

METHODOLOGY FOR TERRITORIAL TRANSFORMATION

- Master and enjoy the necessary complexity of solutions -

Dr Patrick Oliva, OrbiMob'





AT LEAST TEN KEY REASONS MOTIVATE THE NEED FOR CHANGE



AT LEAST SIX HURDLES TO OVERCOME



FOSTER A TRANSFORMATION MINDSET



SPEED UP IN DIRECTIONS WHICH ARE "NO BRAINERS"

- Develop soft mobilities
- Embark on electrification (EBs, PHEVs, EVs)
- Develop alternative fuels for ICEs
- Push MAAS
- Mutualise logistics
- Open mass transit to competition
- Decentralize energy generation

Expand CCUS

- Explore clean, short distance, air solutions
- Foster crash avoidance technologies
- Capitalize on sustainable assets: wide spaces and nature
- Resist "city-centered" solutions
- Do not ask for yesterday's solutions







ORBIMOB' CLERMONT-AUVERGNE : 2020 - 2027















Putting European transport on track for the future







Mobility and Transport

Political context

- The European Green Deal calls for a 90% reduction in greenhouse gas emissions from transport by 2050, to help the EU become the first climate neutral continent.
- In the meantime, transport was amongst the sectors hardest hit by the Coronavirus pandemic.
- It has shown that we need to continue to work on the future of our European transport system so that it can quickly recover from the severe impact of this crisis.
- We need to set out much needed reforms, policies and actions to support the sector.
- To this end, the Commission adopted a **Strategy for Sustainable and Smart Mobility** in December 2020.



The Strategy

Our vision for the future of European transport and mobility

KEY ELEMENTS

- Three objectives: making the European transport system more sustainable, smart and resilient
- 10 flagship areas with key milestones
- Action plan with a list of concrete policy actions
- Comprehensive Staff Working Document





AN IRREVERSIBLE SHIFT TO ZERO-EMISSION MOBILITY

- Making all transport modes more sustainable,
- Making sustainable alternatives widely available in a multimodal transport system,
- Putting in place the right incentives to drive the transition.





SMART MOBILITY - ACHIEVING SEAMLESS, SAFE AND EFFICIENT CONNECTIVITY

- Offering a seamless multimodal experience
- Supporting sustainable choices by taking advantage of digitalization & automation
- Shaping the mobility of the future
- Ensuring the right framework and enablers are in place



RESILIENT

A MORE RESILIENT SINGLE EUROPEAN TRANSPORT AREA: FOR INCLUSIVE CONNECTIVITY

- Reinforcing the Single Market
- Helping the sector build back better from the crisis & become more resilient
- Increasing investments, both public and private, in infrastructure and fleets



THANKYOU!



SMARTA – Sustainable Shared Mobility interconnected with Public Transport in European Rural Areas





FOR RURAL MOBILITY

www.ruralsharedmobility.eu

Recommendations from the SMARTA project

Euromontana Conference, 12th October 2021

Andrea Lorenzini Brendan Finn MemEx



The SMARTA Project

www.ruralsharedmobility.eu

Enhance the current **policies** and **practices** on **mobility in rural areas**, leading to **sustainable** and accessible **rural areas in EU Countries**

Public

Transport







Shared

mobility









MemEx

Working with 14 rural shared mobility sites

5 SMARTA Pilot sites



- Ring a Link, Kilkenny, Ireland, DRT service and RTPI
- School bus and ITS, Toscana Sud, Italy , AVL Digital Solution
- RezoPouce, Herault, France, *Hitching*
- Bürgerbus Oberes Glantaal, Germany, *Ride sharing service*
- Bürgerbus Dreisam-Stromer, Germany, *Feeder community services*

4 SMARTA2 Pilot sites



- East Tyrol, Austria, car-sharing
- Municipality of Trikala, Greece, Digital Platform
- Municipality of Águeda, Portugal, e-bike sharing
- Brasov Metropolitan Area, Romania, car pooling

5 in-depth Good Practices

- Vallirana, Spain, DRT service
- Groningen-Drenthe, NL, SMART Hub
- Vejle, Denmark, *ride sharing-digital solution*
- Vidzeme, Latvia, DRT service
- Bielsko-Biala, Poland Transport on demand



Águeda, PT

Vallirana, ES



SMARTA Key Outcomes | 12th October 2021



Why should Europe Act on Rural Mobility? Why is this a relevant issue?

"In rural areas, everyone has a car..."

Of course, this is not true...

but if everyone in rural areas did actually own and use cars... **GHG Emissions**

Energy Consumption

Many people cannot drive, by reason of age, condition or affordability When the household car(s) is in use, other household members do **not have access** to it Low-/ no-income households and individuals may **not afford a car** People with a car may **choose to not use it** if a good option is available, for costs, hassle of driving, parking issues, environmentally conscious, etc.



What is the Problem in Rural Mobility in Europe?

Lack of Policy and Responsibilities

- There is no policy for rural mobility at European level, nor any obligation for Member States to have such a policy
- Not a single European Member State has a targetbound policy for rural mobility, with assigned responsibilities and sufficient committed budget to deliver it
- It is left to regions and local areas to provide such services as they see fit, if they choose to, or do what they can with the limited resources allocated

Is there a specific rural mobility/transport policy with objectives and targets?

Yes, with specified objectives and target outcomes

Latvia

Yes, but only with aspirational goals and without target objectives

Estonia, Hungary, Scotland, Slovenia

No

Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, France, Germany, Greece, Ireland, Italy, Lithuania, Luxemburg, Malta, Netherlands, Poland, Romania, Slovakia, Spain, Sweden, UK, Portugal

Note: Some Regions and Local Authorities make policy and programs even if national level does not







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Limited Supply of Services

- Rural areas in Europe have limited public transport, many have none
- Low frequency, timed for commuting. Unsuitable for many purposes
- Lack of structured integration of scheduled public transport and local mobility services

 Few opportunities for people from urban areas to visit rural amenities without their car Which results in

Limited Mobility for People without cars

- Very high dependency on cars. Without a car, depend on lifts, taxi (high cost) or don't travel
- Limited accessibility to bus services, if they exist (distance, surface, lighting, ...)
- Low level of service makes connections difficult, may not have suitable return trip
- Children usually have good access to/from school, but otherwise depend on parents for lift-giving - less independence, heavy burden

SMARTA Key Outcomes | 12th October 2021





Leads to

SMARTA Policy Recommendations

Why should EU act on something that seems to be a local issue?





SMARTA Key Outcomes | 12th October 2021



SMARTA Policy Recommendations

IN WHAT WAY SHOULD THE EUROPEAN PARLIAMENT AND THE EUROPEAN COMMISSION "ACT" ON RURAL MOBILITY?









ESTABLISH EUROPE-WIDE POLICIES ON RURAL MOBILITY

The targets and obligations in national policies should be migrated downwards to local development plans and programs, again with defined responsibilities for delivery

MEMBER STATE TO ESTABLISH NATIONAL POLICIES ON RURAL MOBILITY

The key challenge is how to motivate the EU Member States to develop comprehensive policies and frameworks for rural mobility, and to ensure these are delivered at the local level throughout their territory.







FOR RURAL MOBILITY





SMARTA Policy Pathways

<u>POLICY DEBATE</u>: Launched in 2021, seek agreement on way forward in 2022. Debate may be relaunched periodically c. 2025 and 2030 to review progress and perhaps develop further

<u>SUPPORTIVE MEASURES:</u> Support the Policy debate, establish Rural Mobility Forum, develop a Rural Mobility Technical Assistance Program, extended evaluation of rural mobility

"Supportive Pathway"

"Persuasive Pathway"

• A structured set of supporting measures for rural mobility would be established with funding from both the EU and Member States • Eligibility for regional and rural development funding would be linked to the development of rural mobility policy and frameworks for that Member State and region. "Mandatory Pathway"

• By directive or other instrument of the European Union, all Members States would be required to establish national rural mobility policies, develop/enhance the rural mobility frameworks, and establish the necessary financing mechanisms.





SMARTA Policy Pathways

	"SUPPORTIVE" PATHWAY	"PERSUASIVE" PATHWAY	"MANDATORY" PATHWAY
POLICY DEBATE	Launched in 2021, seek agreement on way f	forward in 2022. Debate may be relaunched periodically c. 2025	5 and 2030 to review progress and perhaps develop further.
SUPPORTIVE MEASURES	Support the Policy debate, establish	Rural Mobility Forum, develop a Rural Mobility Technical Assista	ance Program, extended evaluation of rural mobility.
DEVELOPMENT OF NATIONAL RURAL MOBILITY POLICY	As today, up to Member States. Technical support available from RMTAP	Up to Member States, but they and their regions will face reducing eligibility for EU rural development funds if they fail to do so.	All Member States to develop comprehensive rural mobility policy by 2025, and to migrate it downwards to all their regional and local governments
	As today, up to Member States. Technical support available from RMTAP.	Up to Member States, but they and their regions will face reducing eligibility for EU rural development funds if they fail to do so.	All Member States to develop/enhance their frameworks for rural mobility at national, regional and local level, by 2030. Particular requirements on organisation, defining mobility levels and funding mechanisms.
MANDATORY REQUIREMENTS ON MEMBER STATES	None	None. Review at end of current Parliament term.	EU Directive (or other instrument) by end-2022 requiring all Member States to develop national rural mobility policy by 2025 and frameworks to deliver that policy by 2030
FRAMEWORK FOR LOCAL/COMMUNITY IMPLEMENTATION	Up to Member States to change the framework. RMTAP will proactively support local actors.	Some Member States will enhance their frameworks, especially those drawing rural development funding. Technical support from RMTAP.	All Member States will enhance their frameworks, as significant local/community participation will be the only way to achieve policy targets across the Member State. Technical support from RIMTAP
FACILITATING INNOVATION (SERVICES, BUSINESS MODELS)	Up to Member States to change the framework. RMTAP will proactively support innovation	Some Member States will enhance their frameworks to encourage or facilitate innovation in rural mobility. Technical support from RMTAP.	All Member States will enhance their frameworks to encourage or facilitate innovation in rural mobility. Technical support from RMTAP.
QUANTUM OF RURAL MOBILITY	Some improvement, will vary significantly across Member States; rural citizens of some MS will continue to have poor mobility	Significant improvement in all Member States that follow the Persuasive Pathway. Limited or little improvement in other MS, although some regions/locals may avail of RMTAP support	Transformational improvement in all rural areas of all Member States. It will likely being to show significant results in some areas during 2025-2030 as policies are effected on the ground, then universal change during 2030-2040
EU FUNDING FOR RURAL MOBILITY	Limited to Supportive Measures, in particular the RMTAP. May also consider stimulus start-up, demonstration and innovation funding.	Incorporated in activity or enabling measure strands of EU funding programs (e.g. LEADER, Recovery, Green Deal,). RMTAP will provide specific technical support. May also consider stimulus start-up, demonstration and innovation funding.	Incorporated in activity or enabling measure strands of EU funding programs (e.g. LEADER, Recovery,). RVITAP will provide specific technical support. May also consider stimulus start-up, demonstration and innovation funding
NATIONAL FUNDING FOR RURAL MOBILITY	As today, up to Member States. Technical support available from RMTAP	Member State responsible for normal operational expenditure, fleet purchase, regulation, management, etc. Quantum at discretion of Member State, but must be able to fulfil commitments if drawing EU rural development funds	All Member State required to establish financing mechanism to achieve the commitments and targets of their rural mobility policies.





Sustainable rural mobility: the direction forward





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MemEx

Sustainable rural mobility: the direction forward

The package of measures might include:

- 1. Some level of conventional public transport, either in the target area or nearby, that provide the structuring PT framework;
- 2. Some flexible mobility services, either general or dedicated group DRT, shared taxi, etc.;
- 3. Organised lift-giving within the community;
- 4. Organised and informal ride-sharing, that could include car-pooling, hitchhiking, ride-sharing, etc.
- 5. Asset sharing (car, bicycle)
- 6. Other measures in addition to the above

The key point is that the implementing stakeholders need to turn to their mind to finding a blend of formal organised and informal forms of mobility, best suited to the needs of the area, the available resources and what the community itself is willing to do







What enablers would make a difference, quickly?

Networking

Continue the dialogue and thinking as the current projects close

Build relationships among implementing sites and practitioners

• Establish a Rural Mobility Forum as a focal point and a voice

- <u>BUT</u> by who? No rural equivalent of POLIS, UITP, UMTA, etc.
- Can this sit under ERP, Smart Villages or other rural network?

Capacity Development

• Local implementers need a structured program of capacity development, support and "how to" manuals

 Standard areas – needs assessment, planning, operations, resource optimization, outreach

 New skills areas – ITS, apps, data, business models, marketing

• US RTAP (Rural Transit Assistance Program) may be a good model

Funding

- Include as specific item in rural development programs (e.g. LEADER), as enabling measure in broader packages
- Assist innovation
- Prioritise mobility outcomes over devices
- Leverage social, health, training and tourism initiatives
- Remove barriers, costs for community and volunteer initiatives (e.g. insurance)



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SMARTA legacy

SMARTA Final Conference

SMARTA Webinar series











www.ruralsharedmobility.eu



Piazza Elia Benamozegh, 17 - Livorno Tel: +39 0586 211646 Mob: +39 340 6223215 Site Web: www.memexitaly.it

Thank you!

andrea.lorenzini@memexitaly.it brendan.finn@memexitaly.it

www.memexitaly.it



ZERO EMISSION VALLEY Mathilde CADIC – Brussels office







ZERO EMISSION VALLEY

Environmental issues

- Concentration of nitrogenoxides:
 - > in urban areas
 - > in industrial valleys surrounded by mountains
- Target: 43 000 T de CO2 avoided per year, including 25% for mobility uses

Economical support

- 80% of the French hydrogen value chain is located in the region
- 1st region in producing renewable energies thanks to hydroelectricity
 - > in industrial valleys surrounded by mountains
- Target: 43 000 T de CO2 avoided per year, including25% for mobility uses







ZERO EMISSION VALLEY Simultaneous roll out of:





La Régio



ZERO EMISSION VALLEY Financial partners: 50 M€





ZERO EMISSION VALLEY

1200 H2 light vehicles deployment by 2023






ZERO EMISSION VALLEY 1200 H2 light vehicles deployment by 2023

Regional & European subsidies

	Petite Entreprise, Collectivités et Associations			Moyenne Entreprise			Grande Entreprise		
km/an pendant 4 ans	Subvention de la Région	Subvention de l'Union européenne avec station ZEV	Subvention totale	Subvention de la Région	Subvention de l'Union européenne avec station ZEV	Subvention totale	Subvention de la Région	Subvention de l'Union européenne avec station ZEV	Subvention totale
8 à 13000	2 700	3 400	6 100	2 700	3 400	6 100	2 400	3 400	5 800
13001 à 25000	4 200	3 400	7 600	4 200	3 400	7 600	3 700	3 400	7 100
>25000	8 600	3 400	12 000	8 600	3 400	12 000	7 800	3 400	11 200

National subsidies

	Petite Entreprise	Moyenne Entreprise	Grande Entreprise
50 Véhicules 'Taxi'	21 000	16 500	12 000
148 Fourgons	25 200	20 000	14 800
2 bus	302 500	247 500	192 500



ZERO EMISSION VALLEY 20 clean H2 refuelling stations



MOST ADVANCED PROJECTS:

- Chambéry: Feb 14th 20
- Clermont-Ferrand: 2021
- Moutiers
- Grenoble
- Lyon
- Saint-Etienne
- Bourg-en-Bresse

S large capacity electrolysers (over 100 MW)



ZERO EMISSION VALLEY

H2 HUB Auvergne-Rhône-Alpes Focus on mobility

Regional public transport

- > Trains
- > Small buses
- > Coaches
- > Buses

• New applications

- > Garbage trucks
- > Snow groomers for ski resorts
- > Autonomous shuttles
- > Boats on Rhône river







- H2 ecosystem:
 - > Clusters: CARA -TENERRDIS -AXELERA
 - > Refueling stations: Mc Phy, Atawey, AIR LIQUIDE, CNR, Hympulsion
 - > Fuel cells: Symbio, Faurecia, Addup
 - > Power electronic: Alstom, Adetel
 - > On board storage: Plastic Omnium, Staübli
 - > Manufacturers: Renault Trucks, IVECO, VOLVO, CRMT, Trouillet, Navya, Addbike, Poma, Michelin,
 - CRIVIT, HOUIHEL, Navya, AUUDIKE, POHla, IVI
 - > **Operators:** BETI, Berthelet
 - > RTOs: CEA liten, CNRS, Gustave Eiffel
 - > Security –regulation: CETU, INERIS
 - > Test centers: Transpolis, Greenmo



ZERO EMISSION VALLEY Auvergne-Rhône-Alpes European Leading region on Hydrogen technologies

- Member of the Clean hydrogen Alliance
- Co leader of the S3 Hydrogen **Valleys** partnership

50 region & cities from 13 European countries engaged

• Leader the EUSALP working group on H2

European Clean Hydrogen Alliance











MODICOOP® We share a lot more than ridesharing.

Presentation of Rezopouce

pro.mobicoop.fr | rezopouce.fr



Ont mis en place Rezo Pouce

/// Mobicoop_Covoiturage

Souhaitent mettre en place Rezo Pouce

Mobicoop_Covoiturage+Solidaire

Mobicoop_Solidaire

Territorial implantation

50 100 km

mobicoop®





Sources : OSM / REZO POUCE @

Bigital and

human entry

Enhance existing means

From less to more expensive (CO2 - €)



mobicoop®

Ridesharing or hitchhiking? *lines of ridesharing with stops*

Each private car can be seen as a public transport

- → Rezopouce stops
- → sign
- positive attitude
- sticker identification
- → Waiting time (6mn 3mn)
- → with or without web or mobile app.
- → securing via database
- → payment / traceability
- → services integration



mobicoop®

Keys of succes

- → map of stops (road trip).
- → behavior change management
- communication
- animation
- → patience
- → measurement (visibility)
- → guarantee / insurance of moving
- → offer organisation



mobicoop Other kinds of stops







mobicoop®

Rezopouce for all the areas

- Iow density
- precarious publics
- → diversity of mobility solutions
- necessity to improve mobility networks and solidarity
- → few roads = flux concentration



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accompagner@mobicoop.org +33 5 63 05 08 00

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"conTrasporto" Smart Mobility



Projet PITER COEUR DES ALPES Coeur Solidaire/Coeur Dynamique Mobilité Sociale dans les zones de montagne et rurales isolées

Euromomontana, le 12 octobre 2021

Progetto sviluppato con il sostegno di







Consulenza tecnica e accompagnamento



Le territoire











<u>But</u>: Garantir aux populations des Hautes Valées un meilleur acces aux services d'interet</u> géneral de proximité et de qualité

Chef de file: Ville Metropolitaine de Turin (Città Metropolitana di Torino)



Partenaires prevus: Syndicat Mixte pays de Maurienne (SPM), Com Com Brianconnais, CC Porte de Maurienne, UnionCoop Torino s.c

Budget: 1.764.705,88 euros

Durée: novembre 2018 – septembre 2022







Objectifs de Coeur Solidaire: ACCESSIBILITE' aux services = a) **Mobilité durable** innovante/attention aux personnes fragiles **TRANSPORT A LA DEMANDE**, covoiturage, car sharing/autostop organisé..) b) LIEUX TIERS/LIEUX PARTAGES c) MAINTIEN AU DOMICILE = OPERATEUR/MANAGER SOCIAL DE COMMUNAUTE'/DE VILLAGE d) INNOVATION NUMERIQUE







TRANSPORT A LA DEMANDE :

EN SYNERGIE AVEC LE PROJET COEUR DYNAMIQUE

dans les zones à demande faible on veut développer des actions pilotes et modéliser formes d'organisation privés économiquement durables

AU DELA DES SYSTEMES EXISTENTS

(TRANSPORT PUBLIQUE, TAXIS, TAD BASE' SUR LES BENEVOLES ET LE SOUTIEN PUBLIQUE)

EN ENGAGENT DES SUJETS ECONOMIQUES NOUVEAUX (« START UP ») OU EXISTENTES (EX. COOPERATIVES SOCIALES OU SOCIETES DE CAR)





Besoins

«Mobility Poverty» dans les zones Rurales et de Montagne

- Mobilité pour les personnes sans voiture = plus d'opportunités de travail, de culture, de loisir
 - Etudiants
 - Personnes Agées
 - Nouveaux Citoyens
- Réductions des couts pour les citoyens
 - Non 3 voitures par famille
- Moins d'accidents
- Moins de pollution





Ceux qui ne conduisent pas

Mobilité pour les personnes sans voiture = plus d'opportunités de travail, de culture, de loisir







Réduction des couts







MOINS D'ACCIDENTS



Dans les week ends dans la periode1 janvier – 30 septembre 2019 on a eu 566 accidents mortels avec 620 victimes, dont 194 agés moins de 30 ans





MOINS DE POLLUTION







Mots Clé

- **Durabilité Environnementale** réduire le nombre de KM parcourus en voiture, pour les transférer sous formes de mobilité alternative (Indicateur: CO2 émis, objectif: réduction)
- **Impact Social –** offrir de bonnes opportunités de déplacement dans les zone rurales et de montagne est une occasion d'inclusion sociale (personnes fragiles), d'autonomie (ex. les jeunes) et de création de rélations entre les personnes.
- Durabilité Economique la notion (concept) "con Trasporto" vise à etre économiquement durable. C'est prevu un soutien pour les investissements de start up et une éventuelle aide aux personnes en difficulté économique. Le «concept» est basé sur un «mix» d'usagers potentiels qui visent à garantir la durabilité économique du modèle.





«Piliers» du projet

- Engagement et valorisation des ressources locales (soit réssources humaines/personnes disponibles à participer, soit équipement et véhicules à disposition du territoire);
- Opportunité pour personnes et organisations de mettre en commun les ressources disponibles et sous-utilisées, pour augmenter l'efficacité (sharing economy);
- Réalisation d'un système **flexible**, **pensé pour les usagers**, non pour réduire les couts d'exercise ou faciliter seulement les entreprises de car;
- Réalisation d'un système qui s'adresse soit aux utilisateurs faibles, soit aux utilisateurs "business", pour garantir la durabilité économique;
- Réalisation d'un système de transport d'adduction à réseau, qui charge les personnes d'un point le plus proche possible à la maison et les conduise vers une ligne de transport «de force» (ex. le chemin de fer). Ca pour eviter des superpositions entre car/bus et train;
- Le cout pour l'usager devrait etre plus faible du cout du taxi et plus élevé du cout du BUS.





Quels objectifs atteindre?

- Développement local
 - Voyages en voiture: le 4% reste sur le territoire local
- On veut une mobilité "Exclusive"?
 - jeunes, personnes agées, étrangers: restez à la maison
- Durabilité économique
 - Un modèle qui se maintient
- Non seulement utilisateurs «faibles»
- Travailleurs, Touristes, Cours de formation, Activités de l'aprèsmidi (ex. Activité sportives des jeunes), déplacements pour loisirs





Scenario Sharing Economy

Possibles Partenaires Locaux



Modalité de Réservation

- Réservation par APP
- Integration Car
 Sharing e Covoiturage (Car Pooling)
- Possibilité d'avoir une personne qui répond au telephone et prend les réservations



Shot'l





Destinataires

- Activités de l'apres-midi (sports)
- •Activités de soir (Disco, Pub, Restaurants)

Tourisme

- Santé (Hopitaux, Cliniques, Maisons retraite)
- •Temps Libre (Achats, Vielle ville, Marchés)
- Navette Train / Entreprises
- •Evenements (Foires, Fetes, etc)

Durabilité Economique





Activités de l'apres midi (Sports)







Pratique de l'Activité Sportive



Persone di 3 anni e più che dichiarano di praticare sport con continuità per fasce d'età giovanili. Anni 2013-2016

Dans la zone de **Susa** résident environs 4000 jeunes (18% population) Dans la zone de **Giaveno** résident environs 3100 jeunes (19% population)

Dans un bassin de 15000 habitants environ 1500 possibles usagersi activités sportives apres-midi (10%)





Restaurants, Pubs, Discotheques..



Dans les week ends dans la periode1 janvier – 30 séptembre 2019 on a eu 566 accidents mortels avec 620 victimes, dont 194 agés moins de 30 ans





TOURISME



Val Susa et Val Sangone

- 140.000 presences
- 30% étrangers
- 2800 lits

Giaveno

- 18.700 presences
- 2% étrangers
- 7600 arrivées





Santé

(Hopitaux, Ambulatori, Cliniques, maisons de santé, Maisons de retraite, foyers)







TEMPS LIBRE

(Shopping, Marchés, quartiers historiques)






NAVETTE

(Entreprises, zones industrielles, gares)



Taux actifs = env. 50% population Giaveno \rightarrow 8000 personnes Susa \rightarrow 3000 personnes





Evenements (foires, MANIFESTATIONS, FETES)







RENEWABLES NOW



MAKE THE SHIFT TO RENEWABLE ENERGY HAPPEN – NOW!

The only **global community** of renewable energy actors from science, academia, NGOs, governments, and industry.

Our more than **2,000 community members** co-operate collecting information, changing norms and debating.



We build upon a decentralised intelligence, ensuring high responsiveness to an ever changing environment.

Our **annual publications** are probably the world's most comprehensive, crowdsourced reports on renewables.



MAKING RENEWABLE ENERGY MAINSTREAM

BUILDING SOCIETAL SUPPORT



Building bridges outside the (renewable) energy bubble requires diversity of players to address energy as in a systemic way.



DRIVERS FOR RENEWABLES

Clean air and a healthy environment	Climate change mitigation and adaptation	Economic development		Energy democracy and sovereignity
Stable and secure energy supply		Poverty alleviation and improved energy access	Reducing expenses and managing costs	



INCREASING ENERGY DEMAND AND FOSSIL FUEL USE



Estimated Renewable Share of Total Final Energy Consumption 2009 and 2019



The world is **burning more fossil fuels** than ever.

Note: Totals may not add up due to rounding. This figure shows a comparison between two years across a 10-year span. The result of the economic recession in 2008 may have temporarily lowered the share of fossil fuels in total final energy consumption in 2009. The share in 2008 was 80.7%. Source: Based on IEA data.



MORE THAN 80% OF ENERGY FOR HEATING & TRANSPORT



Renewable Energy in Total Final Energy Consumption by Final Energy Use, 2018



Note: Data should not be compared with previous years because of revisions due to improved or adjusted methodology. Source: Based on IEA data.

Energy supply and **energy demand** need to drive the structural change.

TO DISCUSS COLLABORATION

RANA ADIB

LAURA WILLIAMSON

rana.adib@ren21.net +33 (0)1 44.37.50.96

laura.williamson@ren21.net +33 (0)1 44.37.42.92

f 🎔 🖸 in

www.ren21.net







RELEVANT LINKS

KEY PRODUCTS

Knowledge:

Renewables Global Status Report Renewables in Cities Global Status Report Regional Status Report Global Futures Report Thematic Reports

Debates:

Renewable Energy International Conference REN21 Academy

Institutional Information:

Annual Report (2020 upcoming)