ability to do their job well, so practicality is extremely important to them.

EXAMPLES



Iben, 27 // domestic driver of an electric car (R30)
“We are hippies with no money.”

Iben explains about being hippy-like with an electric car and running a car without having much money. The electric car makes a statement about family life, and it is also a toy.



Dikte, 32 // domestic driver of a petrol car (R23)
“It says I'm really stupid when it comes to thinking about the environment, petrol consumption and finances.”

Dikte says she is more interested in driving a gorgeous, luxury car than being eco-friendly. “We've taken it everywhere, and it's been with us through thick and thin.” She talks about the designer car and the story behind it. It is a wedding present.



Mikkel, 48 // petrol motorist, business (R18)

“The car reflects the practical needs of my life.”

Mikkel talks about being a family man and not a sports fanatic, and about buying a car with plenty of room inside. He is not focused on the size of the engine, but on getting a lot of mileage out of a small amount of petrol.



Karen, 47 // domestic driver of an electric car (R24)

“There's nothing nerdy about it. Perhaps something of the flower child.” “There's an ideology to it.” Karen talks about having a good response and has attracted lots of smiles as well about being an early adopter and thus having a duty to lead the way. The car also signifies that she has limited requirements when it comes to driving.

Q3

Before buying or acquiring the car, what did you think/consider concerning the car – and has this changed now? (everyday use of the car)

INSIGHT

The majority of motorists consider the purchase of a car in relation to their specific needs.

For drivers of electric cars, the primary considerations before the purchase or acquisition of the car are that they have limited motoring requirements and do not need much space. Their attitudes to the environment must be compatible with having a car that is lovely and great fun, and it must be inexpensive to run. Many are pleasantly surprised at how easy it is to drive, even though it needs to be charged. They like the easy, free parking, and the fact that the car is quiet and odour-free. The electric car is highly conspicuous on the street, and the attention, respect, joy and signal value drivers have experienced far exceeded their expectations. Some were uncertain or unaware of the capabilities of the electric car before the purchase/acquisition, but all their concerns evaporated once they were driving it.

With regard to petrol motorists, their primary considerations before the purchase were comfort, stability and operational reliability, space for luggage and interior spaciousness, the need for the car to drive well and safely on the road with relatively low petrol consumption.

Many also set requirements to do with the style and image of the car, and some also its eco-friendliness. Business motorists often have special requirements as to functions and size/power which take precedence over price. Most are satisfied with their cars, but many feel the car is not sufficiently eco-friendly or economical.

EXAMPLES



Carl, 32 // domestic driver of an electric car (R1)

The Ellert is “in equal parts fun and games and a real transport need”.

It is not as expensive or polluting as a petrol car and it is ideal for commuting. The Ellert attracts attention, is charming, striking and an extension of himself.

It communicates environmental awareness, but also love and care. He comments on being a first mover.



Jørgen, 50 // business driver of an electric car (R26)

“I bought it to advertise, but I never dreamt I'd get so much advertising.”

The electric car is ideal for the company profile. He explains about the ecology and environmental awareness. He is enthusiastic about the noiselessness and acceleration. The electric car is cult in the Copenhagen environment.



Niller, 43 // petrol motorist, business (R6)
 “I wanted an automatic transmission because I reckon there's enough to think about in traffic”.
 “When you spend this much money on a car, it has to be comfortable to drive, too.”
 He explains about reliability and power, about limited options, lack of decent storage space and charging. The car lives up to expectations, but quickly becomes dented and scratched. If it had not been so expensive, this would not have mattered so much.



Allan, 35 // domestic driver of a petrol car (R16)
 “Today, I would buy a diesel car. It would be slightly better for the environment and perhaps also slightly less expensive for me.”
 Before the purchase, he gave consideration to space for children's equipment and a tow-bar for a trailer; he wanted a black car, and one that would not cost too much.

Q4

What prejudices are there about electric cars and drivers of electric cars? (what is the back-chatter/what do other people say?)

INSIGHT

Drivers of electric cars

Electric cars break down easily, are less safe, quickly run out of battery power, cannot be used for much (rather like a moped/motorcycle), and are slow.

Drivers of electric cars are idealist nerds; they think differently from other motorists and are annoying in traffic because they drive slowly.

Ordinary motorists

Electric cars look amusing/ugly, are expensive, slow, charging is difficult. They can't drive far and are boring to drive. Getting them repaired is difficult, and there are space problems. Drivers of electric cars are perceived as environmental fanatics.

EXAMPLES



Carl, 32 // domestic driver of an electric car (R1)

“The story of the Ellert gives rise to prejudices that electric cars break down a lot, quickly run out of battery power and overturn. And it's a bit of a joke: You often hear, 'It's not a real car' and 'Shouldn't you be driving on the cycle path? ... And do you even need a driving licence?’”



Annemarie, 49 // domestic driver of an electric car (R10)

“There are lots of prejudices. Electric cars can't go very far, they have poor batteries, clog up the roads and require technical expertise. Drivers of electric cars are annoying in traffic because they drive more slowly and are regarded as being a bit nerdy. An electric car driver's focus on the environment is viewed somewhat negatively.”



Asger, 30 // civil servant, petrol motorist (R17)
 “I don’t have the wildest of prejudices about drivers of electric cars. I’d like one myself, if it was capable of meeting my needs, looked all right and was pleasant to drive.”
 The prejudices are that electric cars cannot go fast enough or far enough, or do not look cool. Drivers of electric cars like to be seen and to draw attention to themselves by having something different. Some are eco-freaks or just think electric cars are smart for driving short distances.



Joachim, 67 // domestic driver of a petrol car (R36)
 “Electric car drivers today must be nerds because they have cars that they can’t drive very far and they are horrendously expensive. But that’s not a prejudice – it’s simply a fact.”
 The prejudices are that electric cars cannot drive far, are awkward to charge and expensive to acquire.

Q5
 In your opinion, what positive arguments are there for the electric car? – what could be improved?

INSIGHT

Drivers of electric cars

Electric cars are fun to drive; they bring a smile to your face and you get a lot of response. Electric cars are practical because they are easy to

park, so you get there quickly. Utilisation of energy is generally better, and we can make better use of wind power. It pollutes less and makes less noise, so it helps to create a better climate. Electric cars are less expensive to run and service, and you don’t have to pay car tax.

Ordinary motorists

Electric cars are eco-friendly, inexpensive to run and make less noise, which is a problem, because you surprise pedestrians and cyclists, which can cause accidents.

Both groups believe that comfort, range (batteries) and spaciousness could be better, and the cost of acquisition should be lower.

EXAMPLES



Mads, 25 // domestic driver of an electric car (R7)
 Electric cars are easy to maintain compared to fuel cars. They have expensive batteries, but they soon pay for themselves, and you regenerate them as you drive. Driving an electric car is more enjoyable, and they make less noise than petrol cars.



Jan, 23 // petrol motorist, business (R20)
 He emphasises the benefit of electric cars being eco-friendly and the financial benefit of not having to pay car tax. Electric cars have good pulling power at low speed. It is particularly suitable for urban driving, because it does not pollute in a traffic jam. Electric cars mean less noise is emitted to the surroundings.



Eva, 53 // domestic driver of an electric car (R4)

The benefits of electric cars are that they are exempt from car tax, so they cost less to acquire and run than petrol cars. Electric cars are similar to normal cars in size and spaciousness.



Jonas, 43 // domestic driver of a petrol car (R2)

The positive arguments are less pollution, especially particle and noise pollution, but also carbon dioxide.

They make better use of energy, and they are less expensive. You can fuel your car on wind power, etc., decentralising the energy sources, which creates a better balance of power on a global scale.

Q6

What disadvantages and challenges do you see with the electric car today? – what gets in the way of its popularity?

INSIGHT

Drivers of electric cars

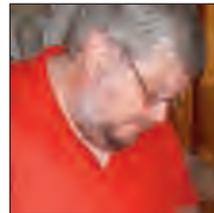
Drivers of electric cars tend to think that the short range of the batteries, the lack of charging options and the narrow selection/choice in relation to needs and quality are the greatest disadvantages and obstacles for the electric car. They also cite price, safety and comfort. Lack of political back-up, including as regards strict requirements for electric cars, lack of initiative to take the lead and make them more financially attractive, are further disadvantages.

Ordinary motorists

Ordinary motorists, like drivers of electric cars, believe the battery range and lack of charging options are the greatest disadvantages and obstacles. They also emphasise the high price, small size and lack of freedom associated with range and charging options as being major obstacles for the electric car.

Design is also cited in the context of lack of options and being too cheap. The lack of noise is cited as an advantage with regard to noise pollution, but also as a disadvantage, because people cannot hear the car coming.

EXAMPLES



Poul, 52 // domestic driver of an electric car (R9)

He thinks the exemption from car tax for electric cars should be extended in order to encourage more companies to invest in them. Electric cars are not available for people to try before they buy. The major manufacturers are unwilling to manufacture in the absence of demand, and demand will not follow until someone is able to demonstrate good electric cars. He believes the government should promote electric cars and make electric cars available on loan so that people can try them.

Vera, 74 // domestic driver of an electric car (R48)

The greatest disadvantage is the short range (the Ellert), which requires planning, if it is to be used several times a day. The short range is aggravated by the shortage of charging points. Better development of batteries and more points would extend their range.

Lisbeth, 43 // civil servant, petrol motorist (R39)
Electric cars cannot hold enough and cannot be driven very far. Another disadvantage concerns the safety aspect of driving an electric car among other cars. They do not have sufficient horsepower to use with a truck bed.

Lise, 40 // petrol motorist, business (R32)
The disadvantages are that they cannot go as fast and the uncertainty of whether you can get it charged. Another disadvantage is the concept that more thought has been given to it being sensible than it being a smart car that can go fast. The design is important, although being climate-conscious is also becoming cool. There is less space in an electric car for large people with long legs.

Q7

Would you be prepared to change or limit your consumption of electricity in relation to different prices of electricity at different times of the day and night?

INSIGHT

Most are open and willing to change some of their consumption of electricity. This mainly concerns the electricity used for dishwashers, washing machines and charging computers, mobile phones and electric cars. To many people, a clear price distinction would be a major motivation, but people are not generally willing to change their consumption of electricity in relation to food preparation, television, evening lighting, working hours and bathing. Carrying out certain work

tasks in the context of business is often more important than the cost of electricity. Among those who were least interested in changing or limiting their consumption of electricity are those who think electricity should fit in with their lives, and not that they should have to fit in with the framework of the price of electricity. Some families with children feel it is difficult to change their consumption of electricity, because their needs are great and occur at very specific times.

All the motorists cite a number of demands for changing their consumption of electricity. It requires good information from the utility company, opportunities for individual energy-saving advice, good planning, making it easy, and the need to have a timer on the appliances so that power consumption is automatically set for the least expensive times.

There are no major differences in attitudes among drivers of electric cars and petrol motorists, but among the former, there is generally somewhat more flexibility as well as initiative both for being eco-friendly and for saving money at an individual level. Many respondents already restrict their power consumption wherever they can, e.g. by using low-energy bulbs and by not leaving electrical appliances on standby. Some explain that they would like to become better at saving on power consumption, especially if there is a prospect of a definite financial benefit.

EXAMPLES



Janni, 28 // business driver of an electric car (R34)

“If more people do it, it might make a difference on a larger scale.”

She explains that she charges the car overnight and that she cannot store electricity. She mentions the financial benefit and the importance of good information about where you can make savings, about excessive power consumption and about making people aware.



*The design is important,
although it's becoming cool
to be climate-conscious*

Betinna, 26 // petrol motorist, business (R35)
“Actually, it's all a matter of planning,” she explains, concerning her domestic consumption, but she is not prepared to change her cooking arrangements to save energy. Betinna is a farmer, and concerning her work and energy savings, she says: “I would put animal welfare above the price of electricity.”



Karen, 47 // domestic driver of an electric car (R24)

“I would, but I'd have to have a timer on the appliances.” “It has to be easy to operate... it mustn't be anything like a manual in your hand and 600 buttons to press, or I'd give up.” Karen talks about the things you can change, unlike “those things that just run”, such as the dishwasher. She compares a timer on the electric car charger with a timer on the heating system.



Pernille, 49 // civil servant, petrol motorist (R25)

“I think that's a tough one.” “Actually, I think electricity is something that should be there for us, and not that we should have to change our lives because it's better if we are awake at night.” She explains she is nervous about doing the washing at night because of the risk of fire, about being a selfish consumer and about wanting to save energy, but at the same time being able to use electricity when she wants to or when she needs it.

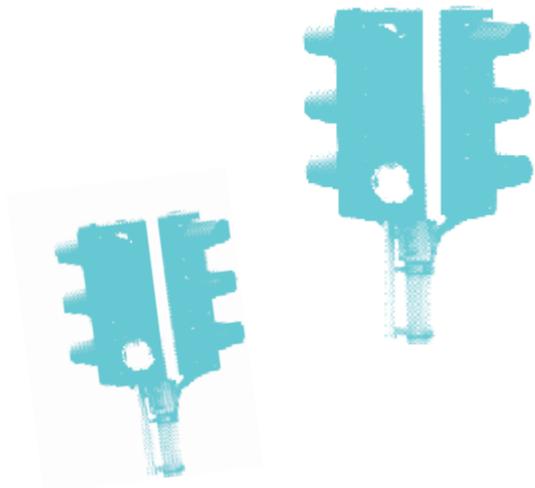




// 5. USER PORTRAITS – DEVELOPMENT BASED ON EIGHT PEOPLE

etrans is about cars and energy, but it also quite essentially has a great deal to do with people, practice, opportunities and perspectives.

In the ongoing work of the project – where we get stuck into the field material and conduct further and deeper analysis – the following eight portraits are our starting point. These eight people cover the segmentation of the survey and our thematic findings, and they will comprise a living, concrete starting point for thorough examination of barriers, realms of possibility, user journeys, incentives, touchpoints and triggers when utilising a user-driven innovation process.



// USER PORTRAIT R13

LONE, 52 // CIVIL SERVANT // EXPERIENCED PETROL MOTORIST // CITY

“I once counted that we get in or out of the car up to 65 times in an evening. We do about 25–30 visits on average. That’s why it is important to be able to get in and out of the car easily.”

Lone is 52, and lives with her partner in their shared-ownership home in Copenhagen. She is a social worker and health visitor and has been employed in home care for 23 years, with evening care work for the last 13 years. She works one week on, one week off. Her shift is from 3:30 pm to 11:45 pm. Lone says she is always in a good mood when she gets to work.

At work, she drives a Suzuki Ignis. Previously, she took taxis for her home care work, but it worked out too expensive, and they were very much dependent on the goodwill and flexibility of the taxi driver. They started leasing cars instead. Initially, they had small Fiat Puntos. They were very low, which Lone felt was a burden on her legs because you have to get in and out of the car lots of times during a shift.

When the time came to hire a different type of car, the employees were asked for some advice regarding what they needed. They chose a different model from the one the employees indicated, however.

There will soon be several new cars for home care work, and there has been some talk of the possibility of having electric cars, but Lone does not know what became of that. The latest lease model is a Suzuki Wagon. Lone is satisfied with the Suzuki Ignis as a work car, but the employees call them “plastic cars”, because they dent so easily, and she would never drive one for domestic use.

Ideally, she would like to have an even smaller car with a smaller rear end, to make it easier to park. There are rarely more than two of them



in the car at any one time, so they do not need much space. The most important things are for the car to be small and easy to drive and park, and for it to be practical and comfortable.

// USER PORTRAIT R15

JOHN, 63 // DOMESTIC USER // EXPERIENCED PETROL MOTORIST // COUNTRY AREA

"I've always loved Italian cars because they have charm and good driving characteristics. Not everyone would agree, but that's the way I feel. That's why I've always only driven Italian cars, and the same goes for my whole family, including my father, brother and son-in-law. We've always loved Italian cars."

John is 63 and for the last 16 years he has held different positions in a company that produces vitamins for the food industry. His current position is production assistant, providing service to the employees of the company. John and his other half live in a house they designed themselves, in the country outside Copenhagen.

John has always had a car and does a lot of driving. He has been a member of the Danish motoring organisation FDM since the early 1980s and subscribes to Bilmagasinet (a Danish car magazine). His first car was a Fiat 600, which he bought when he was 18, just after he learnt to drive. Back then, it was not common to have a car, and it took him a very long time to save up for the down payment. Later, within a period of six months, he also passed the tests to allow him to drive lorries, buses and motorcycles. He has never failed a driving test.

John and his girlfriend own a 2009 Fiat Panda 1.2. and a 2007 Fiat Dublo 1.3 diesel. Previously, they had a VW Lupo, which was inexpensive to run (25 km per litre of diesel), but expensive to maintain because of the cost of parts. They bought the Fiat Dublo because it was spacious. There is plenty of room, so they can take all the grandchildren for a ride in the car when they visit. The Fiat Panda serves as a little "economical supplement". They chose a Fiat Panda because of the price and the safety equipment, such as airbags for the driver's



and passenger seats and at the sides. It also has tall seats, which is an advantage for older people. Finally, the Fiat Panda was selected as the European car by motoring journalists, and in John's opinion this is a sure sign of quality.

// USER PORTRAIT R01



CARL, 32 // DOMESTIC USER // LEAD USER // ELECTRIC CAR DRIVER // CITY

“The Ellert is disarming and charming ... like me”

Carl is 32, single and lives on the outskirts of Amager in a one-bedroom flat with his one-year-old boxer dog. Carl bought his first car when he was 23. It was a Polo. Carl is a project manager at CO2 E Race, a project designed to draw attention to electric cars for the Copenhagen convention in November.

Previously, Carl was responsible for the business side of Citadel, the magazine for Copenhageners, and before that, Carl had his own business as an agent for a fashion label. Back then, he had a company vehicle, a van, in order to sell to other shops around Denmark. When he wound up his company and shop, he also sold the van and joked that his next car would be an eco-friendly one. Carl has conducted vanishing days and exhibitions and describes his milieu as that of first movers.

Eighteen months ago (in October 2007), Carl bought his Ellert; what had started as a joke had incubated to become a reality. Carl was annoyed about always having to budget DKK 1,500 a month for parking fines and was constantly having to return to adjust his parking disc. For a while before that, he had been surfing the Internet and came across ellertinfo.dk – and from there he got in touch with an Ellert mechanic on Amager, who sold him the Ellert. He paid DKK 23,000 for it, and it looked like new and came with a new battery. Now, 18 months on, it is time to replace the battery. The mechanic told Carl this yesterday when he dropped by to have one of the belts replaced. Carl will phone Jysk Akkumulation himself to order the 100 kg battery.

// USER PORTRAIT R03

JANUS, 32 // DOMESTIC USER // EXPERIENCED PETROL MOTORIST // SUBURBS

“Actually, I can get to work by train as well, because there's a company car at work, but that's no good when I need to pick up the children on the way home.”

Janus is 32 and has trained as a building technician after having been a joiner since the age of 17. He works in Birkerød developing equipment, fixtures and fittings for schools, and before that, he used to work in a design studio in the centre of Copenhagen. A few months ago, he lost his job in the design studio, but he soon found a new job in Birkerød. Janus' wife is 29 and works as a marketing manager for a large Danish fashion magazine publisher. They have two daughters, one who is eighteen months and the other four years old.

The family lives in a villa in Charlottenlund which Janus has been working on himself over the past year and a half. They are struggling financially, but the house purchase was a risk they took in order to have more space for the children. The children have been ill a lot recently and the family gets childcare help from her two sisters. Janus normally collects the children in the afternoon and his wife drops them off in the morning. Everyday life with two small children and both parents working is described as hectic. Janus often feels under pressure about the family's finances. Janus has had a car since he was 18. He was one of the first among his circle of friends to get a car. He also has a motorcycle licence, but he has never used it. His first car was a Golf, and he installed two large loudspeakers in it so he could listen to loud music while driving around. Altogether, he has had five cars, changing cars according to his needs at the time. The last three cars have been a “Postman Pat” car, which he and his wife bought because it was spacious, and it was useful for moving house and working on the

house. The next was the “dream car”, a Jeep, which Janus had been dreaming of. However, they only kept it for three months, because it turned out to be too expensive petrol consumption. Two months ago, the family bought a 2007 Volkswagen Golf via the “Den Blå Avis” classified advertising circular, and they get a much better mileage with it. They bought it because Janus would now be working in Birkerød and needed to drive further.



// USER PORTRAIT R42

HANNAH, 29 // DOMESTIC USER // EXPERIENCED PETROL MOTORIST // CITY

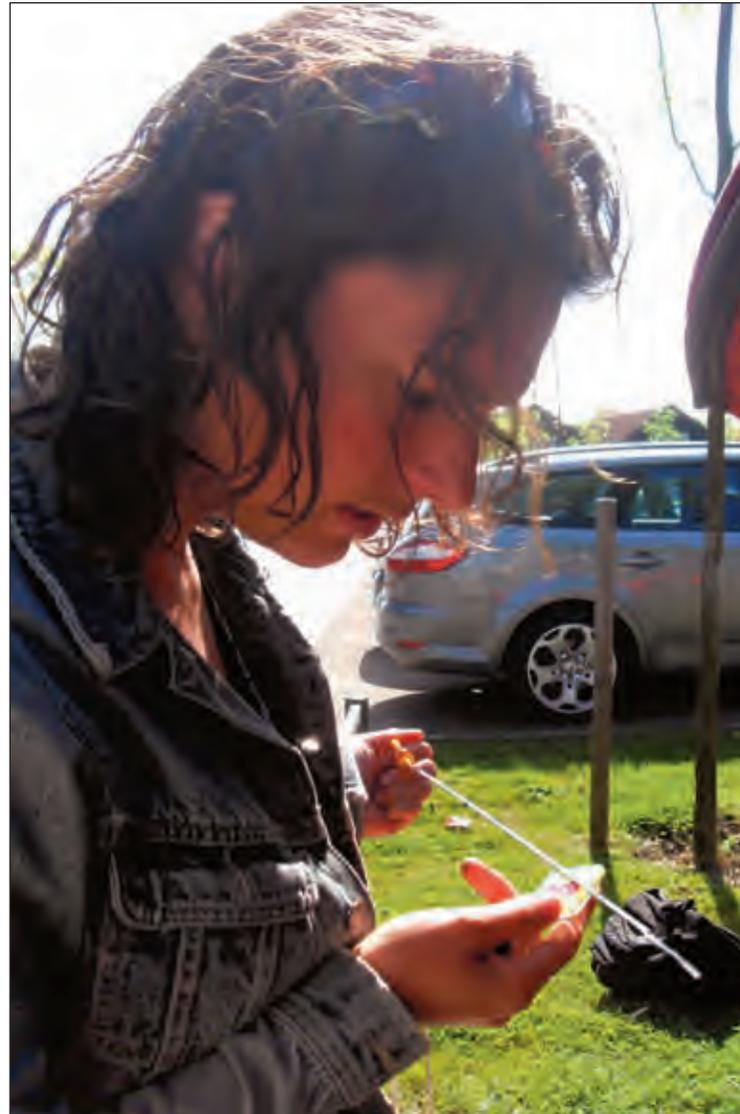
"I would hate to part with it. I love it so much. But you never know. If I were to meet Mr Right and he had a different car, maybe I'd sell it, but it would be difficult for me, because I'm so independent and I'm used to having the freedom to be able to just drive."

Hannah, a classical musician, is 29. She plays the flute and frequently gives concerts with the other half of her duo. Hannah lives alone in her third-floor, one-bedroom flat in Copenhagen. Hannah lived abroad for a number of years, improving her playing under the tutelage of various masters.

Hannah leads the life of a freelancer. She spends her days either practising alone or rehearsing with ensembles she plays in. Her practice venues are scattered throughout the city, and also outside the city, depending on who she is rehearsing with and what the contract requires. Hannah has also developed a workshop method whereby she involves employees in listening to music and using music to express themselves.

Hannah loves riding and has free access to ride a horse on a farm in North Zealand. She often drives up there after rehearsals. Hannah likes her flat in the city and she enjoys having her friends within a small radius – that is, the friends who have not yet moved out of the city. When Hannah needs peace and quiet to practise on her own or when she needs to get out and enjoy the countryside, she either goes to her father's weekend cottage near Sjælland's Odde or to a weekend cottage belonging to some friends 30 km from Copenhagen.

Hannah is quite preoccupied about turning 30. Several friends have moved out of the city, and the matter of finding love and having children is very much on her mind.



// USER PORTRAIT R34

JANNI, 28 // BUSINESS DRIVER // NEW DRIVER OF AN ELECTRIC CAR // CITY

“The electric car is a nice little diversion in an otherwise serious business meeting.”

Janni is 28 and works as a key account manager for a large, exclusive hotel chain in the city. Janni is a single mother with a son aged four. She has her son alternate weeks, and when he is with her, she leaves work earlier than she does during the weeks when her ex-partner has their son. Janni has been in her current job for two years. Previously, she worked as a receptionist, and before that in the buffet in one of the restaurants. She has been working for the hotel chain for five years. Thus, she has worked her way up from the bottom to sit beside the call centre in the office adjacent to the hotel director's office.

Janni lives in a flat within one of the hotel buildings. Accordingly, she walks to work after running beside her son, who cycles to his kindergarten. This way, she is able to slip a little exercise into her routine.

Janni drives a Buddy electric car for her work, sharing it with other hotel employees. However, she and her colleague Konrad drive it the most. It is only three weeks since the hotel employees were given an electric car to drive, so this is still a new experience for Janni.

Slightly over a year ago, the entire hotel chain converted to being carbon neutral, and sustainability is a topic that Janni is accustomed to talking about – including as part of her work of selling contracts to clients.

The hotel has also leased a Buddy for hotel guests to hire, and Janni recently prepared a questionnaire for guests to find out how much they would be willing to pay to hire the electric car. Their answers varied greatly, between DKK 100 and 1,000 for a day. (The hotel charges DKK 299 per day to hire the car to guests. It has only been hired out three times so far.) It is important to Janni for sustainability not to be



something the hotel rams down clients' throats, or for clients to leave the hotel under a dark cloud of a guilty conscience. Accordingly, it is always merely hinted at in the context of luxury.

// USER PORTRAIT R09



POUL, 52 // DOMESTIC USER // LEAD USER // EXPERIENCED ELECTRIC CAR DRIVER // SUBURBS

“The most important thing for a driver of an electric car is to know the current state of power consumption – that is, to keep an eye on the eco-meter/ampere meter”

Poul is 52, originally qualified as a radio technician and is now an electronics engineer. He works as a software developer for technical equipment in Herlev. Poul has two grown-up children no longer living at home, aged 22 and 26, and he lives with his wife who works in home care in the City of Copenhagen. They have lived in their detached house in the suburbs for the last 25 years.

Poul and his wife had many Ellerts before buying their first Citroën electric car almost ten years ago. Electricity and technology are Poul's hobby, and at one time he had three or four Ellerts in his back garden to use for spare parts when anything went wrong with the Ellerts they were using. In 1992, the couple helped start an Ellert club (ellertinfo.dk), which met frequently and put pressure on Copenhagen's politicians to set up charging stations in Copenhagen. In 2001, Poul and his wife changed to a Citroën Berlingo Electrico because the children were too big to sit in the Ellerts, and today Poul works for the Danish electric car committee. He and the chairman often go out lecturing on electric cars and giving demonstrations. The first Citroën Berlingo was intended to be a second car alongside a petrol car, but it rapidly became the main car when, in 2006, the couple bought a Citroën Saxo electric car. Today, Poul's wife drives the Berlingo and Poul drives the Saxo. They still have a Citroën C4 petrol car in the garage, but only use it for journeys of more than 50 km. As far as Poul and his wife are concerned, the C4 petrol car is car no. 2. Poul and his wife went to New York City at Easter to attend an electric car exhibition. However, they both agree that the car exhibitions in Frankfurt are much better.

// USER PORTRAIT R06

NILLER, 33 // TRADESMAN // EXPERIENCED PETROL MOTORIST // CITY

"I also use my car as a rubbish bin, so I'm not worried about getting it dirty or getting a few dents, because that's what happens. The trades generate lots of waste, and I often fill it up with rubbish from a job and drive it away."

Niller is 33 and lives with his wife and two children, aged seven and three, in a house in Vanløse. The family moved to Vanløse from a flat in Frederiksberg a year ago, and Niller is still working on the house. In the meantime, the family live in the basement. Niller will soon be celebrating 10 years as a self-employed master bricklayer. Niller's wife is a teacher and works in the city.

As well as being a bricklayer, Niller is also a musician and plays in a band. The band released an album in 2008 and is currently working on producing new material. The reason Niller bought a plot in Vanløse was so that he could fit out rehearsal rooms in the old factory right behind the family home. Hiring out the 18 rehearsal rooms brings Niller in contact with lots of other musicians, which he enjoys.

Niller has just finished building the family's weekend cottage near Sejrøbugten. The family spends a lot of time there in the summer because other family members also have holiday homes up there.

Niller used to be a skateboarder when he was a teenager. His arms are embellished with tattoos, and he used to have a nose ring. Niller has never needed to spend time or money looking for work. All his jobs come through his networks and contacts, and life as a musician and as a bricklayer often converges, because many of Niller's customers come to him through his musician friends and their networks of contacts. Accordingly, his primary area of work is Copenhagen and the surrounding area.



// 6.1 DEVELOPMENT CARDS

Based on the material and the first analysis, antropologerne.com developed a total of 10 development cards for use in workshops. More will be developed during and after the workshop days, so altogether,

antropologerne.com will hand over 40 challenge cards for use in ongoing innovation work. A challenge card comprises a finding with an associated development question.



There are a great many problem areas to do with the handling of cables for the various users of electric cars. Often, the electric car driver's leads are just kept in the boot without any kind of cable management to keep them tidy.



etrans DK

Karen, who lives on a residential road without space to park on a drive, has to leave her cables dangling on the pavement. She worries that her neighbours will trip on the cable and is fed up with getting her hands dirty.

Carl lives on the second floor and pulls the cable up to his window to charge the car from his own home.

HOW CAN WE FACILITATE OR ENTIRELY SOLVE THE CABLE MANAGEMENT PROBLEM FOR DRIVERS OF ELECTRIC CARS?

In other words:



No doubt we have all held a B&O remote in our hands. It is heavy, and you perceive this as a distinct sign of quality. So, what about the weight and material of new electric cars? We look forward to discovering and disclosing assumptions about quality in the many user visits that lie ahead...



etrans DK

If something is 'GOOD STUFF', it feels heavy, they say. One user describes the feeling of 'wrong' and 'plastic' when he first felt an electric car. And he reminds us of the story of the first wall-mounted phones which only became a success when weight was added to them.

HOW CAN WE DEVELOP ELECTRIC CARS THAT RADIATE WEIGHT AND CLASS AND THUS SATISFY DIFFERENT PEOPLE'S PERCEPTIONS OF WHAT FEELS RIGHT AND WHAT LOOKS RIGHT?

In other words:



// 6.2 THEMES

In our opinion, it is relevant to focus on the following themes in order to produce a final analysis and to reach conclusions concerning which aspects are the essential starting points if the electric car is to become a success in Denmark:

1. NEED FOR THE HUMAN TOUCH

Car transport is an area in which you really can talk about being user driven! Obviously, cars *are* “user-driven”. Literally. On a very concrete, practical level, at least. But the sort of user-driven innovation to change the market and mindset in this field is glaringly conspicuous by its absence. There is not much about “participants” or participation in the innovation and development that is under way. Old-fashioned “dispatcher/recipient” thinking is typical of this field, permeating products and services to do with cars as well as the policies pursued. In Denmark, we typically develop from the top down with regard to legislation and energy/environmental policy, and from the inside outwards with regard to actual car manufacture and all the many services to do with motoring in Denmark today.

To put it another way: We manufacture, develop and legislate based on the usual question, “What’s profitable?” (business; strategy; society) or based on “What’s possible?” (technology; design; science). Thus, we forget to let these grow via a thorough understanding of the importance of “What’s desirable?” and “What makes sense?” (people; good sense; passion).

When you look closely, you can see that by no means everything about cars and by no means everything to do with cars makes sense.

How do we get around there being so many leftovers and dogmas from long ago? How can we reinvent what we now find inappropriate?

2. A GLOVE COMPARTMENT DEVOID OF GLOVES

Why do all cars still have a glove compartment? A small compartment in front of the front passenger seat, once intended for driving gloves? The glove compartment hails from the time when there was no heating in cars, and decent people wore driving gloves with gaps for their knuckles. Today, glove compartments are used for maps (but there is not enough room for these); for storing bundles of important keys to people’s homes and clients’ offices, or we see that users have themselves installed chillers/freezers in the glove compartment to chill drinks.

3. SELFISH AND ALTRUISTIC

All the participants in the study have a relationship with the car(s) they drive. Even those participants who have a pragmatic relationship with



their (utility) car relate to it as a type and introduce an element of style and a tone of voice. We hear analogies with the human body – a car should be shapely. And we see how people “wear” their cars. To many, it is important to be able to be proud of your car, which you spend a lot of time in and those around you start to recognise.

Your immediate family (and colleagues, if it is a work car) see how you put your stamp on your car and how you want your car to be and to function. And those around you in your neighbourhood and at work see the car before they see you arriving: “Here comes ‘X!’” – even from a long distance, before your face can be distinguished. Therefore, the signals conveyed by a car matter.

Several of the proud, signal-value drivers of electric cars have a problem with the size of the small versions of electric cars, which are “selfish” in the sense that you drive alone (the Ellert) or carry only one pas-



senger. It is a pity that you cannot expand and transform a one-person car into a three-seater (like the Rin Speed make) on the spot. However, it will probably surprise them that an extreme user, for whom luxury, signal value and status mean a great deal, uses the very same designation of “selfish” about them, explaining that they drive slowly and are skinflints.

Although finances are vital in practice, a focus on savings is associated with something very mean, and when driving and range also have to be planned for, the whole thing becomes very unsexy. Can we pull the electric car out of the planning paradigm and towards the new paradigm whereby freedom, flexibility, individuality, sociality and sustainability are paramount at all levels?

4. FROM DOMESTIC CAR TO BUSINESS CAR

Among the group of business motorists from the public and private sectors, we noted that the feminine occupations (“soft” professions, such as home care work) and service professions such as hotel operation and consultancy work show an absence of specially designed cars. The business car is purely and simply a domestic car used for business. Things are different with cars used in traditionally male occupations. Here, the tradesman who leases his Mercedes fits the car with special modules, and the gardeners’ cars in the public sector do not have so many special modules fitted.

Solutions are seldom developed where they are most needed. A company representative from the car industry was present during a field

visit to a civil servant (R44). In her car and those of her colleagues, for example, plastic gloves had been crammed into all sorts of crevices, and the user, the anthropologist and the guest observer all discussed redesigning elements of the car to make it more suitable for the specific business use. Many of the needs they jointly identified have already had solutions devised for them, the guest observer noted. These solutions are apparently not available in the public sector.



How can etrans link those with needs and ideas to those with the desire and the means? How can etrans ensure changes that not only innovate but also transform the entire area of transportation?

5. DRIVING STYLE AND GENDER

One very clear finding in the empirical data material is that there is a big difference in the way men and women relate to cars and to what the car is supposed to fulfil and mean to the driver. Both implicitly and explicitly, men are much more emotional than women, who are predominantly driven by common sense when it comes to the style, shape and justification of the car.

Men are aesthetically and sensually motivated and are quick to associate pleasurable and “irrational” preferences and terms with the car, which on the one hand seems to be a very personal and emotionally charged affair and yet on the other is also very much a conscious and outward signal to the world at large of “who I am”. The majority of women, however, are motivated by functional and practical considerations, and they speak much less sentimentally about why the car is red, and why they have chosen this particular make in preference to another one. None of the women in the study bought the car completely on their own. Most men do (or have done).

With regard to driving style, both sexes are united in using phrases such as “driving like a man” (of an experienced woman), and many curse too cautious and slow “female” road users. Many women also pay attention to driving well – or safely, economically, and properly

– and create their own driving style. “It’s not what you wear – it’s how you wear it.”

Whereas the content of the electric car appeals to a small number of technophiles – nerdy electric car enthusiasts – its simple form of driving and straightforward principles appeal to many women drivers.

What if driving style and gender (i.e. the fact that the electric car is easier to handle) are what the electric car should be profiled for, more than environmental factors?

6. CHARGING & DISCHARGING

Many petrol motorists feel guilty about the environment and would like to reduce the negative aspects of car transport and make a positive contribution. Electric car driving, right down to its foundations, is about plus and minus, and combined with green energy, perhaps it has something to offer to benefit more people than oneself.

Let us try our hand at a sum, or a formula for “positive discharging””: If we combine the new type of charging (+) of electric car motoring with the desire of petrol car motorists to ease their conscience together with radicalised discharging (-), is it conceivable that this would produce a result that would move the electric car away from being something that only takes up energy to something that also gives and distributes energy?

Can we picture a car that charges up and then discharges or provides charging to others? A car that takes green energy from your own pro-



duction at home, in the neighbourhood or from major renewable energy production, loaded into the car battery overnight, and distributes it on around the system? Or a car that maybe even generates energy: kinetic energy from jumping children or active adults in the car?

In the preceding chapters, we have presented the factors and conditions that are relevant to build into the thinking in eTrans' user-driven innovation and development work. We can summarise the key insights of the field studies in these eight recommendations concerning what user needs should be covered and addressed by new measures.

1. IMPROVE ON ORDINARY FEATURES

“The same or different?” Should the electric car be similar to or different from ordinary cars? Do not be shy about improving on general car concepts when developing electric car designs: There is plenty of untapped potential for innovation, and in general, users would like to have a car that is similar to their “old” car or, preferably, cars that suit their requirements and passions even better.

2. INCREASE KNOWLEDGE AND CREATE A LARGER INTERFACE

Knowledge of the electric car among ordinary motorists is scant. Demonstrations, hands-on experience and networking are effective. Therefore, think even more along these channels in conveying the message, because a far larger interface than the present one is absolutely vital.

3. DISPEL MENTAL IMAGES OF SMALL, TOY CARS AND LOW SPEEDS

Many people associate electric cars with small cars – restricted cars. And the Ellert's rather unfortunate image tends to stick. Small is OK for those

who want to be noticed and who enjoy standing out from the crowd. The rest want equal quality and a good speed and do not perceive electric cars as something they would benefit from in their lives. Challenge prejudices and prove the converse. There are plenty of people out there to convert.

4. MAKE DREAMING AND DRIVING GREEN EASY

Environmental arguments are good arguments which only a few would disagree with. And in recent years, there has been the will to behave sustainably, even with regard to vehicles. In practice, however, attitudes and ideals appear to be overshadowed by finances and practicalities when people buy cars for business or for domestic use. Therefore: make it easier and financially viable for people to consume with a clear conscience.

5. THE CAR IN YOUR LIFE – NOT FOR LIFE

The car is part of people's personal and social life. Needs change as life changes: A young man might have to give up his first car when he moves into the city to study; a family with children has a change of income or further to go to work; a man or woman nearing retirement will again have to share the car with wife or husband – and now there needs to be space for the grandchildren. Conditions and frameworks change, but people's desire for freedom and the option to be impulsive remains. Therefore, be aware of changing needs and flexibility when it comes to the design of the electric cars of the future.

6. AN ENJOYABLE DRIVE

Comfort, simplicity and freedom take precedence over planning, practicality, cables and charging, when we listen to the female user group. Although women often only need to get from A to B, many of them would like to experience something along the way and to experience enjoyable driving. Make refuelling an enjoyable experience – and build into the concept that other services related to the car are enjoyable, too.

7. LONG LIVE THE CAR AS AN ENHANCEMENT TO MASCULINITY

Pulling power, raw power and performance are parameters for many business motorists and are also characteristics that men still identify with when choosing a car. At the same time, men also swear by quality brands and shapes when choosing a car. Develop status objects such as the Tesla, which gives the electric car the credit as an attractive identity marker, even for the stylish, discerning and habit-bound man.

8. DIFFERENTIATE USER UNDERSTANDING – EVEN MORE

People are different: For some people, visibility and transparency in relation to optimum operation of the car are a must; they want to keep abreast of immediate power consumption and understand the details of the functions. For others, operational reliability, dependability, signal value and appearance are more important. Ideally, they just want to be able to depend on their car and not have to give it constant attention. Remember that these differences will live on in the electric car drivers of the future.





INSIGHT IN PRAXIS & INSPIRATION FOR INNOVATION

antropologerne.com

Vodroffsvej 61, 1. tv

DK-1900 Frederiksberg C

mobile: + 45 28 11 20 10

www.antropologerne.com

etrans

Designskolen Kolding

Aagade 10

DK-6000 Kolding

Tel.: +45 76 30 11 00

www.etrans.dk





THE EUROPEAN UNION



The European Regional
Development Fund

Investing in your future

etrans – a project about electric cars with the X-factor

OBJECTIVE:

To design an eco-structure that makes it attractive and worthwhile to replace the gas-guzzler with a battery-powered car and to demonstrate that it is possible to use batteries as an energy buffer.

THE METHOD:

The main players in the green transport revolution – motorists – must themselves have a hand in designing the transport structure of the future. Working with researchers, designers, design students and a number of private and public enterprises, they must develop proposals for aspects such as town planning, charging technology, the car interior, road service, car insurance and options for additional purchases, including other green/eco-friendly products.

THE FOOD CHAIN TO CONCRETE BUSINESS PLANS:

The final stage of the project is to establish a food chain from the designers' results to specific business plans as well as urban and traffic changes. This phase is intended to contribute to building a "business accelerator" which is to draw on qualified advice and venture capital for the purpose of weeding out non-sustainable projects at an early stage of the process and qualifying good ideas to ensure they develop into healthy businesses. As part of this process, we intend to give businesses and their employees training in how user-driven innovation works.

The project is supported by the Southern Denmark Region Growth Forum, the European Regional Development Fund and the National Agency for Enterprise and Construction.

For more information, see www.etrans.dk

