



Sveriges lantbruksuniversitet
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Electric vehicles in Sweden: a critical analysis of communication

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Credits: 30 HEC

Level: Second cycle (A2E)

Course title: Independent Project in Environmental Sciences - Master's thesis

Course code: EX0431

Programme/Education: Environmental Communication and Management – Master's Programme

Place of publication: Uppsala

Year of publication: 2015

Online publication: <http://stud.epsilon.slu.se>

Keywords: Electric vehicles, critical discourse analysis, communication, Sweden

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Abstract

How do the Swedish media talk about electric vehicles? Who are the key players involved and what kind of different discourses do they use?

The present research aims at exploring the Electric vehicles discourse in Sweden working with inspiration from critical discourse analysis (CDA) perspective as well as the analysis of how the environmental issue are faced by the Swedish government, how and at what which extent the media talk about EVs and its world.

Rather than doing a strict discourse analysis, this analysis explores how social positions become evident in the way actors argue their cases. This analysis is performed with the intent of showing how the Swedish media give more relevance to the economic and political stakeholders by framing the EVs as weaker objects compared to standard vehicles; as a result, the EVs market is being slowed down with the complicity of the government and other stakeholders in favor of standard vehicles and oil companies.

In particular, this research focuses on how the information is presented, how words are used, and how the space on newspapers is given or denied, for these elements can reveal many aspects on how the discourse about EVs is built and what kind of interests stand behind.

This investigation is focused especially on the text analysis of Swedish newspapers, but includes also interviews, direct observations and participation to seminars and the analysis of a video commercial.

Please note that I am personally in favor of the EV and I believe the reader must know that in order to get a better view of the whole picture.

Keywords: *Electric vehicles, critical discourse analysis, text analysis, innovation, communication, Sweden*

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Abbreviations

CARB – California Air Resources Board

CDA – Critical Discourse Analysis

EV – Electric Vehicle

ICE – Internal Combustion Engine

GM – General Motors

ZEV - Zero Emission Vehicle

1 Introduction

Concerns about the climate change and the environment are leading many governments in the world to the adoption of special environmental policy in order to reduce the CO₂ emissions.

One important resolution is represented by the intention to promote electric vehicles (EVs) through fiscal incentives, policy and different benefits which aim to push the EVs in the market.

For instance the State of California, many years ago, introduced a special law according to which any car company that intend to operate in the Californian market has to produce and sell a certain amount of EVs (The Wall Street Journal, 2014).

Similarly, Sweden has a set of important environmental goals to achieve within the next years. A programme called “the road map 2050” has been designed which, through small steps, will lead Sweden to the final destination: be “free of net emissions of greenhouse gases by 2050” (Ministry of the Environment and Energy 2013). Therefore Sweden, as well as other European countries, has given generous incentives in order to promote and facilitate the EVs market.

But is the EVs market being favored for real? The recent news, besides the nice intention of the politicians would suggest a different reality. By analyzing articles and advertisement campaigns through getting inspiration of Critical Discourse Analysis, this investigation aims at revealing the meaning of the words used by the media when talking about EVs.

1.1 Aim

This analysis intends to get a closer look at how the communication about EVs is performed, paying attention to the different stakeholders involved and analyzing who says what and which type of interests they have. Furthermore, this investigation is inspired by a Critical Discourse Analysis approach (CDA). Despite the variety of authors, there is a common understanding of the term “critical” in this context.

In fact, being critical does not mean being negative, but rather skeptical (Wodak, 2001); critical is intended as “no taking things for granted (...) making opaque structures of power and relations and ideologies manifest” (Kendall, 2007).

The incipit of this investigation is a certain skepticism about the authenticity of the government intentions in promoting EVs. Apparently many stakeholders – the politicians on the first place – bring on the importance of preferring EVs over the traditional ones (ICE’s) through legislations and environmental policies, but the analysis of their words in newspaper show us another reality.

Critical Discourse Analysis has been very useful, due to the fact that this theory relies especially on the analysis of the text which allows investigating the relation between discourses and empirical events. Words, within this approach, have a crucial importance and influence the decision making process in the public arena, from the players that have more power to those who have less.

2 Theory and method

2.1 Critical discourse analysis

Within my investigation I will use the term “discourse” in the Fairclough’s sense: “to refer to different ways of structuring areas of knowledge and social practice” (Fairclough 1992:2).

CDA is critical because wants to stress “the role of discursive practice in the maintenance of the social world” (Winther Jørgensen and Phillips 2002:63), referring particularly to situations where power imbalances occur, attempting to provoke a social change towards a more equal power division within the communication process as well as in the society in a broader sense.

In this sense, my research is focused on the power unbalance that occurs between actors that represent “standard” vehicles and actors that represent the electric ones and that takes place through the use of

the media. As will be shown later in this paper, newspapers tend in fact to give much more space to the “standard vehicles”. When talking about EVs, many articles are just a few lines long with no space for discussion or reflection by the author.

CDA is in favor of social change, and it suggests the vital importance of being critical rather than take for granted what the key players who have more power in society communicate to the public.

In this case I have tried to analyze the EVs discourses in Sweden, observing different players. Swedish society has *environmental ideas* to bring on: become fossil free within 2050 and achieving other important environmental goals that will be analyzed better in the next paragraph. Different players have different stakes: Vattenfall is a company that aims to profit while, on the other hand, other players, like Gröna Bilister, aim to let gain popularity to EVs and environmental issues.

In the whole picture, an important role is also played by politicians (*political ideas*) and the EU rules and regulations represented by the *institutional ideas*. Nevertheless the media are even more important, as they are like a mirror which reflects the power relations between the discourses listed above. How do the Swedish media discuss about the EVs? How much space is given to the EVs discourse? And how the qualitative aspect of various information means can be described in comparison to each other?

In order to provide a comprehensive understanding of the EVs discourse, the history of the EVs will be presented in the next paragraph.

2.2 Method

This investigation contains a comparison of two main EV discourses: the first one is represented by the American scenario, when due to the “California’s Zero Emission Vehicle” (ZEV), which imposed “2% of the state’s vehicles to have no emissions by 1998 and 10% by 2003” (Weiss 2008: 205). The choice of this example is motivated by the fact that California is one of the most polluted U.S. state: indeed,

according to a new report from “American Lung Association”, five of the 10 most ozone polluted cities are located in California, with Los Angeles on top of the list (American Lung Association, 2015). In such a complicated scenario, the government had to set strict rules in order to keep under control the air pollution.

As a result of this regulation, General Motors has released its EV1, which was available only for leasing and after a long queue; in order to investigate this scenario, an analysis of the car’s commercial has been performed; as a result, it occurs a certain discrepancy between the apparent intent of promoting the EV in general and the actual marketing moves, which did not encouraged enough the Americans to adopt the EV over the ICE.

The second EV’s discourse refers instead to the Swedish scenario, in which, as the Californian one, there are environmental policies and goals to achieve. Also in this scenario there is a discrepancy between the governments proclaimed intents and its actions. Within the analysis of this scenario I have mainly reviewed literature that focused on EVs, advertisement material and articles published in Swedish newspapers in order to understand the actual situation in Sweden regarding this issue; the articles review in particular was interesting due to the analysis of the text that has been performed inspired by CDA (Fairclough 1992).

Analyzing the text means to pay attention to every single detail, from the length of the article to use of words. Furthermore, this media analysis takes into account the actors involved by grouping them in regard to their role and interests in the issue.

The participation to a mini-seminary in Stockholm gave me the opportunity to observe some of the key players involved, such as Vattenfall, Gröna Bilister who presented their different views about how much the fast charging should cost.

Furthermore, my participation to the mini-seminar led to an interview with Johanna Grant, spokesperson for Gröna Bilister, during which we discussed how mainstream media choose to bring up certain issues rather than others and how Sweden can achieve its goal of being fossil

free within the 2050.

After the mini-seminar I tried several times to obtain an interview with someone from Vattenfall in order to get a broader view of the picture but unfortunately it was not possible to have one.

3 Background

3.1 History of the EVs

In order to understand better the actual scenario, I believe it is important to go back to the past and see what happened then. Therefore, in this paragraph the readers will be provided with a brief background regarding the EV and its origin.

The story of EVs began more than 100 years ago, around 1830 (Electro Auto Association 2015). When the automobile industry was only at its beginning, the EVs were much more popular than the internal combustion vehicles (American Technical Society 1922 in Ivory & Genus 2010). Even Henry Ford, the founder of Ford Motor Company, bought an EV to his wife: it was in 1908 (Berrett 2007), seven years after he realized his “Ford T”, a “standard” vehicle which was elected in 1999 “the most significant car of the automotive age” (Cobb, 1999). Unfortunately it was not possible to find any document explaining the reason why Henry Ford made such a choice; why one of the most influent man in the ICE’s industry would buy his wife a vehicle not only made by someone else, but based on a totally different system? Even if the answer to this question will never come, I believe it is an important particular to take into account in regards to how the EVs worked fine already 100 years ago.

Thus in America EVs had their peak reaching 20.000 units, while in the city of London there were 6000 units in the 1910 (Electric Vehicle Association 1991 in Ivory & Genus 2010).

But the success of the EVs became weaker by 1935, due to the oil’s low price, which became much cheaper than before and so boosted the ICE vehicles (Internal Combustion Engines) vehicle’s market (IEA 2013). This was the moment when EVs started to loose

popularity.

However, in 1966 the U.S. Congress led to a legislation “recommending electric vehicles as a means of reducing air pollution” (2013:23); almost ten years later, in 1973 the oil’s price rose significantly due to the OPEC oil embargo. This circumstance led to a new interest in EVs, resulting in initiatives and legislations both in USA and in Europe in order to reduce dependency on oil produced by Arabic countries and to reduce dangerous emissions caused by the ICE vehicles (IEA 2013). These events delineate two main reasons that will influence – even today – the rate of adoption of EVs: the first one is the oil price; the internal combustion engine technology has been developed with much more attention in comparison to the EVs technology; therefore in the event of a cheaper oil price the regular vehicles had no obstacles to gain popularity. On the other hand though, the environmental problem poses some important limitation to the quantity of oil that a nation consumes and the pollution that ICE vehicles provoke.

Therefore, after the U.S. legislation, the American vehicle’s industries were invited to deal with the raising level of pollution and try to work to find a solution.

3.2 General motors: a key player

In order to reach a comprehensive understanding of this historical moment, a step back is needed.

After the State of California released the “Zero Emission Vehicle Mandate”, General Motors became one of the most important stakeholders because of its EV1 –the first and only vehicle with their brand (Adler 1996) – and for the way GM decided to promote its product, as it will be shown in the next paragraph.

Therefore, this paragraph will be dedicated to the company General Motors and its role in the issue.

GM is one of the biggest companies that produce trucks and vehicles: the company has more than 212.000 employees spread in six continents (GM 2015), and it includes also other popular car brands,

such as Chevrolet, Buick, GMC, Cadillac, Baojun, Holden, Isuzu, Jiefang, Opel, Vauxhall and Wuling (GM 2015). This means that e.g. when purchasing an Opel it's actually a GM's car that it's being purchased.

GM is one of the biggest companies in the car industry and incorporates under its name other car brands, but when GM produced their EV1, GM decided to release it under its name, making the EV1 their only vehicle that actually had been sold under the GM brand rather than one of the companies that GM owns (Adler 1996). This choice can be related to the fact that eventually GM wanted to have full control over their new product (and let the decision process run much faster than it would otherwise if the EV1 would have been released under one of its brands). After all, they became one of the richest companies thanks to the ICE vehicles, the one with combustion and gasoline, a technology that was widely developed and commercialized, no need for new marketing strategies, expensive research to optimize a new technology as it would instead happen in the case of EVs. The EV1 has caused many debates and has inspired the documentary "Who killed the electric car?" which in 2006 won the "Special Jury Prize" in Telluride and the "Audience Award" in Camberra (Papercut Films, 2007). In order to provide a better understanding of these controversies the next paragraph is dedicated to the EV1 and the debate that it caused in the '90.

3.3 The EV1

As stated previously, the GM strategy caused many controversies for different reasons.

First, the EV1 was available only in leasing (Weiss 2008), probably for economic reasons: GM aimed to check if and how much demand existed among the consumers before to dedicate its resources on this project. Thus it can be argued that the *economic discourse*, made by the economic interest of GM, was prevailing over the *environmental discourse*, represented by the Californian rules and regulations in

order to reduce air pollution.

In other words, apparently GM was going to respect the “Zero Emission Vehicle Mandate” through producing and leasing out their EV1.

The leasing was actually a success: many drivers wanted to book and try out this new electric vehicle and the project went smooth until 2003, when GM decided to stop the leasing initiative for the EV1 because “it could no longer supply parts to repair the vehicle” (Weiss 2008). This statement led to relevant controversies because the customers were all satisfied and apparently there were no issue, so the decision by GM simply did not make any sense. This episode has been so controversial to inspire Chris Paine's “Who killed the electric car?”, a documentary that goes through the history of EV and aims at clarifying why GM made this move even if the response from the customers to their EV1 was enthusiastic. The demand was so high that waiting lists were necessary in order to administrate all the bookings.

The Paine’s documentary “Who killed the Electric Car?” goes back to the key events of GM, to the early beginning, when GM “bought up trolley car firms just to close this source of competition down” to the early 2000’s, when “a covert alliance of Big Oil, Big Auto and corrupt regulators, both in California and in the federal government, has killed the electric car” (Woudhuysen 2008). With his documentary, Paine aims to show “the usual nauseating network of silver-haired execs, lobbyists and politicians, but gives some emphasis to George W Bush (a quack salesman for hydrogen cars) and Alan Lloyd, chairman of the California Air Resources Board (CARB), 1999-2004” (Woudhuysen 2008). Thus, according to Paine’s documentary, the commercialization of the EV1 represented a threat to the interests of some powerful actors that were operating in the oil industry and in the political arena. It represented a threat to the profit gained through the ICE vehicles and to the *economic ideas*.

However, GM motivated its choice with two main reasons: First, they argued that only 800 vehicles had been leased during a four year

period, which made GM reconsider its choice to enter permanently in this market; in addition, only 50 out of the 5000 customers in the waiting list that were initially interested in stipulating a leasing contract were willing to actually sign the contract. According to GM, another important reason to recalling the EV1 was the shortage of replacement parts: some companies that were providing this service had quitted, consequently GM was not able to guarantee that the EV1 could be repaired, compromising its safety (Weiss 2008).

3.4 A controversial advertisement campaign

In this paragraph a critical analysis of the EV1 advertisement campaign will be showed in order to give the reader a better understanding of the Californian scenario, of what really happened back in the 90' when GM had this “revolutionary” product to promote.

GM has been strongly criticized for their lack of ability to promote their first EV (Papercut Films 2007) which eventually led to the extinction of their own product.

One of the “body of evidence” according to this documentary was the advertisement campaign, and the motive was the role of the *economic discourse* in which GM operates. The expression “*economic discourse*” is meant to represent the economic interests of a company such as GM that has reached its commercial and therefore economic peak thanks to the ICE’s vehicles; the tangible introduction in the market of a vehicle that did not need any gasoline but rather a consistent investment in terms of engineering research and marketing might have threatened the economic interests of the company.

The commercial (<https://www.youtube.com/watch?v=3g7cgUm7o9k>) as stated above, is rather controversial. It consists in 45 seconds during which a robotic voice says: “How does it go without gas and air? How does it go without sparks and explosions? How does it go without need for transmission? How does it go? How did we go so long without it? The electric car. It isn’t coming. It’s here.” (Youtube video, 2009). The video shows the shadow of mysterious elements,

which look somehow like alien, and the vehicle actually never entirely appears during the commercial. Just the back part of the vehicle is shown for about 5 seconds.

Overall the commercial communicates a sense of unease because of many elements:

- The voice which talks during the commercial is robotic; then the receiver can relate this sounds with something unfamiliar, obscure mysterious and even scary.
- The textual content of the commercial: five questions plenty of technical terms: transmission sparks, explosions, are all words that transmit once again sense of unease. The choice that GM made here is to focus on a technical level by using a very technical terminology that certainly is not the most suitable to a commercial, which instead should aim to catch the audience. The mainstream public is unlikely to be familiar with such terminology, wouldn't have been easier to focus more on simple words instead?
- The visual content of the commercial; the photography is not clear but rather blurry. It's not possible to distinguish clearly what appears in the video; the spectator does not see any concrete object, but rather shadows and unclear figures. Furthermore, the vehicle, which should be the central element, is never entirely shown.

Why GM did made such a choice for an innovative product like the EV1? To this regard Weiss in his "Ethic Business Book" commented so:" GM spent \$1 billion on the EV1. Was this money spent wisely and with the intent of great success? Commercials are a key method of advertising. When we think of car commercials, we think of beautiful people driving through scenic areas while many of the benefits of the vehicle are described. GM took a different approach to commercials for the electric car. Rather than the beautiful and beneficial mind-set, it chose an almost scary scene with a description of its (few) weaknesses." (2008:206). The same is argued in the documentary "who killed the electric car" and also the youtube users left negative comments regarding this commercial. Why did GM decided to "promote" its product with a commercial that does not

even show the product and evokes fear rather than enthusiasm for the new technology? If the actor GM is considered a key-player in the market, it can be argued that its interests are deeply related to internal combustion engine vehicles, a strong interest that goes against the development and popularity of EVs.

4 The present: a better chance in Sweden?

4.1 The analysis of the text

This type of analysis refers to the text itself and has much to do with the semiotic and linguistic science. Within my research newspaper articles have been analyzed taking inspiration by CDA (Fairclough, 1992) looking at every single particular of the text in order to reveal it in its deep meaning.

Therefore in this section I will analyze some examples of how different newspapers present news in a different way within the EVs debate.

In order to do that I picked a recent event concerning Vattenfall and Fortum, which decided to make the customer pay for the fast recharging; so far the driver had to pay for the electricity only, but now Vattenfall wants to use another system, making the driver paying for the time beside the electricity.

Normally, EVs drivers are used to recharge at home over night their vehicle because it is cheaper and convenient; the fast recharging stations are thus typically used in “emergency situations”, that is, during trips longer than 120 km where one is forced to recharge on the way; normally in such places, drivers pay a higher price for the electricity compared to what they pay at home, but the service is free of charge. Or at least it used to be. Now Vattenfall and Fortum intend to charge the drivers for the service, and this event could have many different negative impacts on the already unstable development of popularity of EVs.

The two companies are planning to charge 90 Swedish crow for 30 minutes of recharging, making actually two times more expensive to

drive an EVs (taking into account the cost of the electricity and this tax) than the ICE vehicles.

My intent is to analyze how this specific news is presented in some of the most popular Swedish newspaper and how they frame the news at different levels. For instance how much space they give to the news, how much they write about it, which kind of lexicon they use.

In order to ensure clarity for the reader, the article will be first presented below as it was reported in the newspaper. Please note that the latter has been translated from Swedish to English.

“Criticism against the expensive electric vehicle charging”

“Vattenfall and Fortum are about to charge electric cars.”Tank Full" at one of the companies quick charger can cost 90 crowns for 30 minutes, writes Ny Teknik on its site. According to a test done by the magazine “Vi Bilägare” the operating cost of driving an electric car thus be twice as high as the equivalent petrol. The organization Gröna Bilister is critical. “This announcement comes at a time when electric car sales are stalling at low levels” says Gröna Bilister spokesman Martin Prieto Beaulieu. Mattias Tingvall, Business Development Manager at Vattenfall in the Nordic countries, said that the price level is necessary. If you should have a price on par with what it costs to recharge at home, needed support. Our price is set to cover our costs and provide a reasonable margin, says Mattias Tingvall.

In order to make the analysis easier to read I have chosen to create a table where the main features of the text are being investigated.

Sentence	Article from Aftonbladet.se published on 18/02/2015 h. 16:31	Comments
Title	Criticism against the expensive electric vehicle charging	
1	Vattenfall and Fortum are about to charge electric cars.	
2	"Tank Full" at one of the companies quick charger can cost 90 crowns for 30 minutes, writes Ny Teknik on its site.	Information taken by another website
3	According to a test done by the magazine Vi Bilägare the operating cost of driving an electric car thus be twice as high as the equivalent petrol.	Another information “recycled” by another website

4	The organization Gröna Bilister is critical.	This sentence is elementarily short; does the author of the article have more information?
5	“This announcement comes at a time when electric car sales are stalling at low levels” says Gröna Bilister spokesman Martin Prieto Beaulieu.	Only one sentence?
6	Mattias Tingvall, Business Development Manager at Vattenfall in the Nordic countries, said that the price level is necessary.	More space is given to the Vattenfall’s side;
7	- If you should have a price on par with what it costs to recharge at home, needed support. Our price is set to cover our costs and provide a reasonable margin, says Mattias Tingvall.	Here the sentence is explanatory and well developed.

Regarding this article, it can be observed that it is rather short, only 7 tight sentences. Two of the first sentences report information from other websites, which might mean that the author and the newspaper did not want to make further investigations. The sentences are very short and the argument is presented in a rather superficial way. In the last part of the article more space is given to Mattias Tingvall, the Business Development Manager at Vattenfall then to Martin Prieto, who is the spokesman of Gröna Bilister. When the author of the article presents Tingvall’s statement, he is more accurate and it leads the reader to a certain inclination to buy more Tingvall’s arguments than Prieto’s ones.

Another Swedish newspaper, “SvD Nyheter” reported exactly the same text as “Aftonbladet.se”, but changed the font of the text. Indeed, by visiting their website it can be observed that unlikely “Aftonbladet.se” who had the same font for all the text except the

title, “SvD Nyheter” chooses a different style: big font size for the title but also for the next 3 sentences: in this way the news gives more relevance to the fact that thanks to the new policy driving EVs will become not only much more expensive than it was before, but even remarkably inconvenient in comparison to a petrol vehicle. Therefore the reader would possibly tend to take more into account the sentences stated at the beginning of the article.

DN.se dedicated more space to this news.

Once again, for clarity’s sake, an English translation of the article is reported below from DN.se:

“Environment Minister critical of price bang for electric cars”

Fortum and Government Waterfall go from having offered the rapid charging of electric vehicles for free to charge 90 kr per full tank. Climate and Environment Minister Åsa Romson (MP) is critical to the price increase. "It is bad timing."

“This announcement comes at a time when electric car sales are stalling at low levels”, says Martin Prieto Beaulieu, spokesman for the Green Motorists, news for “Ny Teknik”, who first wrote about the news. **Climate and Environment minister** Åsa Romson is on the same line. She is critical of the eljättarna facing charges of fast charging at a time when electric car sales have been difficult to get started. I see it as a pretty bad timing to go in and discuss the high prices of charging infrastructure. We stand with a tamping electric car sales and this is an area we want to see breakthrough. One of the big advantages is that the cars are the cars, yes, it is expensive to buy but that so far has been very cheap to run. It would be a shame if that argument disappears. It is an unfortunate discussion time, she says. In an interview with TT yesterday said Mattias Tingvall, business development manager at Vattenfall in the Nordic countries, that the new price level is necessary.

If you should have a price on par with what it costs to recharge at home, needed support. Our price is set to cover our costs and provide a reasonable margin.

Åsa Romson avoid giving a straight answer on whether she thinks it is reasonable to Waterfall searches margins, thus earning money, on the charge when the government want more people to drive electric cars. She, however, point to the benefits for the company to continue to attract new customers through continued favorable prices.

I can say that so far have used fast charging expansion as a positive PR factor. The company is entering into a new era where electric power company is a proactive player for climate adaptation. And I can say that with the expanding market for electric cars, it's a good strategy to look at how to increase the customer base, which in itself

can provide increased returns back, says Åsa Romson.

Will the government to influence Waterfalls in this matter?

- It is possible that there will be such a discussion in some sense, there is nothing that has been so far, she says.

According to Martin Prieto Beaulieu at Gröna Bilister rise of the price means that it is now becoming as expensive to run on electricity, petrol or diesel. It can even be three times as expensive depending on the charger and the car model, he says.

The argument is supported by the magazine “Vi Bilägare”. They have an electric car from BMW that required 50 minutes in a quick charger to run 10 miles.

It will be an expense of SEK 15 per mil, or about twice as much as a gasoline-powered car of the same size. To download the corresponding current home cost for 20 crowns, "writes “Vi Bilägare”.

So far, only Fortum and Vattenfall charges for fast charging but Ny Teknik speculates that they will, it is only a matter of time before charging represents a cost everywhere. They refer to Öresundskraft in Helsingborg during the year to put up 35 quick charger and not hymlar that it will cost to fill up with them.

Personally, I think it should only cost half as much as Vattenfall, Fortum wants to fast charge, says Örjan Hedblom, editor of the newspaper “The electric cars in Sweden”, to Ny Teknik. (DN.se, 2015)

Sentence	DN.EKONOMI, published on 18/02/2015 h. 10:21	Comment
Title	Environment Minister critical of price bang for electric cars	The focus here is on an institutional figure, the Environmental Minister. Therefore, compared to the previous articles, this title gives more credibility to the issue.
Second title	Fortum and Government Waterfall go from having offered the rapid charging of electric vehicles for free to charge 90 kr per full tank. Climate and Environment Minister Åsa Romson (MP) is critical to the price increase. "It is bad	The second title gives a deeper explanation and relevance to the arguments of Åsa Romson (MP) showing quickly how the price has

	timing."	increased from free to 90 kr and how the Environmental Minister disagree with this choice.
1	"This announcement comes at a time when electric car sales are stalling at low levels", says Martin Prieto Beaulieu, spokesman for the Green Motorists, news for New Technology, who first wrote about the news.	The article's text begins with the Prieto's critical point of view. This gives relevance to his argumentations.
2	Climate and Environment minister Åsa Romson is on the same line. She is critical of the eljättarna facing charges of fast charging at a time when electric car sales have been difficult to get started.	Another critical point of view just after the Prieto's one comes from Åsa Romson as we saw in the second title. The stress in these first sentences is on the bad timing, as pointed out by both Prieto and Romson.
3	I see it as a pretty bad timing to go in and discuss the high prices of charging infrastructure. We stand with a tamping electric car sales and this is an area we want to see breakthrough. One of the big advantages is that the cars are the cars, yes, it is expensive to buy but that so far has been very cheap to run. It would be a shame if that argument disappears.	The author, in comparison to the article previously analyzed, gives more space to the Romson's arguments. Here the reader can learn more about why she is critical towards the Vattenfall's and Fortum's decision.
4	It is an unfortunate discussion time, she says.	This concise sentence stands alone in the text; it is easy for the reader to be

		visually captured by it.
5	In an interview with TT yesterday said Mattias Tingvall, business development manager at Vattenfall in the Nordic countries, that the new price level is necessary.	Here the main information – “that the new price level is necessary- is located at the end of the sentence; this position gives less resonance to the information.
6	If you should have a price on par with what it costs to recharge at home, needed support. Our price is set to cover our costs and provide a reasonable margin.	Same sentence as all the other articles.
7	Åsa Romson avoid giving a straight answer on whether she thinks it is reasonable to Waterfall searches margins, thus earning money, on the charge when the government want more people to drive electric cars. She, however, point to the benefits for the company to continue to attract new customers through continued favorable prices.	This is a critic to the Romson’s argument; she does not dare to be direct. The critic is emphasized by the bold text font
8	I can say that so far have used fast charging expansion as a positive PR factor. The company is entering into a new era where power company is a proactive player for climate adaptation. And I can say that with the expanding market for electric cars, it's a good strategy to look at how to increase the customer base, which in itself can provide increased returns back, says Åsa Romson.	This sentence presents Romson as a diplomatic person but that does not dare to say straight what she thinks.

9	<p>Will the government to influence Waterfalls in this matter?</p> <p>- It is possible that there will be such a discussion in some sense, there is nothing that has been so far , she says.</p>	<p>Romson's words suggest to the reader that the government does not really intend to go that far starting a discussion with Vattenfalls</p>
10	<p>According to Martin Prieto Beaulieu at Gröna Bilister rise of the price means that it is now becoming as expensive to run on electricity, petrol or diesel. It can even be three times as expensive depending on the charger and the car model, he says.</p>	<p>Much space is given to explain the consequences of the price rising.</p>
11	<p>The argument is supported by the magazine Vi Bilägare. They have an electric car from BMW that required 50 minutes in a quick charger to run 10 miles.</p>	<p>The article shows important sources – Vi Bilägare - in order to support the argument of how expensive the EVs will become.</p>
12	<p>It will be an expense of SEK 15 per mil, or about twice as much as a gasoline-powered car of the same size. To download the corresponding current home cost for 20 crowns, "writes Vi Bilägare.</p>	
13	<p>So far, only Fortum and Vattenfall charges for fast charging but Ny Teknik speculates that they will, it is only a matter of time before charging represents a cost everywhere. They refer to Öresundskraft in Helsingborg during the year to put up 35 quick charger and not hymlar that it will cost to fill up with them.</p>	<p>Willingness to raise a discussion about possible consequences for the EVs world.</p>
14	<p>Personally, I think it should</p>	<p>Conclusion of</p>

	<p>only cost half as much as Vattenfall, Fortum wants to fast charge, says Örjan Hedblom, editor of the newspaper “The electric cars in Sweden”, to Ny Teknik.</p>	<p>the article with a sentence that makes a clear statement: the decision taken by Vattenfall and Fortum is not fair to the EVs market.</p>
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4.2 More actors in the issue

As can be observed quickly, this article is much longer than the previous one and goes deeper in the debate, taking into account also other players which were not included by both the SvD and Aftonbladet.se.

This article includes more players compared to the previous ones, therefore it might be necessary to take a step back and describe them; who are they? Which is their role? Which kind of interest do they have?

Besides being the climate and environment minister of the government, Åsa Romson is also the spokesperson for the Green Party; she writes in her official website that “there are major issues to deal with: waste of resources must be stopped and quality of life through fresh air and clean water are protected” (ÅsaRomson.se). Therefore it can be assumed that her interest is to follow the line of her party by exercising pressure in the social arena to protect the environment. According to an article published last summer in Vi Bilägare.se, the Green Party is actually the one that aims the most at promoting EVs in Sweden (Vibilagare.se). Observing her position in this *conversation* it can be argued that her role takes place within the environmental discourse, but also the political one: as a politician she belongs to that specific environment.

- Vattenfall is “one of Europe's largest producers of energy and the largest producer of heat” (Vattenfall.se); as a company, profit is, among another things, their goal. As stated previously, so far Vattenfall charged its customers just for the electricity provided, but now they want to make the EVs pay 3 kr per minute also for the

service of fast charging.

It is rather important to note that Vattenfall is fully owned by the Swedish State but not run by the government.

- Martin Prieto Beaulieu is the spokesman of Gröna Bilister, which is the Swedish Association of Green Motorists and aims at “improving the condition of the traffic in Sweden, making it more environmentally friendly; in order to reach this goal, Gröna Bilister tries to “influence the automobile industry, the transport industry, authorities and politicians via reports, petitions and letters (Grönabilister.se)” and recently its activities has been concentrated on:

- audits of municipalities in terms of green car situation
- an annual compilation of the year's Best Environmental cars
- answering service for citizens and organizations.

The incipit consists of a focus on an institutional figure, the Environmental Minister Åsa Romson and her critical position against Vattenfall and Fortum; these two companies want to charge the EVs drivers 90 kr per 30 minutes, but Romson replies saying that “it is a bad timing” (DN.se); it can be observed that this title tend to give more credibility to the issue.

The second title gives a deeper explanation and relevance to the arguments of Åsa Romson (MP) stressing that the price has increased from free to 90 kr and that the Environmental Minister disagree with this choice.

The article's text begins with Prieto's critical point of view. The sentence starts directly with Prieto's quote, which emphasizes his argumentations. “This announcement comes at a time when electric car sales are stalling at low levels (DN.se)” argues Prieto in a way that emphasizes the same “bad timing” the environmental minister Romson was talking about. This common worldview is textually translated by the words of the article, which in facts continues stating that “Climate and Environment minister Åsa Romson is on the same line” (DN.se) with another critical point of view straight after the one

by Prieto recalling the statement of Åsa Romson as we saw in the second title. The stress in these first sentences is on the bad timing, as pointed out by both Prieto and Romson.

“Bad timing” here means that the market of EVs is not as mature yet to charge the users. Today there are only 3200 EV in Sweden and of those only 1800 have can access to the fast charging (Karlberg 2015).

In sentence number 3 eventually Romson explains why she thinks it is a bad timing for starting to charge the EVs drivers for the service of fast charging: “We stand with a tamping electric car sales and this is an area we want to see breakthrough. One of the big advantages is that cars are expensive to buy but that so far has been very cheap to run. It would be a shame if that argument disappears” (DN.se). The Romson’s argument ends so far with a lapidary sentence which stands alone in the article in a way that captures the reader’s attention: “It is an unfortunate discussion time” (DN.se).

Then the article continues switching to another discourse, the *economic* one. In fact in sentence number 5 we read the voice of Mattias Tingvall, business development manager at Vattenfall in the Nordic countries, who says that “the new price level is necessary” (DN.se), and “set to cover our costs and provide a reasonable margin” (DN.se).

The author, in comparison to the article previously analyzed, gives more space to the news, going deeper in the issue and presenting the opinion of Romson which was missing in the previous articles. Here the reader can learn more about why the Environmental Minister is critical towards the Vattenfall’s and Fortum’s decision and get a broader perspective of the whole picture.

5 The fast charging debate

Just last March many of the Swedish media reported the decision by Vattenfall, an energy company fully owned by the Swedish State, to start charging EVs drivers when using the fast recharging. This event

is something that it's going to be remembered long in the history of EVs in Sweden because it will have strong and visible impact for the market and especially on how the consumers will perceive EVs. In the annex both pros and contras of driving an EV have been presented; among the pros there used to be the relatively low price of charging and driving the EV. But what will happen now? Are EVs still going to be cheaper to drive compared to ICE vehicles?

Vattenfall will take 3kr per minute for the service, which means that recharging an EV would cost at least 90 kr or even more depending on the model of the car.

The news has been reported properly only in some of the Swedish newspapers, while others eventually dropped just a few lines about this topic; most of them are technical and dedicate all their attention to the issue within the technological and scientific field. On the other hand, many others wrote a tiny article eight sentences long.

A reflection here is needed: why do newspapers dedicate such little space to EVs? Do the Swedes get all the information needed? Nowadays we have open access to many sources that just some decades ago were not available, but still the media are not totally impartial; the media rather tend to give emphasis to some news compared to others.

After analyzing the articles, it's possible to observe that the issues about EVs are not discussed in all the newspapers but rather only in the most "technological" ones. This argument is apparently not considered to be of large public interest by the media. Furthermore, the focus is mostly on Vattenfall and on its interests as a company, presenting many details about why the company decided to charge the drivers now.

The next paragraph focuses on how and to what extent the Swedish media discuss the *EVs ideas*

5.1 The EV's ideas on the Swedish media's scene

To this regard, Johanna Grant provided me with valuable information

that gave me a better understanding of how the Swedish media works. Due to her volunteer job at Gröna Bilister, she is part of the media's world and therefore can observe the media scene from a "privileged position", from inside.

During our interview, she explained that Gröna Bilister, the non-profit organization where she works, writes articles and then publishes them in "My News Desk", a sort of virtual dashboard/ open platform.

Last February it issued about 4 press releases but one of them did not succeed to reach the media attention, for simply nobody cared about. This press release was part of the campaign "Jag Vill Veta Vad Jag Tankar", in English "I want to know what I'm fueling" in which they wrote about how in just 3 years Sweden has gone from importing less than 1% oil from Russia to more than 40% from Russia and how in Nigeria also it has been used a very unsustainable way of producing oil and how big is the environmental impact in these countries even when importing from less than 1% to 10% oil (Grant 2015).

Thus this article aimed at raising awareness about how we contribute to destroy the environment in these countries (even in Sweden) every single time we fuel our ICE vehicle. The article aimed, therefore, at implicitly discouraging the use of ICE vehicles due to the high price the environment has to pay in terms of pollution.

This investigation might sound interesting to some, but not to the media; indeed, Grant argues, this article wasn't widespread at all.

Then eventually Gröna Bilister released a new article, the one about Vattenfall that would start charging for the fast charge of EVs and in this case the article was spread everywhere.

After Grant told me about these different results, I asked her the reason why this circumstance happened: after all, both articles have been published by the same platform "My News Desk", with the same people having access to that.

Instead last March Grant attended a conference about how people can work in sustainability in their own daily life: i.e. instead of shopping new things, people can clear out their apartment and sell all the items they don't need anymore. This suggestion at this conference was

presented as “a new type of shopping” and the conference was very successful. After this comparison Grant tried to get some conclusions: “it feels like people don’t want to hear about what’s far away: other people struggling, disasters, climate changes; but if it’s something like “the positive way of rinsing your apartment”, then they are more interested. And it might be the same with this, then it is more a “wallet question”: I was considering to buy a car but there was this headline that it will cost 90 Swedish crowns to charge your car.” (2015). Two considerations can be done here: people tend to prefer what surrounds them and involve them directly – in the example shown by Grant the “new type of shopping”; people tend to ignore what is far away; people get interested on sustainability as long as it doesn’t involve their wallet.

Therefore, looking at these fact from a CDA perspective, it can be argued that *the economic ideas*, as Fairclough argues (1992), are not only represented by a certain group of stakeholders and the relations with each other – the oil companies and the other players which have interests against the diffusion of EVs – but they're actually building them; as a result, the *economic ideas* are ruling and guiding the media agenda. The *environmental ideas* – in this case the damages caused by certain human activities such as oil drilling in poor lands, driving intensively a regular vehicle causing daily air pollution – do not get enough space in the media, because the players in charge of the media industry do not want to give relevance to these issues.

5.2 The Volvo’s debate: a manipulation case?

Last February Svd – one of the most popular Swedish newspaper – asked Gröna Bilister to write an article about the fact that Volvo has not released yet a pure electric vehicle (Grant 2015).

Through this article, Gröna Bilister stressed the fact that Volvo, since it became Chinese, it’s putting great efforts in promoting its brand as Swedish through massive marketing operations: recently, famous Swedish people such as Zlatan Ibrahimovich, Robyn and Borje Salming starred in three of Volvo's most popular commercials and in

all of them the cars “sweeps through a beautiful, snow-covered landscape” (Grant 2015).

The title “Volvo's passivity risks the future of Sweden” brings a pretty strong message putting the blame on the “Swedish” car company. But if the reader continues just one line further, would easily find out more: “Volvo's inaction and the government's indulgence risk Sweden's future as “bilbyggarnation”. One senses Volvo's hand behind the strange green car definition that allows heavy vehicles to emit more carbon dioxide than light” (Grant 2015).

Thus Gröna Bilister released an article that afterwards has been taken from their “My News Desk” to the national newspaper Svd, which gave this news some visibility. But in this operation, Svd did some changes: the written content of the two versions are exactly the same, but some parts have been transcribed in bold. This way, Svd – intentionally or not? – gave more relevance to the arguments against Volvo, while the whole article is blaming Volvo as much as the politicians that are described as “indulgent” and guilty of setting unclear rules that “allow heavy vehicles to emit more carbon dioxide than light ones”(Grant 2015).

In addition, the editors of the Svd decided to set a “live chat” where the readers could write comments about the news and Grant (the article has been attributed to her) would reply to them.

During this live chat the readers have been quite harsh to Grant, because “Volvo is the heart of Sweden” (Grant 2015) and the readers thought Grant was attacking “mother Svea” Volvo.

Thus it can be argued that the way the text was presented by Svd had influenced the reader, which eventually did not read the entire article and jumped to fast conclusions. This is just an example of how the media can be manipulative through framing information in a particular way. Briefly, in this specific situation there are:

- Gröna Bilister, an ideal organization that is not related to any company; they try to bring on and spread *environmental ideas*.
- The government: they have political and economic interests and therefore they represent *political ideas*. The last government decided to

abandon the bonus/malus system, which consists in a virtual scale according to which each vehicle has to pay a certain amount of tax according to how much Co2 generated the motor. If the vehicle emits more than a certain amount of emissions it gets a malus, a tax to be payed; but if the vehicle generates less than a certain amount of emission it gets a bonus, a prize. At the moment rules about what is an “environmentally friendly vehicle” are not as clear as before, and this would make it difficult to facilitate the EVs market and to reduce the emissions.

- Volvo: it's described in the article as “mother Svea” to indicate its Swedish roots. But now it belongs to the Chinese and the new owner is investing a lot of resources in marketing operations aimed to frame the company as still Swedish. The same resources are not been invested in EVs, as the company had once an EV, the Volvo C30, which though has been taken off the market (like GM did with the EV1). The Volvo C30, as stated in this article, “was developed with contributions from the Swedish Energy Agency, and then is being phased out. They were made in a few hundred copies, and was leased out”.

In this circumstance, Volvo has some important common characteristic with GM and its EV1: both of them had only one EV, which they leased out and never sold, they were made in a few copies, and then they disappeared from the market. Is Volvo the new killer of EVs?

6 Conclusions

The aim of this analysis has been to get a closer look at how communication regarding EVs is performed, focusing on the different stakeholders.

Therefore, the research questions have been:

- 1) How do Swedish media talk about EV?
- 2) At what extent the Swedish government promote the use of the EV?

Inspired by Critical Discourse Analysis, this investigation contains an analysis of the text of different materials such as newspaper articles and advertisement.

The analysis shows a complicated reality: on one hand the Swedish

government aims to reach the long term goal of being “free of net emissions of greenhouse gases by 2050” (Ministry of the Environment and Energy 2013), but on the other hand there is an energy company, named Vattenfall - fully owned by the Swedish state but not run by the government - which has recently began to charge their customers not only for the electricity sold at the fast charge station, but also for the time that the EV takes to get recharged, making an EV more expensive to drive than an ICE vehicle.

Similarly, in the U.S. the state of California had approved about twenty years ago a campaign to promote the adoption of EV in response to serious problems related to the air pollution. Then GM had released their product – the EV1 – which was impossible to buy and was removed from the market and never came back.

Regarding the Swedish scenario, it has been observed that newspapers do not consider EVs to be of large public interest and tend to give to EVs a tiny space only: indeed, news about EVs can be found in newspapers, these articles are just made by few lines though. More detailed news about EVs can be found mainly in “technical” newspapers such as “Ny Teknik”, but in which way are these information presented? This analysis has shown that articles tend to focus more on Vattenfalls side resulting impartial.

But media are not the only players to blame for this impartial scenario: the past government indeed abandoned the bonus/malus system, a clear regulation that aimed to reduce the CO2 emission through taxing with a “malus” vehicles according to the quantity of dangerous emissions. At the moment “green cars” are defined by strange parameter according to which heavy vehicles are allowed to emit more carbon dioxide than light vehicles.

It has been shown that even Volvo plays an important role in this scenario: the company is often represented as “mother Svea” for its Swedish roots even though is now own by the Chinese. Volvo influence also the audience trough not producing any electric vehicle and getting advantage of the unclear regulation to promote vehicles as green even when they are not environmentally friendly (Grant 2015).

Critical Discourse Analysis has provided a great inspiration for analyzing the text and investigating how communication about EVs is performed in terms of quantity and quality.

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Annex

7 EV's main features

In this section the main characteristic of EVs will be briefly described in order to give a better understanding of this innovation to those who are not familiar with it. The language here should be quite technical but, as this paragraph is not part of a commercial, some technical terms can be appropriate.

EVs, unlike the ICE vehicles, do not have the internal combustion engine, but rather store the energy through batteries that transmit the power to the motor. The batteries need to be charged by connecting them to one electric source; furthermore, the batteries partially get charged by taking advantage of the regenerative braking. Every time the driver uses the break, some energy is generated, but instead of wasting it – as it happens in the ICE vehicles – the energy is converted in electricity. When driving an EV no petroleum – based fuel is necessary and there's no production of tailpipe emissions (NREL, 2011).

7.1 Strengths and weaknesses

7.2 EVs Pros

“Why is it so important with EVs? Because I’m very concerned with climate change”

Johanna Grant, spokesperson for Gröna Bilister

This paragraph aims at illustrating the pros of EVs.

EVs are more sustainable compared to the ICE vehicles, because of the absence of the thermic motor – replaced by the battery – no combustion takes place when driving. These elements can drastically decrease the air pollution, especially in the most populated areas where the use of vehicles is typically more intensive (Hagberg, 2013). Furthermore, if the electricity consumed in the EV comes from a removable source – solar, wind, and so on – the emissions generated are close to zero (Grant, 2015). This might happen i.e. when the EV gets charged overnight through the solar panels on the roof. Indeed, EVs get recharged at home over night. If looking specifically at the Swedish market the pros are even more evident due to the relatively low price of electricity compared to the price of gasoline, which is known to be instable; thus, if the drivers recharge their EVs mainly at home this will make EVs cheaper to drive compared to ICE vehicles (Hagberg, 2013).

Furthermore, the adoption of EVs can reduce our dependence on oil, generating less pollution – caused by the operations of drilling, transforming oil in gasoline etc. (Hagberg, 2013).

In addition, the EVs are almost totally silent compared to ICE vehicles, and therefore the acoustic pollution – once again especially in the most populated areas – can be remarkably reduced (Hagberg, 2013). Last but not least, switching to an EV allows the driver to pass by the gasoline station, as no more refueling is needed (Hagberg, 2013).

For all these reasons, EVs are much more environmentally friendly

than ICE vehicles.

7.3 EVs cons

Like many other “innovations”, EVs present, alongside some benefits, also “dark sides” and aspects which need to be improved in order to gain more popularity.

The first one is, in my opinion, the greatest challenge that EVs have to overcome: the battery and its reliability.

Indeed, at the moment the battery can work without being recharged for a maximum of 160 km (Hagberg, 2013), which can cause the famous “range anxiety” especially for those who live in the country side, where eventually it can be challenging to find a fast recharge station. This aspect is particularly important in Sweden; the country has a long extension and it is mostly made by forests where often it occurs long distance connecting the different towns. In such a scenario the fast charger plays an important role to make the driver feeling safe and able to be “spontaneous”.

Furthermore, the battery is the most expensive component of EVs, therefore it is also the main cause of the higher price of EVs compared to ICE vehicle. It is important to keep in mind that some types of incentives are available. The incentives will be better investigated in the next paragraph.

7.4 Incentives and market - an overview -

This section analyses the incentives dedicated to EVs, with a comparison between Norway – the best environment for EVs – and Sweden will be made.

When it comes to spread an innovation, incentives play a crucial role especially in the case of EVs; the market needs to get help from the politicians to have the possibility to develop efficiently.

This at least is what happened in the neighboring Norway.

At the moment many European governments try to favor the EVs

market basically by using three different kind of incentives (Mock& Yang 2014):

Direct subsidies: one-time bonus to purchase an EV;

Sweden has been offering from 2012 a one time “super green car premium” consistent of 40.000 SEK that is paid to a maximum of 5.000 vehicles. In order to receive this bonus the car purchased must not have more than 50g/Km of CO2 emission.

Fiscal incentives: a reduced purchase and/or annual tax of an EV;

In Sweden EVs with energy consumption of 37 kWh per 100 km or less are free from the annual circulation tax for a period of five years from the first registration.

Fuel cost savings: benefit as a result of electricity price being lower than fuel price, due to lower taxation and/or lower energy cost, along with higher efficiency;

This aspect is strongly related to the price of the fuel and electricity, thus the advantages of driving an EV can vary significantly from one country to another, depending on the price of fuel and electricity.

In Norway for example, the gas price is relatively high while the electricity is rather cheap, therefore EVs are more convenient and cheaper than regular cars.

The same outcome can be seen in Sweden, where the cost saving is slightly lower than Norway.