Amsterdam elektrisch

- Controleren van gegevens
- Bezig met laden
- Voertuig gekoppeld
- Storing

Start laden:

1. Laadkabel aansluiten
2. Laadpas aanbieden
3. Licht knippert groen: controleren van gegevens
4. Licht wordt blauw: laden is gestart

Stop laden:

1. Laadpas aanbieden
2. Licht gaat uit
3. Laadkabel loskoppelen

Bel bij storing
0900 - 675 2237

www.amsterdam.nl/elektrisch

Flexpower

	Tijd	Laadsnelheid
Deze laadpaal maakt optimaal gebruik van duurzame energie	06.30 – 18.00 uur	normaal en bij zonnig weer hoger
	18.00 – 21.00 uur	laag
	21.00 – 06.30 uur	hoog

www.amsterdam.nl/slimladen

Laden op het Raamplein

The→ Incredible →Machine

Flexpower specification

User research

Ideas

Discussion

Next Steps & Collaborations

The→ Incredible →Machine

Summary

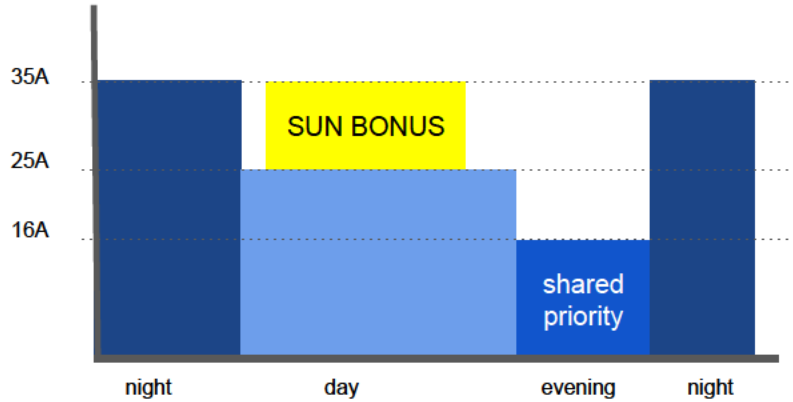
- There is no specification yet. (right?)
- Impact of ‘fellow charger’ can be so profound that it cancels out ‘smartness’
- ‘Smartness’ has little effect on single phase, 16A cars.

- These effects impact the user experience, and therefore the design.

The→ Incredible →Machine

Assumptions

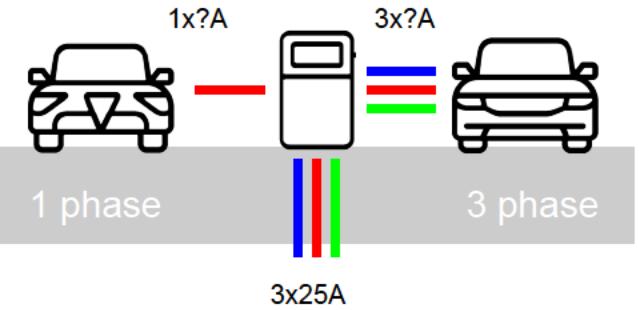
32A bleek later 32A te zijn.
De zonnebonus is dan 7A

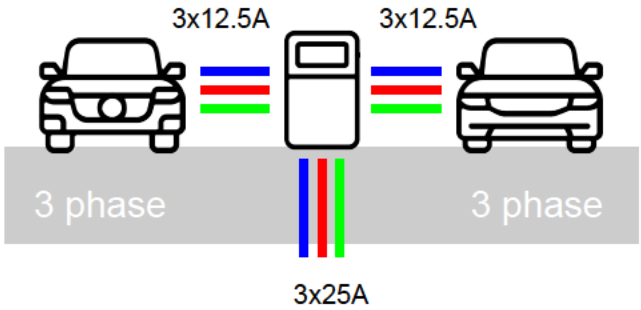


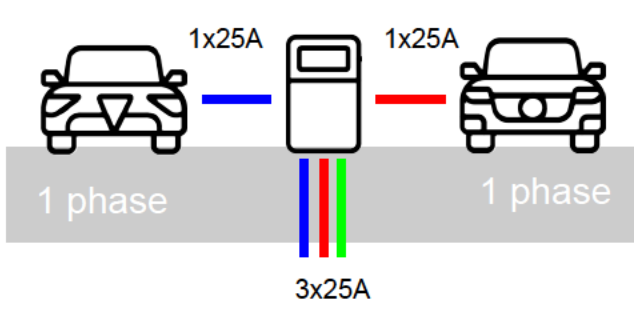
1. Flexpower has 3 levels: 16, 25, 35A
2. Shared cars can only be prioritised at peak hour
3. Sun Bonus…
   a. … only occurs between 9:00 - 18:00
   b. … is predetermined each day.
   c. … can only be 10A.
4. Power distribution
   a. Cars cannot charge below 6A, so dynamic switching is necessary
   b. Some cars can charge a maximum of 32A and others a maximum of 16A.
   c. Every charging station gets the same power, which the station divides between max. 2 cars.
   d. We can exclude 2-phase charging.

Standard charging stations

Each charging station has 3 phases and usually 2 charge points per station. Standard charging stations can deliver 25A per fase. Most cars can either charge using 1 phase or 3 phases. Two single-phase cars can use one phase each and could theoretically charge at 25A, although most cars charge at a max of 16A. Two 3-phase cars will split the power per phase and will each charge at 12,5A per phase.

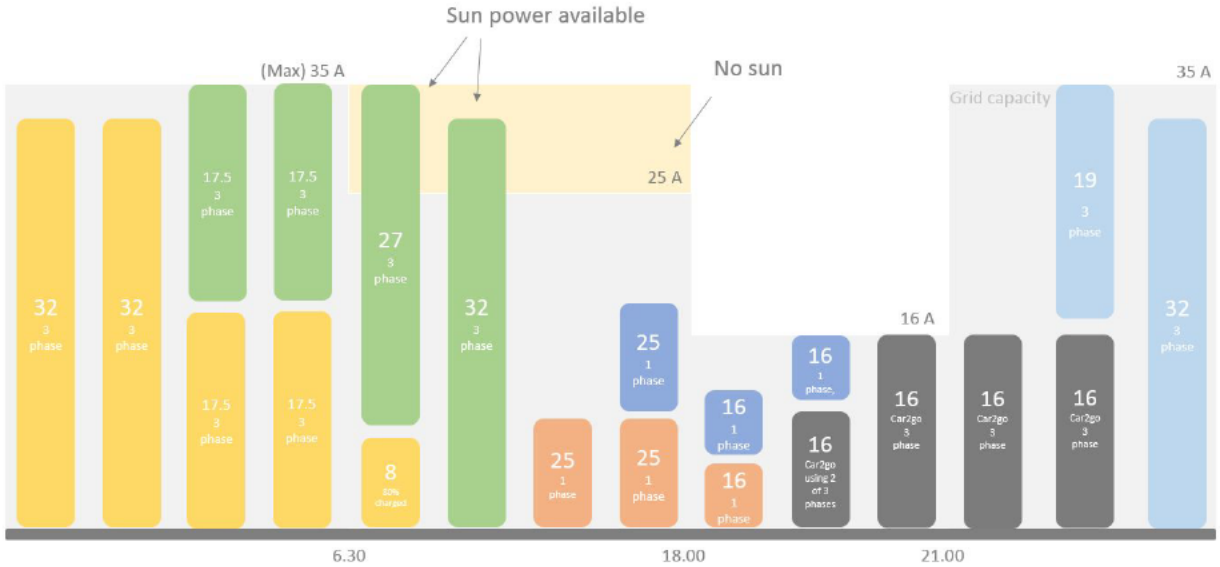






Car variables

Cars differ in the number of phases they use to charge and the maximum at which they can charge. They will have different battery capacities and mileage rations. Some cars will also charge the remaining 20% at a lower rate. This creates many variables that influence the rate at with your car can charge and how to evaluate a fair distribution.



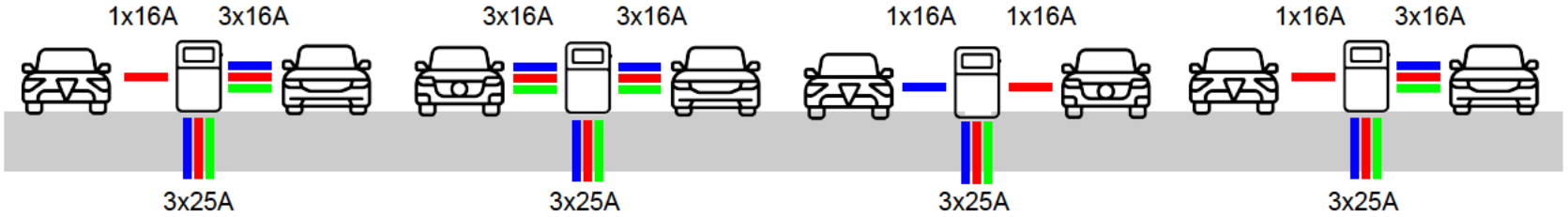
dit was ons idee van hoe de paal werkte, maar niet alles in dit overzicht komt overeen met de praktijk.

The→ Incredible →Machine

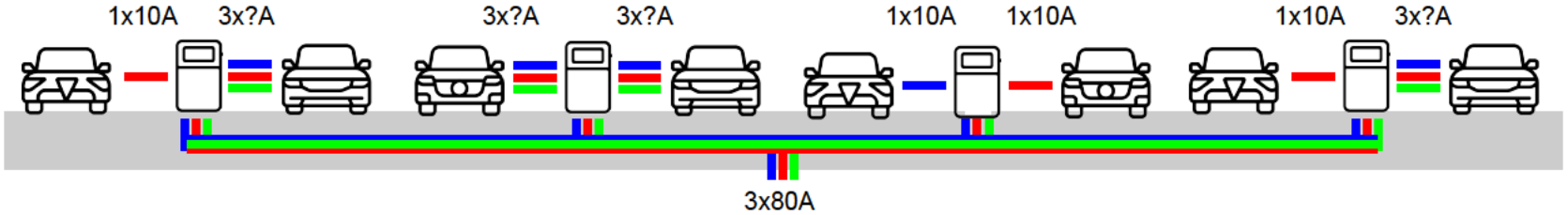
Raamplein

The 4 charging stations on Raamplein currently have a connection each, meaning they can independently provide up to 3x35A. It is therefore not a true charging square (laadplein) where a single connection could deliver up to 3x80A. With such a setup all cars would notice a reduced output if more cars would charge.

Current situation at Raamplein



A charging square



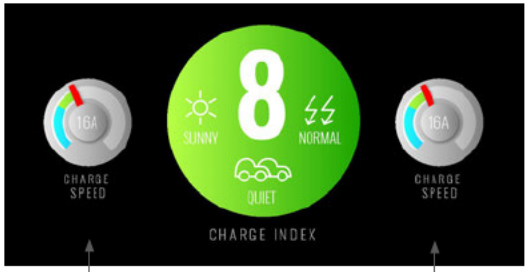
The→ Incredible →Machine

Different frictions

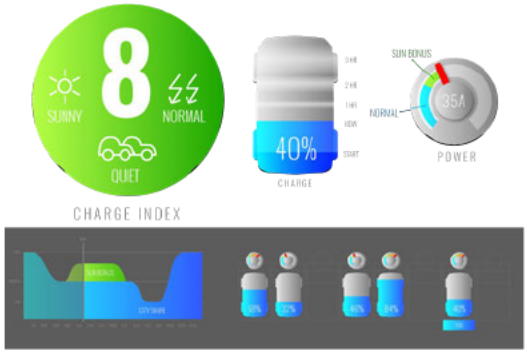
The frictions that seem to most prevalent are the amount and type of cars that are charging and the low supply during peak hours. In the current situation this only holds between the two cars that are both using a charging station, not between all 8 cars that can charge there.

The design solutions might use similar solutions, but might differ quite a bit. To proceed with the design process it would be good to answer this question.

QUESTION:
Do we design the pilot around the current setup and focus on frictions per station or do we design for a charging square?



Compare 2 cars



Compare 8 cars

Distribution rules

Car share advantage	200%	Percentage car shares get compared to normal cars
Phase distribution model	Assign Phase	Distribution model between single phase and 3-phase cars. Split phase: equally divide single phase between cars. Assign phase: fully assign one phase to single phase car and assign remaining 2 phases to 3 phase car. Custom: another model presented by Elaad

When single phase cars share, there is only impact from lower power levels

3 phase car shares can have a large impact because they can command a lot of power

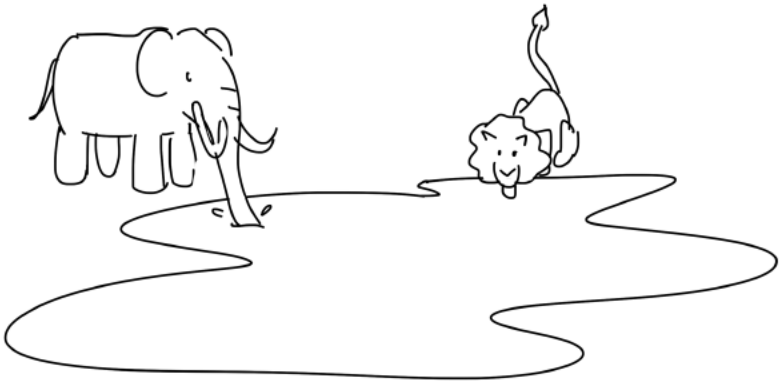
Friction Matrix

		Normal cars				Car sharing				Normal cars				Car sharing			
		1x16A		1x32A		1x16A		1x32A		3x16A		3x32A		3x16A		3x32A	
		Ah	%max	Ah	%max	Ah	%max	Ah	%max	Ah	%max	Ah	%max	Ah	%max	Ah	%max
1x16A	35	16	100%	16	100%	16	100%	16	100%	16	100%	16	100%	16	100%	11,7	73%
1	25	16	100%	16	100%	16	100%	16	100%	16	100%	16	100%	8,3	52%	8,3	52%
16	16	16	100%	16	100%	16	100%	16	100%	16	100%	16	100%	5,3	33%	5,3	33%
1x32A	35	32	100%	32	100%	32	100%	32	100%	32	100%	32	100%	19	59%	11,7	36%
1	25	25	78%	25	78%	25	78%	25	78%	25	78%	25	78%	8,3	26%	8,3	26%
32	16	16	50%	16	50%	16	50%	16	50%	16	50%	16	50%	5,3	17%	5,3	17%
3x16A	35	32	67%	32	67%	37,3	78%	32	67%	48	100%	48	100%	48	100%	35	73%
3	25	32	67%	32	67%	32	67%	32	67%	37,5	78%	37,5	78%	25	52%	25,0	52%
16	16	32	67%	32	67%	32	67%	32	67%	24	50%	24	50%	16	33%	16,0	33%
3x32A	35	64	67%	64	67%	64	67%	64	67%	57	59%	52,5	55%	57	59%	35	36%
3	25	50	52%	50	52%	50	52%	50	52%	37,5	39%	37,5	39%	37,5	39%	8,3	9%
32	16	32	33%	32	33%	32	33%	32	33%	24	25%	24	25%	24	25%	5,3	6%

When 3 phase cars share the power levels impact charge rates. The impact is higher because they can charge more

Algorithmic friction

- 3 phase car sharing vehicles can severely impact your charge rate
- Single phase car sharing vehicles have a relatively small impact?
- Cars with higher charging capacity (phases and amps) tend to ‘suffer’ more
  - They cannot charge as much they could and will experience it as slow
- What is fair? Should we find a more neutral metric like mileage?
- …



The→ Incredible →Machine

Questions about power distribution

- Do 1-phase cars always charge with a maximum of 32A or can this also be 16A? can do both
- Do 3-phase cars always charge with a maximum of 32A or can this also be 16A?can do both
- How is power divided between a 1-phase and 3-phase car? They both get the same amount offered by the chargepoint, without considering what they actually can use.
- How is the power divided when one car is at 80%? This is still to be decided.
- What kind of connection do shared cars have? (expectation, 16A with 3-phase) differs
- How do Car2go cars get priority? (When sharing with 3-phase and 1-phase car) yet to be decided
- What happens when the power from the sun is not as expected? Can it be adjusted later during the day or is other energy used to compensate? still to be decided

Discussion
Algorithmic friction

The→ Incredible →Machine

Discussion
Algorithmic friction

Het bleek dat het soort auto geen invloed heeft op hoeveel er aangeboden wordt, dus dit is incorrect

- 3 phase car sharing vehicles can severely impact your charge rate
- Single phase car sharing vehicles have a relatively small impact.
- Cars with higher charging capacity (phases and amps) tend to ‘suffer’ more
  - They cannot charge as much they could and will experience it as slow
- What is fair? Should we find a more neutral metric like mileage?

The→ Incredible →Machine

Flexpower specification

User research

Ideas

Discussion

Next Steps & Collaborations

The→ Incredible →Machine

Research

1. When, why, and how can we engage EV-drivers with the Flexpower algorithm?
2. How should we intervene in the public space and place the monitor?

Outcome Scenario for projected experience

The→ Incredible →Machine

Research

- Site visit + interview
- 5 in-depth interviews with EV-drivers (read here)
- Paper prototype

The→ Incredible →Machine

Insights EV-Drivers

1. There is **limited attention** in the charging process
2. Drivers need information about their ‘treatment’ **before** charging, not after.
3. Smart charging is acceptable as long as it does not drastically **limit mobility.**

The→ Incredible →Machine

#1 — Limited attention

- **Low interest** The initial interest in understanding the algorithms seems low
- **Limited attention** Drivers indicate that they do not pay attention to any information outside of:
  - the lights on the charging station
  - the dashboard of the car
  - the car app
- **Cognitive overload** Drivers' stories of charging in a public space seem to suggest that there is quite a cognitive load and perceived stress that might make it difficult to turn their attention to something else

The→ Incredible →Machine

#1 — Limited attention

"I doubt if knowing the algorithm makes sense, there's probably nothing that can be done about it"
- Rob (40), Outlander hybrid

"I get so much information every day, I assume it will be fine"
- Karen (48), e-Golf

"I only pay attention to the info when something went wrong"
- Karen (48), e-Golf

"I have a love-hate relationship with charging. (...) It happens that I stand there like an ass (klojo)"
- Rob (40), Outlander hybrid

"As long as it is charged, I don't need to know more"
- Dirk-Jan (36), Tesla Model S

The→ Incredible →Machine

#2 — Information before charging is key

- Drivers express a need to be informed before they start charging of their ‘treatment’.
- Drivers want to know how much they can charge in what period of time
- This means that the station will have to do a ‘prediction’ of some kind. It will have to give an impression to the driver of what he or she can expect in the coming hours.

The→ Incredible →Machine

#2 — Information before charging is key

"If you don't know beforehand, I think that's punishment according to criteria you knew nothing about. Dat would give me a feeling of unfairness, because I did not get to make a choice. That's not really transparent to me."
- Rob (40), Outlander hybrid

"I would like to know beforehand, yes. (...) Getting the information afterwards does not seem useful to me"
- Karen (48), e-golf

"I want to know what I can expect. Not really why but how much I can charge. To know for the next time."
- Janneke (19), e-golf

"Yeah of course, i'd like to know up front so I can then maybe skip that station and look for another one"
- Dirk-Jan (36), Tesla Model S

The→ Incredible →Machine

#3 — Acceptability of smart charging

- Drivers express that smart charging is fine, as long as it does not limit their own mobility
- Not knowing what to expect hurts the trust in charging station
- Not knowing how much you can charge evokes a lot of negative emotions in drivers

The→ Incredible →Machine

#3 — Acceptability of smart charging

"As long as I get to where I need to go without too much trouble all is fine by me"
- Karen (48) e-golf

"I can understand prioritization, as long as it doesn't become some kind of class-system"
- Roelof (45) Tesla Model S

"If I do not charge enough that would be total sh*t. I could really make a fuss about that"
- Rob (40), Outlander hybrid

"You mean if other people charge before me? If there is no good reason then that really is injustice."
- Dirk-Jan (36), Tesla Model S

The→ Incredible →Machine

Insights Raamplein

- The space does **not** lend itself to the **placement of a single screen** to explain the design
- The space is not a true charging **square**; a screen per station is probably more fitting

The→ Incredible →Machine

Insights Raamplein

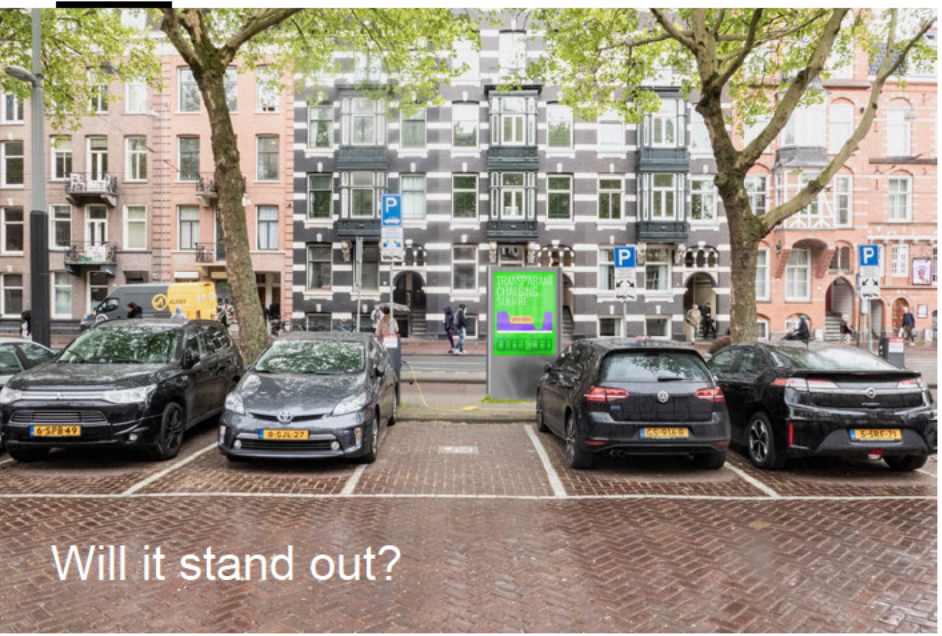
- The space does **not** lend itself to the **placement of a single screen** to explain the design
- The space is not a true charging **square**; a screen per station is probably more fitting

Placement of a single screen

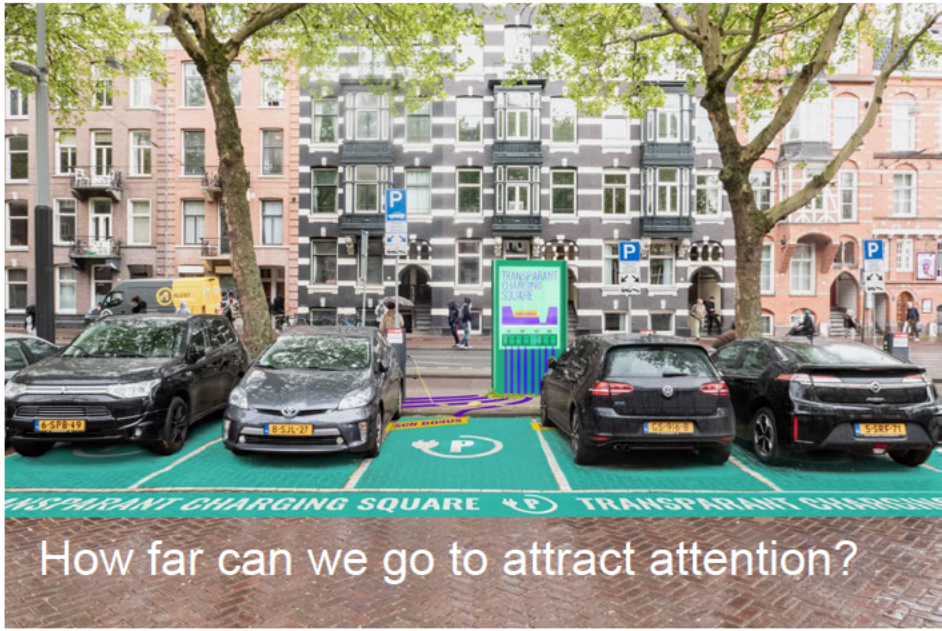
The space does not naturally guide users next to the charging station to a centrally placed screen between the charging stations:

- The viewing angle from the different charging stations makes it difficult to look straight at the screen (more likely to see the sides)
- Trees and traffic signs block or compete for attention in the field of view
- The distance to the screen from the outer charging points is around the width of 3 parking spots, which might require the screen to be quite large in order to be identified

Again, other interventions might be needed to guide users to the screen.



Impression JCDecaux style screen



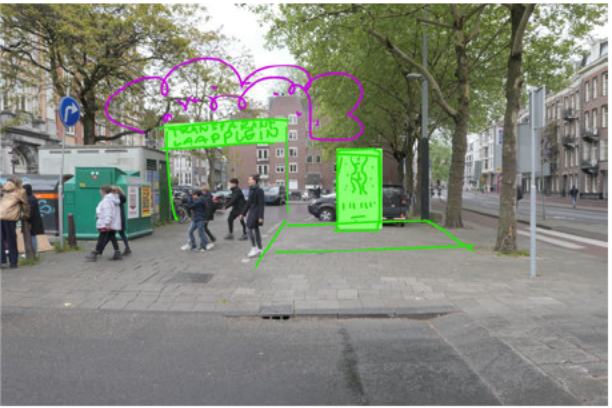
Impression color interventions to guide attention

- A standard screen might not stand out in the environment since it is already quite feature-rich: charging stations, street signs, trees, traffic, decorative architecture all compete for visual attention
- An intervention to attract attention might have to be quite ‘loud’ to capture the attention of the user. This might not fit the public space and is not very scalable

A screen per charging station

We suggest to not proceed with a single screen as a main direction, but to investigate a screen for each charging station

- A single screen can still be used for explaining the story to the public
- The challenge is still to fit the action of reading the screen into the many steps in the charging flow
- We need to be extra aware of the practical possibilities with regards to sourcing etc



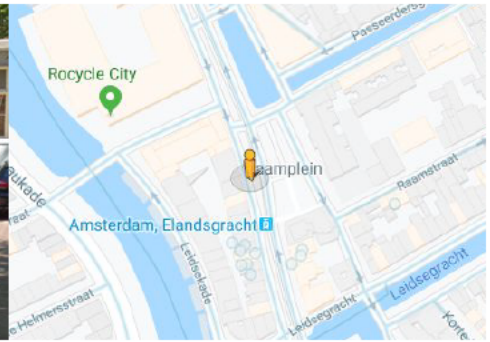
Main screen for the public at the entrance?

Schermen op het raamplein

Om aan gebruikers en voorbijgangers duidelijk te maken wat er allemaal bij flexpower komt kijken zijn schermen nodig. Een scherm per paal is het uitgangspunt, dus er zijn vier schermen nodig op het raamplein. De schermen moeten boven de huidige laadpaal komen te hangen.

<u>Het scherm moet voldoen aan een aantal eisen:</u>

- internet verbinding mogelijk
- kiosk/browser mogenlijk
- hoog contrast
- vandalisme proef
- weersbestendig
- eventueel touch
- tussen 12 en 21 inch (dit is flexibel)



Division of power by the chargepoint*

*chargepoint might give more than the car can use

Alone

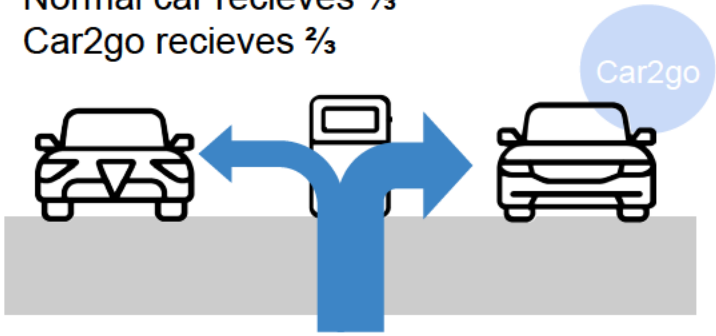
Best option

You get **all** the power available

With Car2go

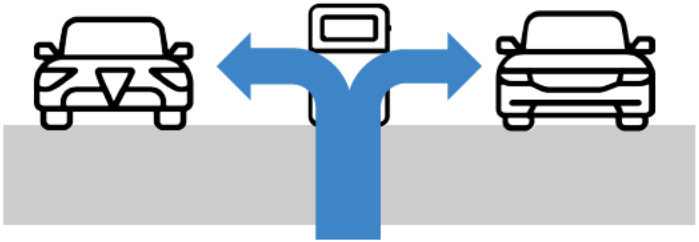
Normal car recieves ⅓

Car2go recieves ⅔



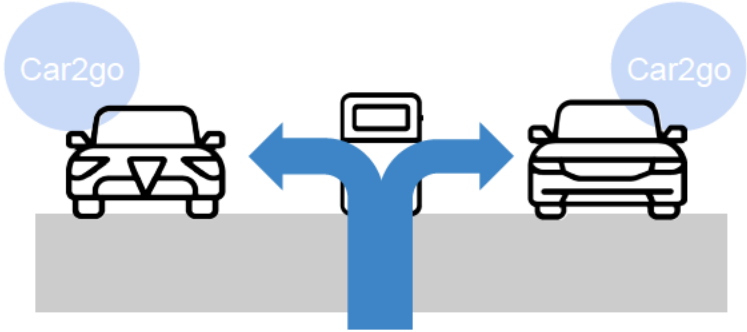
With two

You get **half** of the power available

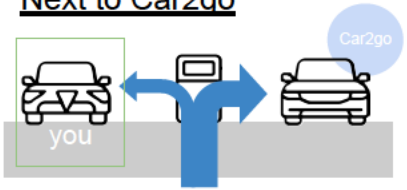


With two Car2go

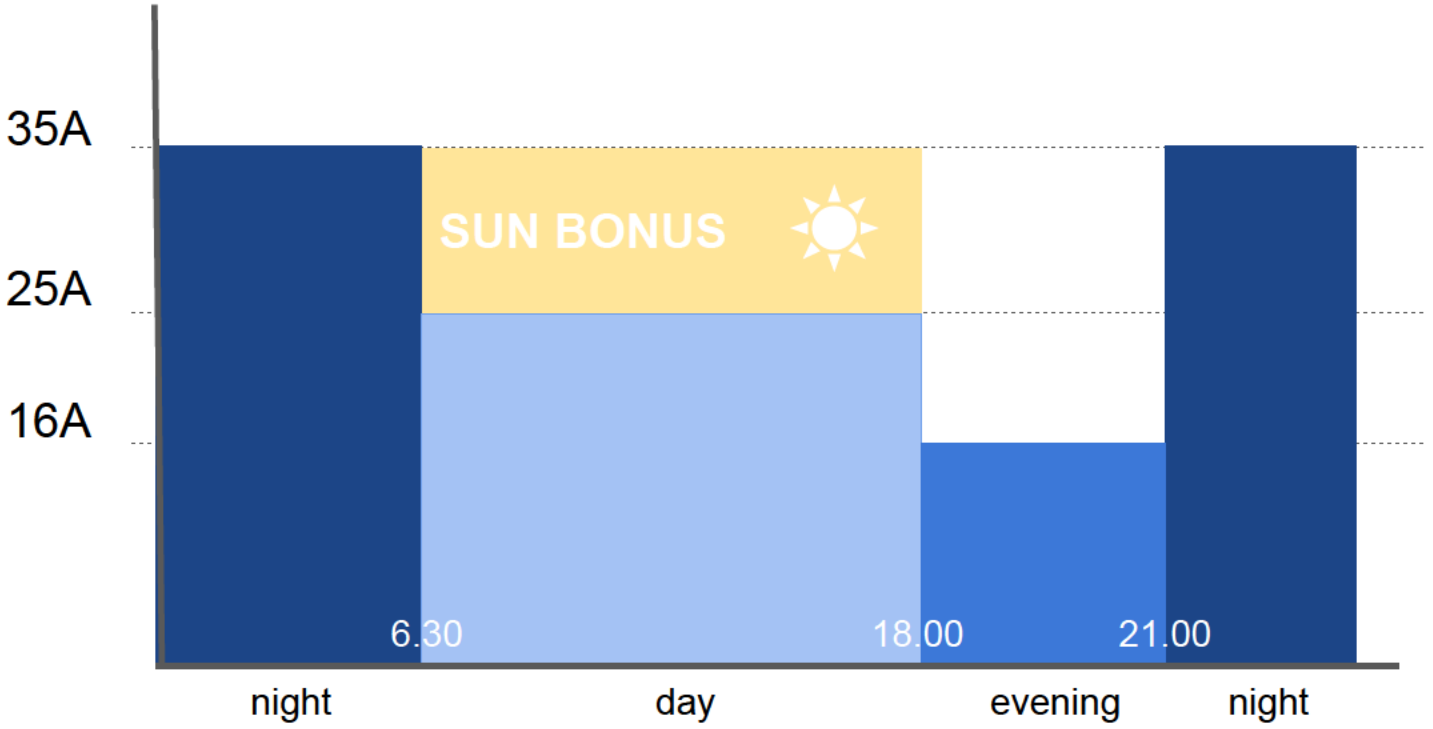
You get **half** of the power available



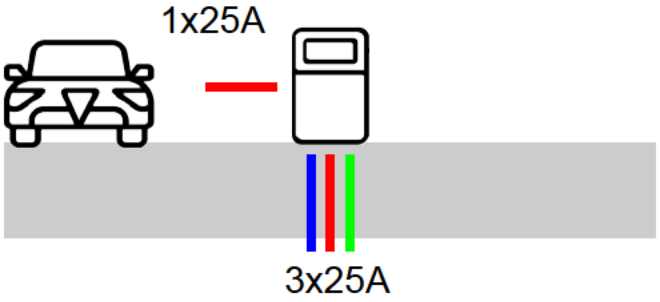
What does this mean for me?

	16A avalible	25A avalible	32A avalible
Alone			
With two			when you are a **16A** car when you are a **32A** car
Next to Car2go 		when you are a **16A** car when you are a **32A** car	when you are a **16A** car when you are a **32A** car

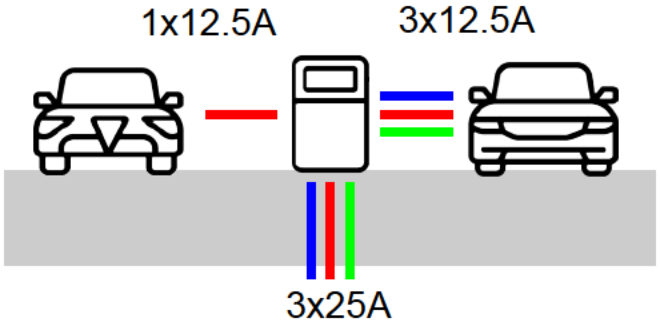
Power avalible

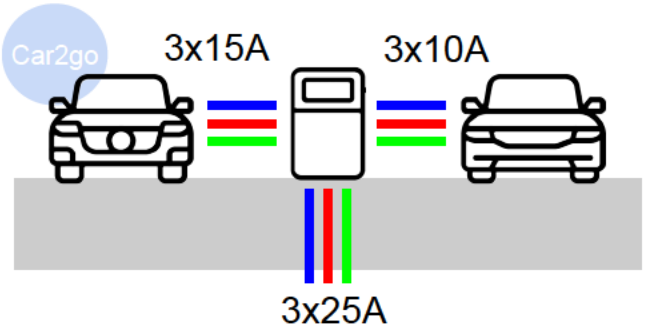


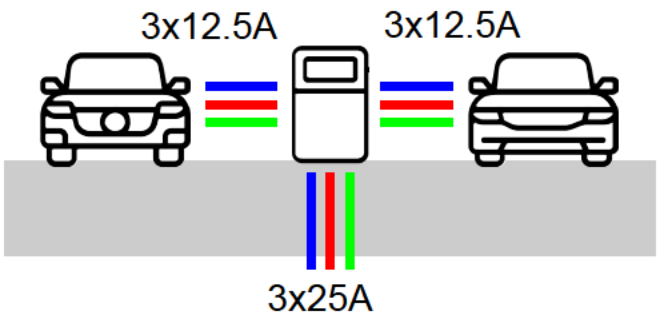
Technical version of powerdivision

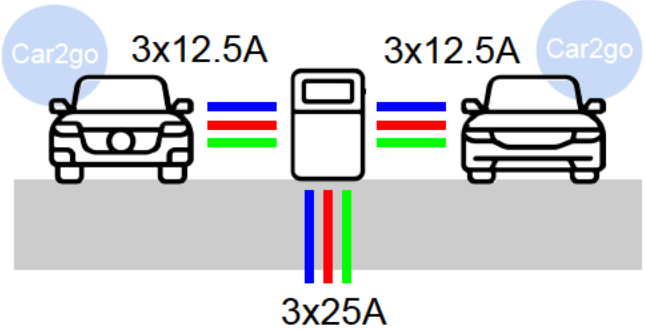


When charging alone, you can use everything that is available. When sharing the ChargePoint with another car the power will be split. Power is split per phase. The ChargePoint will offer both cars the same, whether it can use it or not. Sharing with a Car2go is the exception on this rule. Than the power will be divided differently.









Influence of other cars on charging speed

	16A		25A		32A		alone
	sharing with normal car	sharing with Car2go	sharing with normal car	sharing with Car2go	sharing with normal car	sharing with Car2go	
16A Car	8A half speed	6A lower than half speed	12,5A higher than half speed	10 higher than half speed	16A full speed	12A higher than full speed	Full speed
32A Car	8A half speed	6A lower than half speed	12,5A half speed	10A lower than half speed	16A half speed	12A lower than half speed	Full speed
Car2go 16 A	10A higher than half speed	8A half speed	15A nearly full speed	12,5A higher than half speed	20A more than full speed, so will charge at 16A	16A full speed	Full speed
Car2go 32 A	10A higher than half speed	8A half speed	15A higher than half speed	12,5A half speed	20A higher than half speed	16A half speed	Full speed

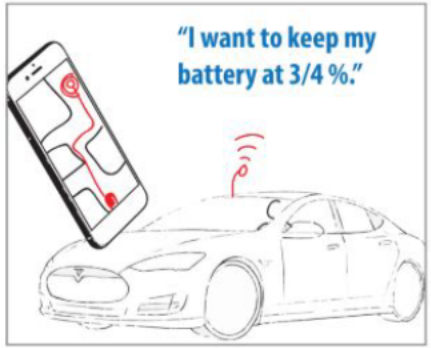
The charging speed is rated in comparison to what the car would charge in this situation, when it did not have to share.

The→
Incredible
→Machine

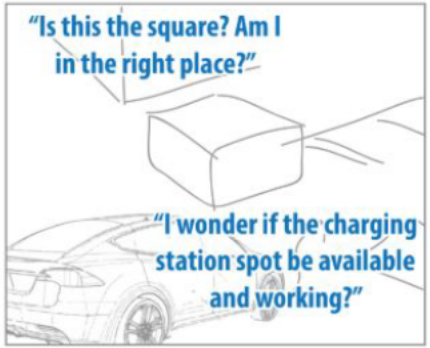
Storyboards

The→ Incredible →Machine

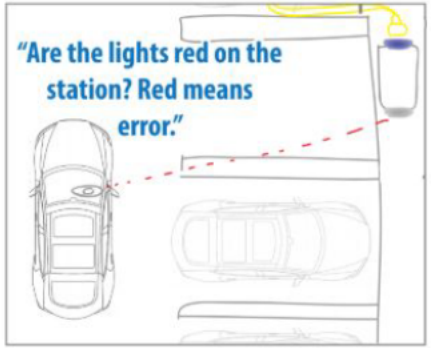
Storyboard 1:current situation



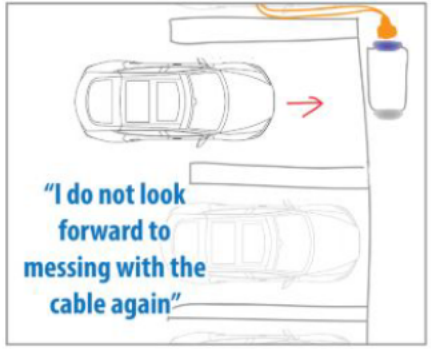
1. EV-driver consults the car or her app where to find a charging spot.



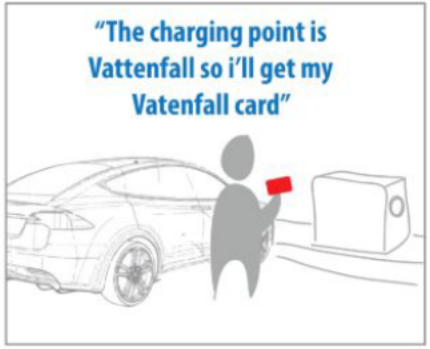
2. She navigates to the Raamplein and looks for the spot.



3. She checks from a distance if the charging spot is active and working.



4. She parks the car in a suitable spot.



5. She takes a suitable chipcard and exits the car.

6. She gets her charging cable from the trunk.

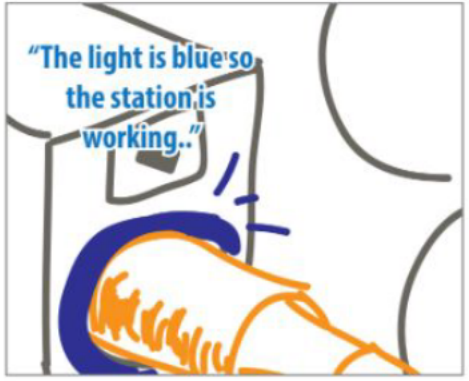
The→ Incredible →Machine

7. She plugs the cable in his car, walks up to the station and executes her usual routine.

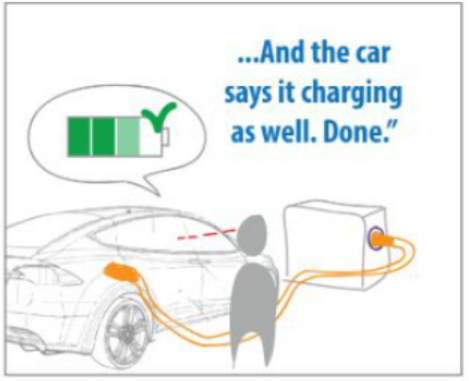
8. She plugs in her cable and listens for the click.

9. She checks for the green light.

10. She swipes her card and waits for the beep.

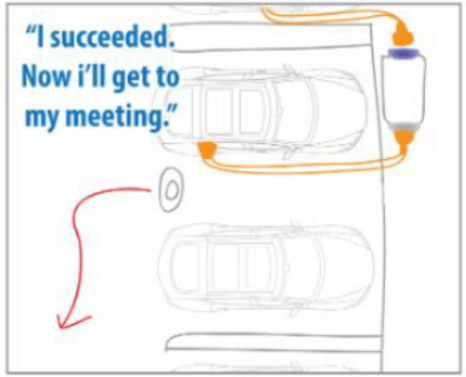


11. She waits for the light to turn blue.

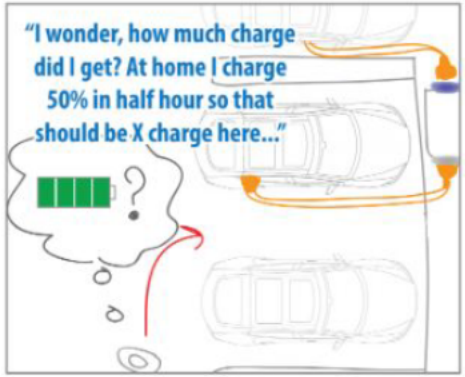


12. She returns the card to the car, and checks in the car if the car is charging.

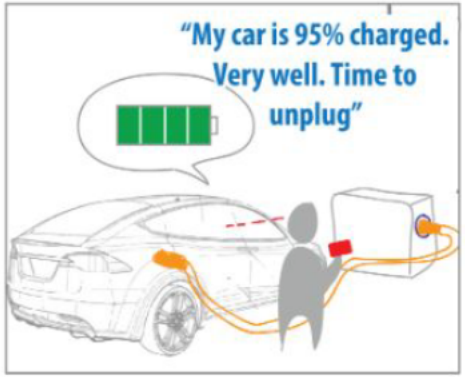
The→ Incredible →Machine



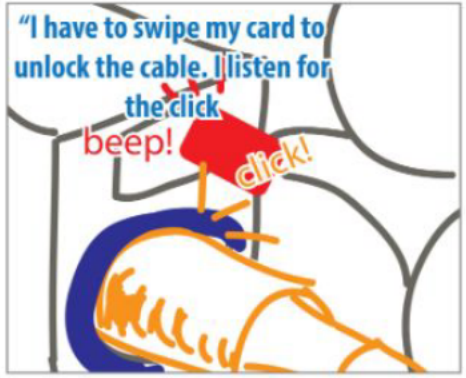
13. She locks the car and walks away.



14. She returns to the car wondering wether it has charged properly.

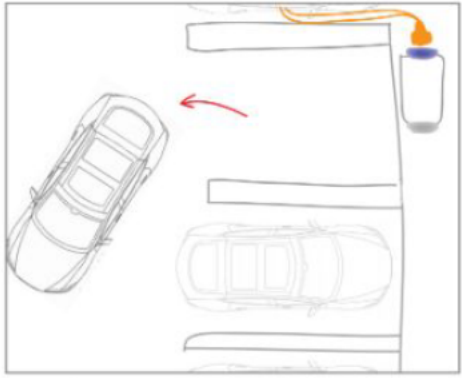


15. She returns to car, opens the car, checks if the car is charged and gets the correct card from the car.



16. She swipes the card and removes the cable.

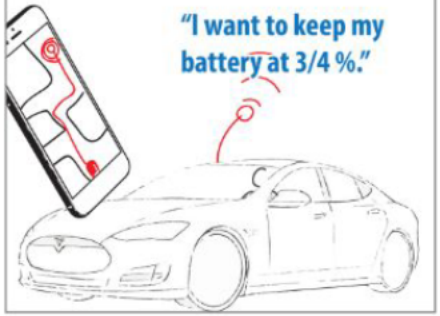
17. She returns the cable to the trunk.



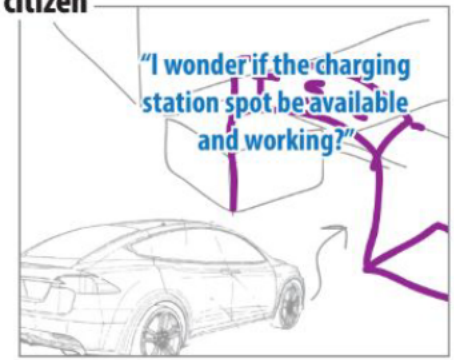
18. She enters car and drives away.

The→ Incredible →Machine

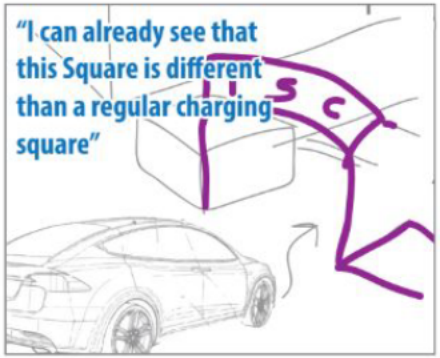
Storyboard 2A: Desired situation happy citizen



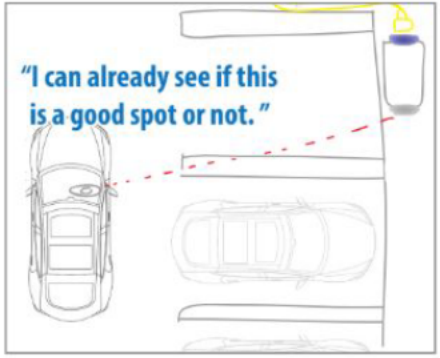
1. An EV-driver consults the car or her app on where to find a charging spot.



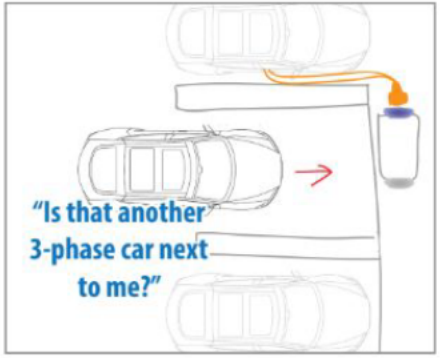
2. She navigates to the Raamplein and looks for the spot.



3. She can clearly see the Raamplein and where to go.



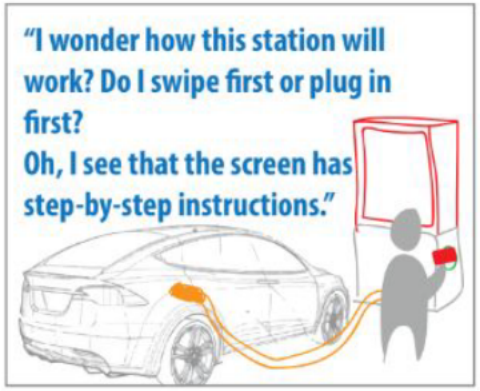
3. She can see from a distance if a station is working and roughly how much charge she'll get out of it.



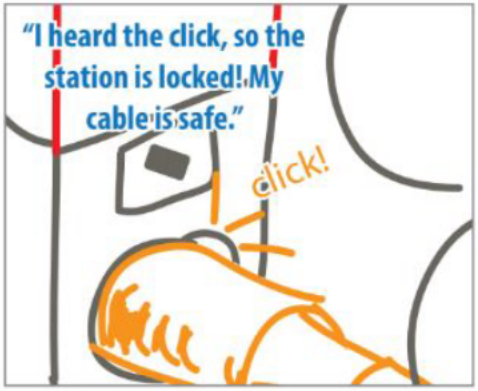
4. She parks the car in a suitable spot.

5. She takes a suitable chipcard and exits the car.

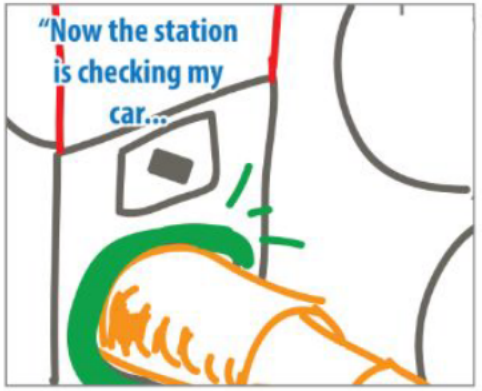
The→ Incredible →Machine



6. She reads the info on the screen on how to charge, and transparent charging.

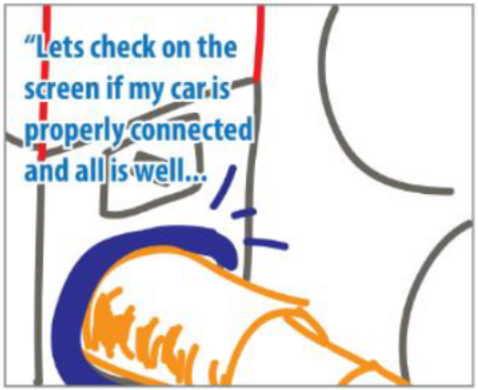


7. She plugs in her cable and listens for the click.

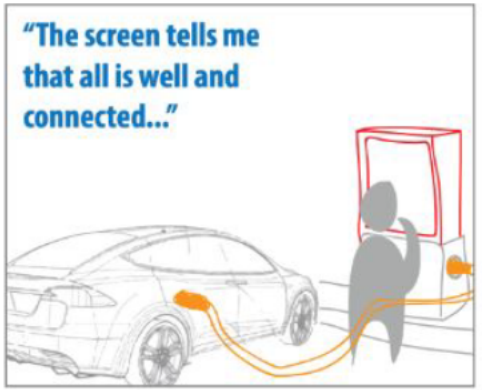


8. She checks for the green light

9. She swipes her card.



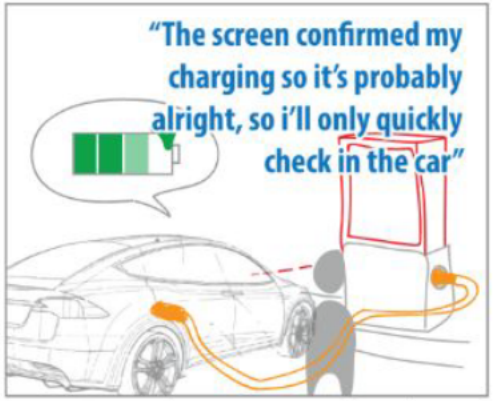
10. She waits for the blue light.



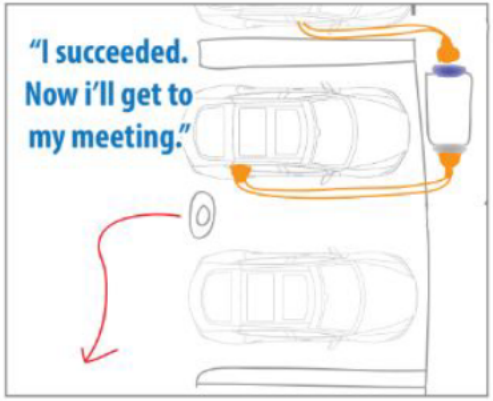
11. She looks at the screen and sees that all is well and connected.

The→ Incredible →Machine

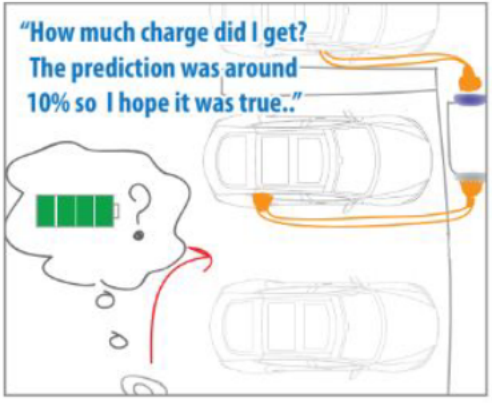
12. The screen tells her an estimation of charge.



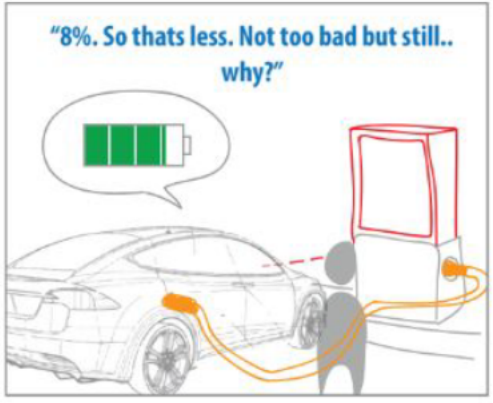
13. Having been reassured by the screen, she only briefly checks the car.



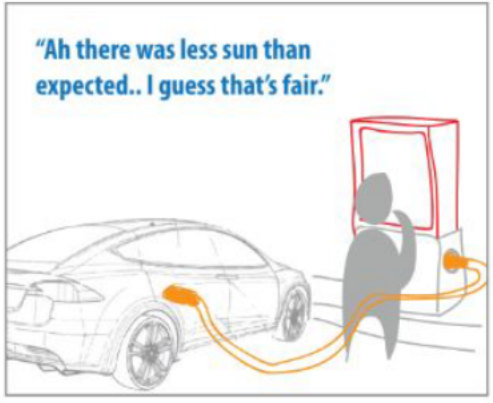
14. She leaves to do what she has to do.



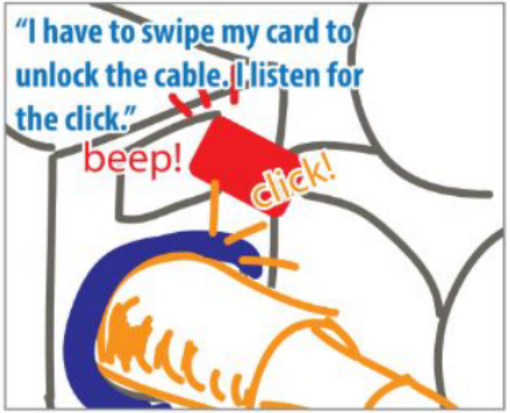
15. She returns to the car after her activity.



16. She checks the charge level in the car.

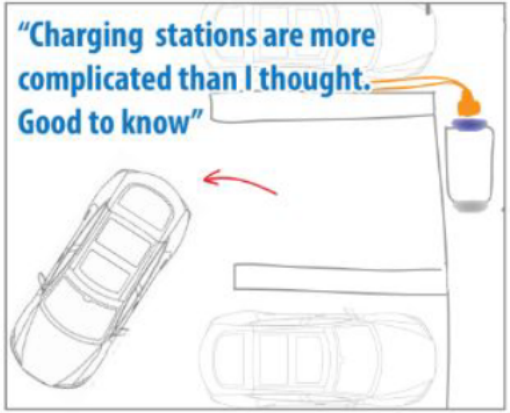


17. She checks the screen for an explanation.



18. She swipes the card and removes the cable

19. She returns the cable to the trunk.

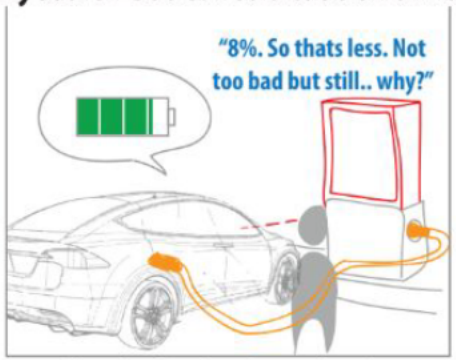


20. She enters car and drives away

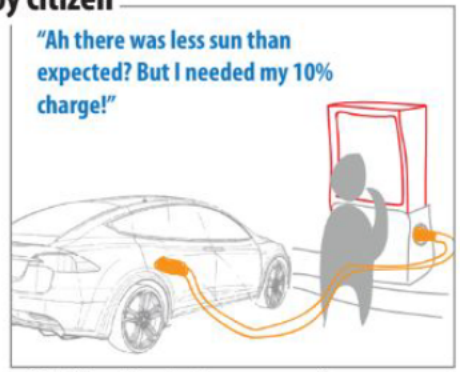
The→ Incredible →Machine

Storyboard 2B: Desired situation unhappy citizen

1-15 unchanged >>

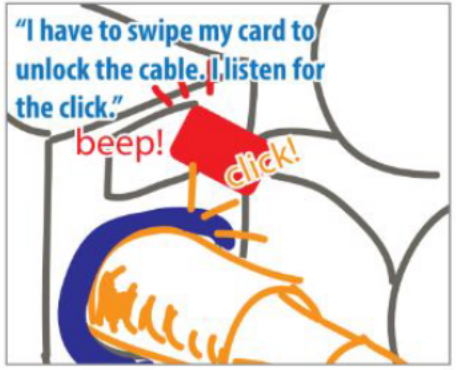


16. She checks the charge level in the car.



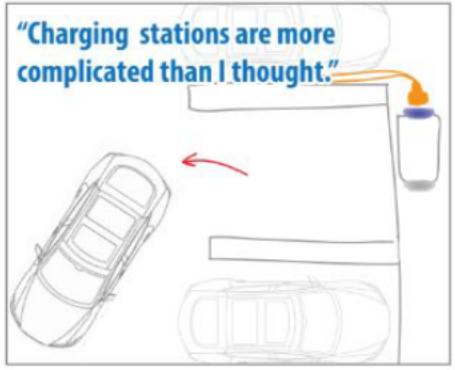
17. She checks the screen for an explanation.

18. She checks the screen for an explanation.



18. She swipes the card and removes the cable

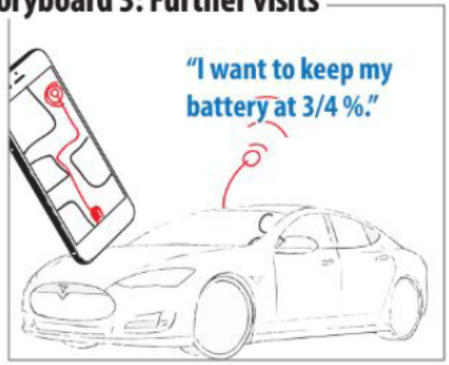
19. She returns the cable to the trunk.



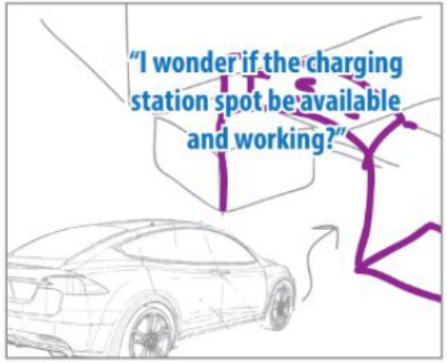
20. She enters car and drives away

The→ Incredible →Machine

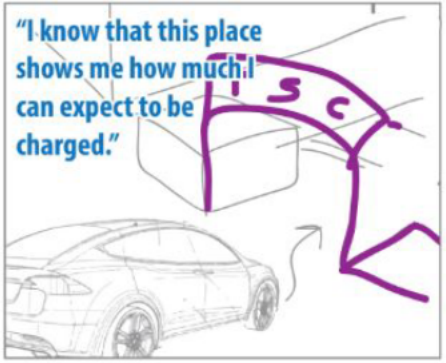
Storyboard 3: Further visits



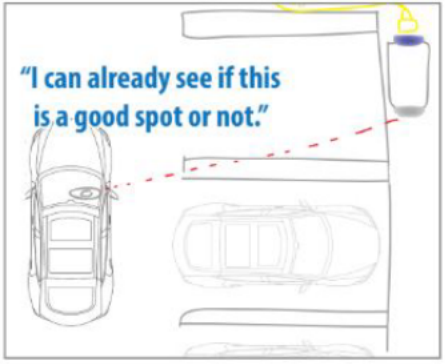
1. An EV-driver consults the car or her app on where to find a charging spot.



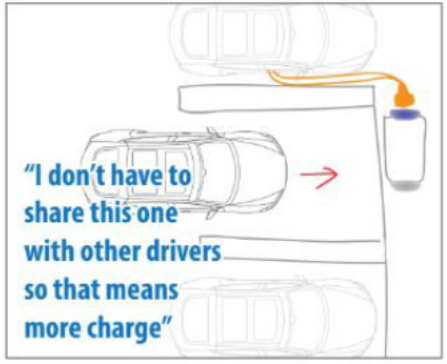
2. She navigates to the Raamplein and looks for the spot.



3. She can clearly see the Raamplein and where to go.



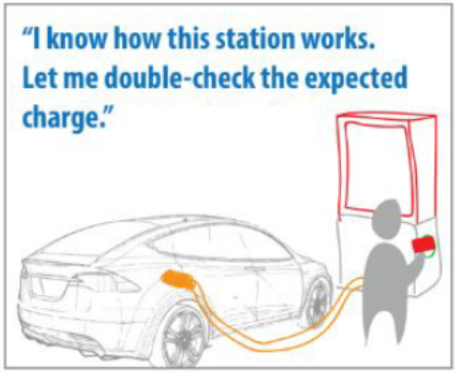
3. She can see from a distance if a station is working and roughly how much charge she'll get out of it.



4. She parks the car in a suitable spot.

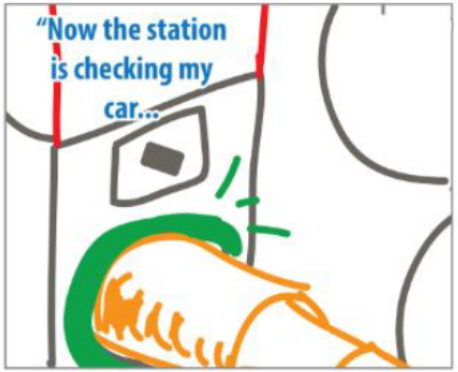
5. She takes a suitable chipcard and exits the car.

The→ Incredible →Machine



6. She reads the info on the screen on how to charge, and transparent charging.

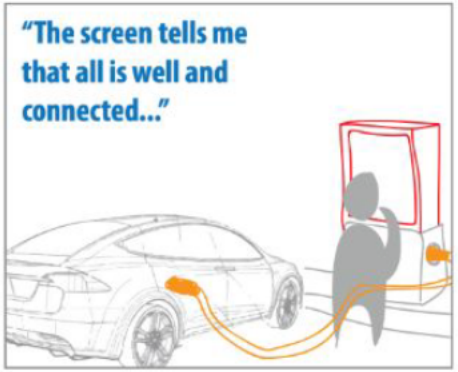
7. She plugs in her cable and listens for the click.



8. She checks for the green light

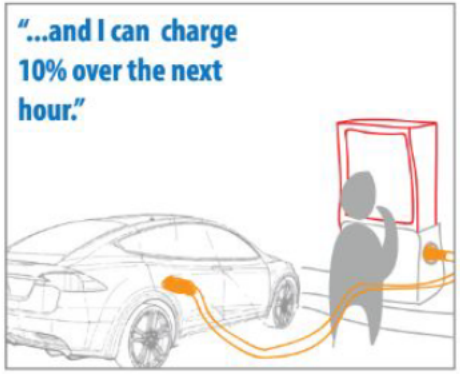
9. She swipes her card.

10. She waits for the blue light.

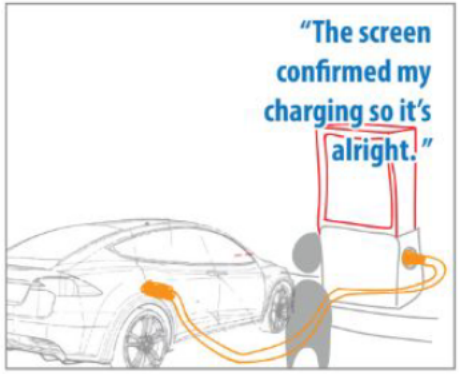


11. She looks at the screen and sees that all is well and connected.

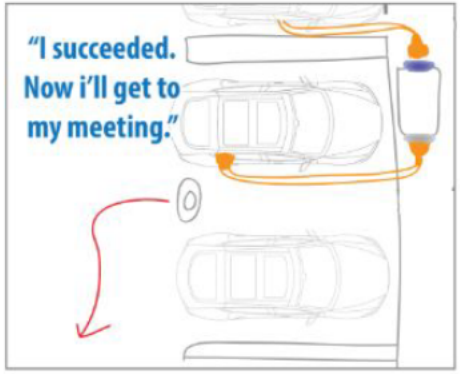
The→ Incredible →Machine



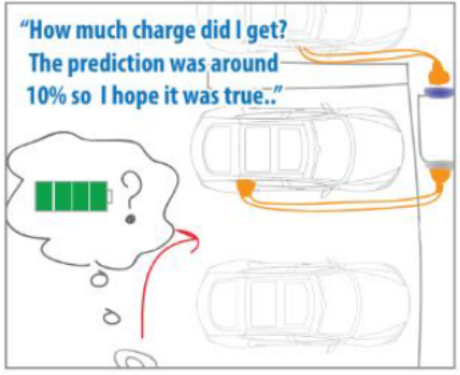
12. The screen tells her an estimation of charge.



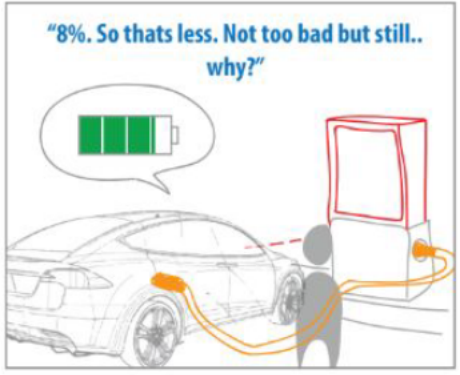
13. Having been reassured by the screen, she only briefly checks the car.



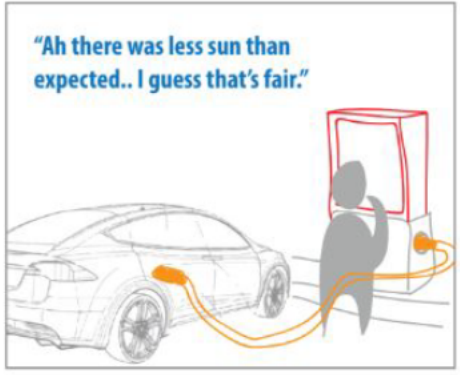
14. She leaves to do what she has to do.



15. She returns to the car after her activity.



16. She checks the charge level in the car.

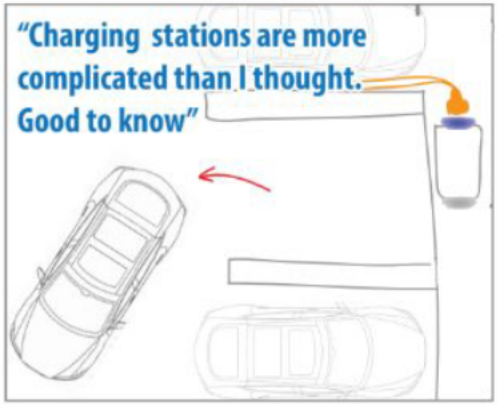


17. She checks the screen for an explanation.

The→ Incredible →Machine

18. She swipes the card and removes the cable

19. She returns the cable to the trunk.



20. She enters car and drives away

The→
Incredible
→Machine

Flexpower specification

User research

Ideas

Discussion

Next Steps & Collaborations

The→ Incredible →Machine

Main considerations

1. Previous TCS showed how the algorithm defined the **planning**, whereas Flexpower 2 is an algorithm that distributes energy over all participants at **any given moment**.
2. It is not about understanding fairness by comparing your treatment to that of fellow chargers, it is about whether you think the (choice for) parameters and weights is fair.
3. We design for users and citizens, not for what *we* find interesting or important.

The→ Incredible →Machine

Transparency

Algorithm — computation / logic

Outcome — distribution of resources (TCS 1)

Your situation — how your capabilities are affected

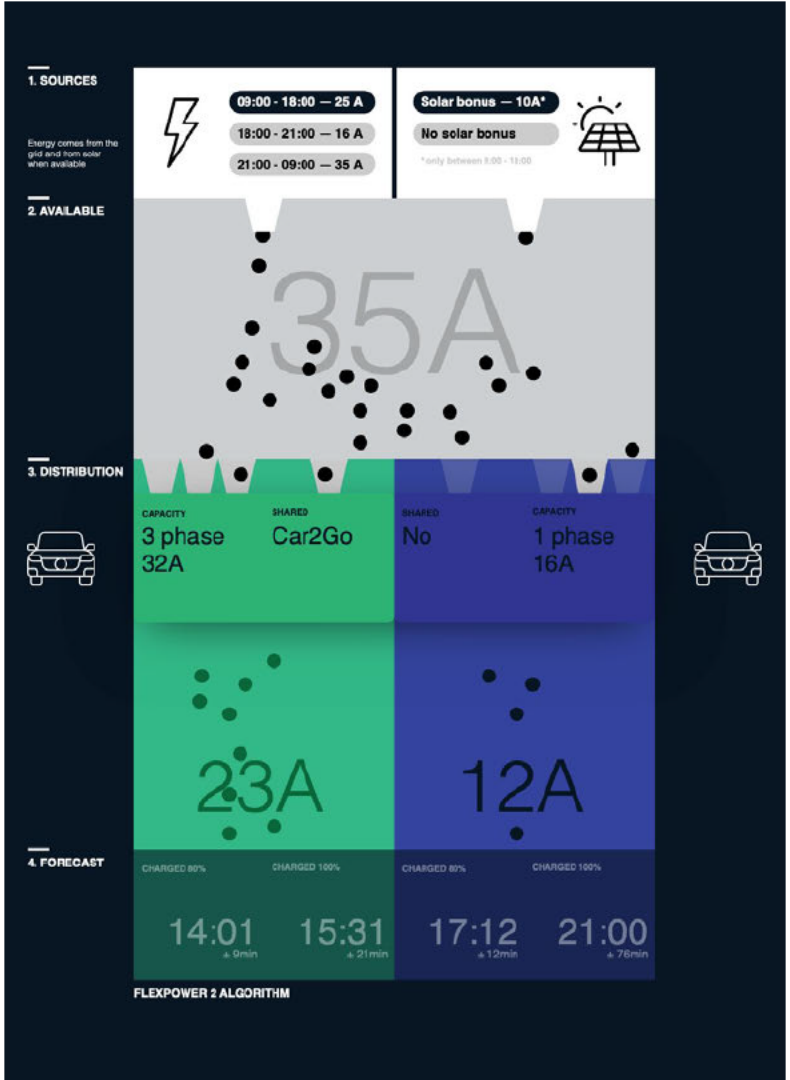
Parameters — what is looked at to craft

Reasons — and omit computation

The→ Incredible →Machine

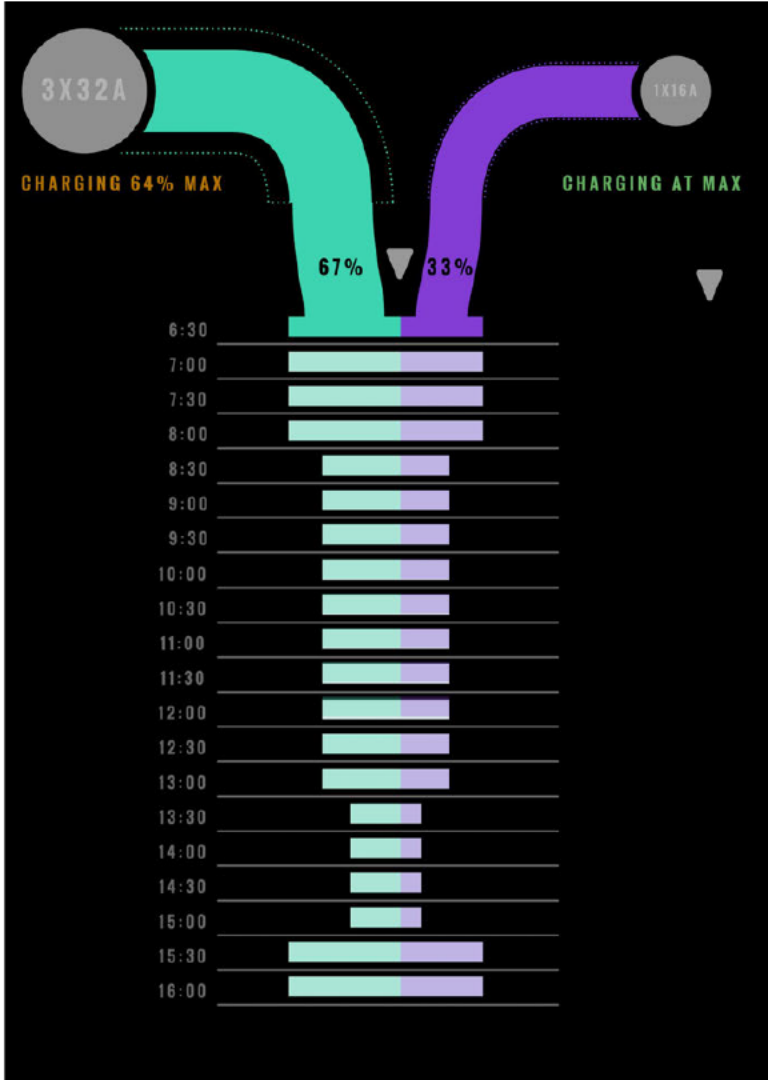
Concept 1 — Marble Machine

By taking the idea of marbles we make an algorithm intuitive.



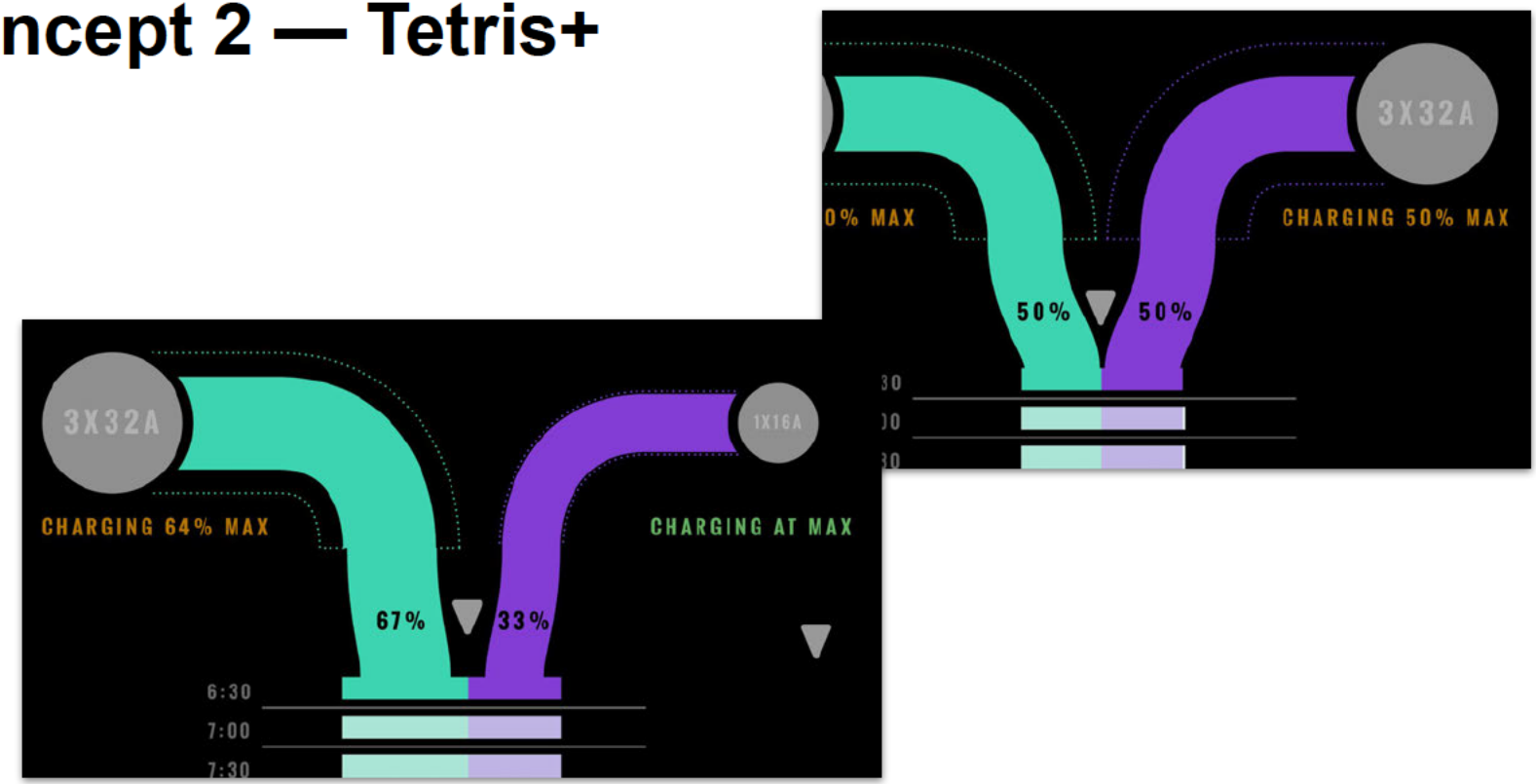
Concept 2 — Tetris+

A newer version of the TCS design.



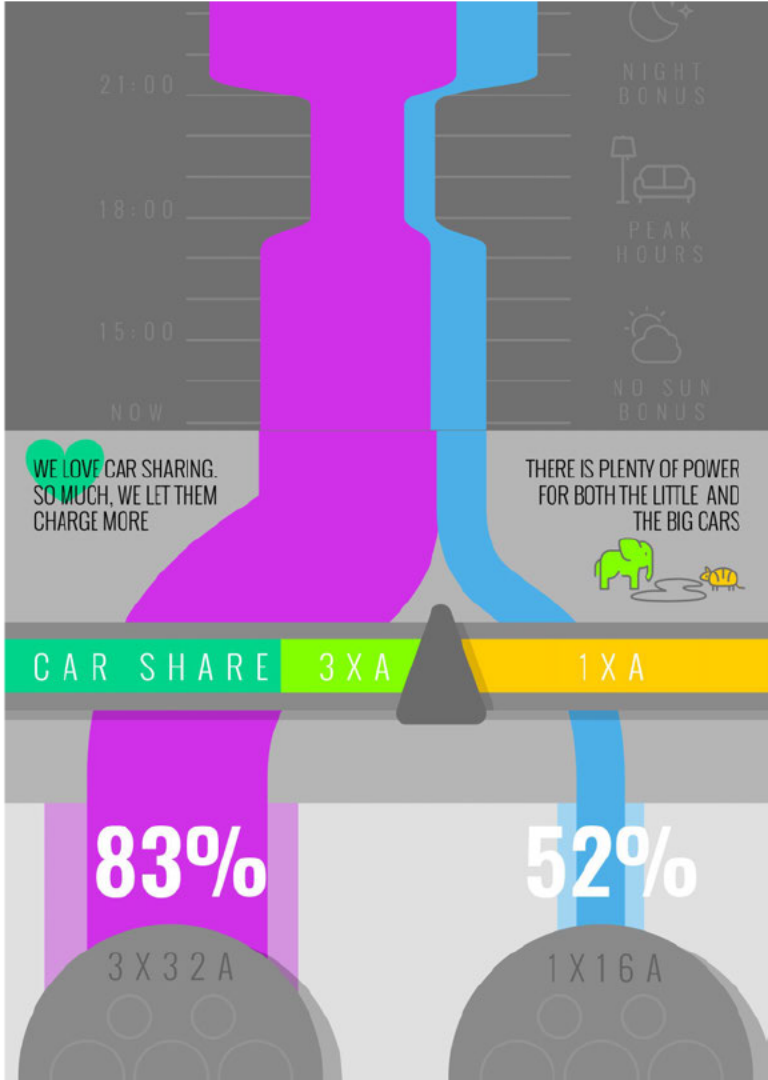
The→ Incredible →Machine

Concept 2 — Tetris+



The→ Incredible →Machine

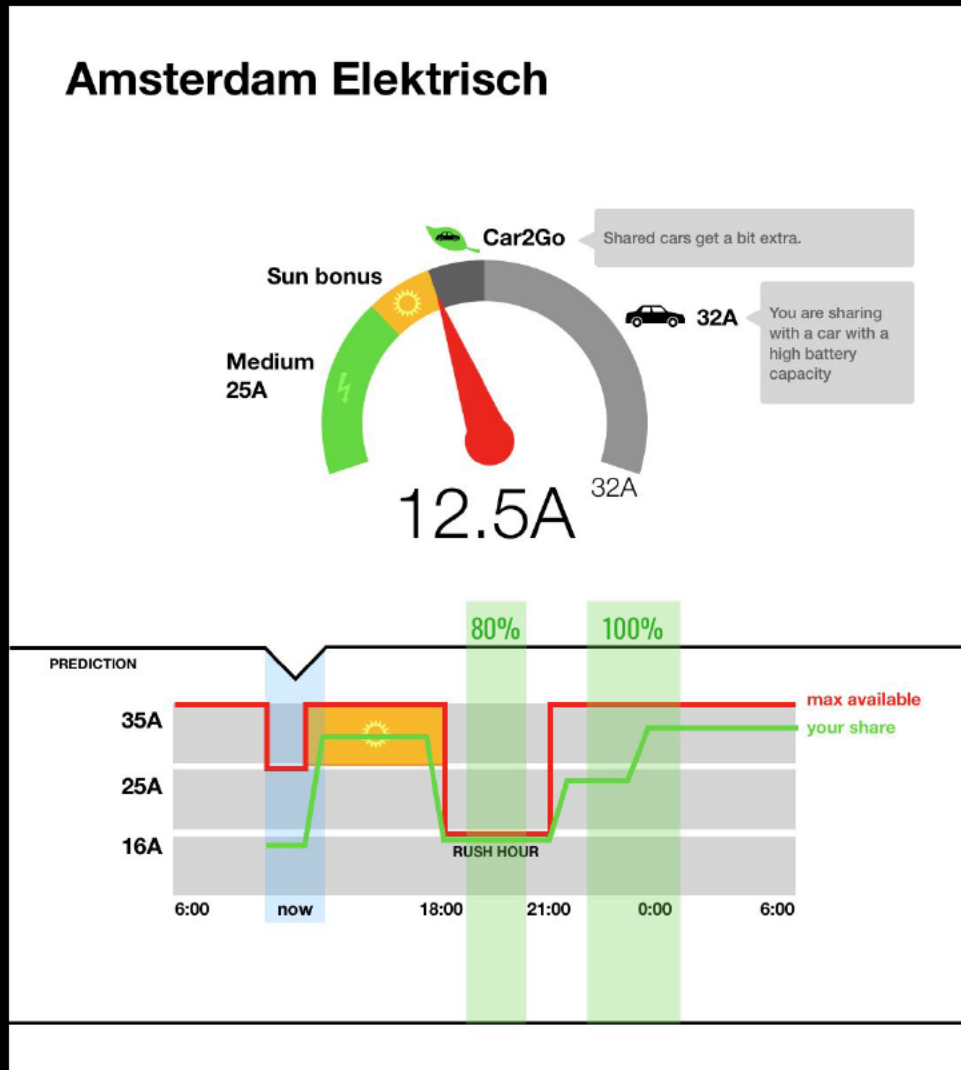
Concept 2 — Tetris+



The→ Incredible →Machine

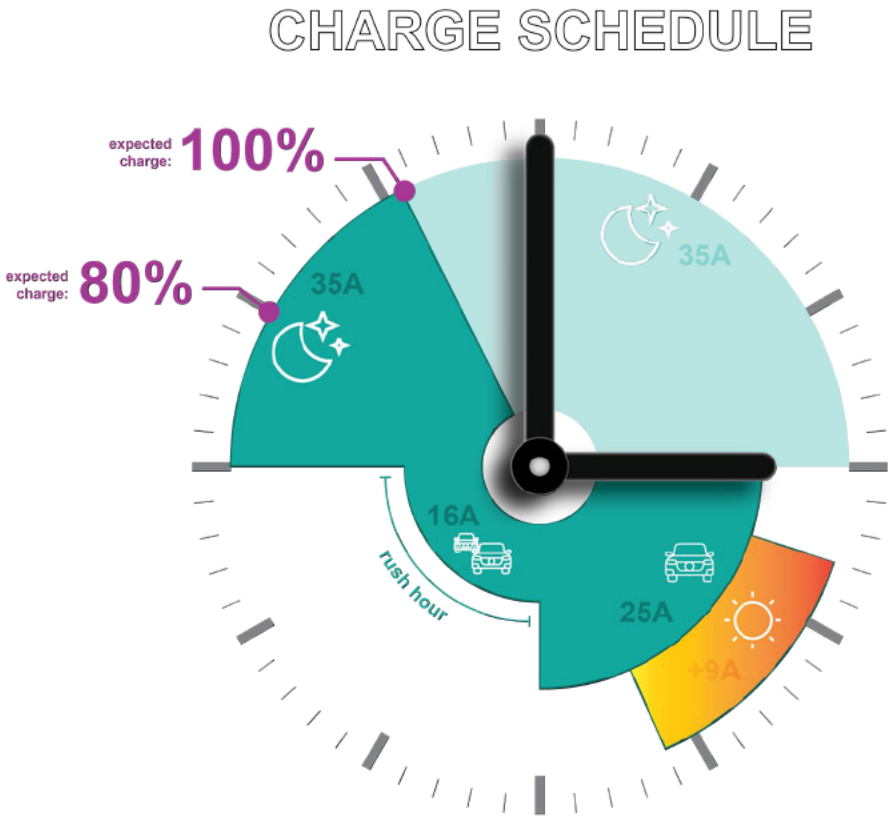
Concept 3 — Speed-o-matic

Here we show to what extent yo
charge at your maximum speed
often you will find some factors
this speed, like fellow chargers,
lack of sun today.



The→ Incredible →Machine

Concept 4 — Clock

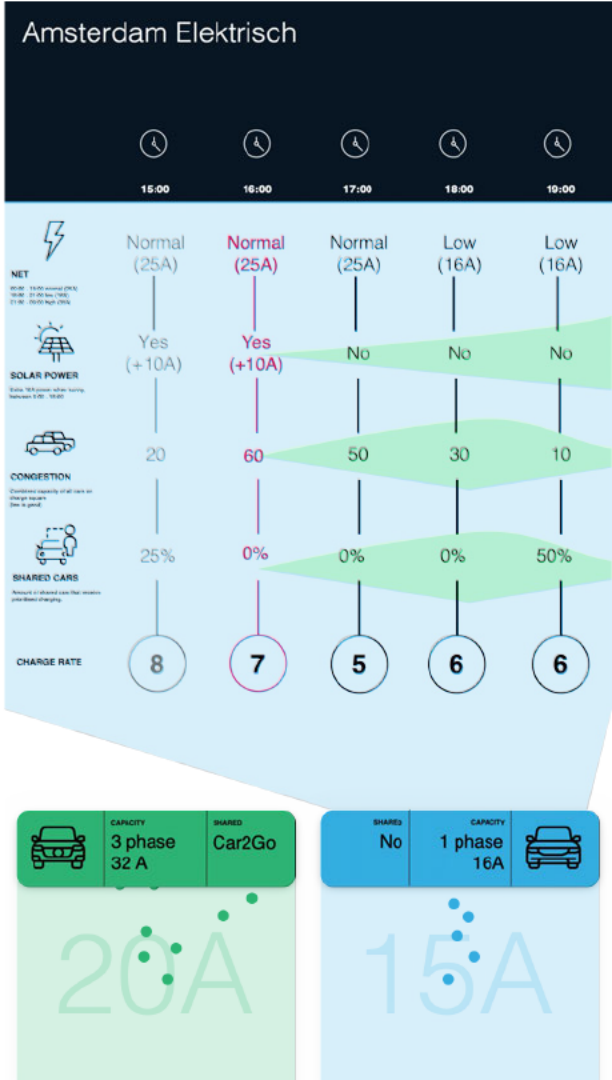


Immediately demonstrate the amount of energy is not fixed, but changes over time. This should make planning easier.

The→ Incredible →Machine

Concept 5 — Weather report

Here we obscure the complexity of the algorithm, but we show what factors have an influence, and whether you are in for an ok treatment.



The→ Incredible →Machine

Concept 6 — Story

Amsterdam Elektrisch

Right now, we can charge you at 75% of your max. rate. Expected charge: 80% in 2hrs and 100% in 3hrs.

You are sharing 35A (max) with another car, that is a high capacity shared car.

Rates will go down to 16A in 2 hours, and you will be sharing 90% of the time. So that's not ideal.

Want to know more? Scan this code and let's chat!

The→
Incredible
→Machine

Feedback (paraphrased)

- User focussed ideas like weather report are more appealing
- We can't be too abstract (story), but also don't make it a puzzel (marbles)
- What is the noodrem, what is the bonnetje?

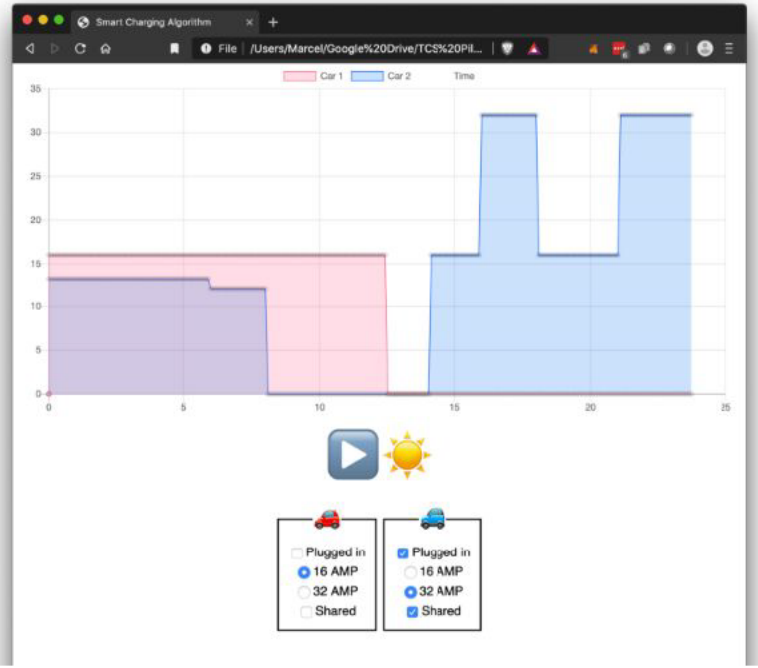
The→ Incredible →Machine

(New) Key considerations

1. Provide user *right* information at the *right* moment:
    1. Idle: *Something is happening here; something different*
    2. Initiate: *How much can I charge in the next x hours*
    3. End: *How much did I charge?*
2. Assume only basic ‘graph-decoding’ skills, and limited motivation to do so
3. Always emphasise that charge depends on certain conditions
4. No more comparing

The→ Incredible →Machine

Demo

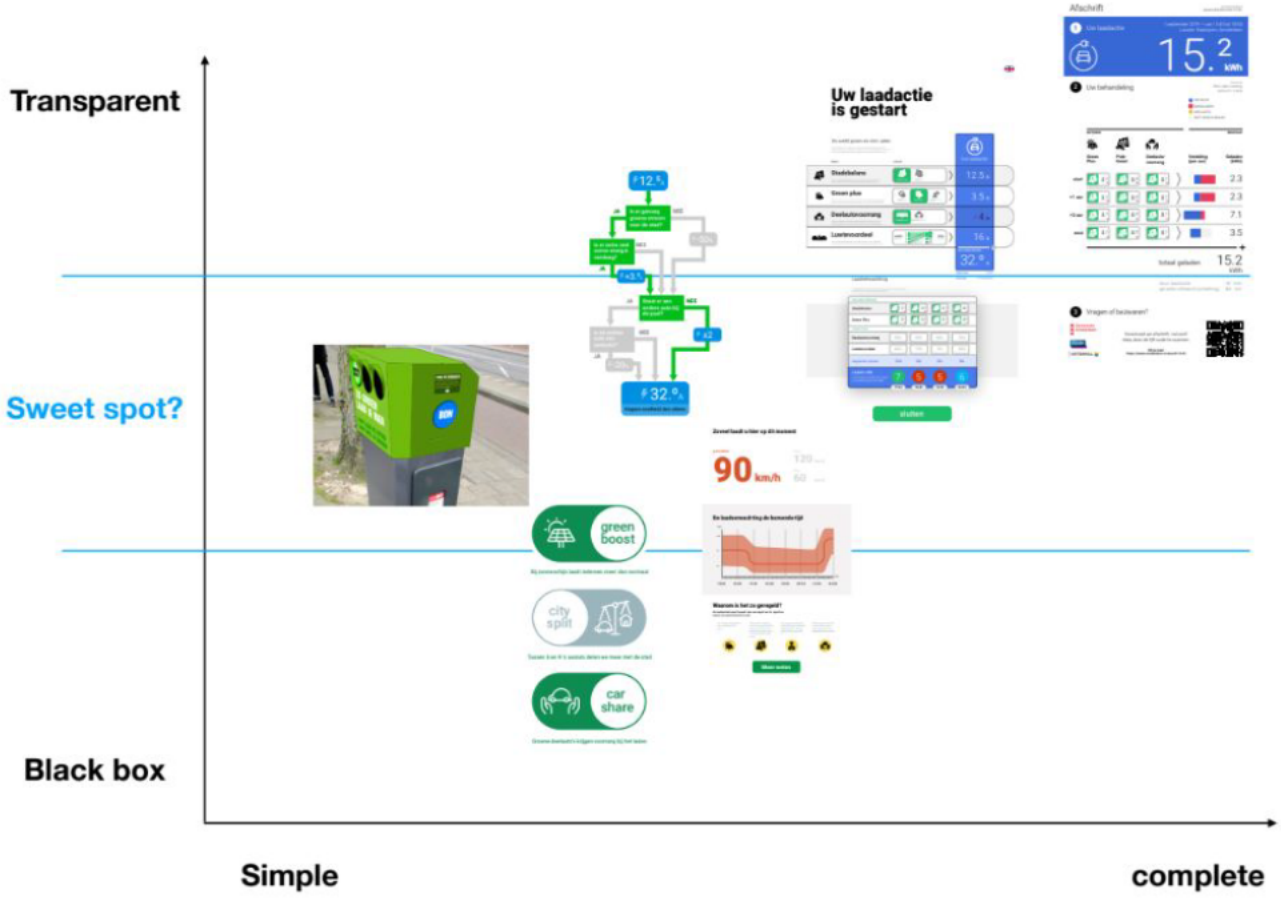


The→
Incredible
→Machine

Considerations

- Time and attention of user is limited
- The algorithm we want to convey is quite complex
- There are very few design patterns that are known
- Designing and testing of a complete explanation that is legible is time-intensive
- Simplifying the explanation could undermine the agency provided to users

The→ Incredible →Machine



The→ Incredible →Machine

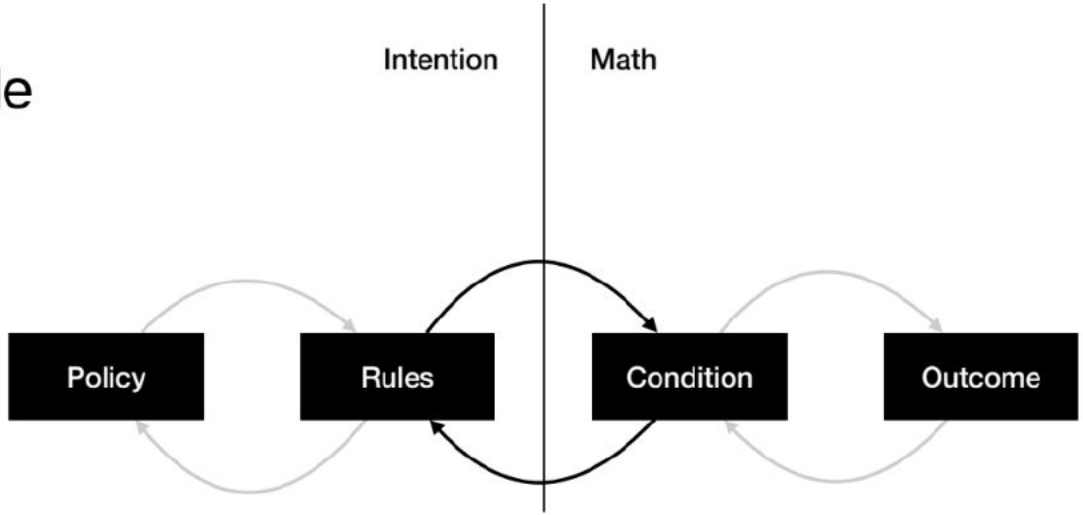
CONCEPTS

Patterns

1. Rules
2. Calculation
3. Receipt
4. Weather
5. Tetris

The→
Incredible
→Machine

The rule



Do these rules reflect the intention behind the policy

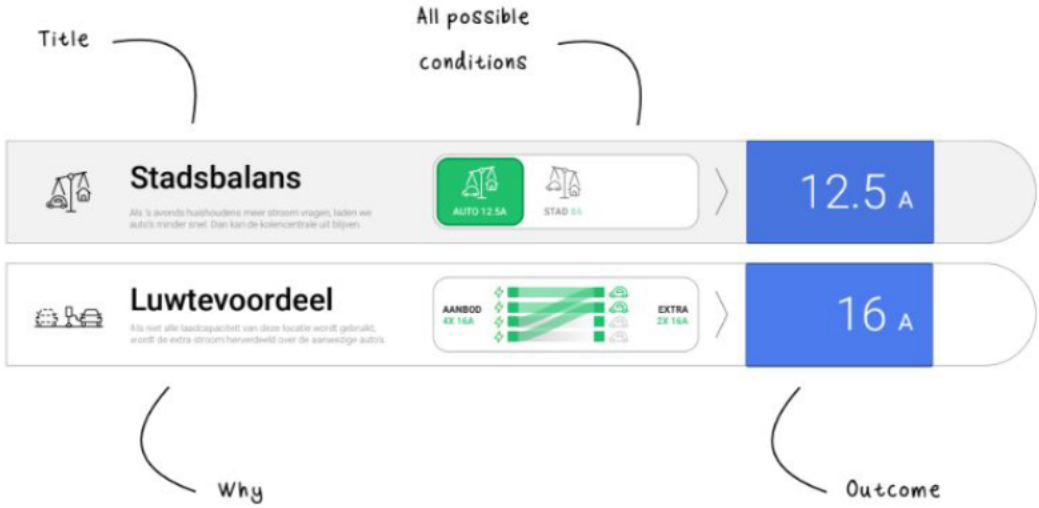
Do these conditions capture the context in which the right rule is applied?

Does the math produce the desired outcome?

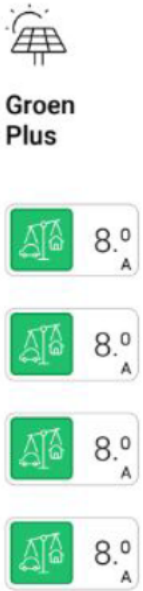
The→
Incredible
→Machine

The rule

Close mapping of
‘math’ and intention,
with a clear outcome.



The→ Incredible →Machine



Rules – different levels

At every stage in the UX the rules can appear. First elaborate, then more abstract.

Idea: always make a rule ‘tappable’ to go to full explanation.

The→
Incredible
→Machine

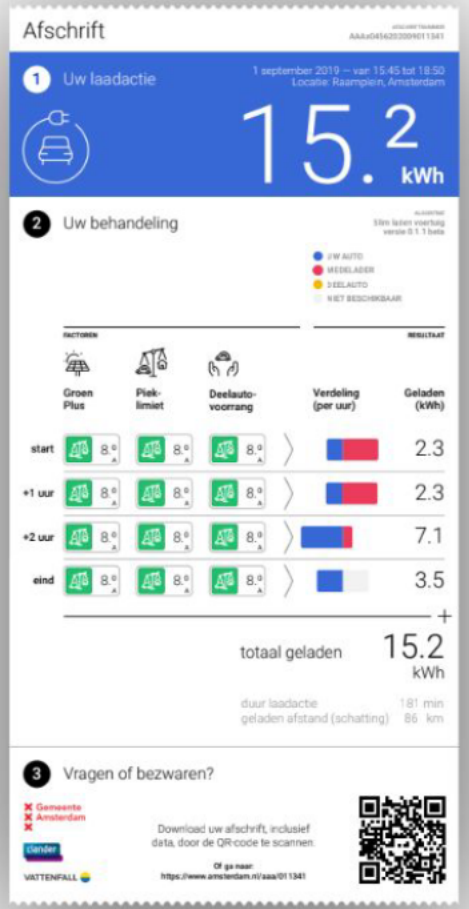
The calculation

Show that the charge speed is the result of an addition.

The→ Incredible →Machine

The receipt

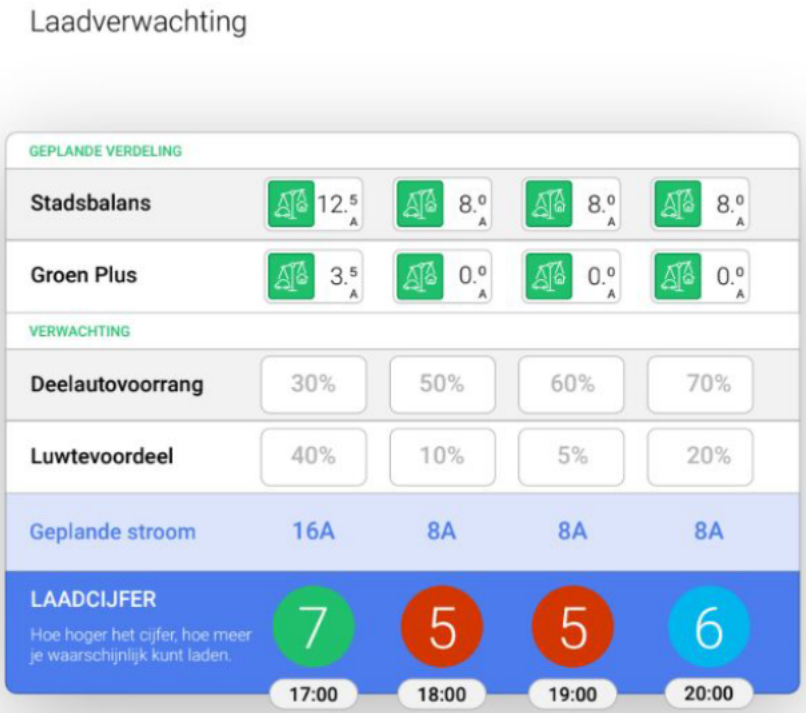
A ‘static’ overview of the charge action.



The→ Incredible →Machine

Weather

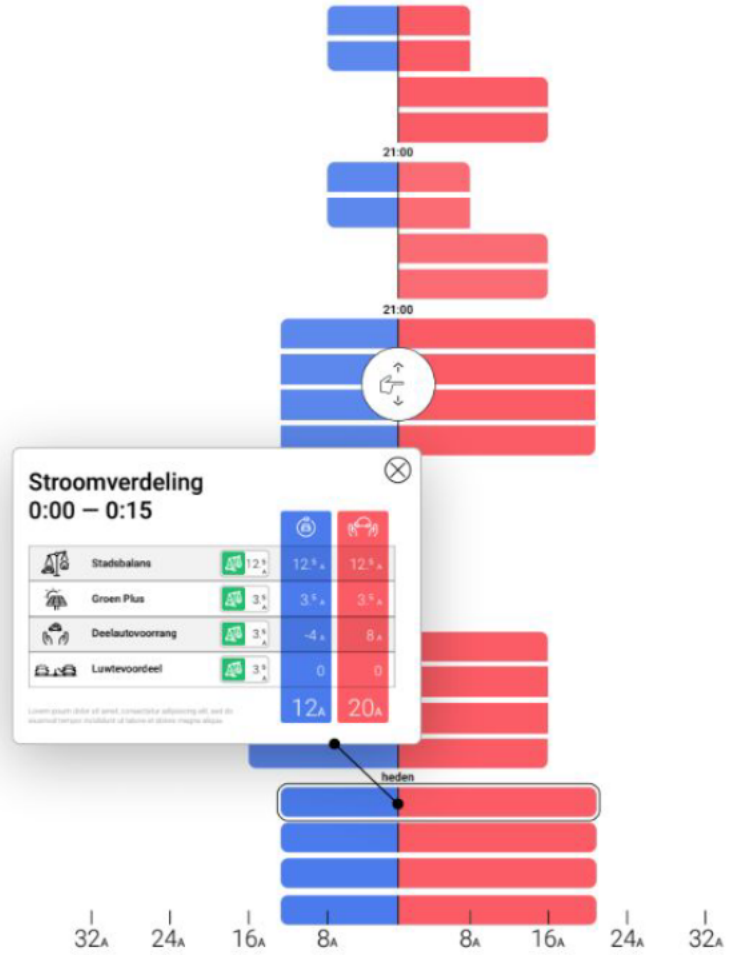
Help users cope with uncertainty in the system. A ‘widget’, deliberately not integrated with the ‘core ui’



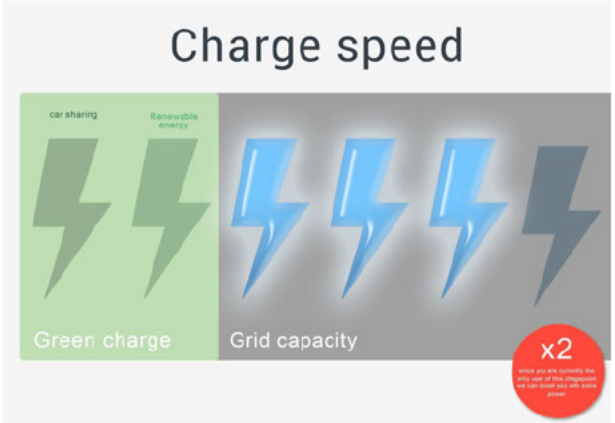
The→ Incredible →Machine

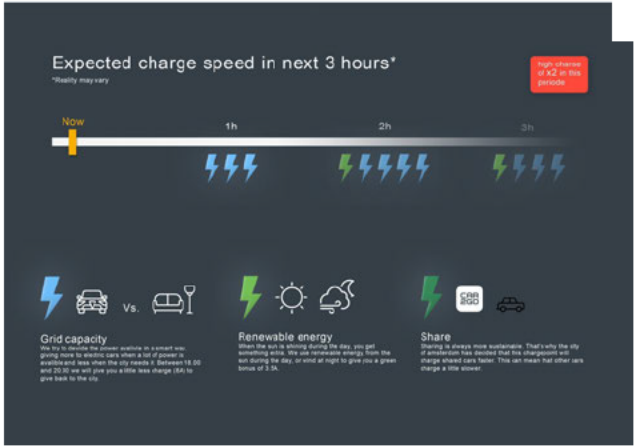
Tetris

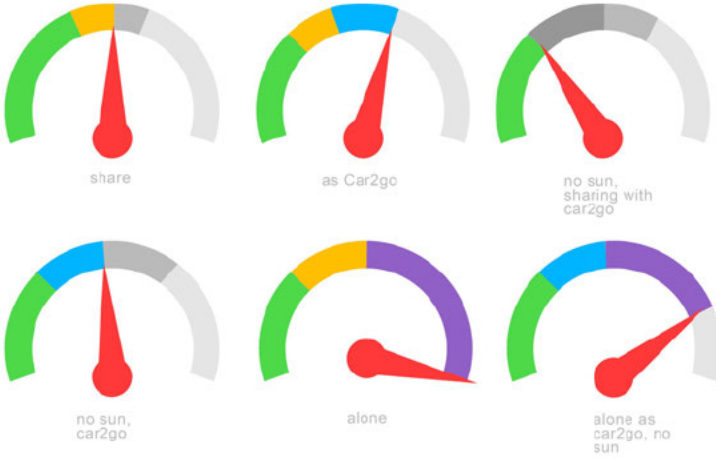
A playful tool to investigate the behaviour of the algorithm.

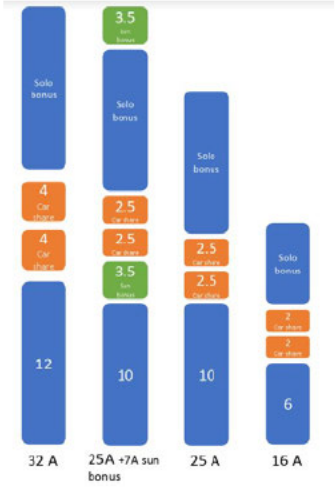


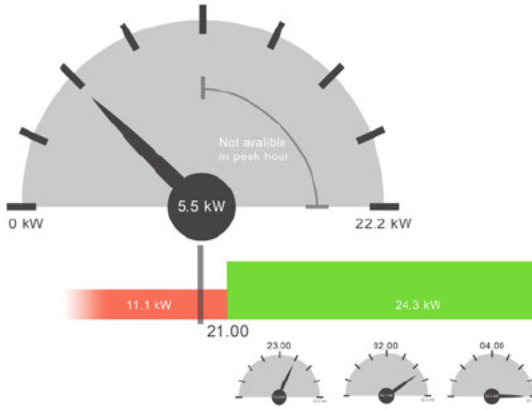
EXPLORATIONS

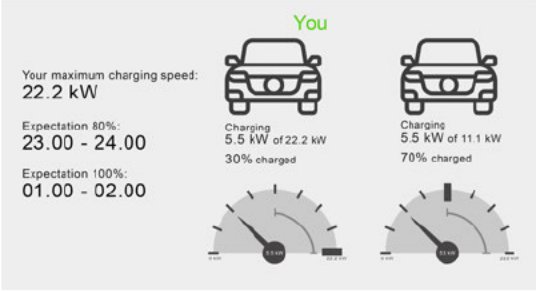

Charge speed
car sharing
Renewable energy
Green charge
Grid capacity
x2


Expected charge speed in next 3 hours*
*Reality may vary
high chance of x2 in this periode
Now
1h
2h
3h
Vs.
Grid capacity
Renewable energy
Share


share
as Car2go
no sun, sharing with car2go
no sun, car2go
alone
alone as car2go, no sun

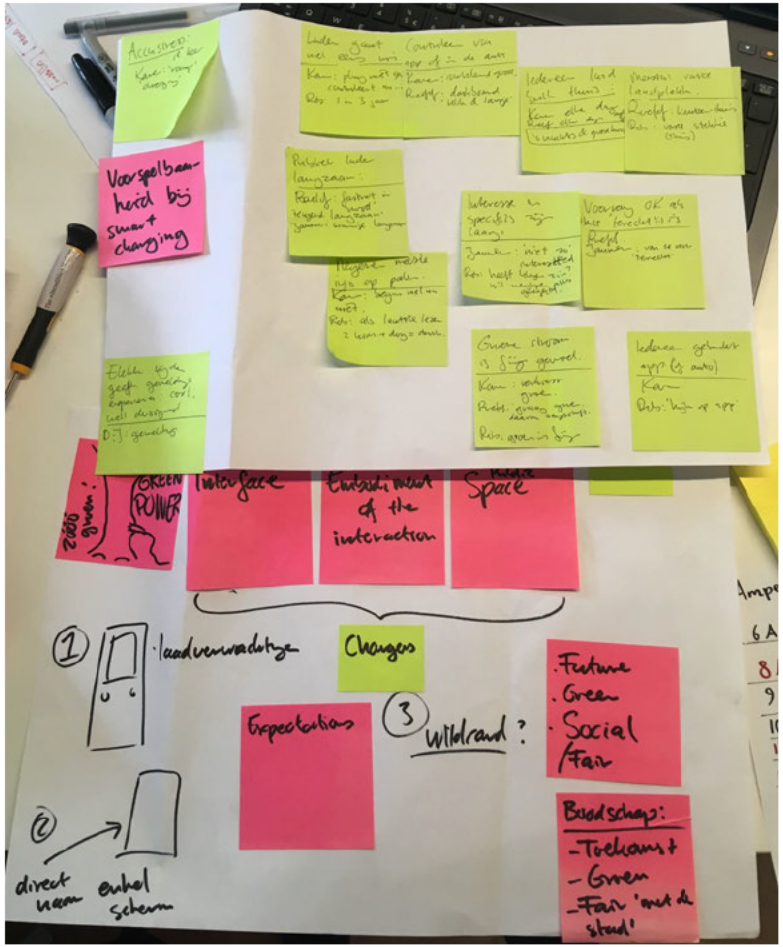

Solo bonus
4 Car share
4 Car share
12
32 A
3.5 sun bonus
Solo bonus
2.5 Car share
2.5 Car share
3.5 sun bonus
10
25A +7A sun bonus
Solo bonus
2.5 Car share
2.5 Car share
10
25 A
Solo bonus
2 Car share
2 Car share
6
16 A

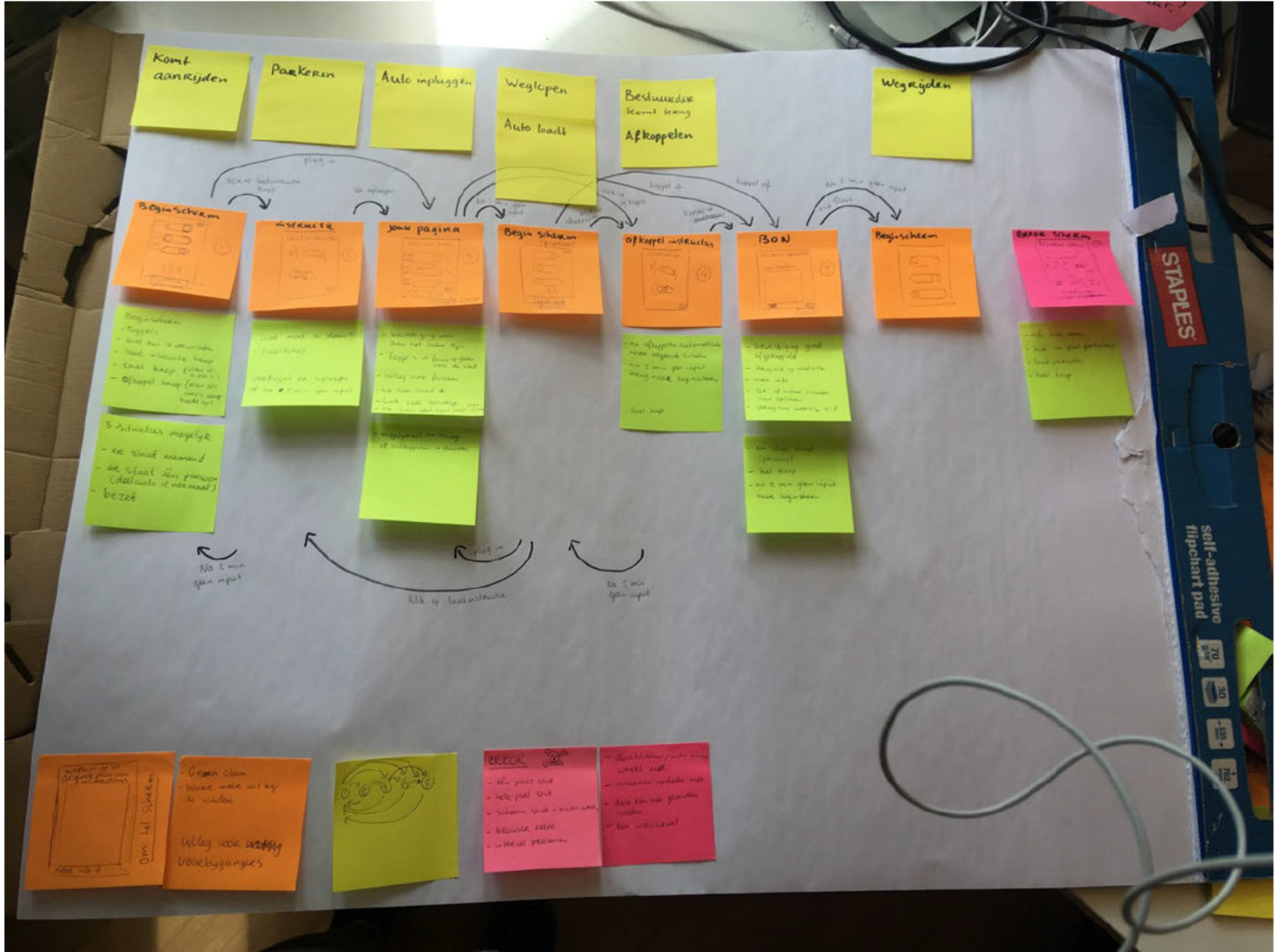

Not avalible in peek hour
5.5 kW
0 kW
22.2 kW
11.1 kW
24.3 kW
21.00
23.00
02.00
04.00


You
Your maximum charging speed:
22.2 kW
Expectation 80%:
23.00 - 24.00
Expectation 100%:
01.00 - 02.00
Charging
5.5 kW of 22.2 kW
30% charged
Charging
5.5 kW of 11.1 kW
70% charged

YOU NEED T
R OWN CE
Amsterdam elektrisch
Flexpower
www.amsterdam.nl/slimladen

8
SUNNY
NORMAL
QUIET
40%
5.5 kW
Not available
22.2 kW
Low power
High power
21.00
NIGHT WIND
SUN BONUS
9
GREAT CHARGING
You can borrow power from your neighbour until someone parks there. Sun bonus too!
Your maximum charging speed:
22.2 kW
You
CHARGING 50% MAX
50%
50%


Interface
Embodiment of the interaction
Space
Changes
Expectations
Wildcard ?
.Feature
.Green
.Social
/Fair
Boodschap:
-Toekomst
-Groen
-Fair 'met de stad'
direct
enkel scherm


Komt aanrijden
Parkeren
Auto inpluggen
Weglopen
Auto laadt
Bestuurder komt terug
Afkoppelen
Wegrijden
Beginscherm
instructie
Jouw pagina
Begin scherm
Afkoppel instructie
BON
Beginscherm
Error scherm
3 situaties mogelijk
- er staat niemand
- er staat één persoon (deelauto of niemand)
- bezet
Na 2 min geen input
Alle op laadinstructie
Na 1 min geen input
Om tel scherm
- Groen clam
- Waar meer uit leg te vinden
uitleg voor voorbijgangers
ERROR
STAPLES
self-adhesive flipchart pad

START MET LADEN
STOP MET LADEN
UW LAADAFSCHRIFT
OK
BUITEN GEBRUIK
OUT OF ORDER
PLUG IN
17.3
10.4
6.9

Zoveel laadt u hier op dit moment

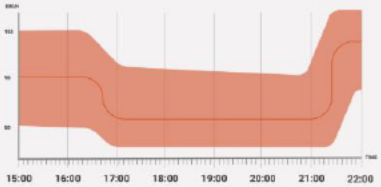
gemiddeld

90 km/h

hoog 120 km/h

laag 60 km/h

De laadverwachting de komende tijd



Waarom is het zo geregeld?

De laadsnelheid wordt bepaalt door een algoritme. Dit algoritme neemt een aantal factoren in acht.

Meer weten

Op dit plein laden we groen en slim.

Laadverwachting

Uw laadverwachting hier wordt bepaalt door een algoritme. Dat algoritme maakt keuzes met een aantal factoren in gedachten.

Inzicht

Uw laadverwachting hier wordt bepaalt door een algoritme. Dat algoritme maakt keuzes met een aantal factoren in gedachten.

REGEL
Reductie van CO_2 uitstoot van Amsterdam
1. Gebruik 100% groene en 0% grijze energie.
2. Stimuleren deelauto gebruik

REGEL 1 City split

REGEL 2 Zonnebonus

REGEL 3 Deelauto-boost

REGEL 4 Solo-boost

Welkom op het groenste plein van Amsterdam.

Laadverwachting

Uw laadsnelheid wordt slim bepaald

REGEL
Reductie van CO_2 uitstoot van Amsterdam
1. Gebruik 100% groenen 0% grijze energie.
2. Stimuleren deelauto gebruik

REGEL 1 City split

REGEL 2 Zonnebonus

REGEL 3 Deelauto-boost

REGEL 4 Solo-boost

Uw laadactie is voltooid.

Zoveel laadt u hier op dit moment

15:12

gemiddeld

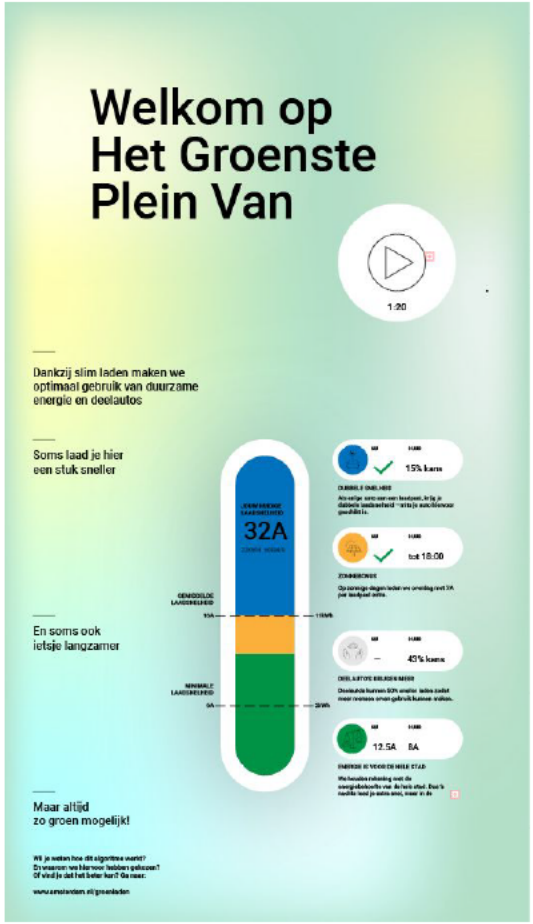
90 km/h

hoog 120 km/h

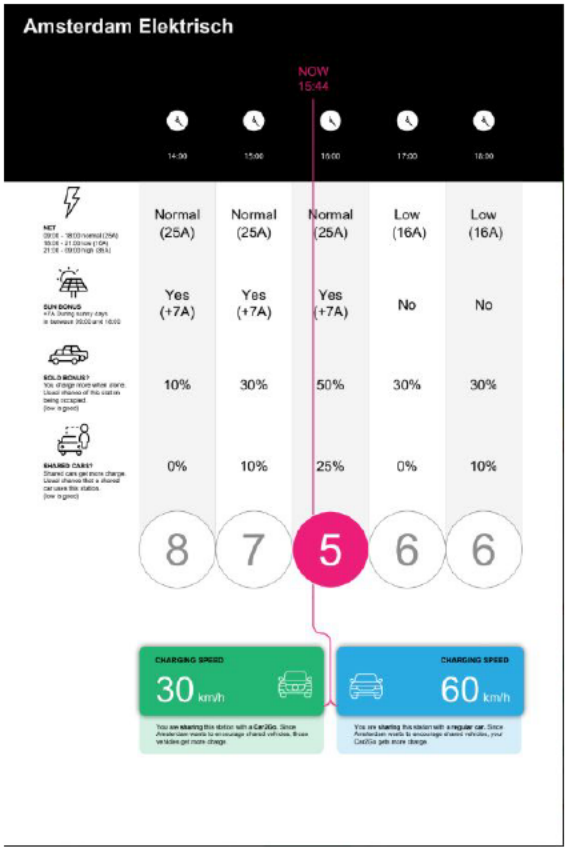
laag 60 km/h

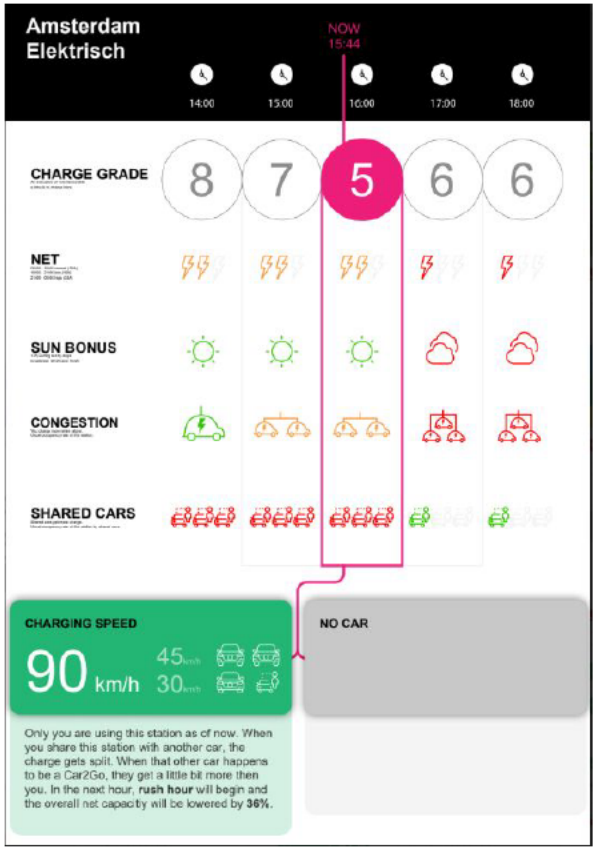
16:00	17:00	18:00
90 km/h	60 km/h	60 km/h

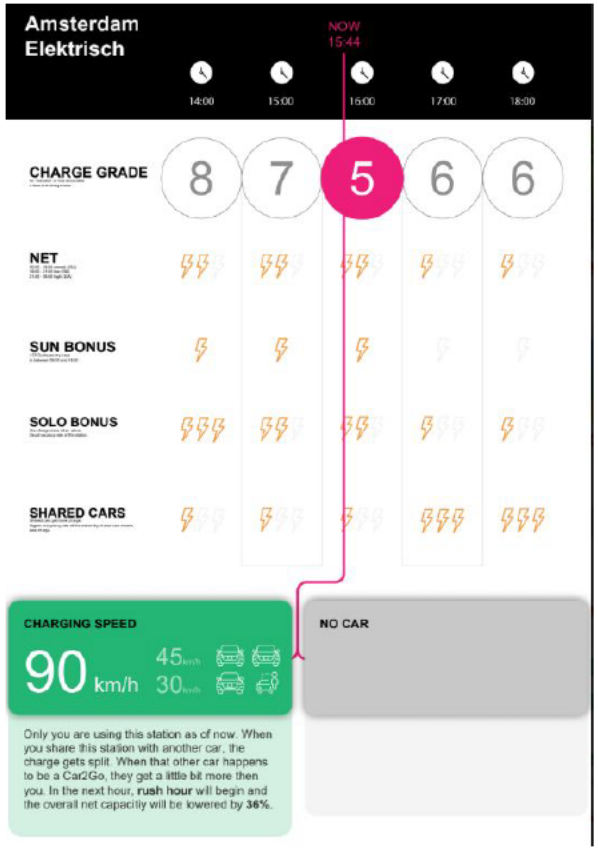
Now

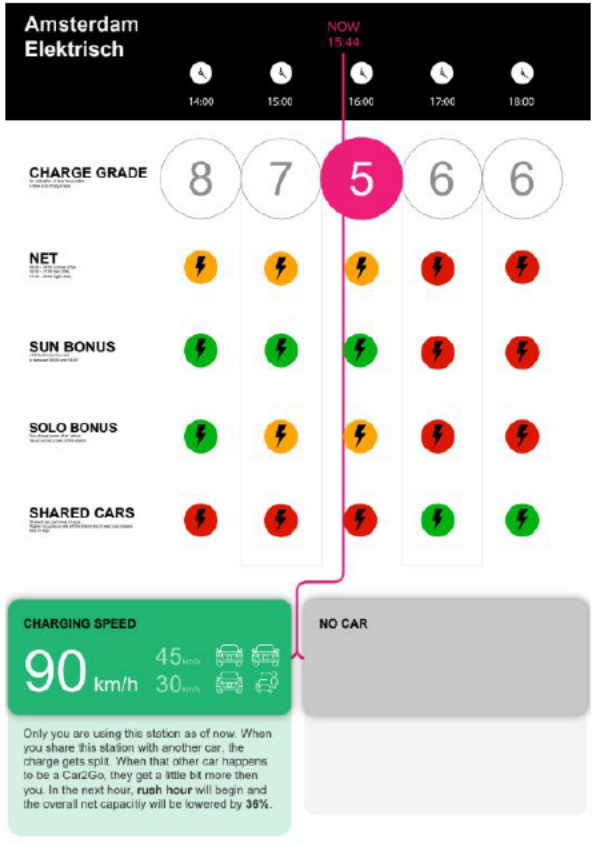

Welkom op
Het Groenste
Plein Van
1:20
Dankzij slim laden maken we optimaal gebruik van duurzame energie en deelautos
Soms laad je hier een stuk sneller
32A
15% korte
tot 18:00
45% korte
12.5A
8A
En soms ook ietsje langzamer
Maar altijd zo groen mogelijk!

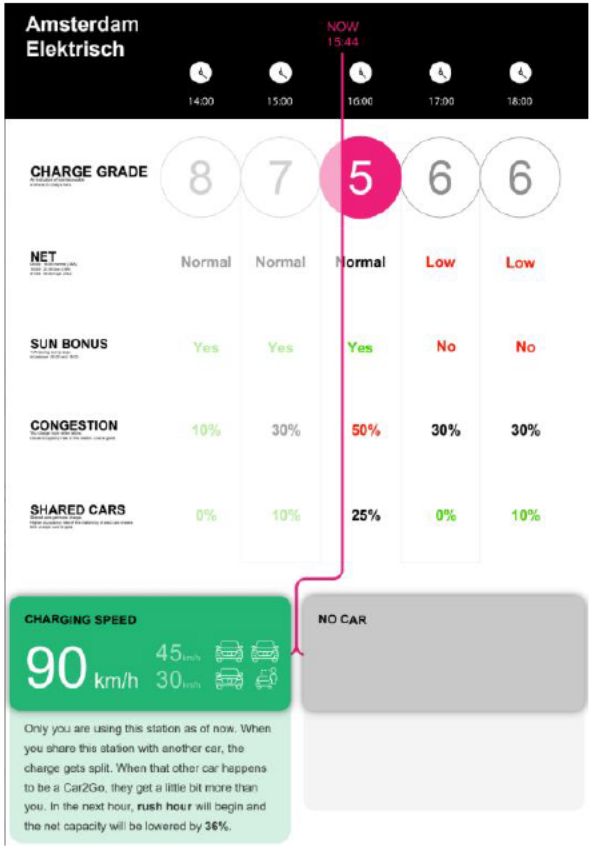
Welkom op
Het Groenste
Plein Van
Amsterdam


Amsterdam Elektrisch
NOW
15:44
14:00
15:00
16:00
17:00
18:00
Normal (25A)
Normal (25A)
Normal (25A)
Low (16A)
Low (16A)
Yes (+7A)
Yes (+7A)
Yes (+7A)
No
No
10%
30%
50%
30%
30%
0%
10%
25%
0%
10%
8
7
5
6
6
CHARGING SPEED
30 km/h
CHARGING SPEED
60 km/h

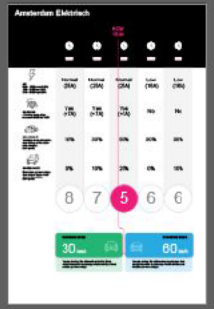

Amsterdam Elektrisch
NOW
15:44
14:00
15:00
16:00
17:00
18:00
CHARGE GRADE
8
7
5
6
6
NET
SUN BONUS
CONGESTION
SHARED CARS
CHARGING SPEED
90 km/h
45
30
NO CAR
Only you are using this station as of now. When you share this station with another car, the charge gets split. When that other car happens to be a Car2Go, they get a little bit more then you. In the next hour, rush hour will begin and the overall net capacity will be lowered by 36%.

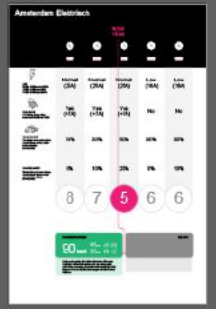

Amsterdam Elektrisch
NOW
15:44
14:00
15:00
16:00
17:00
18:00
CHARGE GRADE
8
7
5
6
6
NET
SUN BONUS
SOLO BONUS
SHARED CARS
CHARGING SPEED
90 km/h
45
30
NO CAR
Only you are using this station as of now. When you share this station with another car, the charge gets split. When that other car happens to be a Car2Go, they get a little bit more then you. In the next hour, rush hour will begin and the overall net capacity will be lowered by 36%.

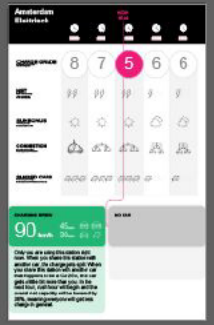

Amsterdam
Elektrisch
NOW
15:44
14:00
15:00
16:00
17:00
18:00
CHARGE GRADE
8
7
5
6
6
NET
SUN BONUS
SOLO BONUS
SHARED CARS
CHARGING SPEED
90 km/h
45
30
NO CAR
Only you are using this station as of now. When you share this station with another car, the charge gets split. When that other car happens to be a Car2Go, they get a little bit more then you. In the next hour, rush hour will begin and the overall net capacity will be lowered by 36%.


Amsterdam
Elektrisch
NOW
15:44
14:00
15:00
16:00
17:00
18:00
CHARGE GRADE
8
7
5
6
6
NET
Normal
Normal
Normal
Low
Low
SUN BONUS
Yes
Yes
Yes
No
No
CONGESTION
10%
30%
50%
30%
30%
SHARED CARS
0%
10%
25%
0%
10%
CHARGING SPEED
90 km/h
45
30
NO CAR
Only you are using this station as of now. When you share this station with another car, the charge gets split. When that other car happens to be a Car2Go, they get a little bit more than you. In the next hour, rush hour will begin and the net capacity will be lowered by 36%.

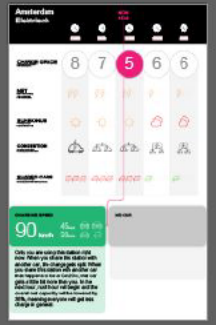
Amsterdam
Elektrisch
NOW
15:44
14:00
15:00
16:00
17:00
18:00
CHARGE GRADE
8
7
5
6
6
NET
SUN BONUS
CONGESTION
SHARED CARS
CHARGING SPEED
90 km/h
45
30
NO CAR
Only you are using this station as of now. When you share this station with another car, the charge gets split. When that other car happens to be a Car2Go, they get a little bit more then you. In the next hour, rush hour will begin and the overall net capacity will be lowered by 36%.


Amsterdam Elektrisch
8 7 5 6 6
30
60


Amsterdam Elektrisch
8 7 5 6 6
60


Amsterdam Elektrisch
8 7 5 6 6
90 km/h

Amsterdam Elektrisch
8 7 5 6 6
90 km/h


Amsterdam Elektrisch
8 7 5 6 6
90 km/h

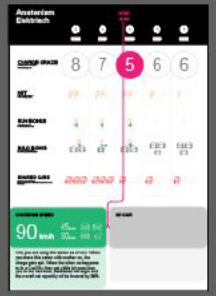
Amsterdam Elektrisch
8 7 5 6 6
90 km/h

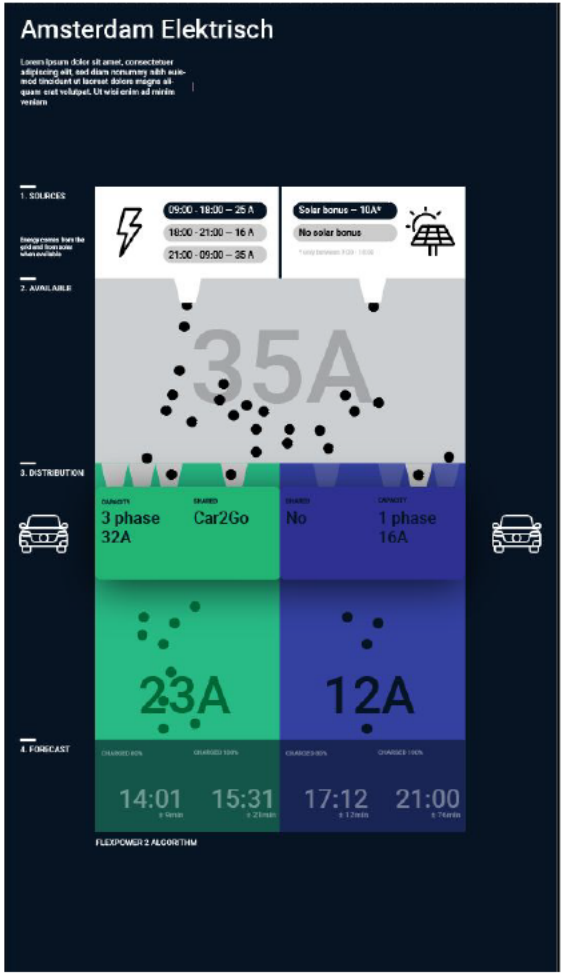
Amsterdam Elektrisch
8 7 5 6 6
90 km/h

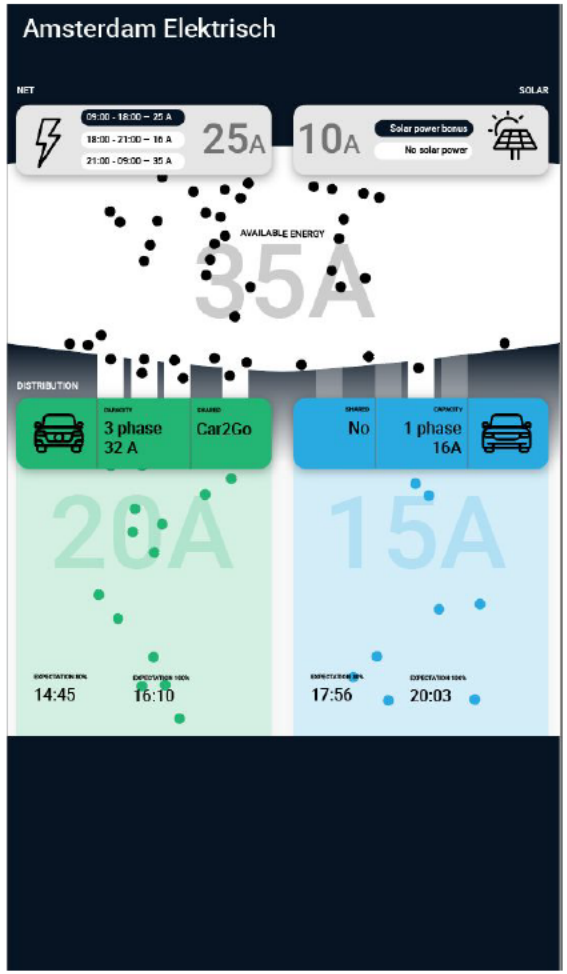
Amsterdam Elektrisch
8 7 5 6 6
90 km/h

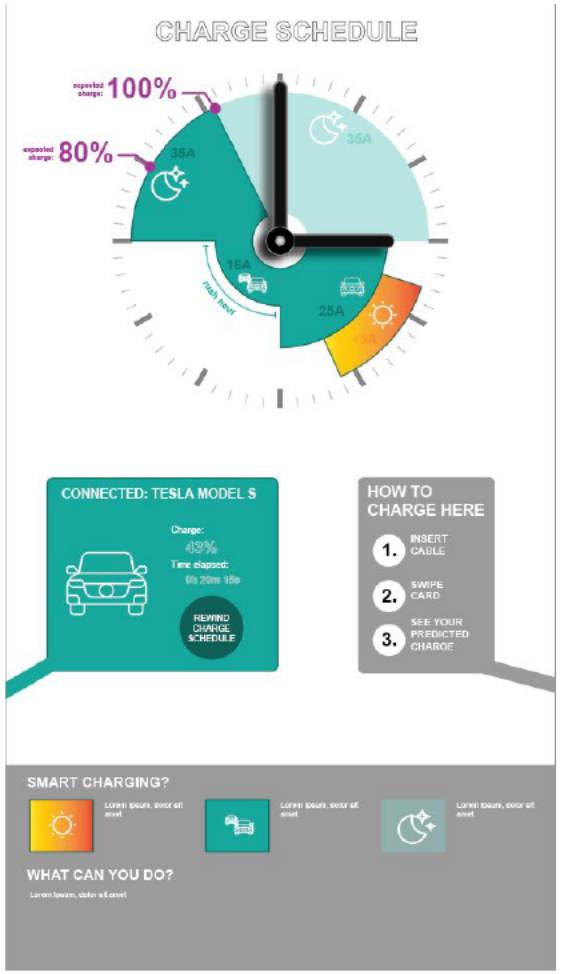
Amsterdam Elektrisch
8 7 5 6 6
90 km/h

Amsterdam Elektrisch
8 7 5 6 6
90 km/h


Amsterdam Elektrisch
8 7 5 6 6
90 km/h


Amsterdam Elektrisch
1. SOURCES
09:00 - 18:00 – 25 A
18:00 - 21:00 – 16 A
21:00 - 09:00 – 35 A
Solar bonus – 10A*
No solar bonus
2. AVAILABLE
35A
3. DISTRIBUTION
3 phase
32A
Car2Go
No
1 phase
16A
23A
12A
4. FORECAST
14:01
15:31
17:12
21:00
FLEXPOWER 2 ALGORITHM


Amsterdam Elektrisch
NET
SOLAR
09:00 - 18:00 – 25 A
18:00 - 21:00 – 16 A
21:00 - 09:00 – 35 A
25A
10A
Solar power bonus
No solar power
AVAILABLE ENERGY
35A
DISTRIBUTION
3 phase
32 A
Car2Go
No
1 phase
16A
20A
15A
14:45
16:10
17:56
20:03


CHARGE SCHEDULE
expected charge: 100%
expected charge: 80%
35A
35A
16A
25A
CONNECTED: TESLA MODEL S
Charge:
43%
Time elapsed:
REWIND CHARGE SCHEDULE
HOW TO CHARGE HERE
1. INSERT CABLE
2. SWIPE CARD
3. SEE YOUR PREDICTED CHARGE
SMART CHARGING?
WHAT CAN YOU DO?

ZO GROEN
LAAD JE HIER

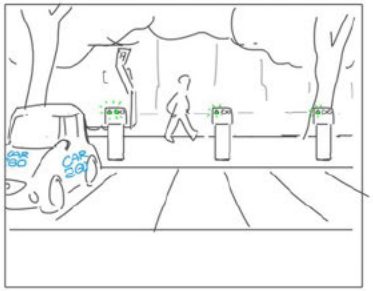
ZO GROEN
LAAD JE HIER

ZO GROEN
LAAD JE HIER
BON

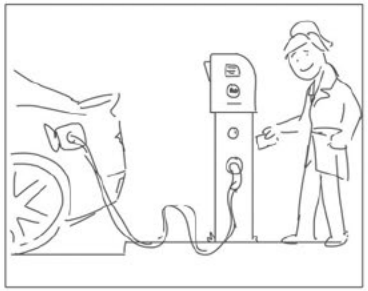
ZO GROEN
LAAD JE HIER
SOMS LAAD JE EXTRA
SOMS BEEN JE GROEN
VOOR DE ZEKERHEID
BON

An electric driver is looking for a place to park and charge in Amsterdam. The dashboard shows options and leads her to the Raamplein.

On arrival she notices a large gate that announces the parking spot as a smart green charging space. A traffic light with all green lights is lit up.

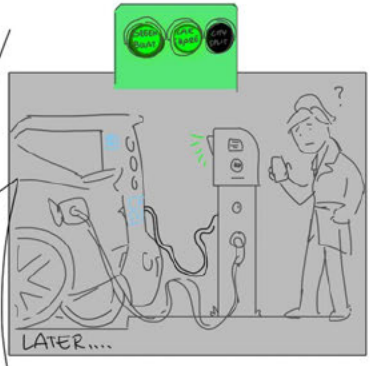


Before parking, she notices all the charging stations have their own traffic light. The one where a car share is plugged in has two green lights, the others just one.



She picks an empty station, because she has an intuition that this is better for charging faster at a public station.

After hooking up the car, she checks the app to see that the car is actually charging way faster that expected. Her intuition proved to be right it seems.



Later that day, she returns to her car. She sees a car share plugged into the station and a second light on the traffic light. She checks the app and sees that the charge is quite a bit lower than before.

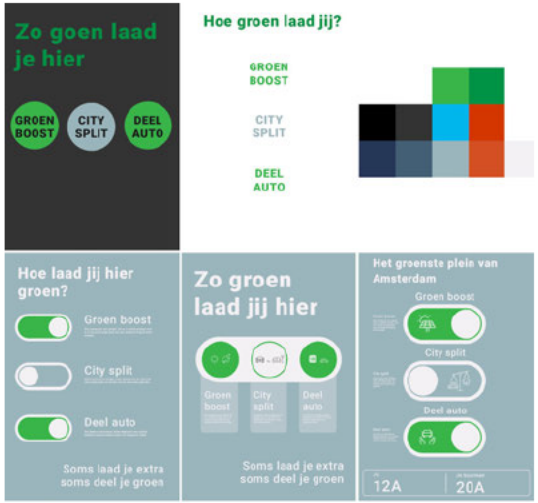
She sees the receipt button and tries it out, just to see what was going on. It prints the receipts with the complete charging timeline for her car.

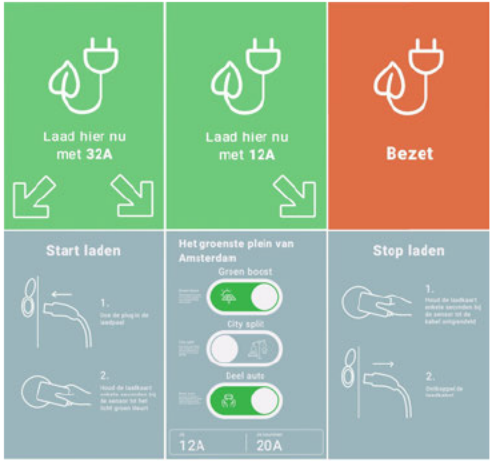
After reading the receipt she understands that she has more than enough charge. The explanation about giving priority to car shares makes sense to her. The initial high charge was a solo bonus. Good to know!

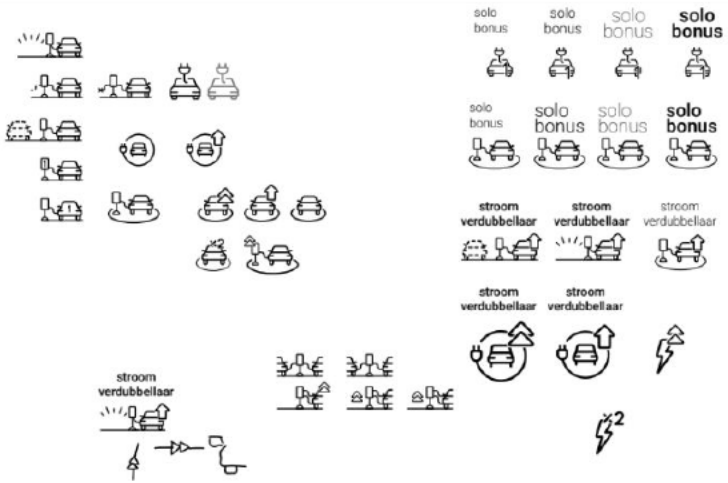
Zo groen laad je hier
GROEN BOOST
CITY SPLIT
DEEL AUTO
Soms laad je extra soms deel je groen

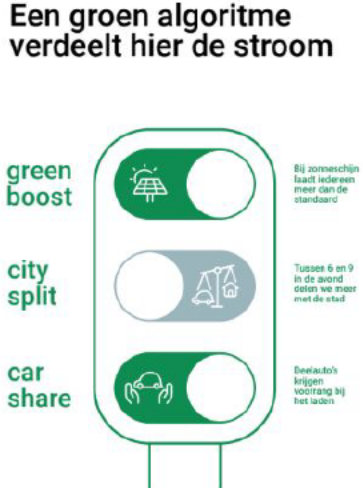
Het groenste plein van Amsterdam
Groen boost
City split
Deel auto
Jij
12A
Je buurman
20A

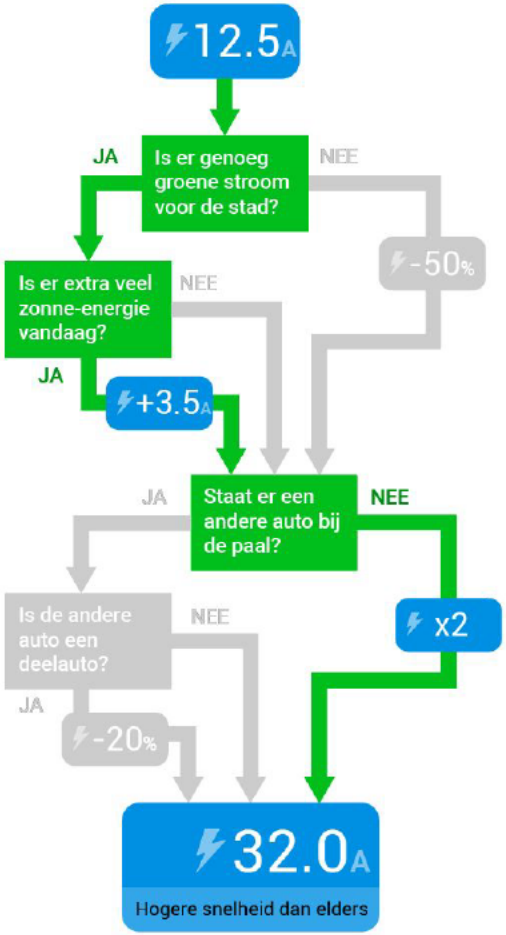
Hier laadt u nu smart én groen, dankzij...
Green boost
Stads-voorrang
Deelauto-voorrang
Huidige laadsnelheid
2.6 kW
DEELAUTO
Huidige laadsnelheid
4.4 kW

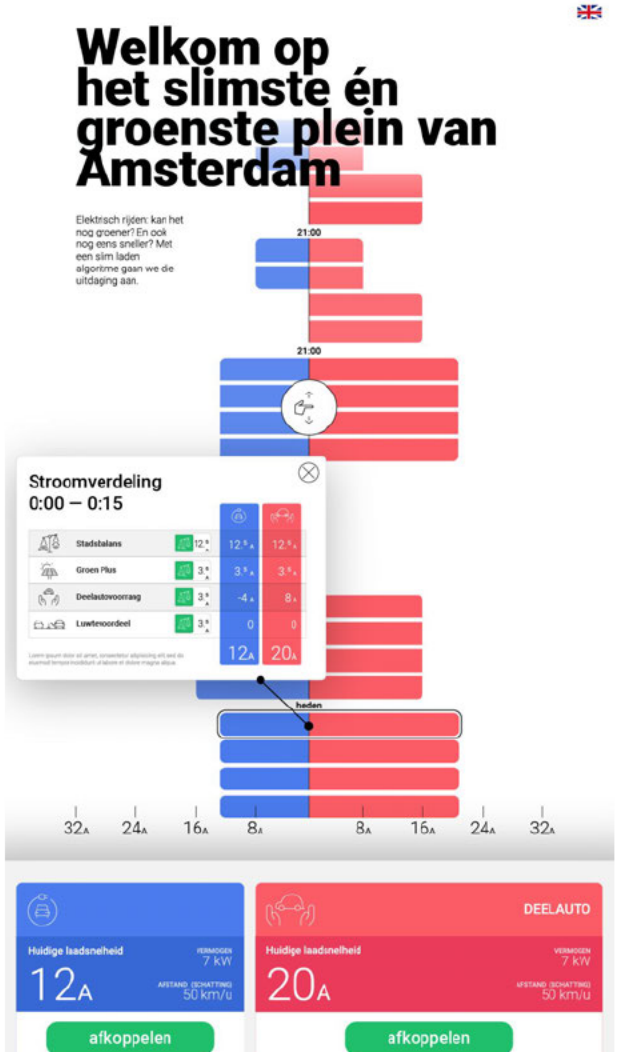

Zo goen laad je hier
GROEN BOOST
CITY SPLIT
DEEL AUTO
Hoe groen laad jij?
GROEN BOOST
CITY SPLIT
DEEL AUTO
Hoe laad jij hier groen?
Groen boost
City split
Deel auto
Soms laad je extra soms deel je groes
Zo groen laad jij hier
Soms laad je extra soms deel je groen
Het groenste plein van Amsterdam
Groen boost
City split
Deel auto
12A
20A

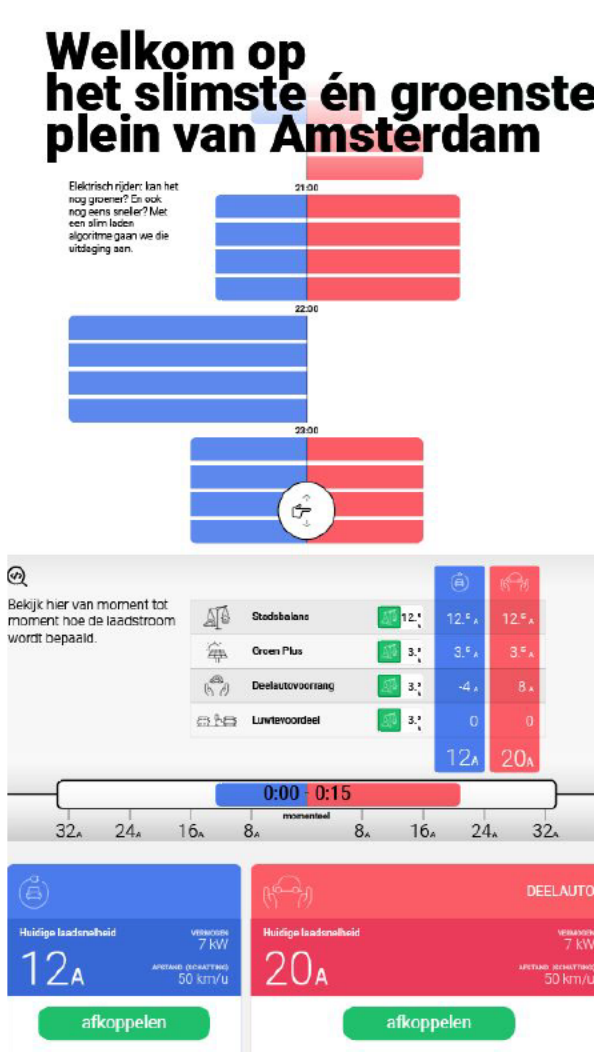

Laad hier nu met 32A
Laad hier nu met 12A
Bezet
Start laden
Het groenste plein van Amsterdam
Groen boost
City split
Deel auto
12A
20A
Stop laden


solo bonus
stroom verdubbellaar
stroom verdubbellaar


Een groen algoritme verdeelt hier de stroom
green boost
Bij zonneschijn laadt iedereen meer dan de standaard
city split
Tussen 6 en 9 in de avond delen we meer met de stad
car share
Deelauto's krijgen voorrang bij het laden

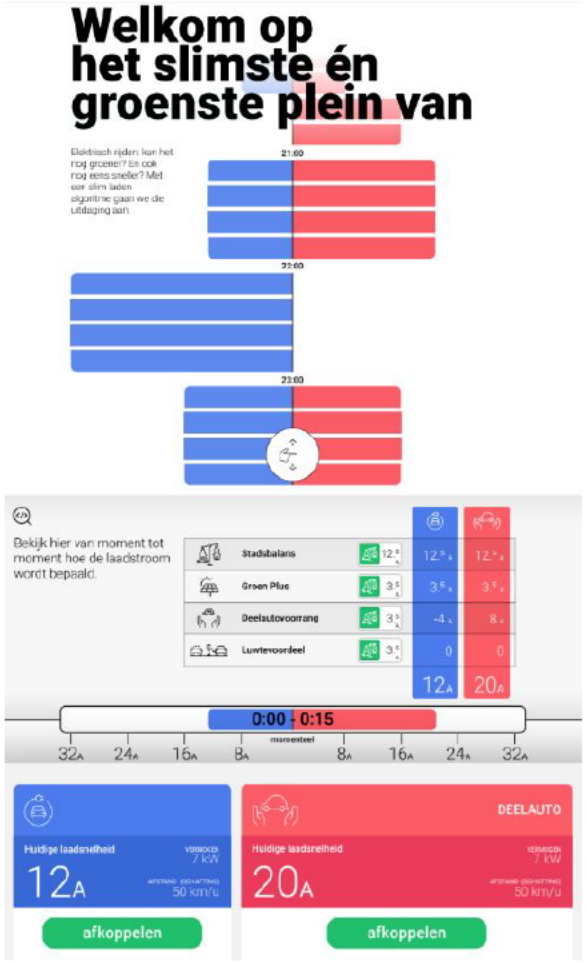

12.5A
JA
Is er genoeg groene stroom voor de stad?
NEE
-50%
Is er extra veel zonne-energie vandaag?
NEE
JA
+3.5A
JA
Staat er een andere auto bij de paal?
NEE
JA
Is de andere auto een deelauto?
NEE
x2
JA
-20%
32.0A
Hogere snelheid dan elders


Welkom op het slimste én groenste plein van Amsterdam
Elektrisch rijden: kan het nog groener? En ook nog eens sneller? Met een slim laden algoritme gaan we die uitdaging aan.
21:00
21:00
Stroomverdeling
0:00 – 0:15
Stadsbalans
Groen Plus
Deelautovoorrang
Luwteroordeel
heden
32A 24A 16A 8A 8A 16A 24A 32A
DEELAUTO
Huidige laadsnelheid
12A
20A
7 kW
50 km/u
afkoppelen
afkoppelen


Welkom op het slimste én groenste plein van Amsterdam
Elektrisch rijden: kan het nog groener? En ook nog eens sneller? Met een slim laden algoritme gaan we die uitdaging aan.
21:00
22:00
23:00
Bekijk hier van moment tot moment hoe de laadstroom wordt bepaald.
Stadsbalans
Groen Plus
Deelautovoorrang
Luwteroordeel
12A
20A
0:00 - 0:15
momenteel
32A 24A 16A 8A 8A 16A 24A 32A
DEELAUTO
Huidige laadsnelheid
12A
20A
7 kW
50 km/u
afkoppelen
afkoppelen

06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
16A
16A
32A
16A
16A
8A
24A
32A
DEELAUTO
Huidige laadsnelheid
12A
20A
7 kW
50 km/u
afkoppelen
afkoppelen

06:00
07:00
08:00
09:00
10:00
11:00
12:00
13:00
14:00
15:00
16:00
17:00
18:00
DEELAUTO
Huidige laadsnelheid
12A
20A
7 kW
50 km/u
afkoppelen
afkoppelen


Welkom op het slimste én groenste plein van
Elektrisch rijden: kan het nog groener? En ook nog eens sneller? Met een slim laden algoritme gaan we die uitdaging aan
21:00
22:00
23:00
Bekijk hier van moment tot moment hoe de laadstroom wordt bepaald.
Stadsbalans
Groen Plus
Deelautovoorrang
Luwtevoordeel
12A
20A
0:00 - 0:15
momenteel
32A
24A
16A
8A
8A
16A
24A
32A
Huidige laadsnelheid
12A
20A
7 kW
50 km/u
DEELAUTO
afkoppelen
afkoppelen

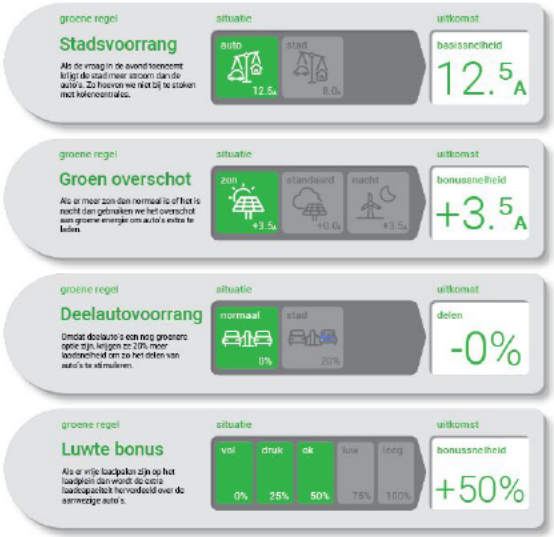
SLIM EN GROEN LADEN

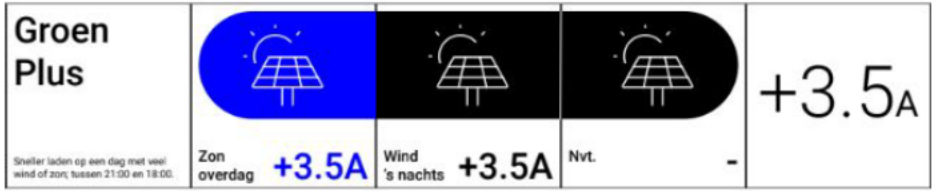
4 manieren om het maximale uit groene stroom te halen. Goed voor gebruikers, de stad en de planeet.

Stadsvoorrang		12.5 A
Groen overschot		3.5 A
Verdubbelaar		x2
Deelautovoorrang		-20%
		+
		32.0 A

GROENER LADEN

Slimme spelregels maken dit laadplein het groenste van Amsterdam. De regels worden automatisch toegepast en zijn altijd zichtbaar.




Groen Plus
Sneller laden op een dag met veel wind of zon; tussen 21:00 en 18:00.
Zon overdag +3.5A
Wind 's nachts +3.5A
Nvt. -
+3.5A

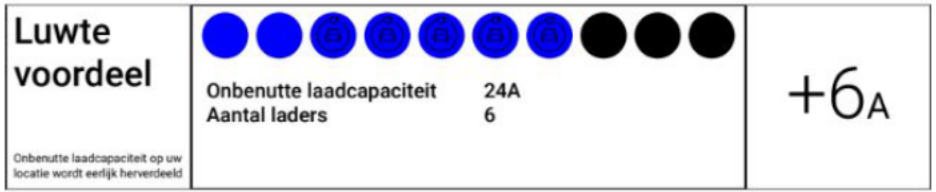
Groen Plus
+3.5A

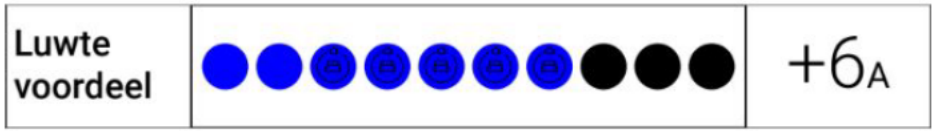
Groen Plus
+3.5A

Groen Plus
+3.5A

Groen Plus
+3.5A

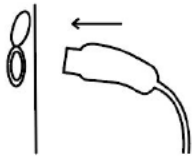
Groen Plus
+3.5A


Luwte voordeel
Onbenutte laadcapaciteit op uw locatie wordt eerlijk herverdeeld
Onbenutte laadcapaciteit 24A
Aantal laders 6
+6A


Luwte voordeel
+6A

EN

Start met laden



Stap 1

Doe de plug in de laadpaal

Stap 2

Houd de laadkaart bij de sensor tot het licht rond de plug blauw kleurt

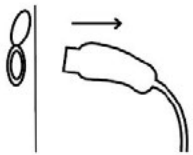
OK

EN

Stop met laden

Stap 1

Houd de laadkaart bij de sensor tot de laadkabel ontgrendeld



Stap 2

Haal de plug uit de laadpaal

OK

Zo werkt dit laadpunt
How to use this chargepoint

Start met laden - Start charging

Stap 1

Doe de plug in de laadpaal

Put the plug in the chargepoint

Stap 2

Houd de laadkaart bij de sensor tot het ligt blauw kleurt

Hold the card over the sensor till the light turns blue

Stop met laden - Stop charging

Stap 1

Houd de laadkaart bij de sensor tot het ligt blauw kleurt

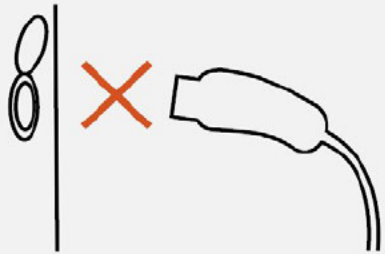
Hold the card over the sensor till the light turns blue

Stap 2

Haal de plug uit de laadpaal

Put the plug in the chargepoint

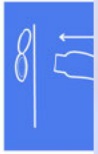
Buiten werking
Out of order



Start een laadactie

Stap 1

Doe de plug in de laadpaal



Stap 2

Houd de laadkaart bij de sensor.

Stap 3

Wacht tot het licht rond de plug blauw kleurt.

Start een laadactie

Stap 1

Doe de plug in de laadpaal

Stap 2

Houd de laadkaart bij de sensor.

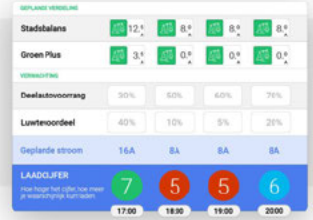
Stap 3

Wacht tot het licht rond de plug blauw kleurt.

Uw laadactie is voltooid

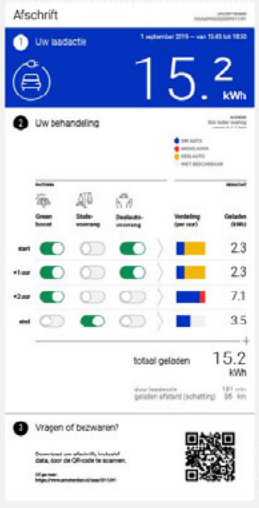
sluiten

Uw laadactie is gestart



sluiten

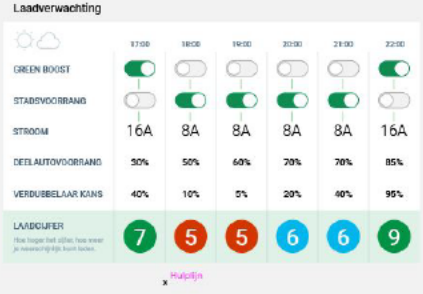
Uw laadactie is voltooid



sluiten

Verwachting

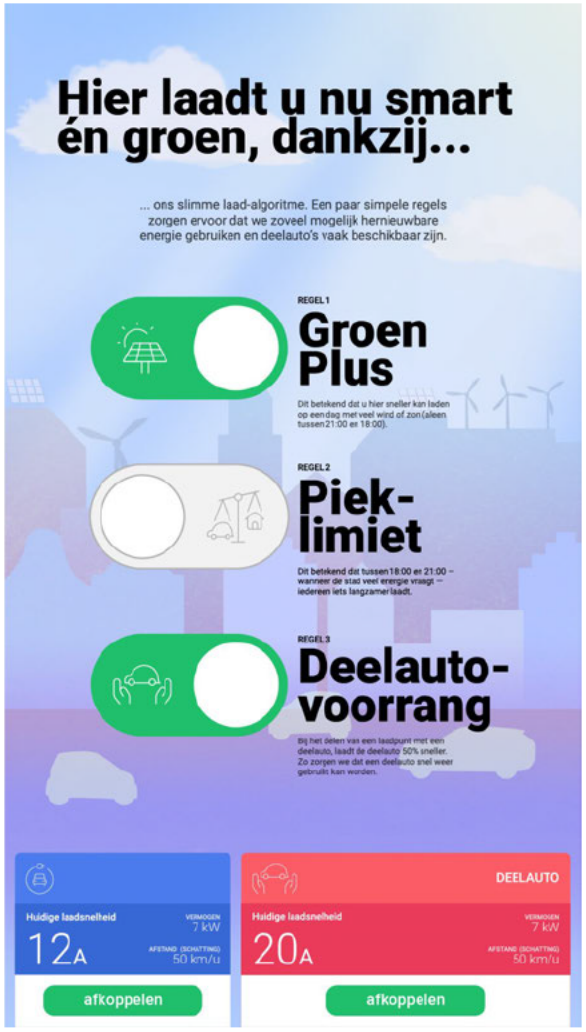
Uw laadactie is gestart



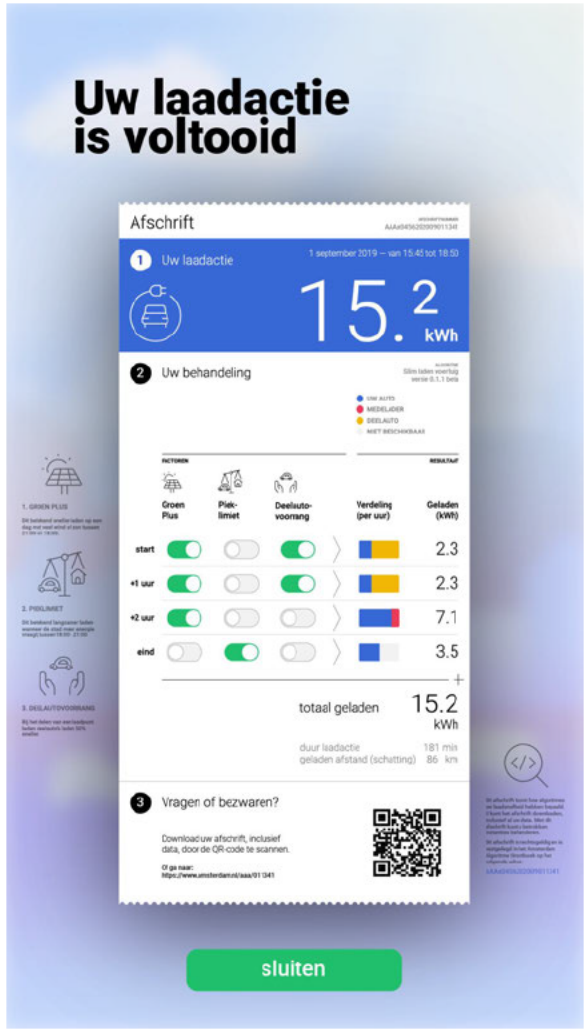
Uw laadactie is voltooid

Laadverwachting

	17:00	18:00	19:00	20:00	21:00	22:00
GROEN PLUS	●	○	○	○	○	●
PIEKLIMIET	○	●	●	●	●	○
STROOM	16 A	8 A	8 A	8 A	8 A	16 A
DEELAUTOVOORRANG	30%	50%	60%	70%	70%	85%
VERDUBBELAAR	40%	10%	5%	20%	40%	95%
LAADCIJFER	7	5	5	6	6	9


Hier laadt u nu smart én groen, dankzij...
... ons slimme laad-algoritme. Een paar simpele regels zorgen ervoor dat we zoveel mogelijk hernieuwbare energie gebruiken en deelauto's vaak beschikbaar zijn.
REGEL 1
Groen Plus
Dit betekend dat u hier sneller kan laden op een dag met veel wind of zon (alleen tussen 21:00 en 18:00).
REGEL 2
Piek-limiet
Dit betekend dat tussen 18:00 en 21:00 – wanneer de stad veel energie vraagt – iedereen iets langzamer laadt.
REGEL 3
Deelauto-voorrang
Bij het delen van een laadpunt met een deelauto, laadt de deelauto 50% sneller. Zo zorgen we dat een deelauto snel weer gebruikt kan worden.
Huidige laadsnelheid
12A
VERMOGEN 7 kW
AFSTAND (SCHATTING) 50 km/u
afkoppelen
DEELAUTO
Huidige laadsnelheid
20A
VERMOGEN 7 kW
AFSTAND (SCHATTING) 50 km/u
afkoppelen

Uw laadactie is gestart
REGEL 1
Groen Plus
REGEL 2
Pieklimiet
REGEL 3
Deelautovoorrang
Uw laadactie
Beschikbare stroom
Op dit laadpunt
16A
Dubbele laadsnelheid
Wegens delen geld uw laadsnelheid
× 2
Uw stroom
32A
Laadvermogen 7 kW
Afstand (schatting) 50 km/u
Laadverwachting
GEPLANDE VERDELING
Groen Plus (+ 3.5A)
Pieklimiet (- 8A)
Beschikbare stroom
16A
8A
8A
8A
VERWACHTING DELEN
Deelautovoorrang (-33%)
30%
50%
60%
70%
Dubbele snelheid (+100%)
40%
10%
5%
20%
LAADCIJFER
Hoe hoger het cijfer, hoe meer je waarschijnlijk kunt laden.
7
17:00
5
18:00
5
19:00
6
20:00
sluiten


Uw laadactie is voltooid
Afschrift
1 Uw laadactie
1 september 2019 – van 15:45 tot 18:50
15.2 kWh
2 Uw behandeling
Groen Plus
Piek-limiet
Deelauto-voorrang
Verdeling (per uur)
Geladen (kWh)
start
2.3
+1 uur
2.3
+2 uur
7.1
eind
3.5
totaal geladen
15.2 kWh
duur laadactie
181 min
geladen afstand (schatting)
86 km
3 Vragen of bezwaren?
Download uw afschrift, inclusief data, door de QR-code te scannen.
Of ga naar:
https://www.amsterdam.nl/aaa/01 1341
sluiten

Uw laadactie is voltooid.

01. | 02. INZICHT | 03. WEGING | 04. VRAGEN / BEZWAREN

Afschrift 1/4

UW LAADACTIE TOTAAL

22.4 kWh

DUUR	GELADEN AFSTAND	INITIËLE VERWACHTING
194 min	± 86.3 km	23.7 kWh

UW ALGORITHMISCH AFSCHRIFT

In uw afschrift vind u hoe algoritmes uw laadsnelheid hebben bepaald. U kunt het afschrift ook downloaden, inclusief alle uw data. Dit afschrift is rechtsgeldig.

DISCLAIMER

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt

PRIVACY

Lorem ipsum dolor sit amet, consectetuer adipiscing elit, sed diam nonummy nibh euismod tincidunt

DOWNLOADEN

AFSCHRIFTNUMMER

TCS0656-202009011341

Gemeente Amsterdam

Inzicht 2/4

Het doel en de regels van dit algoritme

DOEL

Reductie van CO_2 uitstoot van Amsterdam

1. Gebruik 100% groene en 0% grijze energie.
2. Stimuleren deelauto gebruik

REGEL 1	Groen-boost	Op dagen dat de zon schijnt, laadt iedereen tussen 6:30 en 18:00 sneller (+7 kW).
REGEL 2	City split	Sneller laden als de stad slaapt (21:00 - 6:30), langzamer bij piekbelasting (18:00 - 21:00) en overdag normaal.
REGEL 3	Deelautovoorrang	Deelauto's laden 50% sneller dan normale auto's als ze samen aan één laadpaal staan.

Uw laadactie is voltooid.

Afschrift

totaal geladen

22.4 kWh

duur	181 min
afstand (schatting)	64 km
initiële verwachting	24 kWh

berekening

Uw laadactie is voltooid.

Afschrift

UW LAADACTIE TOTAAL

22.4 kWh

DUUR	GELADEN AFSTAND	INITIËLE VERWACHTING
194 min	± 86.3 km	23.7 kWh

BEREKENING

Piek & Dal-uren

Als 's avonds huishoudens meer stroom vragen, laden we auto's minder snel. Zo gebruiken we alleen groene stroom.

18 - 21 UUR 8A | **21 - 0 UUR 12A** | 0 - 18 UUR 12A → **12A**

Maximaal groen

Als er meer zon of wind is dan normaal is, gebruiken we het overschot aan groene energie om auto's extra te laden.

ZON 4A | **WIND 4A** | GEEN - → **4A**

Deelautovoorrang

Omdat deelauto's een duurzame optie zijn, worden ze 50% sneller opgeladen. Zo zijn deelauto's snel weer op weg.

DEELAUTO +4A | **GEEN -** → **0**

Lage vraag voordeel

Als niet alle laadcapaciteit van deze locatie wordt gebruikt, wordt de extra stroom herverdeeld over wie laadt.

DRUK - | GEMIDDELD +50% | RUSTIG +100% → **0**

Beschikbaar voor u

Dit is de maximale laadsnelheid waarmee u nu kunt laden. Afhankelijk van uw auto zou uw laadsnelheid lager kunnen zijn.

16A

Uw laadsnelheid wordt berekend

Dit kan enkele ogenblikken duren

+

Piek & Dal-uren

Als 's avonds huishoudens meer stroom vragen, laden we auto's minder snel. Zo gebruiken we alleen groene stroom.

18 - 21 UUR 8A | **21 - 0 UUR 12A** | 0 - 18 UUR 12A → **12A**

Maximaal groen

Als er meer zon of wind is dan normaal is, gebruiken we het overschot aan groene energie om auto's extra te laden.

ZON 4A | **WIND 4A** | GEEN - → **4A**

Deelautovoorrang

Omdat deelauto's een duurzame optie zijn, worden ze 50% sneller opgeladen. Zo zijn deelauto's snel weer op weg.

DEELAUTO +4A | **GEEN -** → **0**

Lage vraag voordeel

Als niet alle laadcapaciteit van deze locatie wordt gebruikt, wordt de extra stroom herverdeeld over wie laadt.

DRUK - | GEMIDDELD +50% | RUSTIG +100% → **0**

Uw huidige laadsnelheid

Dit is een schatting en kan afwijken van de werkelijkheid.

16A

11 kW

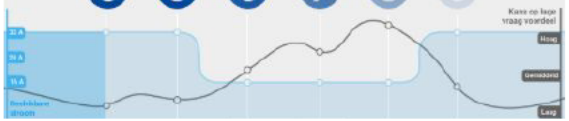
22 km/hr

+

Laadvoorspelling

Laadkijker (1-10) gebaseerd op beschikbare stroom en verwachte drukte.

Nu	17.00	18.00	19.00	20.00	21.00
8	8	6	7	8	8



Lage vraag voordeel

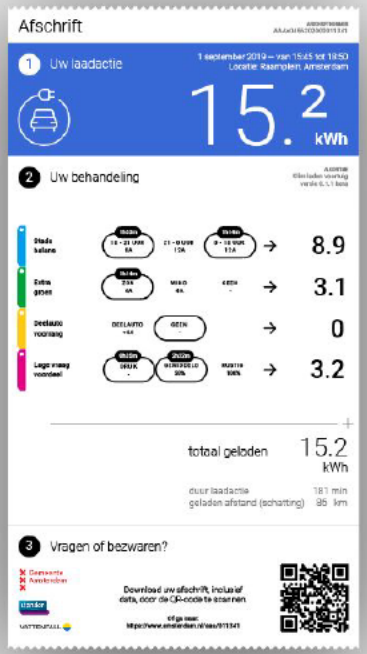
Als niet alle laadcapaciteit van deze locatie wordt gebruikt, wordt de extra stroom herverdeeld over wie laadt.

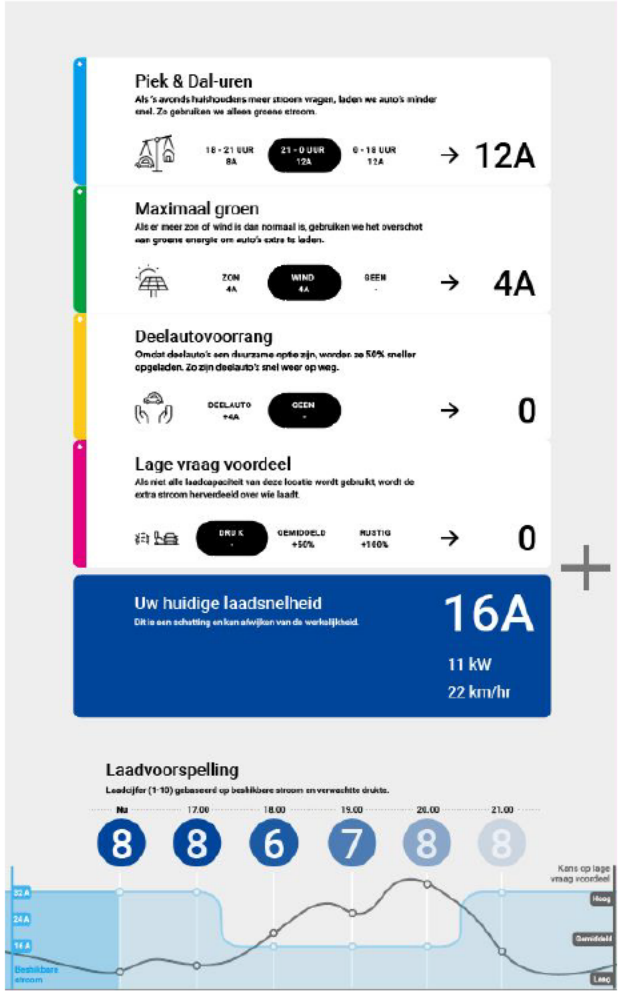
DRUK 0A | NORMAAL +50% | RUSTIG +100% → **16A**

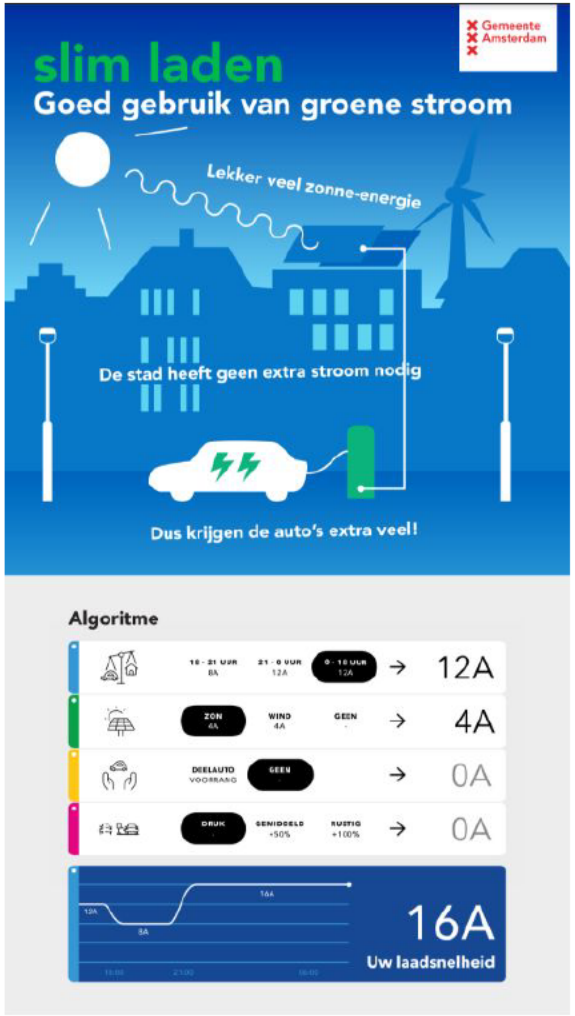
	18 - 21 UUR 8A	21 - 0 UUR 12A	0 - 18 UUR 12A	→ **16A**
	ZON 4A	WIND 4A	GEEN -	→ **16A**
	DEELAUTO VOORRANG	GEEN -		→ **16A**
	DRUK -	GEMIDDELD +50%	RUSTIG +100%	→ **16A**

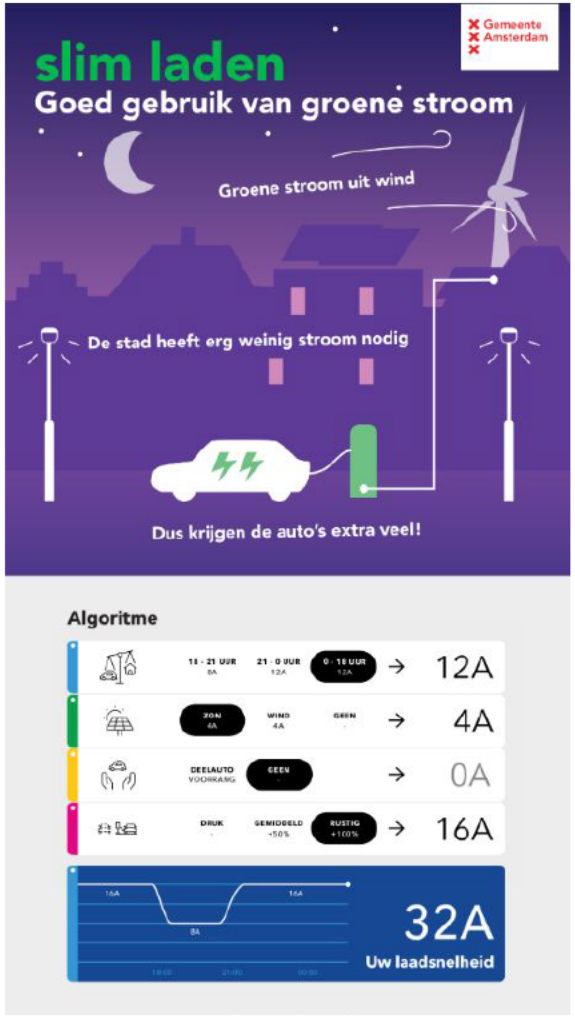
Stads balans	18 - 21 UUR 8A	**21 - 0 UUR 12A**	0 - 18 UUR 12A	→ **12A**
Extra groen	ZON 4A	**WIND 4A**	GEEN -	→ **4A**
Deelauto voorrang	DEELAUTO +4A	**GEEN -**		→ **0**
Lage vraag voordeel	**DRUK -**	GEMIDDELD +50%	RUSTIG +100%	→ **0**

Uw laadactie is voltooid



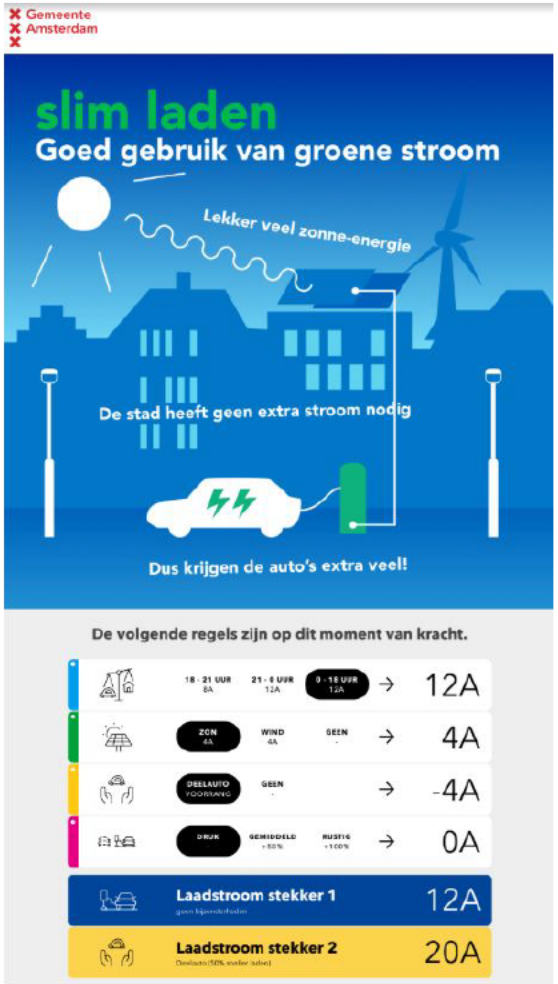


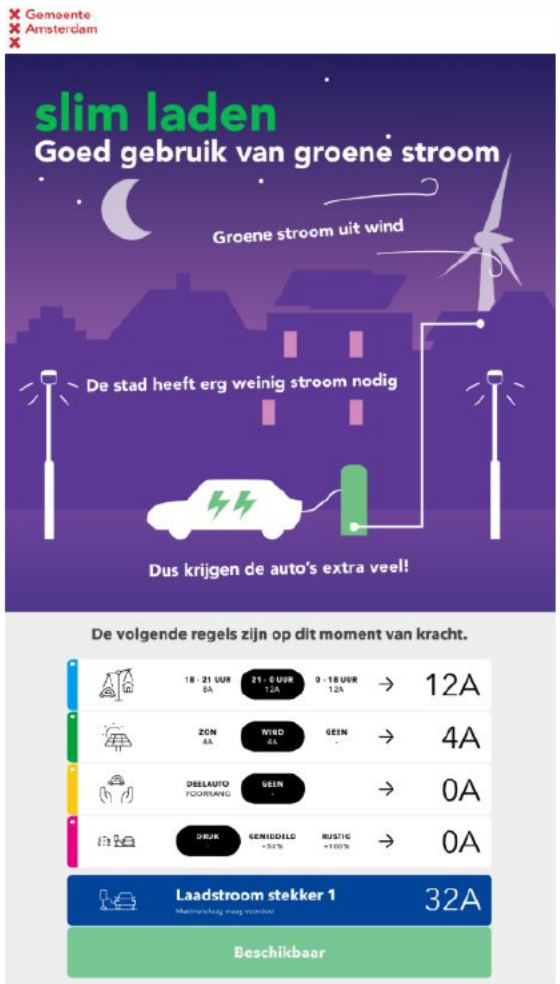


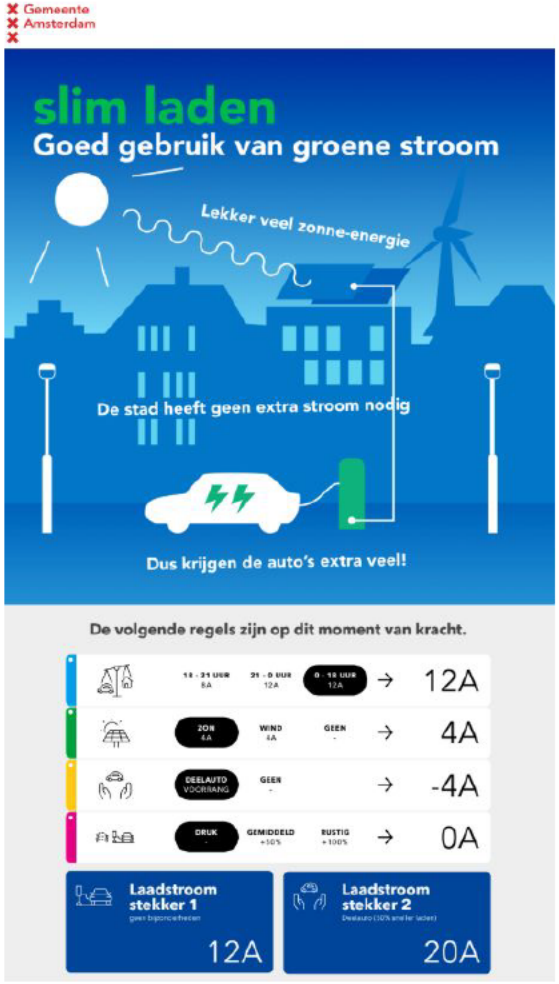


Uw laadactie is voltooid

sluiten


Gemeente
Amsterdam
slim laden
Goed gebruik van groene stroom
Lekker veel zonne-energie
De stad heeft geen extra stroom nodig
Dus krijgen de auto's extra veel!
De volgende regels zijn op dit moment van kracht.
18 - 21 UUR 8A
21 - 0 UUR 12A
0 - 18 UUR 12A
12A
ZON 4A
WIND 4A
GEEN -
4A
DEELAUTO VOORRANG
GEEN -
-4A
DRUK -
GEMIDDELD +50%
RUSTIG +100%
0A
Laadstroom stekker 1
12A
Laadstroom stekker 2
20A


Gemeente
Amsterdam
slim laden
Goed gebruik van groene stroom
Groene stroom uit wind
De stad heeft erg weinig stroom nodig
Dus krijgen de auto's extra veel!
De volgende regels zijn op dit moment van kracht.
18 - 21 UUR 8A
21 - 0 UUR 12A
0 - 18 UUR 12A
12A
ZON 4A
WIND 4A
GEEN -
4A
DEELAUTO VOORRANG
GEEN -
0A
DRUK -
GEMIDDELD +50%
RUSTIG +100%
0A
Laadstroom stekker 1
32A
Beschikbaar


Gemeente
Amsterdam
slim laden
Goed gebruik van groene stroom
Lekker veel zonne-energie
De stad heeft geen extra stroom nodig
Dus krijgen de auto's extra veel!
De volgende regels zijn op dit moment van kracht.
18 - 21 UUR 8A
21 - 0 UUR 12A
0 - 18 UUR 12A
12A
ZON 4A
WIND 4A
GEEN -
4A
DEELAUTO VOORRANG
GEEN -
-4A
DRUK -
GEMIDDELD +50%
RUSTIG +100%
0A
Laadstroom stekker 1
12A
Laadstroom stekker 2
20A

Gemeente Amsterdam

slim laden

Goed gebruik van groene stroom

De volgende regels zijn op dit moment van kracht.

Piek & Dal-uren	18 - 21 UUR 8A	**21 - 0 UUR 12A**	0 - 18 UUR 12A	→ 12A
Maximaal groen	ZON 4A	**WIND 4A**	GEEN -	→ 4A
Deelautovoorrang	DEELAUTO VOORRANG	**GEEN -**		→ 0A
Lage vraag voordeel	**DRUK**	GEMIDDELD +50%	RUSTIG +100%	→ 0A

Laadstroom stekker 1 (geen bijzonderheden) **32A**

Beschikbaar

Gemeente Amsterdam

Door uw auto slim op te laden, laadt u zo groen mogelijk.

Piek & Dal-uren

Als 's avonds huishoudens meer stroom vragen, laden we auto's minder snel. Zo gebruiken we alleen groene stroom.

18 - 21 UUR 8A | **21 - 0 UUR 12A** | 0 - 18 UUR 12A → 12A

Maximaal groen

Als er meer zon of wind is dan normaal is, gebruiken we het overschot aan groene energie om auto's extra te laden.

ZON 4A | **WIND 4A** | GEEN - → 4A

Deelautovoorrang

Omdat deelauto's een duurzame optie zijn, worden ze 50% sneller opgeladen. Zo zijn deelauto's snel weer op weg.

DEELAUTO +4A | **GEEN -** → 0

Lage vraag voordeel

Als niet alle laadcapaciteit van deze locatie wordt gebruikt, wordt de extra stroom herverdeeld over wie laadt.

DRUK | GEMIDDELD +50% | RUSTIG +100% → 0

Uw laadsnelheid 16A

Niet elke auto kan even snel laden. We berekenen nu uw persoonlijke snelheid. Een moment geduld a.u.b.

Laadvoorspelling

Laadcijfer (1-10) is gebaseerd op beschikbare stroom en verwachte kans op extra snel laden door lage vraag.

Nu	17.00	18.00	19.00	20.00	21.00
8	8	5	6	7	9

Gemeente Amsterdam

Door uw auto slim op te laden, laadt u zo groen mogelijk.

Piek & Dal-uren

Als 's avonds huishoudens meer stroom vragen, laden we auto's minder snel. Zo gebruiken we alleen groene stroom.

18 - 21 UUR 8A | **21 - 0 UUR 12A** | 0 - 18 UUR 12A → 12A

Maximaal groen

Als er meer zon of wind is dan normaal is, gebruiken we het overschot aan groene energie om auto's extra te laden.

ZON 4A | **WIND 4A** | GEEN - → 4A

Deelautovoorrang

Omdat deelauto's een duurzame optie zijn, worden ze 50% sneller opgeladen. Zo zijn deelauto's snel weer op weg.

DEELAUTO +4A | **GEEN -** → 0

Lage vraag voordeel

Als niet alle laadcapaciteit van deze locatie wordt gebruikt, wordt de extra stroom herverdeeld over wie laadt.

DRUK | GEMIDDELD +50% | RUSTIG +100% → 0

Uw laadsnelheid 16A

Berekend voor uw auto | VERMOGEN 11kW | AFSTAND 40km/u

Laadvoorspelling

Laadcijfer (1-10) is gebaseerd op beschikbare stroom en verwachte kans op extra snel laden door lage vraag.

Nu	17.00	18.00	19.00	20.00	21.00
8	8	5	6	7	9

Gemeente Amsterdam

Door uw auto slim op te laden, laadt u zo groen mogelijk.

Piek & Dal-uren

Als 's avonds huishoudens meer stroom vragen, laden we auto's minder snel. Zo gebruiken we alleen groene stroom.

18 - 21 UUR 8A | 21 - 0 UUR 12A | 0 - 18 UUR 12A → 12A

Maximaal groen

Als er meer zon of wind is dan normaal is, gebruiken we het overschot aan groene energie om auto's extra te laden.

ZON 4A | WIND 4A | GEEN - → 4A

Deelautovoorrang

Omdat deelauto's een duurzame optie zijn, worden ze 50% sneller opgeladen. Zo zijn deelauto's snel weer op weg.

DEELAUTO +4A | GEEN - → 0

Lage vraag voordeel

Als niet alle laadcapaciteit van deze locatie wordt gebruikt, wordt de extra stroom herverdeeld over wie laadt.

DRUK - | GEMIDDELD -50% | RUSTIG +100% → 0

Uw laadsnelheid max

BEREKEND VOOR UW AUTO | VERMOGEN 11kW | AFSTAND 40km/u

Laadvoorspelling

Laadcijfer (1-10) is gebaseerd op beschikbare stroom en verwachtte kans op extra snel laden door lage vraag.

Nu	17.00	18.00	19.00	20.00	21.00
8	8	5	6	7	9

Gemeente Amsterdam

Uw laadactie is voltooid; hier is uw afschrift

Afschrift

1 Uw laadactie

1 september 2019 ... van 15:45 tot 18:50
Locatie: Raamplein Amsterdam

15.2 kWh

2 Uw behandeling

Start 17:00 18:00 Eind

Stads balans	4 - 15 UUR 7.1 kWh	18 - 21 UUR 1.8 kWh	→ 8.9
Extra groen	ZON 3.1 kWh		→ 3.1
Deelauto voorrang			→ 0
Lage vraag voordeel	18 AM 2.8 kWh	0.4 kWh	→ 3.2

totaal geladen 15.2 kWh

duur laadactie 181 min
geladen afstand (schatting) 86 km

3 Vragen of bezwaren?

Gemeente Amsterdam
Garder
VATTENFALL

Download uw afschrift, inclusief data, door de QR code te scannen.

Of ga naar:
https://www.amsterdam.nl/aaa/011.343