Data Analytics for Sustainability and Business with TotalEnergies

February / March 2022

TotalEnergies

DIGITAL VALUE
Data Analytics for Business

With the participation of Agence de l'Innovation pour les Transports

3,500 stations in France, 25% market share

800 TOTALENERGIES

Flagships, motorways, cities, suburbs

700 ACCESS

Low prices network, in front of hypermarkets

2,000 ELAN and TOTALENERGIES CONTACT

In rural areas

We are currently transforming our network towards new energies…..

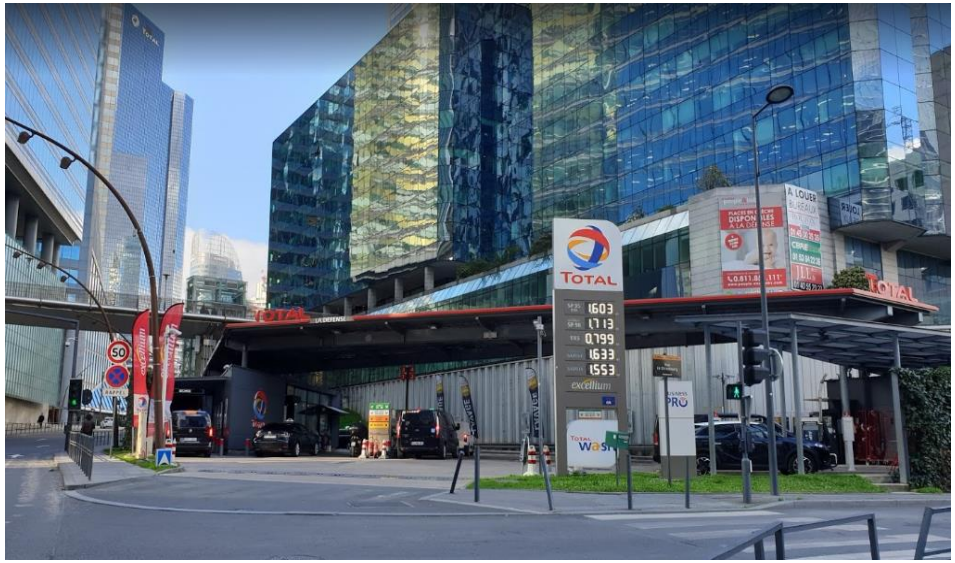
….But the market doesn't really exist yet…..

From fuel service stations

To multi-energies service stations (high power charge for EV, H2, LNG)

We have already converted some stations…..

Before

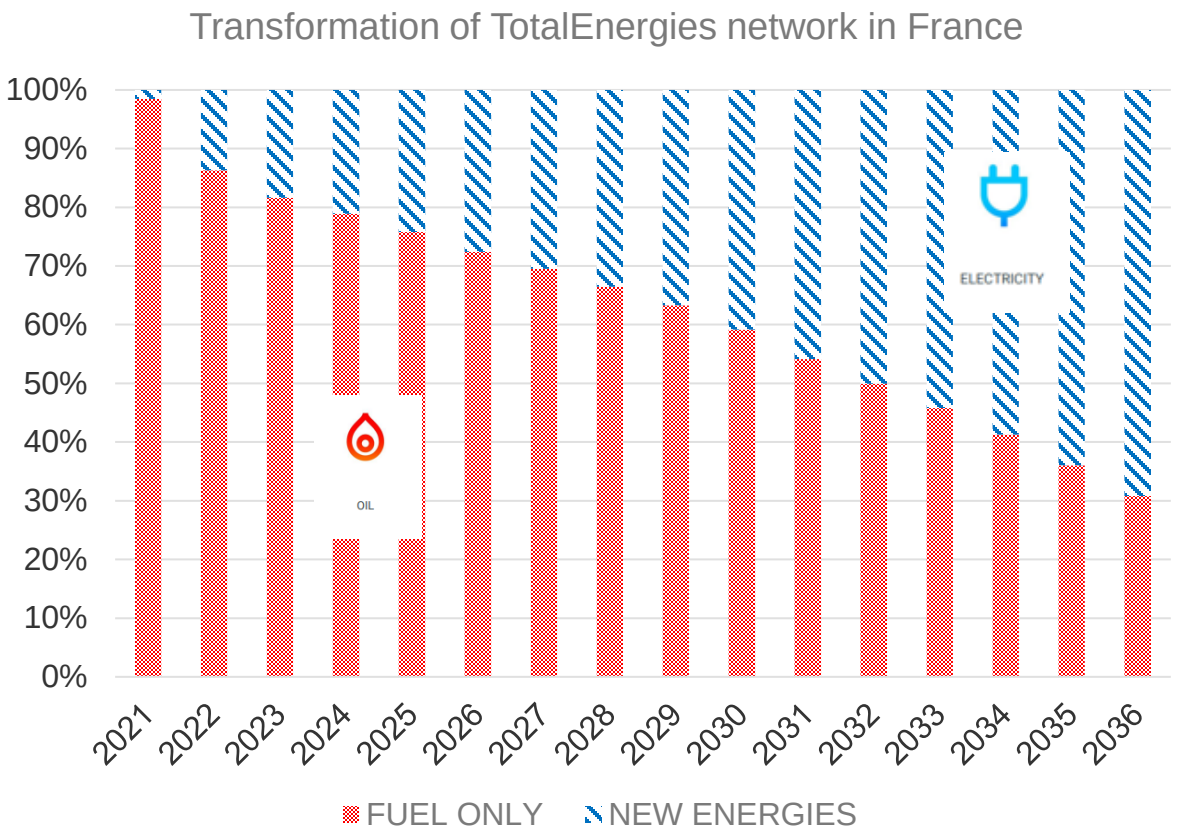


After

La Défense (92): **from a 100% thermal station to a 100% EV station**

9 HPC charging points >> 100 km loaded in 6 minutes

And want to move fast…..



To avoid that…

Chez Tesla...

The questions for you….

HOW MANY EV STATIONS NEEDED ?

WHERE (MOST RELEVANT LOCATIONS) ?

Thank you !

Agenda

A. Presentation of Challenge #1: Penetration of EV in France and sizing of the network of EV charging

B. Presentation of Challenge #2: Identification of the most relevant locations to implement Total Energies EV charging stations in two geographical areas

C. Planning of the Challenge

France and the European Union have announced ambitious objectives to reduce CO_2 emissions of the transport sector by 2035 and 2050.

REUTERS®

EU proposes effective ban for new fossil-fuel cars from 2035

- Commission proposes 55% cut in CO2 emissions from cars by 2030
- Proposals include 100% cut in CO2 emissions from cars by 2035
- Commission expects 16.3 million charging stations by 2050
- Plug-in hybrids will count as low-emission vehicles until 2030

14/072021

Le Monde

The Parliament definitively adopts the bill on energy transition, which declares a "climate emergency".

This text updates the objectives of France's energy policy, notably by setting as objective to reach “carbone neutrality” by 2050.

27/09/2021

In order to achieve these objectives, the French government has announced new local regulations, banning the circulation of polluting vehicles ("Low Emission Zones"), as well as incentives for the purchase of electric vehicles.

Les Echos

Pollution de l'air : les restrictions de circulation étendues à toutes les grandes villes en 2025

Barbara Pompili, la ministre de la Transition écologique, a annoncé ce mercredi l'extension du dispositif des zones à faible émission (ZFE) aux 35 agglomérations de plus de 150.000 habitants. La verbalisation des contrevenants aux restrictions de circulation pourrait être opérationnelle avant la fin du quinquennat dans les très grandes métropoles, dont Paris.

18/11/2020

- The French Government announced the extension of « Low Emission Zones » to all major cities by 2025.
- In France, all cars must be equipped with an air quality certificate sticker, called « Crit'air ». Theses certificates range from Crit'air 1 (for low emission vehicles) to Crit'air 5 (for high emission vehicles), « Electric » or « unclassified ».
- Cars with « Crit'air » 3, 4, 5 and « unclassified » will progressively be banned from circulation in cities of more than 150k inhabitants by 2025.

Le Parisien

Économie

Les aides à l'achat de véhicules propres entrent en vigueur ce lundi

Un décret publié ce dimanche au Journal officiel acte notamment la hausse du bonus écologique pour l'achat d'un véhicule électrique neuf, qui passe de 6000 à 7000 euros pour un particulier.

/05/2020

- To promote the usage of Electric Vehicles, French Government has offered subsidies of 7.000 € for the purchase of a new electric vehicle, and of 1.000 € for the purchase of second-hand electric vehicle.

Car manufacturers are also willing to increase their EV penetration targets in their sales.

CNBC

Ford ups EV investments, targets 40% electric car sales by 2030 under latest turnaround plan

26/05/2021

euronews.

Italian car maker Fiat to go all electric by 2030

Published date: 04 June 2021

Italian automaker Fiat will transition to producing only electric vehicles (EVs) in 2025-30.

04/06/2021

Le Monde

Renault to exclusively sell electric cars in Europe by 2030

Renault will stop selling internal combustion-engined cars in Europe by 2030, according to boss Luca de Meo

17/02/2022

Challenge #1: Modeling of the evolution of the penetration of Electric Vehicles in France and sizing of the network of charging stations

Part 1: Build several scenarios of the number & geographical repartition of EV per departement in France depending on:

- Current penetration of EV vehicle
- Regulation and incentives to purchase EV
- Objective to reduce CO2 of the French government
- Announces of the major OEM concerning their shift towards EV
- ☞ *Expected output: Description of your scenarios and strategic analysis (.ppt)*

Part 2: Size the network of EV rapid charging stations of TotalEnergies per departement depending on:

- Number of EV
- Habits of users
- Potential level of competitive intensity
- ☞ *Expected output: Model sizing the network of EV rapid charging stations and strategic outputs for TotalEnergies (.ppt)*

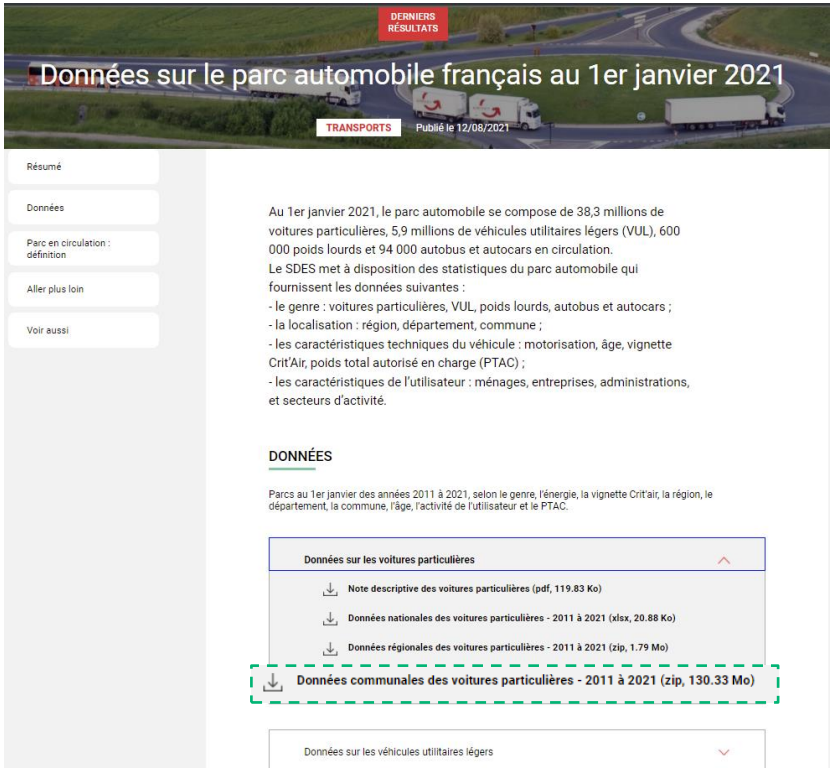
Part 3: Define the deployment roadmap per department on a yearly basis

- ☞ *Expected output: Deployment plan of the network of EV rapid charging stations (.ppt)*

Input data: Number of vehicles registered per departement in France from 2012 to 2021

Link: here

How to download

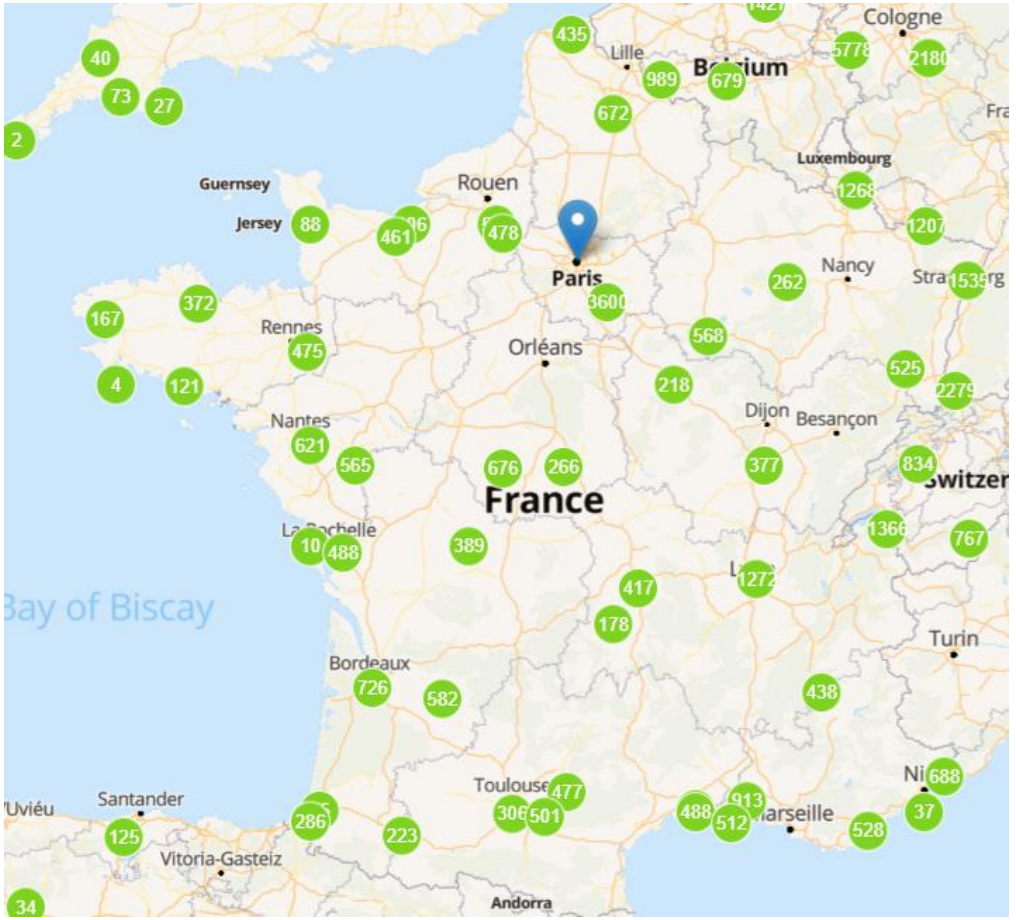


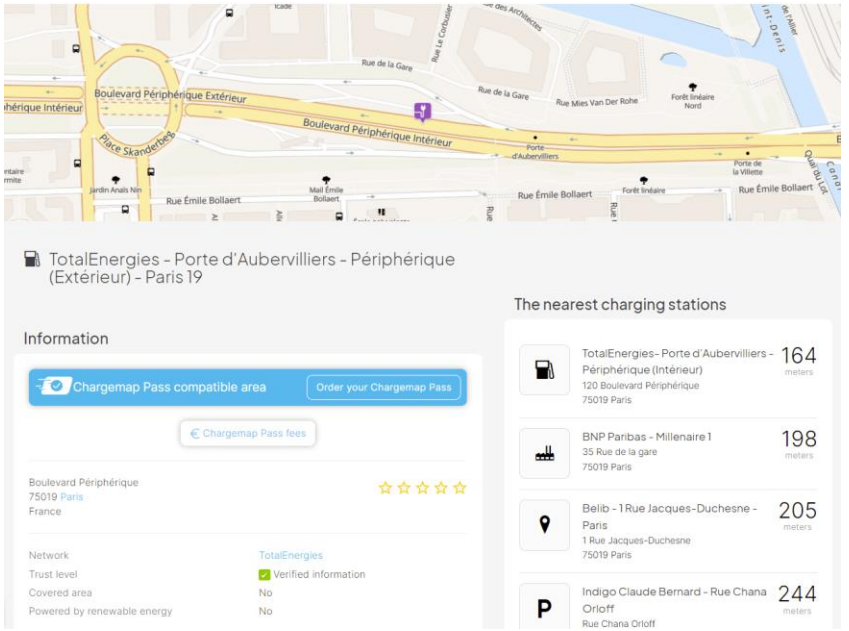
Extract of the file

Department ID | Crit'air category | Motor category | Number of Vehicles

Code région	Libellé région	Code département	Libellé département	Code Epci	Libellé EPCI	Code commune	Libellé commune	Vignette Crit'air	Energie	Parc au 01/01/2021
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Crit'air 1	Essence hyb	1
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Crit'air 1	Gaz	2
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Crit'air 1	Essence	108
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Crit'air 2	Essence	39
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Crit'air 2	Gazole	175
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Crit'air 3	Essence	36
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Crit'air 3	Gazole	81
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Crit'air 4	Gazole	29
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Crit'air 5	Gazole	10
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Crit'air E	Electrique e	4
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Inconnu	Inconnu	
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Non classée	Essence	14
84	Auvergne-Rhône-A	01	Ain	200069193	CC de la Dombes	01001	L'Abergement-Clém	Non classée	Gazole	5
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01002	L'Abergement-de-Va	Crit'air 1	Gaz	1
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01002	L'Abergement-de-Va	Crit'air 1	Essence	26
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01002	L'Abergement-de-Va	Crit'air 2	Essence	8
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01002	L'Abergement-de-Va	Crit'air 2	Gazole	48
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01002	L'Abergement-de-Va	Crit'air 3	Essence	8
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01002	L'Abergement-de-Va	Crit'air 3	Gazole	30
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01002	L'Abergement-de-Va	Crit'air 4	Gazole	13
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01002	L'Abergement-de-Va	Crit'air 5	Gazole	2
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01002	L'Abergement-de-Va	Crit'air E	Electrique e	1
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01002	L'Abergement-de-Va	Inconnu	Inconnu	
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01002	L'Abergement-de-Va	Non classée	Essence	4
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01002	L'Abergement-de-Va	Non classée	Gazole	1
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01004	Ambérieu-en-Bugey	Crit'air 1	Essence hyb	36
84	Auvergne-Rhône-A	01	Ain	240100883	CC de la Plaine de l'Ain	01004	Ambérieu-en-Bugey	Crit'air 1	Gaz	37

Input data: Location of charging points, number of sockets and power of charge





- Two datasets are available :
  - All charging stations available.
  - Rapid charging stations (output power over 43 kW).
- Data is available here

Agenda

A. Presentation of Challenge #1: Penetration of EV in France and sizing of the network of EV charging

B. Presentation of Challenge #2: Identification of the most relevant locations to implement Total Energies EV charging stations in two geographical areas

C. Planning of the challenges

Challenge #2: Identification of the most relevant locations to deploy TotalEnergies EV charging stations

Part 1: Identify the locations to deploy TotalEnergies EV charging stations in an urban area (use case : Bordeaux Métropole) taking into consideration:

- Road traffic
- Density of population
- Type of housing (individual vs collective, year of construction)
- Local regulation (“Zones à faibles émissions”)
- Localization of existing TotalEnergies stations
- Presence of competitors

☞ *Expected output: Coordinates of the locations and number of the stations per location and strategic analysis for TotalEnergies (Dataset + PPT presentation)*

Part 2: Identify the locations to deploy EV charging stations in a rural area (use case : Vosges department) taking into consideration:

- Road traffic
- Local regulation (“Zones à faibles émissions”)
- Localization of existing TotalEnergies stations
- Presence of competitors

☞ *Expected output: Coordinates of the locations and number of the stations per location and strategic analysis for TotalEnergies (Dataset + PPT presentation)*

Input data: Traffic volume per road in Vosges Departement

Link: here

How to download

Extract of the file

Data point geographical coordonates

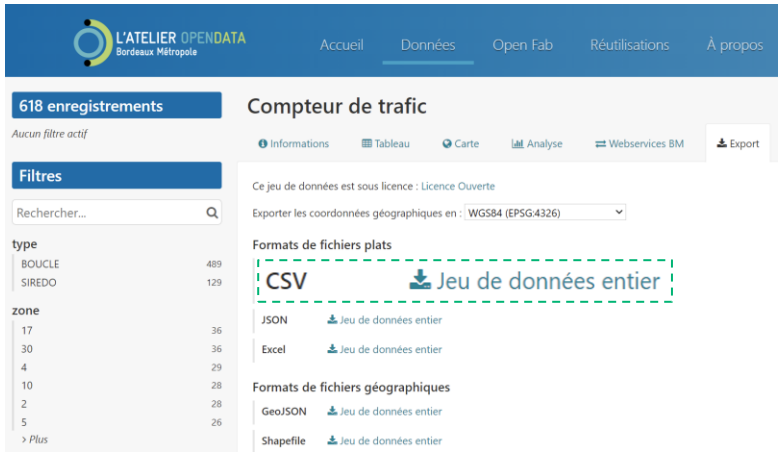
Trafic intensity

objetID	longueur	xD	yD	zD	xF	yF	TMJA	ratio_PL
CONTINUITE_12	44	511656,78	6204078,36	0	511698,51	6204063,93		
CONTINUITE_13	762	511367,22	6204210,06	0	511880,76	6203732,4		
CONTINUITE_14	6055	844036,84	6510806,45	0	849346,89	6509342,34		
CONTINUITE_15	13752	846831,3	6522372,16	0	843537,87	6512429,8		
CONTINUITE_9	2408	844982,46	6522772,27	0	846831,3	6522372,16		
CONTINUITE_10	35040	655221,44	6858722,8	0	655221,44	6858722,8		
CONTINUITE_11	35040	655227,28	6858703,75	0	655227,28	6858703,75		
TMJ19_1	2440	653006,6	6867037,55	0	652895,68	6869486,5	132186	
TMJ19_2	785,2	652895,68	6869486,5	0	653192,95	6870100,7	132186	
TMJ19_3	401,8	653192,95	6870100,7	0	653570,77	6870241,67	132186	
TMJ19_4	820,5	653570,77	6870241,67	0	654333,83	6870523,68	132186	
TMJ19_5	229,5	654333,83	6870523,68	0	654554,12	6870572	132186	
TMJ19_6	210	654554,12	6870572	0	654759,06	6870596,05	132186	
TMJ19_7	2018	654759,06	6870596,05	0	656725,22	6870934,53	132757	
TMJ19_8	102	656725,22	6870934,53	0	656820,85	6870967,75	179900	
TMJ19_9	1700	656820,85	6870967,75	0	658432,54	6871533,44	179900	
TMJ19_10	2818	658432,54	6871533,44	0	660673,01	6873226,12	196501	50
TMJ19_11	678	660673,01	6873226,12	0	661190,21	6873674,3	122500	
TMJ19_12	1202	661190,21	6873674,3	0	662045,66	6874523,29	122500	
TMJ19_14	4820	662458,53	6874933,32	0	665417,28	6878704,65	98800	
Sanef_1	1499	665481,08	6878892,47	0	665966,61	6880317,6	100582	17,01
NblLnCD_section1_Sanef_1	242	665966,61	6880317,6	0	666035,68	6880520,91	100582	17,01
NblLnCD_section2_Sanef_1	7132	666035,68	6880520,91	0	667208,81	6887489,88	100582	17,01
Sanef_2	2777	667208,81	6887489,88	0	667345,96	6890249,01	88718	17,69
NblLnCD_section1_Sanef_2	1610	667345,96	6890249,01	0	667686,69	6891809,56	88718	17,69
Sanef_3	10166	667686,69	6891809,56	0	671659,72	6900724,84	85306	18,26
Sanef_4	1694	671659,72	6900724,84	0	672895,5	6901827,49	60705	22,93
Sanef_5	13620	672895,5	6901827,49	0	677269,45	6913464,74	66830	23,22
Sanef_6	8733	677269,45	6913464,74	0	678030,74	6921986,21	59640	24,67
Sanef_7	14075	678030,74	6921986,21	0	679799,4	6935810,25	55654	25,69
Sanef_8	11468	679799,4	6935810,25	0	682330,82	6946951,22	56145	25,52
NblLnCD_section1_Sanef_8	9286	682330,82	6946951,22	0	683521,06	6956095,56	56145	25,52
Sanef_9	17216	683521,06	6956095,56	0	687952,39	6972647,1	53287	26,09
Sanef_10	2964	687952,39	6972647,1	0	688279,33	6975583,73	66471	24,62
Sanef_11	10318	688279,33	6975583,73	0	690044,79	6985631,47	66888	25,25
Sanef_12	4966	690044,79	6985631,47	0	691298,91	6990414,29	67641	25,05
Sanef_13	2220	691298,91	6990414,29	0	691699,49	6992566,8	44371	26,04
NblLnCD_section1_Sanef_13	7891	691699,49	6992566,8	0	690810,7	7000344,35	44371	26,04
Sanef_14	19107	690810,7	7000344,35	0	690643,39	7019124,53	45960	26,03

Input data: Traffic volume per location in Bordeaux metropolitan Area

Link: here

How to download



Extract of the file

Data point geographical coordonates

Trafic intensity

Geo Point	Geo Shape	gid	ident	type	zone	comptage_5	cdate	mdate	commune	CODE_COMM
44.863922,-0	{"coordinate	225	Z24CT2	BOUCLE	24	0	2012-11-08T	2022-02-22T	Eysines	33162
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44.8778901,-	{"coordinate	228	Z24CT4	BOUCLE	24	0	2012-11-08T	2022-02-22T	Le Haillan	33200
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44.8411116,-	{"coordinate	235	Z6CT16	BOUCLE	6	31	2012-11-09T	2022-02-22T	Bordeaux	33063
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44.8025503,-	{"coordinate	247	Z27CT6	BOUCLE	27	0	2012-11-16T	2022-02-22T	Pessac	33318
44.8018652,-	{"coordinate	248	Z27CT9	BOUCLE	27	52	2012-11-16T	2022-02-22T	Pessac	33318
44.8797593,-	{"coordinate	258	Z22CT10	BOUCLE	22	14	2012-11-16T	2022-02-22T	Lormont	33249
44.8667967,-	{"coordinate	259	Z22CT13	BOUCLE	22	99	2012-11-16T	2022-02-22T	Cenon	33119
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44.8781007,-	{"coordinate	263	Z2201CT3	BOUCLE	22	28	2012-11-16T	2022-02-22T	Lormont	33249
44.8563551,-	{"coordinate	267	Z2201CT1	BOUCLE	22	4	2012-11-16T	2022-02-22T	Cenon	33119
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44.8522146,-	{"coordinate	284	Z8CT5	BOUCLE	8	19	2012-11-28T	2022-02-22T	Bordeaux	33063
44.8536719,-	{"coordinate	287	Z8CT9	BOUCLE	8	35	2012-11-28T	2022-02-22T	Cenon	33119

Input: TotalEnergies charging stations

Extract of the file

Type of stations

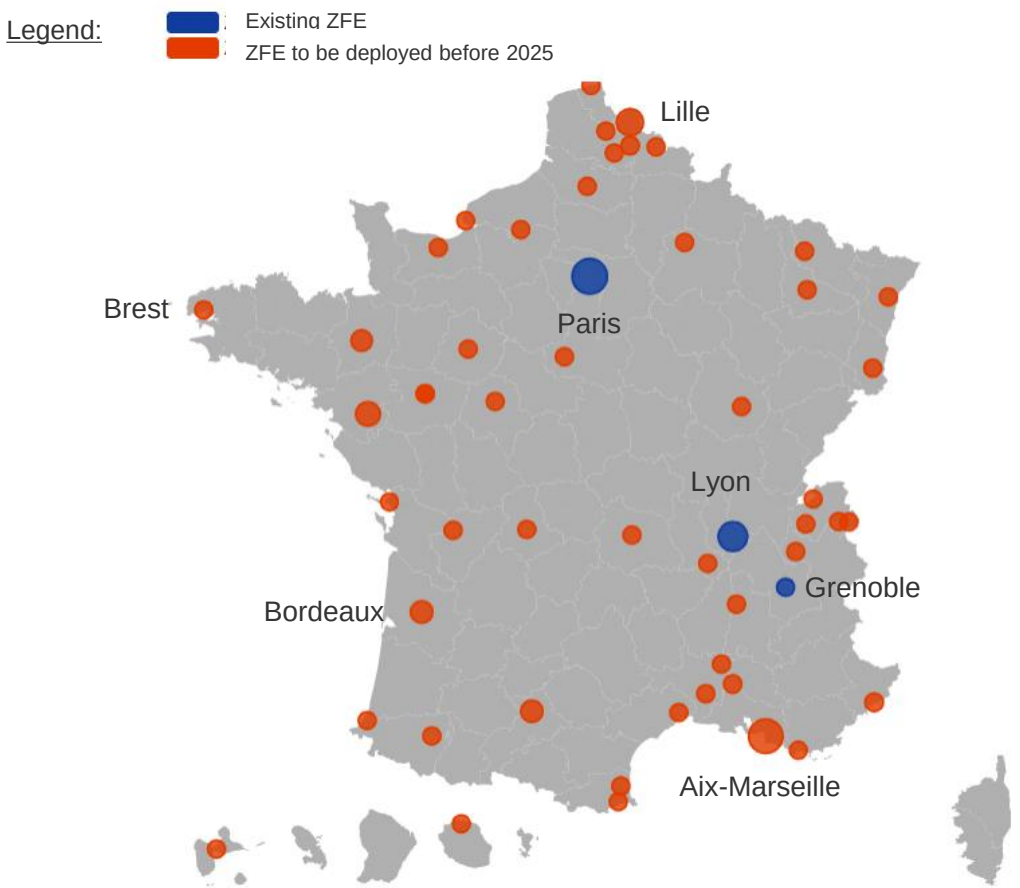
Number of charging stations

Charging stations geographical coordonates

Site	CI	Type	Nbre Point Charge HP (DC175)	Nbre Point Charge AC43/DC50	Nbre Point Charge AC43	Nbre total de Points Charge	Adresse	Ville	Code Postal	Département	Latitude	Longitude
AIRE DE KESKASTEL	78531	Multi-énergies	0	1	0	1	A4 - AIRE DE KESKASTEL EST	KESKASTEL	67260	67	48,9732	7,0685
AIRE DE RESSONS EST	58967	Multi-énergies	4	2	0	6	A1 - AIRE DE RESSONS EST	RESSONS SUR MATZ	60490	60	49,5235	2,7224
AIRE DE RESSONS OUEST	80294	Multi-énergies	0	1	0	1	A1 SENS LILLE/PARIS REPERE 80.	RESSONS SUR MATZ	60490	60	49,5196	2,7196
AIRE DES VOLCANS D AUVERGNE SAINT AGOULIN	70641	Multi-énergies	0	1	0	1	A71 - AIRE DES VOLCANS D AUVER	SAINT AGOULIN	63260	63	46,0573	3,1146
AIRE NARBONNE VINASSAN SUD	59472	Multi-énergies	0	1	0	1	A9 - AIRE DE NARBONNE VINASSAN S	SALLES D'AUDE	11110	11	43,2162	3,0925
LES TERRES DE GRAVES SUD	7451	Multi-énergies	0	1	0	1	A62-AIRE DES TERRES DE GRAVES SU	PODENSAC	33720	33	44,6466	-0,4371
LES TILLEULS	58742	Multi-énergies	0	1	0	1	133 AV DU MARECHAL FOCH	CHATOU	78400	78	48,8919	2,1448
LIMOURS JANVRY	80155	Multi-énergies	4	2	0	6	A10 AIRE DE LIMOURS JANVRY	JANVRY	91640	91	48,6366	2,1481
RELAIS CARQUEFOU	10132	Multi-énergies	1	1	0	2	ROUTE DE PARIS	CARQUEFOU	44470	44	47,2653	-1,4894
RELAIS AMIRAL MOUCHEZ	78171	Multi-énergies	1	1	0	2	174 BOULEVARD DE L'AMIRAL MOUCH	LE HAVRE	76600	76	49,4876	0,1496
RELAIS AUBERVILLIERS PERIPHERIQUE EXTERIEUR	78061	Multi-énergies	1	0	1	2	BLD DU PERIPHERIQUE EXTERIEUR	PARIS 19	75019	75	48,9008	2,3748
RELAIS AVELIN	80064	Multi-énergies	2	2	0	4	81 RUE DE SECLIN	AVELIN	59710	59	50,54	3,074
RELAIS BARRE THOMAS	59786	Multi-énergies	1	1	0	2	202 ROUTE DE LORIENT	RENNES	35000	35	48,1072	-1,726
RELAIS BEAUNE MERCEUIL	80041	Multi-énergies	0	1	0	1	A6 - AIRE DE BEAUNE MERCEUIL	MERCEUIL	21190	21	46,9603	4,837
RELAIS BEUZEVILLE NORD	78544	Multi-énergies	0	1	0	1	A13 - AIRE DE BEUZEVILLE	BEUZEVILLE	27210	27	49,3244	0,3279
RELAIS BOURG JASSERON	76523	Multi-énergies	1	1	0	2	A40 - AIRE DE BOURG JASSERON	CEYZERIAT	1250	1	46,2029	5,2963
RELAIS CANAVER	59499	Multi-énergies	0	1	0	1	A8 - AIRE DE CANAVER	PUGET SUR ARGENS	83480	83	43,4668	6,672
RELAIS CHAMP DU ROY LAON	80191	Multi-énergies	2	2	0	4	ZAC DU CHAMP DU ROY	LAON	2000	2	49,5714	3,6545
RELAIS COURBEVOIE BINEAU	62001	Multi-énergies	0	1	0	1	14 BD DE VERDUN	COURBEVOIE	92400	92	48,89821	2,26318
RELAIS COURBEVOIE VERDUN	62209	Multi-énergies	1	1	0	2	43-47 BOULEVARD DE VERDUN	COURBEVOIE	92400	92	48,9001	2,2609
RELAIS DE GERGOVIE	50499	Multi-énergies	1	1	0	2	10 AV. DU ROUSSILLON	AUBIERE	63170	63	45,7547	3,1296
RELAIS DE L ESTALOT	78546	Multi-énergies	4	2	0	6	A10-AIRE DE L'ESTALOT	ST ANDRE DE CUBZAC	33240	33	44,9783	-0,4322
RELAIS DE LA COULINE	58931	Multi-énergies	1	1	0	2	A6 - AIRE DE LA COULINE	PRECY SUR VRIN	89116	89	47,9741	3,1995
RELAIS DE LA DEFENSE	59983	Full EV	6	3	0	9	1 RUE DE STRASBOURG	COURBEVOIE	92400	92	48,8911	2,2479
RELAIS DE LA MAULDRE	59614	Multi-énergies	1	1	0	2	ROUTE DE GARGENVILLE	EPONE	78680	78	48,9614	1,8124
RELAIS DE LA PORTE D ITALIE	59511	Multi-énergies	0	1	0	1	27 AVENUE DE LA PORTE D'ITALIE	PARIS 13	75013	75	48,8171	2,3604
RELAIS DE LA PORTE DE CHATILLON	80179	Multi-énergies	0	1	0	1	18 A 22 AV DE LA PTE DE CHATILLO	PARIS	75014	75	48,8236	2,3163
RELAIS DE MARSANNAY LA COTE	59916	Multi-énergies	1	1	0	2	ROUTE DE BEAUNE	MARSANNAY LA COTE	21160	21	47,2806	5,0081
RELAIS DE PORTET OUEST	1019	Multi-énergies	1	1	0	2	106 ROUTE D'ESPAGNE	PORTET SUR GARONNE	31120	31	43,5245	1,3986
RELAIS DE SAINT MATHURIN ALLONES	80198	Multi-énergies	2	0	2	4	ZAC SAINT MATHURIN - RD 1001	ALLONNE	60000	60	49,4024	2,1274
RELAIS DELTA RUNGIS	7060	Multi-énergies	0	1	0	1	A106 - AIRE RUNGIS DELTA PONDO	RUNGIS	94150	94	48,7581	2,3475
RELAIS DES BRONDILLANTS BRON	78069	Multi-énergies	1	1	0	2	BD LAURENT BONNEVAY	BRON	69500	69	45,7393	4,9051
RELAIS DIJON-BROGNON	80042	Multi-énergies	0	2	0	2	A31 - AIRE DE DIJON BROGNON	BROGNON	21490	21	47,4229	5,1693
RELAIS DU CAYLAR	78230	Multi-énergies	0	1	0	1	A75 - AIRE DU CAYLAR	LE CAYLAR	34520	34	43,8644	3,3112
RELAIS DU CROISILLON	59792	Multi-énergies	0	1	0	1	175 BOULEVARD DE PONTOISE	MONTIGNY LES CORMEILLES	95370	95	48,9868	2,1815

Bordeaux is part of the French cities where a ZFE is planned to be deployed by 2025.

Map of the ZFE to be deployed in France by 2025



Source: BFM TV

Other potential inputs to identify the best location to deploy TotalEnergies charging stations

- Penetration of electric véhicules (cf. challenge #1)
- Type of buildings (housing vs offices, etc.) Insee.fr
- Density of population Insee.fr
- Proximity of transport hubs : Coordinates to be found using Google Maps.
- Presence of competitors charging stations (cf. challenge #1)

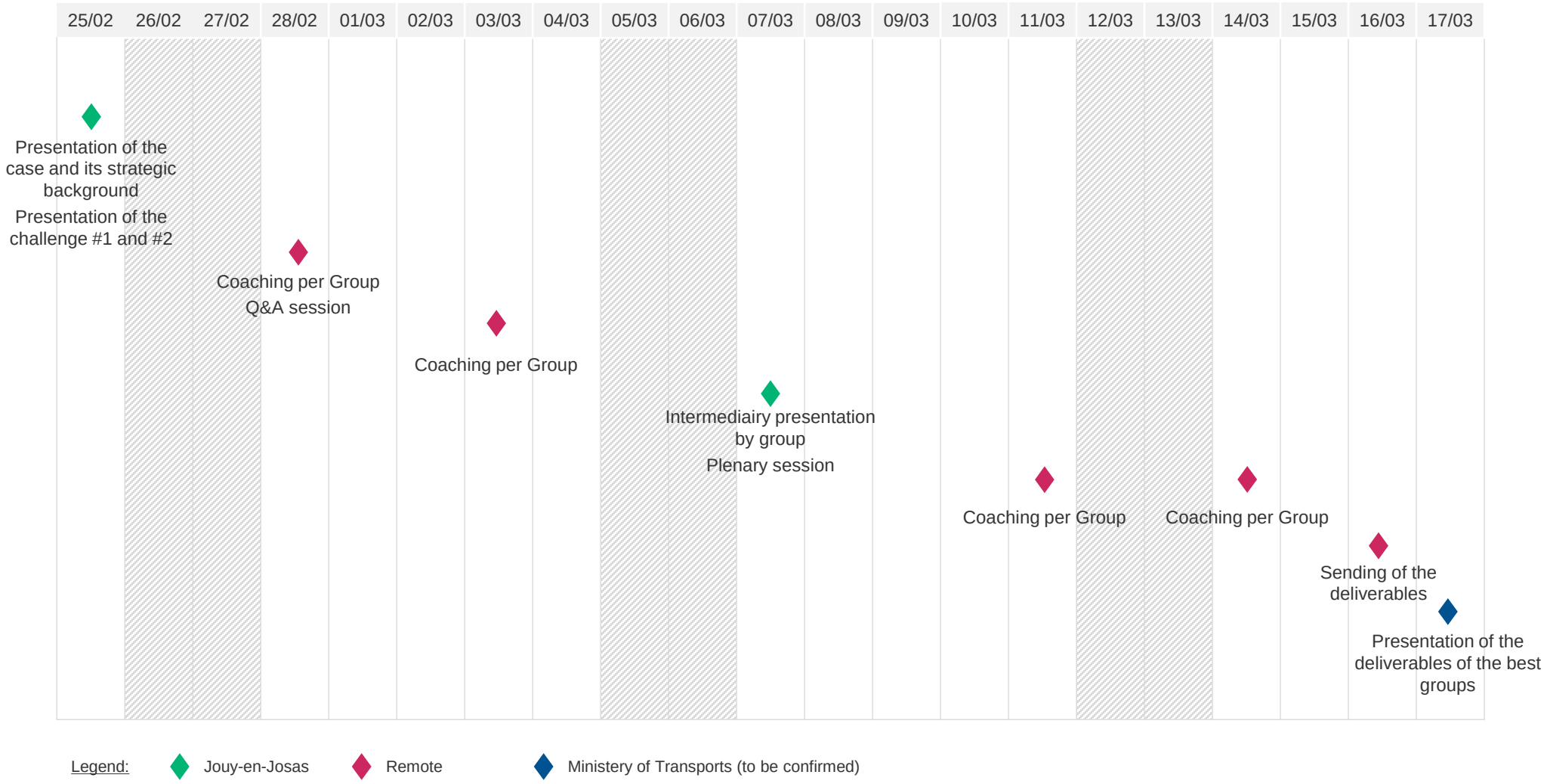
Agenda

A. Presentation of Challenge #1: Penetration of EV in France and sizing of the network of EV charging

B. Presentation of Challenge #2: Identification of the most relevant locations to implement EV charging stations in a geographical area

C. Planning of the Challenge

Key steps of the challenge



Legend: Jouy-en-Josas Remote Ministery of Transports (to be confirmed)

To interact with us

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- Google Sheet – Group repartition : https://docs.google.com/spreadsheets/d/16jnMSEl8MivPOAO7hUJkhokTGFzRDto_My6EIOahPJE/edit?usp=sharing