

**GENEVA 2050**



**GENEVA 2050:  
FORECASTING AND  
IMPLEMENTATION**

**VOLUME 2**  
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## Preface by the Council of State

### Geneva 2050 – a promising first step

Shedding light on today's public action by integrating the issues and transformations that guide our societies in the long term: this is the dual objective of forecasting, integrated by the State of Geneva into its legislative programme with "Geneva 2050".

In doing so, the State has also undertaken to develop a more extensive and more open dialogue with the population as well as with the players involved in the various themes.

This first interim report follows the initial report of 2020 and concludes a promising first step of this innovative approach. A first positive result concerns the good integration of forecasting within the State. The report presented two years ago only marked the beginning of a long-term process.

It is therefore a question not only of reforming the way of designing public policies, but of making them constantly evolve in an ever-changing environment. This report illustrates how the Forecasting Commission, which includes each of the departments of the cantonal administration, continued its work on an initial series of themes, also calling on external experts.

Then, the State has been able to project itself into the major trends that will increasingly mark our societies – ecological and technological transitions or even new economic and social opportunities and vulnerabilities. The solid foundations of a dialogue have been laid. This dialogue has always remained concrete and solution-orientated, which has usefully enriched the common reflection.

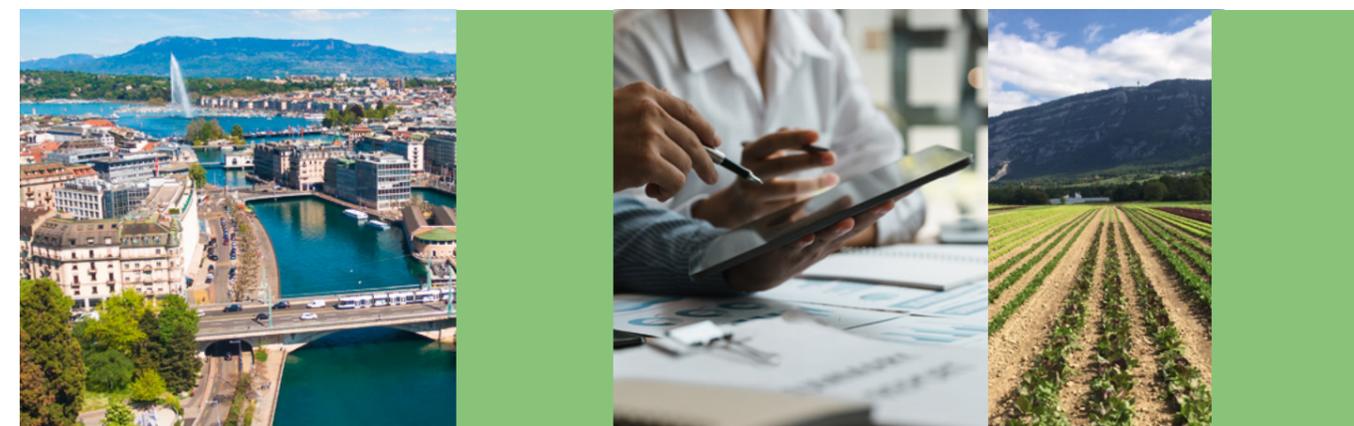
What the "Geneva 2050" approach had not anticipated, but which is nevertheless addressed in its reflections, are the two crises that have erupted since 2019: the COVID-19 pandemic and the war in Ukraine. In addition to their dramatic consequences for the people and societies directly affected, these crises destroyed in a few months the illusion of a context that many in Europe had previously considered relatively stable.

The equation has therefore also changed, with the challenge of putting into perspective a more uncertain present with a less predictable future.

The forecasting process of the State of Geneva having taken this first promising step, it must continue by strengthening certain aspects: looking further ahead even if it means calling into question current certainties, extending the network of partners beyond public and academic circles, or integrating more strongly the consequences of socio-demographic changes and the climate crisis.

At the end of our term of office, it is in the perspective of a transmission to the next Council of State that we present the result of the first stage of the forecasting process, hoping to have been able to propose a dynamic that interests and engages the State in the long-term.

The Council of State



# Introduction to the process

How will we live in Geneva in 2050? What type of accommodation will we live in? To what extent will our metropolises have become “smart”? How will we work, will we travel? How will we communicate? How will we educate our children?

How do you see the world of 2050?

**Seeing far, aiming short:** from the start of the 2018-2023 term, the Council of State expressed the need to be able to better understand distant time scales, which are difficult to master due to rapid changes within our society. An innovative forecasting process was initiated, based on extensive consultation. Rich in perspectives, this approach offers avenues for development in line with society, to support the profound transitions underway.

Unprecedented in terms of time horizon and interdisciplinary approach, and still little experienced at the Swiss level, this forecasting exercise raises the hope of multiple transformations. By associating and consulting the population, institutional and academic partners, the Council of State wished to bring an innovative cross-sectoral vision at the service of the development of the territory.

## Foundations and usefulness of forecasting for public action

In an increasingly complex and uncertain environment, a growing number of public authorities are interested in the contributions of forecasting. Their goal? “Illuminate present action in the light of possible and desirable futures”, to make decisions that will have an impact on the future.

Both cross-sectoral and complementary to the various public policies, forecasting approaches invite us to:

- **see far ahead**, to grasp the long-term dynamics of social, economic, political, technological systems, etc.;
- **see the big picture**, to understand the environment in which public action takes place, and identify the weak signals heralding possible ruptures;
- **see together**, to acquire shared benchmarks on possible futures, and feed reflections with a diversity of points of view and disciplinary contributions.

In addition, the planning of the development of the canton of Geneva and the development of its infrastructures are essentially carried out through the cantonal Master Plan, currently at the horizon of 2030. However, today, as the process of revising the cantonal Master Plan gets underway, discussions on the development of transport infrastructure, as requested by the Confederation, already go well beyond 2040. It is also for this reason that the Council of State wished to re-examine the planning methods, in order to be able to include the needs of the Canton in future federal sectoral plans, therefore having the means necessary to meet the challenges related to the development of Geneva by 2050.

## Public consultation

An extensive consultation carried out in 2019 and 2020 proposed fifteen thematic workshops bringing together specialists and the population. An online questionnaire also obtained nearly five thousand responses. The questionnaire was also adapted and submitted to a thousand students. In November 2020, the Council of State published a summary of this vast participatory survey. The details of the analysis of the survey and the content of the process are available on the website 2050.ge.ch.

In order to promote the work carried out, “watch notes” are now produced for each session of the Forecasting Commission with the aim of synthesising the work in progress according to three axes: key elements, trends and proposals.

## Continuation of work: implementation

Following the publication, in November 2020, of the summary report of the GE2050 consultation, the Forecasting Commission of the cantonal administration continued its work around the following axes in particular: anticipating updates to cantonal strategies, analysing the impacts of the crisis with a scenario through a “stress test”, identifying the action levers favouring changes in behaviour, questioning the impact of ecological and digital transitions on public policies, mapping and analysing existing cross-sectoral planning and processes.

The involvement of young people is also continuing and was the subject of a specific workshop in partnership with the Department of Public Education (DIP) and the Youth Council in 2022. The collaboration initiated with International Geneva around themes such as the future of employment, education and digital technology is set to continue. A partnership with UNESCO, initiated in 2021, will also continue through an “international day of the future”.

It should be noted that Geneva is the first Swiss canton to join the Futuribles International association. This membership gives access to a wide range of publications of international scope, to a network of experts, to exchange sessions and to various training courses enabling members of the administration to acquire forecasting tools and methods.

2018

### June 2018

- adoption by the Council of State of the first GENEVA 2050 report
- the St. Peter’s speech inaugurating the 2018-2023 term included the process
- Forecasting Commission set up

2019

### March – October 2019

- workshops
- online survey
- student consultation (participation month)

2020

### November 2020

- Council of State published their second report

2021

### 2021 – 2022

- Continuation of work:
  - Forecasting Commission
  - reflection with international organisations
  - Youth Council
  - UNESCO partnership
  - FUTURIBLES International membership

2022

### September 2022

- Council of State published their third report

### 2023-2028

- Continuation of reflections
- Next term of office

# Process dynamics

## Missions of the Forecasting Commission

Composed of representatives from all the departments, the commission examines and guarantees the consistency of the various planning documents with the forecasting process. This work makes it possible to anticipate and prepare the bases for future programming.

The work of the Forecasting Commission is organised around three dynamics: **“administration”**, **“participation”** and **“emerging themes”**. For the “administration” component, the aim is to disseminate the forecasting culture within the State services, promote collaboration between the departments and prepare the bases for future programming. In terms of “participation”, the aim is to promote the forecasting process within civil society and among economic players in order to consolidate a common vision of the future. The commission also explores new questions or questions dealt with in segments in order to inform public policies and promote synergies in partnership with thematic or academic experts. Finally, for the “experiment” axis, it is a question of identifying the pilot projects.

The “Geneva 2050” approach is therefore intended to offer reflections and tools that complement existing intra- or inter-departmental processes, either upstream or in support of them. Its work is then intended to be included in strategies and day-to-day administrative management.

## Anticipate and explore the challenges that condition the future of the Geneva territory to improve planning methods

The priorities emerging from the Geneva 2050 consultation, the new commitments made by the Canton in particular within the framework of its Cantonal Climate Plan 2030, but also the International events that Geneva has to deal with today raise new challenges for the future of the territory.

Whether they concern the preservation of natural resources, the health and quality of life of the inhabitants, or even the development of local economic activities, these issues must be anticipated, in particular within the framework of the updating of the strategic planning of the Canton.

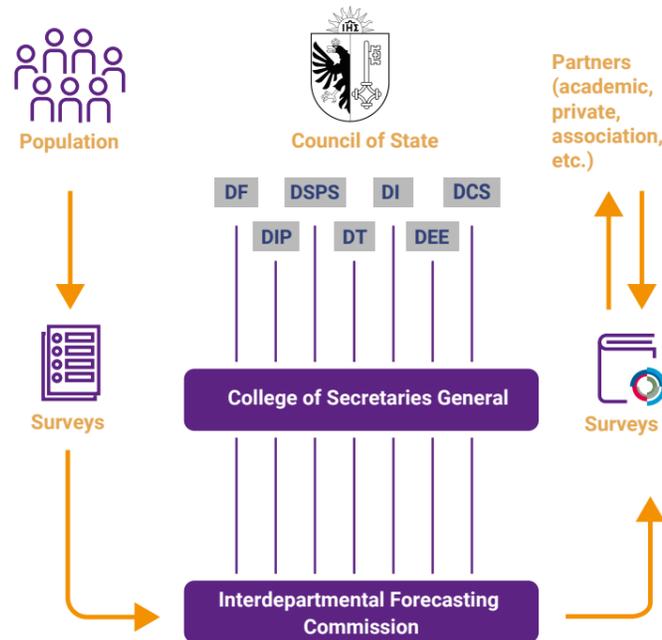
## Sharing a global vision of cross-sectoral processes

It is therefore a question of **linking the themes identified by the Geneva 2050 approach with the cantonal strategies and action plans** through which these themes are expressed on the territory.

The graph on page 7 highlights, in the form of an overview, all the themes related to the Geneva 2050 approach. It offers a support for discussion to **promote synergies between sectoral policies** around themes identified as decisive for the future of the territory (“administration” axis), to **support the pooling and coordination of processes involving the population** (“participation” axis), to identify emerging themes that deserve to be explored within the framework of the Geneva 2050 forecasting process (“emerging themes” axis).

## Promote coordination between public policies

The objective is also to identify opportunities for coordination of reflections upstream, to facilitate the identification of links between the strategy and the prospective concerns, to identify synergies or possible needs for coordination with other strategies or departments, or even to identify potential coordination for a possible citizen involvement process, etc. So, Geneva 2050 is a tool available for public policy planning.



## Main themes

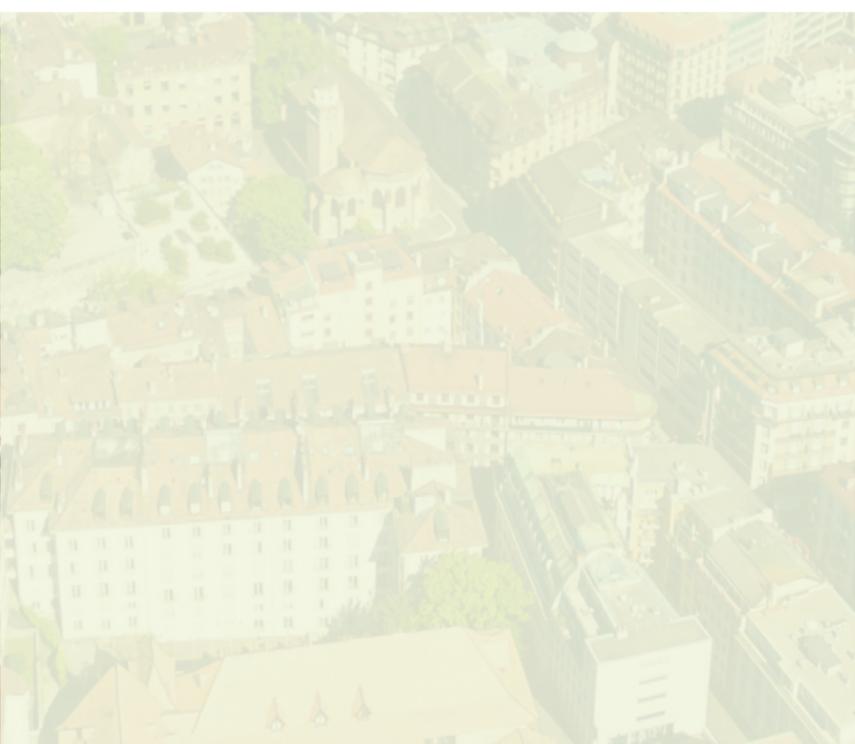


The themes identified in the 2019 survey were further explored with regard to the territory's ecological, social and economic transition objectives.

This plan will evolve according to the identified emerging themes.



## **MONITORING CURRENT AND FUTURE CHALLENGES**



# Impact of crises: new challenges

**The world has seen two major crises occur in a short period of time. The COVID 19 crisis and the war in Ukraine are intertwining, causing major upheavals in the world. While the COVID 19 crisis has altered many of our ways of life, the war in Ukraine represents not only a revision of territorial sovereignty in Europe, but also a conflict of values and a potential change in the future world order. Consequently, these crises exert a real influence on the “Megatrends” of the last decades and also impact the canton of Geneva.**

In order to contextualise the repercussions of these events on the territory, an analysis was carried out by Dr Jean-Marc Rickli, Director of global and emerging risks at the Geneva Centre for Security Policy (GCSP) in collaboration with Federico Mantellassi, Project Manager, and Valentin Juliard, intern.

## 1. Globalisation and multilateralism

The war in Ukraine influences globalisation in several ways. It first highlights the fragility of our global supply chains and “just-in-time” production methods, already highlighted by the COVID-19 crisis. Russia and Ukraine share 28% of wheat production and sales in the world<sup>1</sup>. With the war ravaging the Ukrainian fields, the Russian blockades on the Ukrainian ports, as well as the sanctions against Russia, a large part of the world grain supply is disrupted. While Ukraine exported 5.5 million tonnes of cereals per month before the war, it exported five times less last April<sup>2</sup>. With few alternatives to turn to and very little stock, many import-dependent countries risk food insecurity, impacting hundreds of millions of people. Indeed, 50 countries depend on Russia, Ukraine or even both for more than 30% of their wheat imports, and 26 of them are dependent for 50%<sup>3</sup>. In addition, the war accelerates a tendency towards “de-globalisation”, whereby states attempt to resist the impacts of geopolitical events by protecting themselves against potential sanction regimes, or the consequences of global economic disruptions, for example through protectionist measures, as was the case with India<sup>4</sup>. These measures fuel the revival of “blocs” as geopolitical entities, within

### Local impact

A decrease in multilateralism could have consequences for Switzerland and international Geneva. Swiss foreign policy is based on the proper functioning of multilateralism and faced with the emergence of this block logic, the relevance of neutrality is increasingly contested at the domestic and international levels. Moreover, while the pandemic has already started a process whereby the importance of Geneva as a meeting place has diminished, the war and the so far minor diplomatic role played by the city show that the latter suffers from growing competition from other players (Ankara, Tel Aviv, Paris) who threaten it as a centre of gravity in diplomatic dialogue and conflict resolution.

which countries are interconnected, but isolated from other blocs<sup>5</sup>. In addition to a rise in nationalism (in many authoritarian countries and even some democracies), this can lead to a questioning of globalisation as it has developed since the end of the Cold War by being much more fragmented and by questioning its regulatory mechanism, which is multilateralism. The war in Ukraine demonstrates very well the limits of international multilateralism, particularly through the UN system, to manage this crisis.

## 2. Climate change

The war could also have wide-spread implications for climate policies. In particular, it could encourage the adoption of green energy sources by accelerating the EU's energy transition towards

renewable energies. Oil and gas currently represent 58% of EU energy sources. 41.1% of gas and 26% of oil come from Russia, making the country the EU's leading energy supplier<sup>6</sup>. This dependence gives a strategic advantage to Russia, which plays on energy flows to serve its interests. Anxious to reduce its dependence, the EU has agreed to an embargo on Russian oil allowing its imports to be reduced by 90% by the end of the year<sup>7</sup>. In addition, the Union is accelerating its process of independence from Russian energy by 2027 with the “RePower EU” project. Beyond the 225 billion planned before the war, the commission proposed an amendment to allocate additional funds, to reach up to 300 billion in funding. However, it specifies that an additional 210 billion euros will be needed to achieve the objectives of the recovery plan by 2027.

### Local impact

Although Switzerland imports little Russian energy, it remains very dependent on imported fossil fuels (80% of its energy consumed<sup>13</sup>), and therefore on price fluctuations. A rise in energy prices would also have an impact on the canton and the city as it would increase the number of people at risk of fuel poverty. This would not only have an impact on the urban development of the city, but could also give rise to social tensions, as has been the case in some neighbouring countries (Gillet Jaunes crisis in France). The war in Ukraine could push Switzerland to accelerate the energy transition and to exploit renewable energies. In this perspective, the energy master plan of the canton of Geneva, centred on local and renewable energy sources, could be used<sup>14</sup>. The combined effect of climate change and recent crises show the growing importance of local energy and food policies. Geneva and Switzerland are no exception.

Member States have not yet agreed to an additional budget<sup>8</sup>. In addition, the short-term pursuit of energy independence from Russia could hamper the fight against global warming: EU countries are moving towards less clean alternatives to Russian gas, in particular American shale gas, which is more polluting to extract and transport<sup>9</sup>. Coal, which can quickly replace gas because it uses similar infrastructure, could also present a polluting but directly usable alternative<sup>10</sup>. Entrenchment in geopolitical blocs could also harm cooperation between the major powers, slowing down efforts to combat the effects of climate change<sup>11</sup>. Finally, as war creates a shortage of food, governments may be tempted to relax environmental regulations in order to increase production to meet the needs of their population<sup>12</sup>.

## 3. Digitisation

In addition to the application of sanctions against Russia, technology companies have a direct impact on the war in Ukraine. The use of Starlink satellites by the Ukrainian army is a fine example<sup>15</sup>. Due to the omnipresence of their products, technological multinationals like Meta or Google are becoming full players in geopolitical conflicts and disputes. Their role as moderators of online content directly involves them in the “information warfare”, a major issue of the war in Ukraine. Whether driven by sanctions or by choice, tech companies are

increasingly confined to specific spaces such as that of the West (mostly American) or that of Russia and China. A phenomenon already perceptible for years, but accentuated by the war, where nearly 1,000 companies have limited or suspended their activity in Russia, including most Western technology companies<sup>16</sup>. In particular, the European Union has taken an official position on disinformation and has banned two news channels supported by Russia<sup>17</sup>. The latter has enacted a law against misinformation allowing it to better control content on the Internet, and has restricted access to social networks such as Meta (formerly Facebook) and Instagram<sup>18</sup>.

The COVID-19 crisis has accelerated the digital transition, increasing our society's dependence on digital significantly. Telework, for the benefit of individuals, companies and public institutions, has for example been used on a massive scale, and internet use has been able to increase by 60% in certain countries<sup>19</sup>. The war in Ukraine, the scene of numerous cyberattacks, highlights the fragility of these new spaces, which have grown in importance very rapidly in recent years<sup>20</sup>. To limit this growing fragility which is inseparable from increased digital dependence, some players are trying to improve their security in this area: the European Union, for example, has made cyberspace a priority in its recent declarations in terms of defence,

notably in its “Strategic Compass” established at the start of the conflict<sup>21</sup>. These kinds of initiatives, pushed to the forefront of the defence agenda by war, could multiply in the future. Switzerland is also working to strengthen its cyber defence. Last April, it took part in a NATO cyber defence exercise in Estonia<sup>22</sup>. Given the need for cooperation in this area, a strengthening of relations with NATO cannot be ruled out and has even become a political issue.

### Local impact

The ensuing discussions contribute to questioning the international perception of the Confederation's image of neutrality, and consequently, also affects the image of International Geneva. The spread of remote work, accelerated by the COVID crisis, could also have an impact on the urban development of the city, and therefore have a significant influence on the mobility of workers and their carbon footprint. Compared to a traditional worker, the teleworker covers a 71% shorter distance in one day, for a 71% lower carbon footprint. In one week, and taking into account overall mobility, the teleworker travels a 9% shorter distance, for a carbon footprint up to 24% lower<sup>23</sup>.



Data source: QRcode link

#### 4. Individualisation

Globalisation has an impact on identities, and can lead to community withdrawal<sup>24</sup>. The COVID-19 crisis has already demonstrated the growing polarisation of Western societies on different social issues. The rise of the extremes in Europe, particularly the far right, testifies to this, as in Hungary, where the party in power obtained its highest score this year, 53.35% of the vote, or in France, where the Rassemblement National party also won an unprecedented number of votes, 41.46% of the votes<sup>25</sup>. These examples reflect the Europe-wide trend. We also note a strengthening of the radical left in several European countries, including France with France Insoumise<sup>26</sup>. The war in Ukraine can be understood as a crystallisation of identity tensions in the face of the globalisation phenomenon, which could accentuate community withdrawal and separatism, particularly in Europe. This is reflected, for example, by the strengthening of identity and nationalist groups such as in Eastern Europe and in states such as Russia, which pursue nationalist policies denouncing the Western order. However, the war in Ukraine demonstrates that we are also witnessing significant support beyond national borders, on the part of

#### Local impact

Switzerland has been the scene of various demonstrations of support, particularly in Geneva, in favour of Ukraine<sup>29</sup>. The Confederation has also adopted the sanctions imposed by the European Union against Russia<sup>30</sup>. The growing polarisation at the international and domestic level similarly impacts the perception of the position of international players. In the case of Switzerland, the perception of neutrality is increasingly questioned. By being relegated to the Western camp, International Geneva could once again see its legitimacy as a neutral space for negotiation diminished, to the benefit of players with fewer ties to the West.

States and populations, for the benefit of Western values<sup>27</sup>. With the aggravation of tensions between the West and authoritarian regimes, it is possible that we are witnessing a joint phenomenon of the strengthening of individualisation and communitarianism parallel to that of bloc ideologies<sup>28</sup>.

#### 5. Demographic change and migration

The war in Ukraine has caused the displacement of more than 14 million people, of whom 6.5 million have taken refuge in other countries. This new flow has a significant impact on some States, particularly Poland, which currently hosts more than 3.6 million refugees<sup>31</sup>. While it is difficult to discuss a major impact of the war on overall migration, these movements constitute a substantial addition to other migratory flows due to the war, such as those from Syria, with 6.6 million refugees, or from Yemen, with 137,000 refugees (most of those displaced are within the country, due to difficulties in crossing the border)<sup>32</sup>. But the migratory pressure has mainly been exerted on the neighbouring countries. For example on 1 million Libyan refugees solidarity, such as Switzerland, hosting 55,000 refugees, which issued its S permits for the first time, although this aid has recently been called into question<sup>34</sup>. By way of comparison, while there are 24,000 Syrian refugees currently on Swiss soil, only 500 have been received via a humanitarian visa<sup>35</sup>. The war in Ukraine could therefore provoke a change in the European paradigm on migration, in particular with regard to war refugees. However, the difference in treatment between Ukrainian refugees and others is a source of tension, in Switzerland as in the rest of Europe; associations for the defence of refugees and refugees in very precarious situations denounce the double standards and demand a generalisation of the favourable regime enjoyed by Ukrainians<sup>36</sup>.

#### Local impact

The canton of Geneva has taken in 5.8% of Ukrainian refugees, and has largely relied on private individuals to accommodate the arrivals: out of 2,750 occupied beds, 2,000 are in private accommodation<sup>37</sup>. This solution can only be temporary because, in the long term, many refugees will need special treatment. In addition, tensions between hosts and guests can quickly increase over time<sup>39</sup>. These difficulties, in addition to those caused by differences in treatment, could be sources of tension for the canton.

**“These crises exert a real influence on the ‘Megatrends’ of the last decades and also impact the canton of Geneva”**



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Data source: QRcode link

# Lessons from the COVID crisis

In the spring of 2020, in the middle of the COVID pandemic, several experts were called upon as part of the Geneva 2050 approach. Their mission was to identify the positive and negative effects of the crisis. In the course of 2021, discussions between the members of the Geneva 2050 Forecasting Commission have outlined ways to better anticipate the risks and opportunities generated by the health crisis with a view to ecological transition.

## New modes of travel

Behaviours in terms of mobility were particularly disrupted during the various episodes of the health crisis, in particular due to the development of telework. During this period, the Geneva authorities have made arrangements to promote the practice of cycling and walking, leading to a 22% increase in the number of cyclists and 42% in bicycle loans. But at the same time, public transport use has dropped, sometimes to the benefit of private vehicles. What were the effects of these changes in behaviour and to what extent have we returned to the pre-pandemic situation? What investments would make it possible to capitalise on these behavioural changes?

The demand for mobility has experienced an unprecedented upheaval in 2020. It emerges imbued with new provisions which constitute as many potentials to be exploited (reflection on the distribution of public space according to modes of transport, encouragement of teleworking by integrating this practice in mobility travel plans, bonuses for the conversion of thermal to electric vehicles, including motorised two-wheelers, actions on the non-use of planes, in particular in the context of occasional

## Social disparities

If the pandemic has highlighted the resilience of the health system, it has also revealed vulnerable sectors: social isolation of seniors, weakening of professions that cannot telecommute,

increased risk of poverty due to lack of access to basic resources (food, housing, healthcare). This pandemic episode also questions many observers about the risks of social disparity in the face of ecological transition. It is necessary to address the risks of increasing inequalities and the feeling of injustice linked to the profound transformations that the ecological transition will inevitably entail. It is also a question of evaluating the beneficial effects that this transition could have on the social fabric. From this analysis, it will be necessary to determine the concrete conditions necessary for facilitating social acceptance of the ecological transition, the success of which will depend on its ability to be fair and equitable.

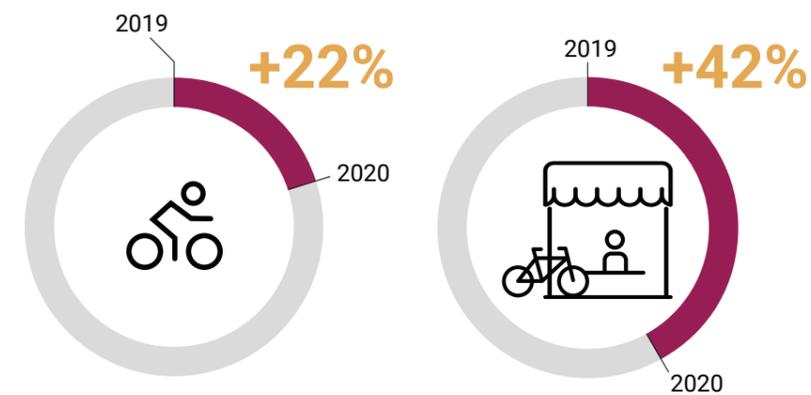
However, the crisis has also led to effects of solidarity between the communities and certain institutions or even the learning of new practices and knowledge to be developed in the future. Lockdowns may also have had protective effects on health, for example the slowing of the pace of life, the reduction of air pollution, the reduction of noise, etc.

## Ecological transition and economic changes

The COVID pandemic has only heightened the questioning of the changes that the economy will have to undergo to cope with the ecological transition. The Geneva 2050 Forecasting Commission does not hide the fact that the scenarios for the future are very contrasting, the

transformation to be carried out being considerable. Achieving carbon neutrality in less than a generation is one of the greatest challenges humanity has ever faced. If a consensus emerges to affirm that the transition economy should be circular and de-carbonised, the debate is livelier as to the ways to achieve this. How can we imagine the future of the Geneva economy in the light of these different scenarios? Throughout the pandemic, the Geneva 2050 Forecasting Commission wondered what the world might look like afterwards. This is why the various possible futures will be the subject of further study by the commission in the coming months.

**“Achieving carbon neutrality in less than a generation is one of the greatest challenges humanity has ever faced.”**



Increase in the number of cyclists in the canton of Geneva between 2019 and 2020

Increase in the number of bicycle loans in the canton of Geneva between 2019 and 2020

Source: Genève Roule

**75%** of respondents think their work will evolve with digital technologies

**56%** believe that economic conditions will influence health in the future

source: GE 2050 survey



**GE2050 watch note**  
“Covid-19: how to anticipate the effects of a crisis that goes into extra time?”



**SRED Information Note no 81**  
“The impact of the health crisis on the acquisition of skills and students’ career path in the canton of Geneva”



## Outlook

- Assess more accurately the impact of the crisis on health inequalities.
- Sustainably assess the impact of the health crisis on the acquisition of skills and students’ career path.
- Continue to analyse the impact of the crisis on changes in behaviour



# Action levers for a successful ecological transition

## ACTION LEVERS TO SUCCEED IN THE ECOLOGICAL TRANSITION

**Despite three decades of scientific warning and international negotiations, States have still not succeeded in halting climate change. This failure has made the situation critical for the future of life on earth. The rapid and profound changes required by the ecological transition represent an unprecedented challenge for public policies.**

Divide its greenhouse gas emissions by ten over the next thirty years. This is the colossal challenge facing the canton of Geneva if it wants to achieve the objectives of the Paris Climate Agreement, namely achieving carbon neutrality by 2050. This is why the Canton of Geneva declared a climate emergency in 2019, setting the ambitious goal for 2030 of reducing its greenhouse gas emissions by 60%. To achieve this, we must act quickly in all areas of daily life. For the Geneva 2050 Forecasting Commission, this first challenge leads to three others.

**Democratic challenge.** The urgency of change comes up against the democratic decision-making process, which takes time. We will have to convince quickly and win the support of as many people as possible to succeed in this challenge.

**Social challenge.** The ecological transition will not take place without justice and equity. It is a new model that needs to be written, which will also have to take into account the aging of the health care population, pensions, professional succession and training. As such, the financing of health and pension costs will have to be ensured.

**Economic challenge.** The ecological transition will not take place without an in-depth transformation of the economic fabric which will require stimulating the players of the transition while at the same time supporting the sectors which, depending on the case, are likely to transform favourably or decline

### Action levers

While it is encouraging to note that greenhouse gas emissions in Geneva have fallen by 28% per inhabitant in 30 years, there is still much to do. The objective is to significantly increase good practices and drastically reduce negative behaviours. The levers available to public action are numerous, but they must be used with discernment. Informing remains a priority. It is necessary to develop not only awareness, but also everyone's skills in terms of the environment and ecological transition. It will also be necessary to change the frames of reference and perceptions by demonstrating, for example, the interest of preserving the environment and social justice and highlighting the hidden costs associated with their degradation. The beneficial effects of the ecological transition on health, the living environment, food, etc. should be highlighted.

In terms of levers for action, it is essential that the State sets an example in areas as diverse as the reduction of the energy needs of public buildings, the development of green spaces or the development of alternative mobility.

Supporting economic changes is the area in which public players will have a fundamental role in terms of training and retraining.

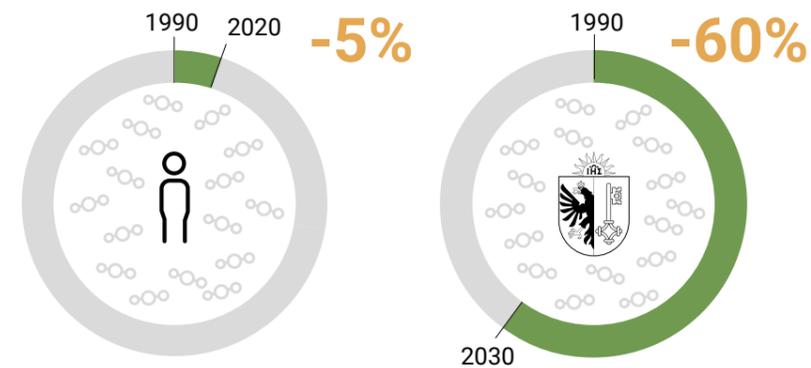
### A new culture to develop

The survey conducted as part of Geneva 2050 shows that the people of Geneva are not opposed to binding measures

to act in favour of the climate. But binding measures are not enough. We must encourage virtuous behaviour, multiply information on good practices, facilitate experimentation, and make actions harmful to the environment outdated. Public players must naturally make the infrastructures for which they are responsible accessible (soft mobility and public transport, for example) in order to facilitate these behavioural changes.

To succeed in the ecological transition, public policies will sometimes have to arbitrate between contradictory issues, give up certain investments and encourage others. It is a question of finding the right balance between incentive measures, which are consensual but not very effective, and restrictive measures, which are less easy to assume but more effective. All levers are available, it is a question of using them with discernment.

**"The survey conducted as part of Geneva 2050 shows that the people of Geneva are not necessarily opposed to binding measures to act in favour of the climate."**



Decrease in greenhouse gas emissions per inhabitant in 30 years in the canton of Geneva.

Objective of reducing greenhouse gas emissions in the canton of Geneva by 2030.

- 75%** respondents are willing to do more for the climate in the future
- 69%** want to improve air quality
- 81%** are ready to reduce energy consumption (heating the home)

source: GE 2050 survey

To boost the ecological transition, the Council of State has launched the *Geneva in transition* process aimed at developing its projects and strategies in the light of the ecological transition and strongly involving the inhabitants.



**Geneva in transition**  
What can we do today, for Geneva tomorrow?



### Outlook

- Reducing the use of individual motorised transport.
- Supporting sectors whose activity is likely to disappear or to be transformed



# The challenges of a sustainable digital policy

**If the digital transition brings opportunities for the ecological transition, the current conditions of its development come into tension with the environmental and societal objectives of the ecological transition as defined in the cantonal report “Succeeding in the ecological transition to guarantee the essential conditions of life”.**

The environmental footprint of digital technologies continues to grow. In question, the extension of uses and the joint increase in the number and power of equipment (networks, servers, terminals, connected objects, etc.) This equipment in fact generates significant consumption of water, energy and rare metals, the consequences of which are felt both in the producing countries and in those where their users reside. According to recent studies, greenhouse gas emissions from digital technology were equivalent to those of aviation worldwide. The challenge is therefore to enhance the opportunities offered by digital technology to reduce the environmental impacts of buildings, mobility and productive activities while resizing uses as part of a process of “digital sobriety”.

### The risks of inequalities

At the scale of society, the challenges are both individual and collective and primarily concern the risks of existing inequalities, the famous digital divide. The upheavals caused by digital technology in the field of social interactions and methods of disseminating information also pose new challenges for living together and demography. With the implementation of ecological transition measures requiring a solid democratic foundation, the digital transition must call for a rethink of the modes of involvement in collective life as well as in public debates and decisions, as indicated by the [Foundation for Technology Assessment TA-Swiss](#). Concerns related to sovereignty, digital integrity and

secure data management also maintain a close link with the issues of ecological transition.

### Generalising “digital responsibility”

Digital technology concerns all public policies. For the Geneva 2050 Forecasting Commission, making this dynamic compatible with the objectives of ecological transition, while enhancing the support it can provide, implies activating all the action levers already identified. The commitment of the State of Geneva to a “Responsible Digital” certification process will mark a decisive step towards the concrete implementation of the principles laid down in the canton's digital strategy (report “A digital policy for Geneva”, 2018) as well as in the State framework documents related to ecological transition, and in particular the 2030 climate plan (of which sheet 3.4 concerns digital sobriety). Geneva would therefore be the first canton certified “Responsible Digital”.

It is from these initial diagnostic elements that the Geneva 2050 Forecasting Commission was able to identify areas for improvement aimed at supplementing, strengthening or better coordinating the measures already in place within the departments.

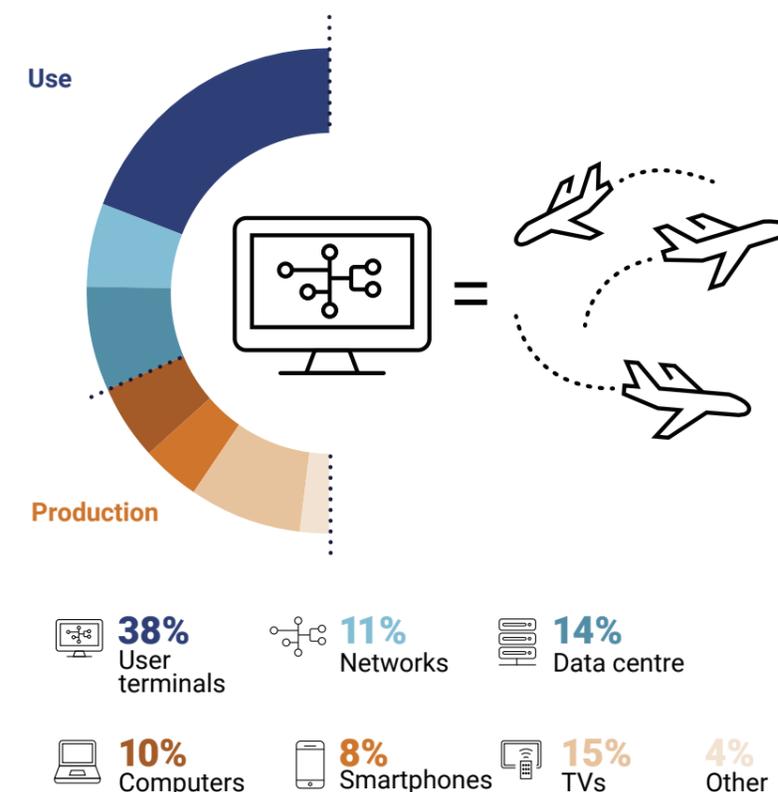
The framework conditions that would allow “ethics of digitisation” go through a reflection on the limits of “all digital”, as well as through the assurance of the duplication of certain digital processes

in order to guarantee the possibility of offline operation.

### The State must lead by example

The administration must modify its internal practices by relying on the Environmental Management System (EMS) to deploy its “responsible digital” actions. A “responsible digital” task force could support the departments in this transformation. Eventually, it will be necessary to integrate the notion of circular economy into calls for tenders, or even promote the pooling of uses and devices, including with municipalities. A dozen avenues for reflection have been identified in favour of changing practices, increasing the skills of the population and supporting economic players.

**“The challenge is to take advantage of the opportunities offered by digital technology to reduce environmental impacts”**



Source : Institut numérique responsable

**85%** believe that Geneva must adapt to stay at the forefront of technological development

**72%** believe that many jobs are likely to be impacted

source : GE 2050 survey



Digital political report State of Geneva 2018

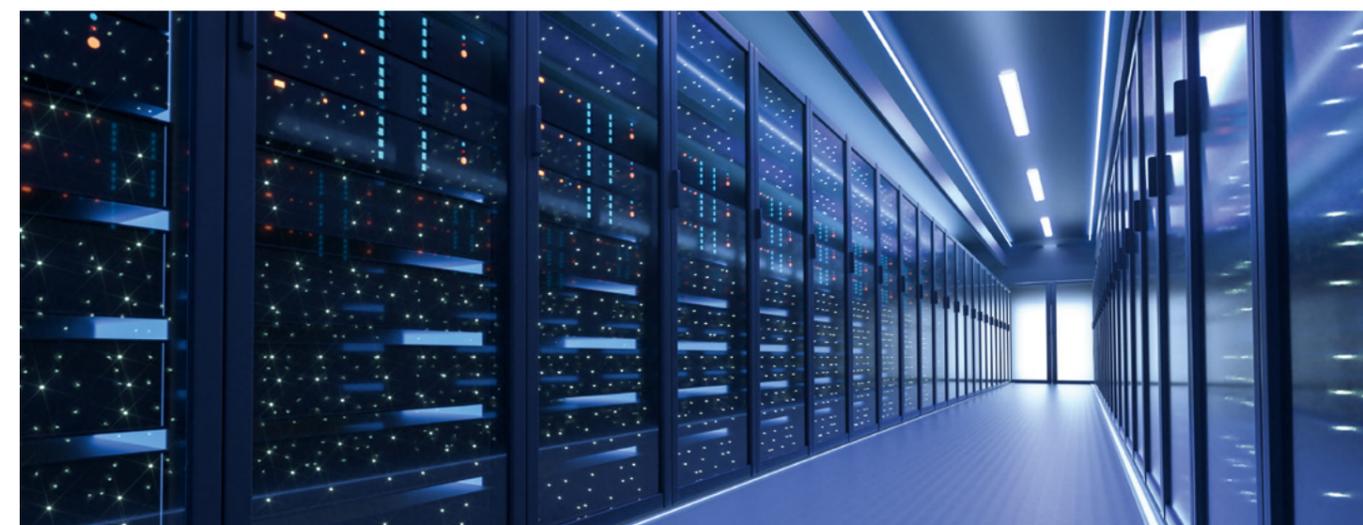


Watch note Ecological transition and digitisation



### Outlook

- Identify the “digital potential” of the territory (digital commons, jobs and economic sectors related to sustainable digitisation).
- Explore cross-cutting issues linking digital and democracy, health, social cohesion, etc.
  - Develop a responsible digital action plan.



# What vision of health in 2050?

**Health is an important resource of daily life, a fundamental right and an essential element of the social question. Beyond the individual and biological determinants, health comes from the economic, educational, political and social conditions of existence, from the ecological balance and the quality of the social ties which allow, among other things, to cultivate the feeling of belonging, a constituent element of individual and collective well-being.**

Acting in favour of health is difficult to reconcile with an economic perception that delegates to the market, the distribution of resources and the achievement of an economic and social balance. A neo-liberal system intrinsically pushes towards the construction of a health market where commercial care services are subject to the law of supply and demand while the patient is converted into a client/consumer, provided that they are solvent. As a result, we observe the offer of care which develops and specialises in a context of medicalisation of many aspects of life. And at the same time, demand is increasing, further encouraged by the population's expectation that the healthcare system can protect them against all risks of pain and even death. This combination contributes to the explosion of costs and leads to a strictly managerial approach to care, an increasing power granted to insurance companies and a concern for the control of expenditure that is difficult to achieve. The effects of individual behaviours are also overestimated, in an approach that considers individuals solely responsible for their health, to the detriment of a systemic approach to the origins of health.

## Towards a more global approach to health

To counterbalance this global system and limit its effects on health, the cantonal health promotion and prevention policy in Geneva adopts a positive and multi-sectoral approach to health. The objective is to provide residents with the means to live as long as possible in good health while paying particular attention to the most vulnerable populations in order to reduce social inequalities in health<sup>1</sup>. This approach is based on the Ottawa Charter<sup>2</sup> (1986), which paved the

way for a paradigm shift from a vision of health centred on medical aspects and linked to the healthcare system towards concerted action on the determinants of health, increasing community capacity and promoting bottom-up approaches. Health promotion is referred to as a process that gives people the means to ensure greater control over their own health and to improve it. Far from being obsolete, this charter still echoes the ethical issues that cross the health sector, including the empowerment and autonomy of the person, responsibility, equity and social justice, participation and the right to health.

Salutogenesis is an additional concept that underpins cantonal health policy and serves as its framework model. This concept encourages reflection on the origins of health and the protective factors that promote health and well-being despite exposure to risks<sup>3</sup>. At the source of the protective factors, we distinguish the "sense of coherence" defined as "the way of perceiving life and the ability to successfully manage the infinite number of complex stress factors encountered during life"<sup>4</sup>. This feeling is achieved when "individuals understand the processes governing their lives, can organise them and assign meaning to them"<sup>5</sup>. It represents an important individual resource that promotes the autonomy of the person to act in favour of their health.

## Health: a common good

That said, health is not only an individual good, but also a common good that must be democratically protected and promoted. Health damage does not affect individuals equally. In fact, the state of health of the Swiss population is 60% dependent on factors external to

the healthcare system and to individual biological characteristics<sup>6</sup>, such as socio-economic conditions, the environment, diet, working conditions and living conditions. A legal framework, having solidarity as a central political value, is one of the means to guarantee equal opportunities and the protection of individuals. Besides that, rethinking health within the socio-political system and solving social and environmental problems represent a means of converging justice and efficiency. Indeed, according to the OECD<sup>7</sup>, in developed countries, at least 20% of health expenditure is not effective in terms of impact on health or even has a negative impact on health. The splitting of organisations and working in silos to deal with acute care episodes is considered to be responsible for this result. Therefore, a firm resistance to the medicalisation of these issues will certainly contribute to a better control of health expenditure. The evolution of health needs and technology as well as defects in organisational design (variations in practice, poor execution of a course, readmissions, hospitalisations that are too late or frequent, etc.) lead to increased costs and to poor health outcomes. It is believed that integrated organisations whose primary objective is to maintain their population by acting on the determinants of health and avoiding an unfavourable evolution in the disease are both the most effective and the most efficient<sup>8</sup>.

The health crisis has highlighted the links and interdependence between human health, animal health and the health of ecosystems. The repercussions of this crisis are not yet complete and therefore not fully revealed. They nevertheless stress the need to adopt the integrated approach "One Health" of the WHO<sup>9</sup>, which takes into account the interactions between all health. This approach advocates collective, transversal and multi-level action to promote the health and well-being of all, while acting on climate change and contributing to sustainable development<sup>10</sup>. It makes it

possible to move from a conception of human domination over their surroundings to a more equitable and democratic relationship in respect of the balance of ecosystems, of all living organisms and of biodiversity. We will therefore be able to speak of sustainable health at the heart of a social system and an economic and integrated organisation operating as an action lever in favour of a necessary change in lifestyles, modes of travel, consumption choices and the relationship with the natural environment.

Finally, health is the sign and manifestation of a harmonious relationship with the world and the environment. It essentially depends on the ability to reclaim individual and collective living conditions. Health promotion should not be a quest for technical, expropriated and unfelt health, as if it were an end in itself. In Geneva, it is more committed to encouraging health that is at the service of the experience of life.

## 8 strategic axes



Source : Brochure Cantonal concept of health promotion and prevention 2030



© Carla da Silva - Les Vergers, Meyrin



**Canton strategy**  
Health promotion and prevention policy



**Data source**  
Footnote

Data source: QRcode link

# Anticipating the impacts of the ageing population

**The Geneva 2050 Forecasting Commission has looked into the possibilities of anticipating the impacts of the ageing of the population on public policies and of becoming even more aware of societal issues and the challenges for public authorities. This also helps to nurture future collaborations between departments.**

Since the Second World War, life expectancy has steadily increased. By 2050, 25% of the population will be of age to receive the old age and survivors insurance (AVS), compared to 16% in 2020. By the same date, the number of people aged over 80 will have almost doubled (10 to 12% compared to 6% currently)\*. If the Swiss situation is rather favourable in comparison with other countries, the heat waves and the COVID pandemic have shed new light on the fragility of seniors. The support structures note the multiplicity of factors likely to trigger the need for care: nutrition, daily mobility, cognitive disorders, etc. The diversity of life courses and ageing conditions requires rethinking the care for seniors.

### For healthcare support

The historical approach, centred on care and for which the hospital is the default solution, must evolve towards healthcare support, primarily at home. To achieve this, emphasis should be placed on prevention, detection of fragilities and coordination of the support provided to the elderly person, who must also become the "first player" in their care. This new approach is inseparable from more global transformations in social relations. The place given to seniors, the way of perceiving their contribution to society, the way of apprehending the last years of life and death must change profoundly.

Because the societal challenges of ageing are innumerable: guaranteeing dignified living conditions for the elderly, valuing their contributions to social life,

involving them in collective decisions, preventing the risk of isolation. Without forgetting the anticipation of the risks of conflicts between generations resulting from vast differences in income or technological fractures. It is all of these issues that challenge public authorities today, in addition, of course, to the significant costs generated by the ageing of society.

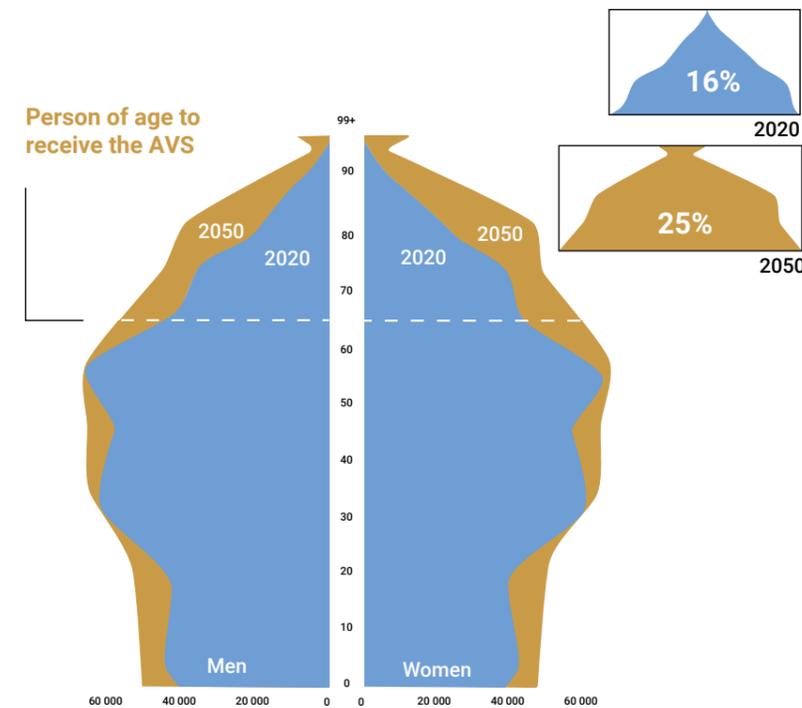
### Public policies to reinvent

Health, social cohesion, taxation and public finances are the areas where public policies are most obviously impacted by the ageing of the population. The choices made in terms of development, mobility or housing deserve to be re-examined with regard to their influence on the autonomy of seniors. Without forgetting the environmental policies which will have to take into account the challenges linked to adaptation to climate change and the guarantee of conditions for a healthy life. But other challenges still await public policies, particularly in terms of the economy and employment. For example, it will be necessary to rethink the training that will facilitate the retention of seniors in employment and support the resulting retraining needs.

Education also has its role to play, in particular to prepare the younger generations for the new balances that are on the way, particularly in terms of solidarity and redistribution. To meet these challenges, it is necessary to develop a global, cross-sectoral and coordinated approach. The work with municipalities and associations should not be

neglected. These reflections are also based on the Geneva cantonal plan on precariousness, drawn up in the context of the COVID crisis. In this regard, it would like legislation on seniors that takes into account the specificities of this population, a strengthening of proximity, orientation and information measures for seniors in collaboration with the municipalities, and, still with the municipalities, development of the maintenance of ties, citizenship and social activity of the elderly.

**"The diversity of life paths and ageing conditions requires rethinking the care for seniors"**



Population pyramid in Switzerland in 2020 and 2050

**83%** believe that the environment is the main factor determining their health

**51%** make intergenerational housing the main lever for living together

source: GE 2050 survey



**Watch note**  
Anticiper les impacts du vieillissement de la population sur les politiques publiques



**Summary report**  
Mandate "Ageing 2030"



\* OCSTAT



### Outlook

- Facilitate job retention for seniors (50, 55+)
- Support the retraining needs that arise from it (new skills)
- Changing the image of ageing

**What housing models and prospects for the neighbourhoods of tomorrow? The challenges posed in this area are conditioned by the ongoing social transformations. They require putting into perspective the actions already undertaken in Geneva and thinking about inspiring models for the future.**

### The challenge of social "revolutions"

Since the middle of the 20th century, social diversity has been one of the cornerstones of Geneva housing policy. Over the past few decades, Geneva has been able to preserve access to housing for low- and middle-income populations in a territory that is nevertheless subject to very strong demographic pressure. Diversity is today a guiding principle in the responses to be provided to the many societal challenges: a demographic revolution marked by the ageing of the population and dehousing (a time during which people forming a household separate), a digital revolution allowing a massive development of telework, and an ecological revolution which questions the location of housing, the quality of construction and the intensity of use of surfaces. It is therefore a multidimensional mix that must be developed and promoted today: mix of income, generations, uses, etc.

Flexibility, adaptability and the coexistence of uses are essential as structuring principles. However, their implementation requires adapting institutional frameworks and renewing solutions and approaches both in terms of town planning and architecture and in the field of social support for residents. The role of all stakeholders must evolve. Alongside the State, municipalities, institutional owners, foundations and cooperatives, to develop social cohesion in neighbourhoods, collaboration with municipal services, neighbourhood houses, resident

associations and workers outside the walls of the Geneva Foundation for socio-cultural animation (FASe) is decisive.

The commission was able to observe that a number of projects and experiments carried out by public or private players are going in the right direction. The 2020 amendment to the General Act on Development Zones (LGZD) aims to better take into account the needs of the middle class and to promote a more balanced territorial distribution of public utility housing (LUP). In addition to these planning changes, there are changes in construction rules. They now make it possible to remove the architectural barriers that hinder access to certain premises for the elderly and people with reduced mobility.

### Renew housing design

The health crisis has abruptly revealed the limits of the "minimal habitat" model dear to the thirty glorious years. This model is currently unsuited to structural changes in society. Work on the layout of the premises and on the constructive solutions must be carried out in order to guarantee the scalability of the spaces and the plurality of uses.

The experiments carried out by the Association Habitat 4 Générations (AH4G), in collaboration with the Forum Grosseclin, already offer examples of reflection in order to generalise these practices in the construction of new buildings or the transformation of existing housing. Social diversity is truly achieved through

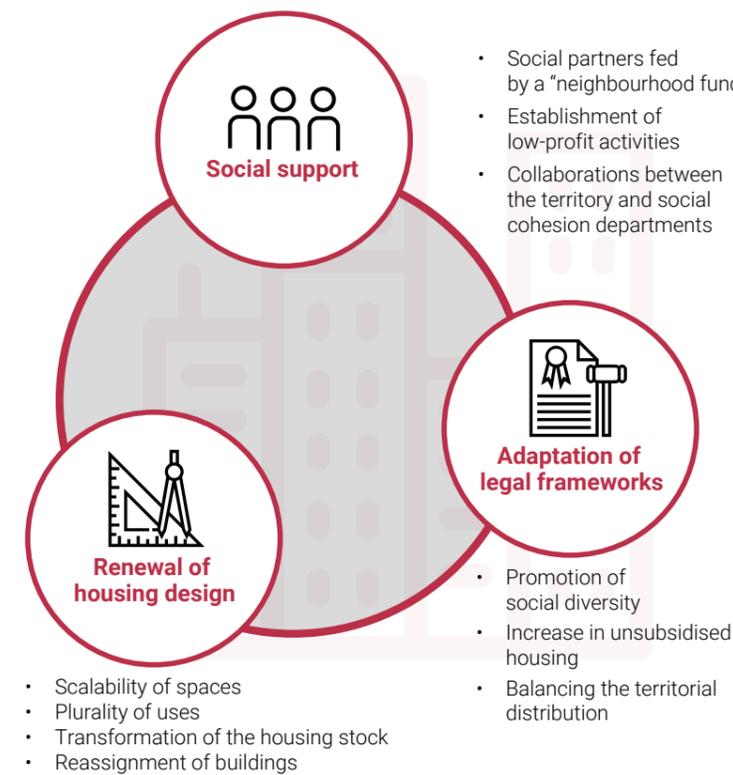
the experience of the inhabitants. It is therefore essential to anticipate resource needs and to integrate a broad vision of gender diversity into financial plans, for example by facilitating the establishment of low- or no-profit activities that are essential to the quality of life and social cohesion.

### The neighbourhoods of tomorrow

The question of mixed housing refers to issues of quality and sustainability. In this context, for the commission, cooperatives offer an inspiring model which, if not transposable, should encourage public and private players to collaborate, for buildings as well as for neighbourhoods. Current experiments show the decisive role of municipalities as a trigger for projects that go beyond the divisions between social and non-subsidised housing.

Faced with the challenges posed in terms of diversity by the neighbourhoods of tomorrow, it is a question of not promoting a single model, but rather of identifying and supporting experiences that bring social, economic and ecological added value.

**"It is a multidimensional mix that must now be developed and promoted."**



**89%** want to increase the number of co-operative housing units

**61%** are favourable to the introduction of more green spaces in the city

source : GE 2050 survey



**Watch note**  
Anticipating the evolution of different housing policy needs



### Outlook

- **Develop and promote multidimensional diversity: diversity of income, generations, uses, etc.**
- **Rethink the layout of the premises and the constructive solutions in order to guarantee the scalability of the spaces and the plurality of uses.**



© Loris Von Siebenthal

# Multimodality at the heart of transport challenges

Between societal changes and collective constraints, the management of mobility and its impacts is already one of the most important challenges of our societies today. And, by 2050, these challenges are expected to increase.

## Evolution of demand

Five ongoing societal trends are observed. Their weight has a direct impact on mobility, whether in terms of the ageing of the population and demographic growth due to migration, individualisation and the reduction in the size of households, the pursuit of the dynamics of globalisation and metropolitanisation, the acceleration of digitisation or new predispositions towards the car. Although these changes may seem disparate, many of them converge on several points: the volume and flows of movement should continue to grow, the distances travelled continue to increase, professional travel should decrease while that related to leisure and purchases should increase. We can still predict an increase in long-distance travel and an increase in multimodality, especially in urban centres. Clearly, these trends are not moving in the direction of less polluting mobility.

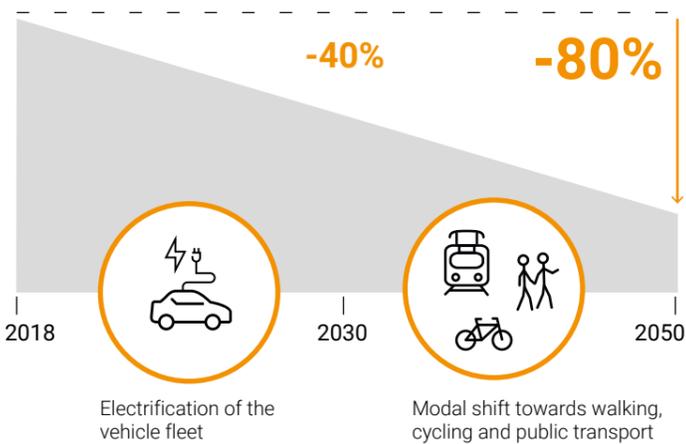
## Ecological requirements

However, compliance with the Paris Climate Agreement implies dividing by ten the emissions caused by mobility. In addition, in 2018, the Federal Office for Spatial Development estimated the cost of nuisances linked to local mobility at several billion Swiss francs per year (pollution, noise, accidents, etc.). To reverse the trend despite everything, the canton of Geneva is in the process of revising its 2050 mobility strategy. For the first time, the ambitious objective of reducing motorised traffic by 40% by 2030 has been clearly set. This reduction must also be accompanied by an electrification of the vehicle fleet and a significant modal shift towards walking, cycling and public transport. These objectives go through the implementation of the Act for a coherent and balanced mobility (LMCE), approved by nearly 68% of the population of Geneva on 5 June 2016.

A renewed ambition is also necessary for public transport in order to capitalise on the success of the Léman express (extension of the rail network, tram, creation of buses with a high level of service). Other measures will be necessary such as cantonal and cross-border planning of strong bicycle networks, directing road investments towards multimodality and carpooling and increased regulation of parking. Planning must now be at the service of sustainable urban mobility integrating public policies related to the environment, society and the economy. It will therefore be necessary to move from a policy responding to demand to a policy sized by the offer orientated towards collective and ecological objectives, an offer that must create the infrastructures that will stimulate the uses.

## Thinking about the mobility of young people and seniors

The mobility of young people and that of seniors are specific and sometimes in opposition. The needs of young people are characterised by a desire for quality of life, proximity, ecological and social awareness, even if the desire for travel and discovery does not fundamentally differ from that of previous generations. The demand from seniors is conditioned by a unique mobility experience (this is the most mobile generation of all time), a need for activity and mobility that lasts as long as possible, a desire for autonomy despite old age and vulnerability in car-dependent territories. These findings lead the commission to consider actions on the territory (proximity, nature in the city), on demand (change in lifestyle: demotorisation, renunciation of the plane) and on the supply of transport (soft modes, train, alternative to owning a personal car).

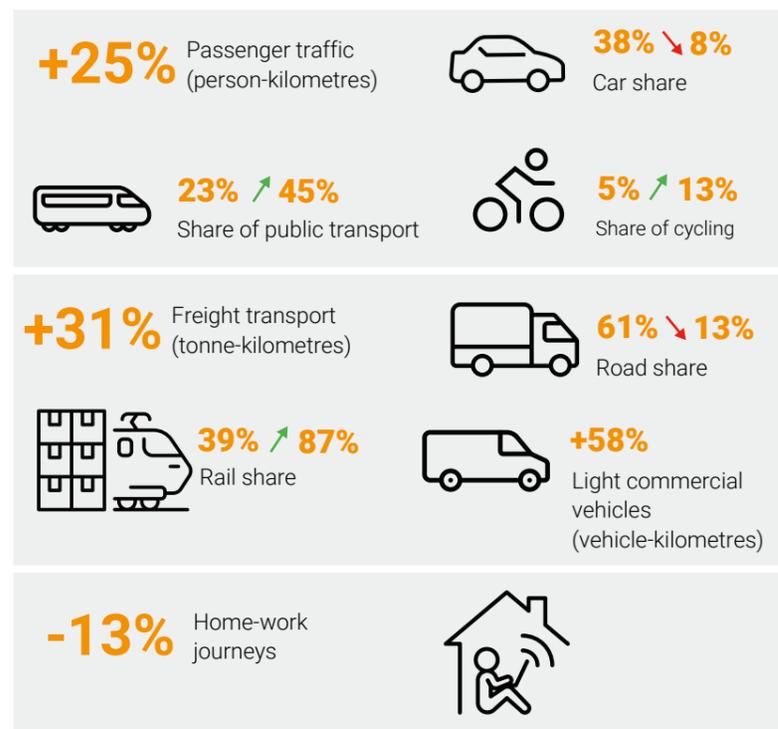


**“To move around during the year, a person living in Geneva emits approximately 3.1 tonnes of CO<sub>2</sub>. The objectives of carbon neutrality imply emissions of the order of 300 kg, i.e. 10 times less”**

**87%** of people consulted would cycle more if there were secure facilities

**69%** want better air quality

source : GE 2050 survey



2020-2050 evolution of the number of journeys (objectives of the reinforced climate plan)

Watch note  
Our mobility in 2050

Cantonal climate plan  
Mobility component

Objective of reducing motorised traffic by 2050



## Outlook

- Develop the city of short distances
- Drastically reduce individual motorised transport
  - Invest massively in favour of public transport and soft mobility
- Develop electromobility, rely on netechonology
  - Transform freight transport

New Geneva – Annemasse greenway



# Changing consumption practices

The Geneva 2050 Forecasting Commission looked at sustainable consumption and changing practices, in collaboration with the “sustainable consumption” group of the University of Geneva (UniGE) led by Marlyne Sahakian, doctor in development studies and associate professor in sociology. It has therefore apprehended consumption practices by considering the social and material contexts in which they are inserted and identifying the levers that would make it possible to transform current consumption practices in the direction of the objectives of the ecological transition.

Imported goods and services now represent more than a third of the carbon footprint of each inhabitant of the canton of Geneva, a footprint that must be divided by ten by 2050 in order to achieve carbon neutrality as planned in the Cantonal Climate Plan 2030. Our daily consumption of goods and services therefore represents a major lever for the implementation of the ecological transition. The work of the UniGE demonstrates that it is not enough to provide better information, promote more efficient technologies or adjust prices to achieve sustainable consumption.

Professor Sahakian's team invites us to distance ourselves from approaches that are mainly targeted at the individual and instead suggest taking into account the social and material interactions that influence our consumption patterns. In this light, six themes were examined: food consumption, land mobility, digital technology, packaging, consumer goods and travel. The work of the commission has made it possible to highlight the cross-sectoral nature of the issues affecting these different areas of life.

### Social relations and norms

Although social relations can be seen as an obstacle to changing practices (food consumption linked to moments of sharing and conviviality, mobile phones or

air travel for example), they are however likely to generate new interactions and certain individual choices can become vectors of change on a collective scale (increasing acceptance of the diversity of diets, for example). Social norms are not only related to markers of social status, rites of passage or practices confirming membership in a social group, but also to the lack of regulations that could help set clear limits about certain products or practices.

If simplicity, saving time or autonomy are the most frequent arguments to justify “usual” modes of consumption, perceptions relating to the material advantages and disadvantages of the different modes of consumption are changing. And if the new modes of consumption are often perceived as complex and expensive, the offer of services and infrastructures conducive to more sustainable practices is gradually attracting new users (time lost in individual transport versus work on the train, for example).

The move towards more sustainable consumption patterns goes hand in hand with the need to acquire new skills and know-how. The consumer must also be informed clearly on the real impacts of their choices. However, certain concerns related to consumer health and safety no longer appear systematically

as brakes, but rather as a driver of changes favourable to sustainability, such as awareness of the risks associated with a diet too rich in meat, for example.

Lever for action in all contexts of life (family, friends, school, etc.) have been identified and affect all social interactions. These avenues invite the State and public authorities to go beyond encouragement and awareness to activate regulatory and economic instruments. The levers proposed relate to four specific areas: levers targeted on supply, levers targeted on demand, regulatory and economic levers and finally, levers linked to the exemplarity of the State.

**“Imported goods and services now represent more than a third of the carbon footprint of each inhabitant of the canton of Geneva”**



**83%** believe that the environment is the main factor determining their health

**92%** are ready to favour products and services labelled as “sustainable”

**91%** consider it necessary to review our food consumption

source : GE 2050 survey

**Watch note**  
Sustainable consumption and change through practices



### Outlook

- Demonstrate that new consumption patterns need not be complex or expensive.
- Activate regulatory and economic tools in addition to incentives and awareness-raising measures for the population.

# Commons and contributory economy: what potential for Geneva?

**How can the economy and territories be reorganised to "ensure the joint and harmonious reproduction of human communities and the ecosystems in which they are embedded"? Based on the work of Professor Benjamin Coriat, professor emeritus at the University of Sorbonne Paris Nord, the Geneva 2050 Forecasting Commission reflected on the challenges of a local variation of the notion of "commons" and on the possibilities for public authorities to contribute to it.**

The evolution towards a contributory economy compatible with the limits set by the ecological transition requires recognition of the externalities, positive or negative, generated by the various activities. In this context, the notion of the "commons" is essential because it makes it possible to identify the framework conditions necessary for sustainable management of shared resources.

## The natural, digital and urban commons

Historically, the commons have been built around land or natural resources such as pastures, forests or irrigation systems. But the last decades have seen the emergence of new forms of commons, such as digital commons (e.g. shared access databases) and urban commons (e.g. shared gardens, wastelands, public buildings). Among the urban commons, third places deserve special attention because they simultaneously serve the general interest of the territory in which they are anchored and the particular interest of certain users. In this context, third places born of citizen initiatives can be transformed into relays for public action.

## What commons for Geneva and the Greater Geneva?

The first observation resulting from the reflections of the Geneva 2050 Forecasting Commission concerns the diversity of resources, entities or places that could be considered as local commons. Land

commons were identified, such as water, and in particular the Rhone, air or forests; digital commons, such as territorial data collected and made available by public authorities; urban commons, such as the 3DD space (made available by the State for activities favourable to citizen participation), or other cultural places hosting activities that generate social and environmental co-benefits for the territory.

The recognition of these resources as commons is seen as an additional value. This raises the question of the relevant scale for ensuring sustainable management of these commons. For the commission, the Greater Geneva area is the reference perimeter, in particular for natural and land resources. The cross-border dimension gives particular importance to the issues of governance, and in particular those linked to the involvement of citizens in the definition and management of common goods, which must be transformed into genuine commons governed in a sustainable manner. This evolution requires a renewal of the modes of collaboration and territorial action by anticipating the evolution of governance rules and overcoming certain dichotomies, notably between public and private management modes.

## Public players and the contributory economy

As guarantors of the general interest, public authorities have a priority role to

play in taking into account the benefits generated by the contributory economy. In a context where many initiatives have already been launched, the priority challenge today is to initiate a change of scale. The Geneva 2050 Forecasting Commission's workshop work made it possible to make an initial inventory of the public actions already underway, to reflect on the possibilities of strengthening them, but also on the points of attention and the risks that certain positions may entail on the part of the public players.

Referring to Professor Coriat's work on the various public positions, the commission recommends adapting public services to the needs of the transition, by rethinking the forms of citizen participation. In Geneva, changes in practices have already been initiated, particularly in the design of mobility infrastructure or neighbourhood projects. Utilities must also act as facilitators by creating the conditions for a change of direction. As such, the State and the Geneva municipalities are already positioning themselves as contributors or partners of initiatives falling within the scope of

contributory economy. But if there is convergence around the need to strengthen support for the initiatives in place, many questions remain about the methods and limits of the support that public players can provide.

**"Third places born of citizen initiatives can be transformed into relays for public action"**

**76%** think the role of the State should be to strengthen the development of a sustainable economy

source : GE 2050 survey



Common goods

Resources owned by everyone



Commons

Resources belonging to a community and protected by rules limiting their exploitation



**Video of the workshop**  
Definition of commons



**Watch note**  
Commons and contributory economy



**Concept note**  
Commons, climate and contributory economy



## Outlook

- (Re)discover the value of the territory's natural resources (air quality, open and natural spaces, etc.)
- Clarify the needs, limits and rules related to the different uses of these "territorial commons"



# Closer collaboration with international Geneva

BETTER COLLABORATION WITH INTERNATIONAL GENEVA

It was following the participatory survey carried out by Geneva 2050 in 2019 that the Council of State decided to continue the process with the aim, in particular, of engaging in a dialogue with international players in order to include them in the reflection on the future of Geneva. The first of a series of workshops brought together several key players in international Geneva, the State of Geneva and partners in the field of forecasting in order to reflect on the future of work, education and digital.

As a prelude to the forecasting workshop, Dr Jean-Marc Rickli, Director of Global Risks and Resilience at the Centre for Security Policy (GCSP) in Geneva, recalled the importance of forecasting for an organisation. For him, forecasting goes further than risk analysis and becomes a tool for participatory management and organisational learning. To illustrate the future direction of international governance, Dr Rickli outlined three 2030 geopolitical scenarios and analysed their impact on Geneva.

On the strength of these analyses, three working groups (State, international organisations, partners) have been set up in order to carry out a joint reflection on the future of employment, education and digital technology.

## The future of employment

The COVID crisis has accelerated technological transformations and those of economic models, while showing the fragility of sectors such as air transport, business tourism or the hotel industry. To support people working in these high-risk sectors, the State created the "employability" task force in 2020. The working group formulated a series of proposals which are, at this stage, as many lines of thought. The mapping of existing skills would, for example, make it possible to prepare those of tomorrow, taking into account, in particular, the ageing of the population. The creation of thematic exchanges between the public

sector and international Geneva is also suggested, in a more flexible framework than today.

Another line of thought is the development of professional bridges between international Geneva and the Geneva public and private sectors. The working group also suggests promoting start-ups in order to respond to the problem of young people, to develop connections between training and employment well before the end of studies, or even to address the future of work between International Geneva (International Labour Office, World Trade Organisation) and Geneva companies.

## The future of education

The reflections of the working group on the future of education were based on the tripartite system of governance of the Swiss education system (cantons, intercantonal conferences and Confederation) as well as on the priorities of the Department of Public Instruction (DIP) for the current mandate: fight against dropping out of school, support for the most vulnerable and development of digital education. The working group proposes many avenues of reflection such as the promotion of values and human rights, non-violence, the development of skills to become citizens, setting up an "international hackathon of education". These proposals for avenues of reflection are accompanied by more global reflections on the need, for

example, to develop critical thinking and to train in resilience in a world in crisis, or to train in the prevention of risks in the fields of digital technology and health.

## The future of digital technology

The working group devoted to the future of digital technology has based its work on the State of Geneva's five areas of action in the digital field: facilitating online procedures, digital training, developing confidence in the internet, regulating (in particular thanks to the law concerning experimental legislation which allows it to establish time-limited laws on an experimental basis) and promote international Geneva as a hub of global digital governance. The working group therefore proposes the following lines of thought: using the 40,000 international civil servants in Geneva as an experimental laboratory for International Geneva, pooling digital technology in order to create synergies around public interests and develop pilot projects.

The proposals from the three working groups must still be the subject of specific consolidation sessions. In this respect, the work of the GESDA Foundation (Geneva Science and Diplomacy Anticipation) is valuable. GESDA is initially interested in four key research areas which are at the border between technology, natural sciences and human sciences, and could bring progress in the next 5, 10 and 25 years: the quantum revolution and advanced artificial intelligence, the increase in the capacity of human beings, eco-regeneration and geo-engineering, and finally science and diplomacy.

**"Forecasting goes further than risk analysis and becomes a tool for participatory management and organisational learning"**



### Digital

- Online procedures
- Digital training
- Regulation
- Promotion of the International Geneva Digital Hub



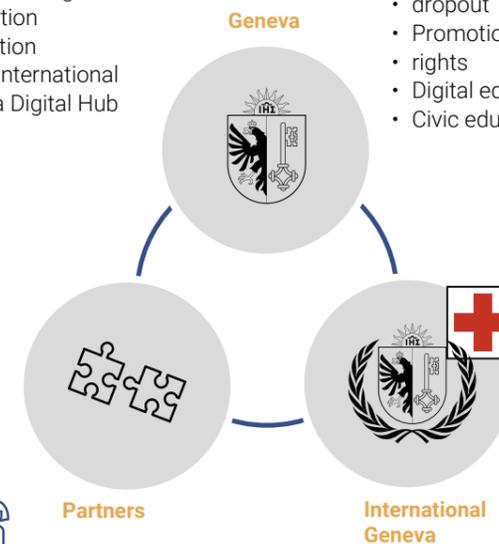
### Education

- Fight against school dropout
- Promotion of human rights
- Digital education
- Civic education



### Employment

- Skills mapping
- Exchanges with international Geneva
- Professional gateways
- Promoting start-ups
- Future of work with International Geneva



75%

want the UN to contribute to the development of Geneva in the future

source : GE 2050 survey



### Watch note

Forecasting workshop with International Geneva players: how to strengthen collaborations?



## Outlook

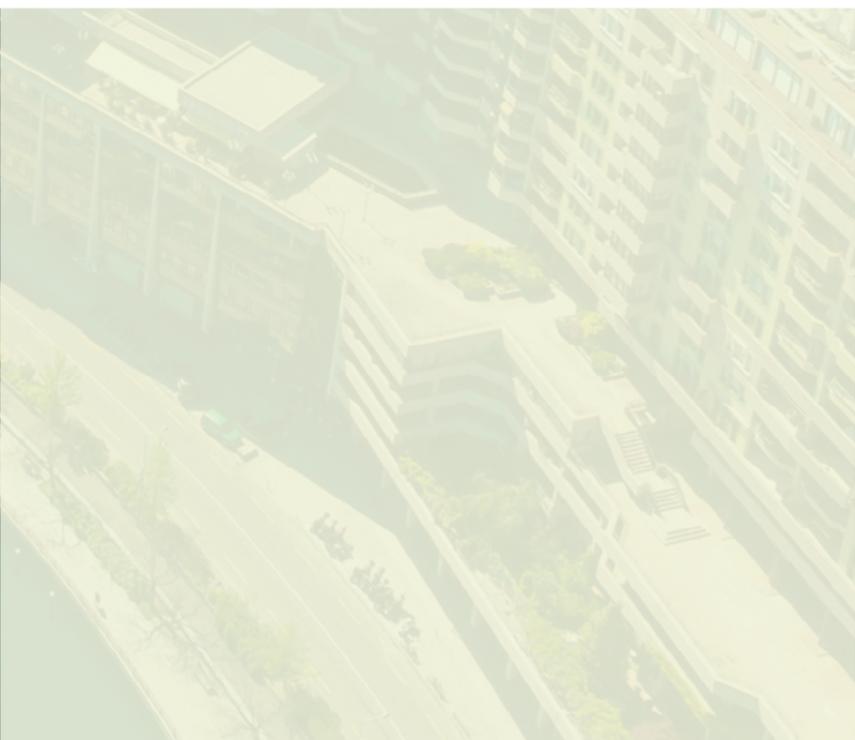
- Continue exchanges with IOs through workshops themes
- Promote international Geneva as a hub of global digital governance

Palais des Nations in Geneva





## OUTLOOK





Realisation: Youth Council  
 Concept: aXesslab  
 Photos: Nicolas Spuhler

## The future as seen by young people

To complete the general public consultation carried out in 2019, 50 classes – i.e. nearly 1000 students between 10 and 20 years old – had responded to an adapted version of the questionnaire. This approach was part of the “one month, one right” programme set up by the DIP for the 30th anniversary of the Convention on the Rights of the Child, the October 2019 being devoted to the participation. The results: [www.ge.ch/document/22273/annexe/0](http://www.ge.ch/document/22273/annexe/0)

### The Youth Council designs the Geneva of 2050

The Youth Council (CJGE) is a consultation body made up of 20 to 25 young people aged 14 to 21 residing in the canton of Geneva and appointed by the Council of State. The mission of this body is to represent young people before the cantonal and communal authorities, to formulate opinions, proposals or recommendations for the attention of the political and administrative authorities, and to participate in the work of the Commission for Children, Youth and Parenting Support.

In April 2022, the CJGE took part in a workshop supervised by two representatives of Axesslab, Yves François, psychologist and systemicist, and Jeremy Grivel, doctor in neuroscience. Divided into four groups, the members of the CJGE worked from two photos of two places in Geneva (Ecole du Mail and Boulevard Carl-Vogt) to imagine what they could be like in 2050.

### Learn to build and defend a common proposal

Using tracing paper and markers, the participants drew the future of these two places and tried to bring the neighbourhoods to life “like in 2050”.

Starting from photos taken on the spot, an artist took into account as much as possible the different proposals in order to transpose them into a single image. She then inserted drawings of the projections of young people on the photos to create this district in 2050 as they imagined it.

The aim of this approach, in addition to projecting oneself into the future, is to learn how to build and defend a proposal common to each and everyone

For the Mail school, the four groups suggested replacing the bitumen, partially or totally, with vegetation (vegetable garden, forest, green facades, park with pond). One group particularly insisted on the content of the school system, which should emphasise everyday life and prepare the student to integrate and understand the society around him.

For Boulevard Carl-Vogt, they also proposed greenery, vegetable gardens (with the underlying idea of food autonomy) as well as green facades. Mobility also plays a big role since one of the groups imagined a trip by autonomous cable car operating 24 hours a day. The vehicles disappear from the street which only welcomes pedestrians and bicycles.

The participants also defend energy independence in a community and participatory neighbourhood.

Each group questioned the other groups on certain aspects or on the consequences of their proposals before the artist seized on these proposals to design a synthetic image.

Ten global indicators cover the major themes addressed by “Geneva 2050”. Their translation into objectives and concrete actions is the subject of regular observation of the evolution of the main trends. Identified on the proposal of all the departments, in coordination with the cantonal statistics office and the cantonal service for sustainable development, these indicators make it possible to monitor the changes that have occurred in public policies and to adapt planning.

The 10 indicators identified as part of GE2050 impact all public policies. The objectives are as follows:

- aim for carbon neutrality;
- make the transition to a 2000 watt society;
- increase the proportion of inhabitants and jobs within 500 m (on foot) and 3,300 m (by bike) of a public transport stop;
- reduce the daily time devoted to travel;
- measure demographic change;
- adapt the level and quality of employment;
- increase the rate of first certification from secondary II up to the age of 25;
- increase online services;
- monitor the percentage of the population considering their state of health to be good to very good;
- evaluate the evolution of the median gross income and the evolution of the share of taxpayers with low incomes.

The monitoring of these indicators has also been updated with regard to the new population forecasts for the canton of Geneva for the period 2021-2050 (source: OCSTAT – March 2022).

By anticipating an average migratory balance comparable to that of the last thirty years, we can expect that the **population of Geneva will continue to grow at a sustained rate until 2050**. If the rate of growth of the population of Geneva is uncertain, **the very marked acceleration of its ageing** is a virtual certainty.

Between now and 2050, between 72,000 and 151,000 additional inhabitants are expected (increase of between 14% and 30% between 2020 and 2050).

The demographic growth of the canton of Geneva will depend essentially on the level of immigration. The people arriving in the canton being generally young, they contribute to the rejuvenation of the population and to the increase in the level of fertility.

Barring a mortality crisis on a scale significantly greater than that linked to the Covid-19 pandemic, **the number of residents of the canton aged 75 and over will double by 2050**.

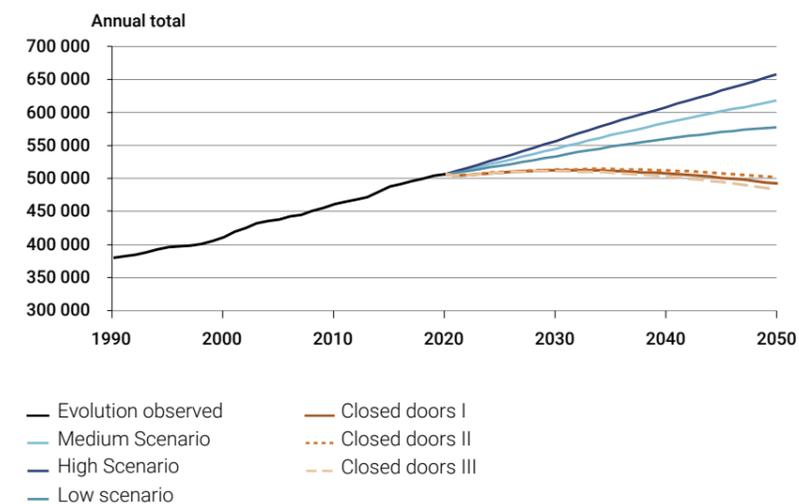
Ageing-related needs, including housing suitable for the elderly and medico-social and health care, will therefore increase sharply. Another inevitable corollary of ageing, the sharp rise in the number of deaths could also require adaptation of the infrastructure.

The sustained immigration of the last twenty years will also mark the demography of Geneva in the coming years. The arrival of many young adults – with or without children – since the early 2000s has had a positive impact on the number of women of childbearing age and, by extension, on the number of births.

**Even in the event of low migratory balance in the future, the numerous arrivals of the recent past will make it possible to maintain the number of women of childbearing age at a level close to the current number and thanks to the increase in births between 2003 and 2016, this number should not decline after 2030.**

It is therefore likely that **by 2050 the annual number of births will not fall significantly below current levels** and that, consequently, the demand for places in childcare facilities will not decrease.

Resident population according to the scenario, from 1990 to 2050



Source: STATVD / OCSTAT - Cantonal population statistics

### Eight major themes

Led jointly by the cantonal department for sustainable development and the cantonal statistics office, this project proposes a complementary approach to the 10 indicators of Geneva 2050. This aims to ensure the monitoring of the 57 strategic axes of the cantonal Concept for sustainable development and therefore draw up an inventory of the situation in terms of sustainability for the canton of Geneva. It will make it possible to observe both progress and any setbacks observed in recent years. The first publication of the results is expected by the end of the year.

- Modes of production of consumption
- Territorial development
- Climate change
- Natural resources
- Economic and financial system
- Training and innovation
- Social cohesion
- Population health



Statistical communication no.67 - March 2022 OCSTAT Demographic projections for the canton of Geneva (resident population of 2021 – 2050)



### Perspectives

- Anticipate changing needs (in public policies) taking into account demographic changes by 2050
- Ensure the monitoring/implementation of these indicators

Public policies are constantly evolving and the means of analysing and understanding them must also adapt.

“Our societies need systems of governance with public policies that are equal to their complexities and challenges, with capacities for flexibility to remain at that level. Public systems must guarantee societies at least three activities at the same time: providing services, managing crises and carrying out innovations. We need public policies that know how to combine these three requirements simultaneously”. This observation made by Geert Bouckaert, specialist in public administration, challenges researchers, decision-makers and stakeholders involved in the production and analysis of public policies. (Source: International Observatory on the Societal Impacts of AI and Digital Technology).

In order to anticipate and prepare the bases for future programming, the continuation of the forecasting process of the Canton of Geneva is based on the strengthening of monitoring and forecasting activities in the service of public action. At the same time, it is in the short term that this work is already reflected in the updating of planning documents to adapt strategies to the medium and long term challenges of the region. In summary, and as the Council of State indicates in its preface, it is a question of “putting into perspective a more uncertain present with a less predictable future”.

As specified in the roadmap adopted by the Council of State, the missions of the commission continue around three structuring dynamics detailed below. The list of lines of thought and actions below will feed the rest of the work of the Geneva 2050 commission.

## 1. Administrative axis

All departments are already involved in the Geneva 2050 prospective approach. The canton's current planning documents cover the period up to 2030 and beyond with regard to reflections on the development of infrastructure, in accordance with the demands of the Confederation. The Geneva administration quickly integrated the use of forecasting and applied it, in particular by ensuring the consistency and complementarity of planning documents. In an increasingly complex and uncertain environment, the vigilance of the administration is essential for effective monitoring that is useful to the community.

Work will continue with the following objectives:

Pursue the strategic watch on forecasting at the scale of all public policies by identifying significant long-term themes for the region. Follow up on the orientations resulting from this “Forecasting and implementation” document within the various public policies.

Ensure the consistency of the various planning documents with the forecasting process, particularly in terms of the long-term development of the territory and contribute to the simplification of all this documentation.

Ensure the updating of data concerning the indicators.

## 2. Participatory axis

The Geneva 2050 approach began with an extensive consultation of the population of Geneva, a consultation which was the subject of an initial summary report in November 2020. Since then, the Council of State and the various departments have multiplied the opportunities for co-constructing the Geneva of tomorrow with the population. The 3DD space is a perfect example of what consultation can bring both in terms of project design and the exchange of experience and skills.

The citizen forum, made up of citizens drawn by lot, has issued more than a hundred proposals in terms of sustainable development, proposals which have all been analysed by the State departments which have given them or which will give them the adequate follow-up. All major development projects are the subject of extensive consultation with stakeholders and the population. To go even further, the cantonal administration wishes to promote the forecasting process more widely.

Work will continue with the following objectives:

- Pursue participation in regional events (presented at the autumn shows, at the European conference on energy transition and as part of the EXPLORE festival, the approach is open to partners and the population).
- Promote the forecasting process by organising various actions and events for actors inside and outside the administration.
- Develop partnerships with similar initiatives undertaken, particularly at Swiss and cross-border level.
- Rely on Geneva in transition.
- Pursue partnerships with players in international Geneva.
- Co-construct the services delivered by the public service with the citizen, develop capacities to collaborate and consult with the citizen (simplification of the delivery of services, strengthening of agility, etc.).
- Highlight the 3DD space, a consultation space dedicated to participatory approaches. It promotes the sharing of reflections, actions and useful resources for acting together in the territories. 3DD is built with its users!
- Support the training of public service players in the development of new skills in connection with the citizen (improve the functioning of the public service and change mentalities).

## 3. Emerging theme axis

The creation of a Geneva 2050 forecasting commission is a key step in identifying emerging themes. New professions, new practices, new economic trends, citizen involvement, so many themes on which reflections have begun and for which the first avenues are being sketched out.

The importance of this work has increased further with the Covid 19 crises and the war in Ukraine, since the scenarios imagined and explored have been supplemented by concrete

and immediate realities. Exploration and anticipation are therefore now more than ever essential tools of good governance.

Work will continue with the following objectives:

### Preparing the professions of tomorrow and maintaining a competitive economy

- Identify the impact of new professions linked to the ecological transition on the local economy (relocation of activities).
- Promoting short production chains and issues related to the circular economy.
- Train the young generation in new professions allowing a circular and carbon-free transition and support employability.
- Identify the levers to encourage a responsible digital transition of the economic fabric.
- Identify new ways to maintain Geneva's prosperity for the future.
- Identify the framework conditions, new mechanisms and new sources of financing to ensure these developments.
- To maintain prosperity, what tax revenue to finance public transition policies?

### Maintaining quality of life: health, social cohesion, behaviour change

- Expand reflections on the theme of health not only from the perspective of ageing and COVID but also on how to consider health: from pathogenesis to “salutogenesis” and health behaviours that promote maintenance in health, in connection with the environment, food.
- Integrate these points into an awareness policy to induce a change in behaviour taking into account the “One Health” concept (WHO).
- Provide residents with the means to live longer in good health.
- Imagine new ways to strengthen generational solidarity.
- Thinking about resilience as a public policy tool. The current context, perceived as threatening for societies themselves, leads to an increasingly extensive use of this notion. It is accompanied by renewed approaches in terms of understanding and management, and needs new tools.



## Rethinking participation/strengthening the exemplarity of the State

Change governance models by giving greater importance to citizens' advice and scientific truths.

Identify the desired changes in relations at the different territorial levels: canton, municipalities, region, Confederation.

Strengthen the exemplarity of the State and attract talent (digital, ecological and demographic transition impacts the evolution of skills/training).

Adapt the operation of the canton's largest employer: what governance for public administration in 2050? Identify the synergies to be reinforced with the Council of State's "working differently" programme.

Develop skills as closely as possible to needs, commitment of people with real capacities for development, learning and plasticity, people capable of being trained in different professions.

Evolution / reinforcement of the exemplarity of the State: likely to attract young people in search of value.

- Rationalise and know how to develop know-how in connection with the public (accompanying, training, guiding) in close collaboration with the municipalities and associations to optimise all the systems in connection with public services.
- Imagine tomorrow's democracy: what new forms of participation, freedom, but also quality of information, media, identification of fake news, etc.?
- Education and training: what structure (public education, private or family education), what agility in a rapidly changing world? Also in connection with the professions of the future, what continuing education, and for how long. Is the current model still suitable and what disruption can distance training cause?
- Population and migration: Genevans leave Geneva, other people arrive; how to imagine a better democratic participation of foreigners?

## Eating, housing and getting around differently

• Slow down, adopt a more human pace, in the quarter-hour city... we need time for resilience, time that is not counted... this could be beneficial for health, (cf. pandemic) this will it make Geneva more prosperous?

• Increase the scope of reflection on international logistics (supplies, energy, storage and distribution of essential consumer goods). The energy crisis following the war in Ukraine could certainly have been better anticipated.

• Adapt travel without restricting activities and promoting good health conditions. Reflection to be carried out in the most inclusive way possible on "the inhabitants" of tomorrow.

• Imagine the future of the airport platform between federal constraint and evolution of the territory (towards what functioning and what new form of cohabitation with the territory?).

• Anticipate the scarcity of resources (water, agriculture, food, energy, etc.) and develop long-term strategies.

## Deepen reflection at regional and federal level

• Reinforce the reciprocal knowledge of the key players of the territory and the political authorities on the prospective in order to identify levers of collaboration, promote the transfer of know-how between these sectors thanks to new tools making it possible to develop innovative products or services and strengthen their competitiveness. In this regard, raise awareness of the SITG (territorial information service in Geneva) and its services.

• Co-construct with partners from the Geneva ecosystem who base their approach on forecasting and innovation. In particular, technological breakthroughs, population growth, the health crisis, the climate emergency and societal changes lead to an obsolescence of professional skills and knowledge. Given the fears of deskilling, individual downgrading, as well as the impacts on employment within companies, it seems necessary to address these issues.

• Co-construct with partners active in the field of the smart city, in favour of projects that put the city at the centre of the ecological transition. To preserve the habitat and control the impact of urbanisation, it is a question of promoting solutions that make a reasoned use of technology for the benefit of a territory open to all, which is resilient and tends towards carbon neutrality.

The College of Secretaries General of the Canton ensures the general management of the Geneva 2050 process. It validates the strategic orientations of the process presented by the Commission as well as the annual reports on the work to be submitted to the Council of State for examination.

The Commission includes representatives from all the departments (infrastructure department, land department, social cohesion department, finance department, public education department, economic development department, security, employment and health department). The process is co-steered by the infrastructure (DI) and land (DT) departments.

The Council of State would like to thank all the contributors to this project, the institutional, academic, associative and private partners as well as our representatives who have contributed to this process.

All detailed results are  
available online

## To follow the project

-  [2050.ge.ch](https://2050.ge.ch)
-  [Geneva 2050](#)