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CONTENTS

Foreword

There is a proposal that both forewords will be prepared by:

a) Małopolska Vice-Marshal Roman Ciepiela – as the WP 5 leader (Poland)
b) The Representative of the Leader of the Project (Germany)

Introduction

There are a lot of various strategic documents at European, national and even regional[1] and local levels across the whole continent which try to deal with demographic change and with recommendations on what should be done and why (at least for some countries in Europe). Nevertheless in many places in Central Europe, policy makers still lack awareness about demographic change and possible solutions and strategies which they can use at once in their everyday work. Such documents should open the mind for new activities which are necessary due to demographic changes and not treat the demographic change as a problem but as a challenge or as an opportunity.

Many projects or initiatives dealing with demographic change address a limited number of topics. ADAPT2DC is unique in the sense that it addresses a wide variety of topics. It investigates the adaptation to demographic changes at local/regional level in Central Europe in the field of social and health care, public buildings, transport and technical infrastructures. Dealing with demographic change needs a holistic, integrated and multidisciplinary approach in order to be able to make sound evidence based decisions and find cost–effective solutions. But there is also a need to take into account that economic crises and/or even worse economic situation can influence policy decisions also those which have impact on adaptation to demographic changes.

The aim of this document is to give a better understanding for necessary changes in regional policies in the short (up to 2020) and long term (beyond 2020, at least till 2030).The recommendations aim to suggest solutions which could be used *from today* to be better prepared for the demographic change *in future* but in more detailed way the Transnational Action Plan[2] and related to it the Regional Action Plans[3] of all engaged in the project countries will give more concrete solutions what could be done and by whom in their places and also beyond.

However, when we want to make suggestions for future policies dealing with demographic change in different areas, cities, villages and rural regions, we always have to regard the respective levels of governance. There may be national policies, there may be regional policies as well as policies on a local level. As ADAPT2DC is a transnational project funded by the InterReg-program[4] we decided to mainly address the regional level (see explanation in Annex).

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[1] See: The Transnational Review of European and Regional Strategic Documents on Demographic Changes (Appraisal of advantages / disadvantages – 5.2.10). [Link to web page of the project and adequate link]

[2] [Link to web page of the project and adequate link]

[3] [Link to web page of the project and adequate link]

[4] Link to the InterReg programme

Despite the rules how to consider in such documents the regions itself (like NUT-1, NUT-2, NUTS-3), there are still many regions that fail to be easily classify according to just statistical division due to different level of governance. Moreover, the geo-administrative criteria followed in each country have produced a wide variety of regional sizes (in terms of both population and surface area)[5]. NUTS system is not sufficient to mirror the diversity and heterogeneity of the European regions and the NUTS level are not identical with actually existing regions. In the EU there is a diversity in the political structure that can be observed in the different existing forms of the state or government, i.e. there are unitary, federal and quasi-federal states. According to these different specifications, there is also a different allocation of governmental activities between the central government and regional units. This is an additional challenge for such documents like one European and transferable strategy which applied to all regions and be at once unique for those which experience their own problems.

Therefore in order to recommend good solutions and analyse possibilities of policy implementation current legislative and executive powers of various governance levels must be taken into account. Common rules are very difficult to implement and in some cases can interfere in the internal arrangements regarding decentralisation in different member states. The impact is experienced at different levels – executive, legislative or political – depending on the particular system of decentralisation of each member state. Despite the aim of ensuring that regions of comparable size appear at the same NUTS level, each level contains regions that differ greatly in terms of area, economic strength, administrative powers, and even population (see Table 2 and Annex).

We therefore decided, to concentrate in all involved countries on NUTS 2 und NUTS 3 as the most important levels for successful regional measures and policies, but will also indicate how the state can assist the lower level to introduce necessary, good for citizens and also cost-effective solutions. However, despite of assessing European, national and regional documents and policies these recommendations should be linked to the local ones and have together the joint impact of the policies which finally will take place on the local level.

The European Strategy is so designed as a document which carries the most important message from the whole ADATP2DC project and presents the main outputs of all phases of the project to make this document a kind of memorandum which should prove useful for as many as possible authorities in Central Europe countries and maybe even beyond.

[5] Pavía, José M.; Larraz, Beatriz, *Regional Size, Wealth and EU Regional Policy* Investigaciones Regionales, núm.23, 2012, Asociación Española de Ciencia Regional Alcalá de Henares, España, p. 128

Chapter 1: Demographic change in Central Europe and related policy response

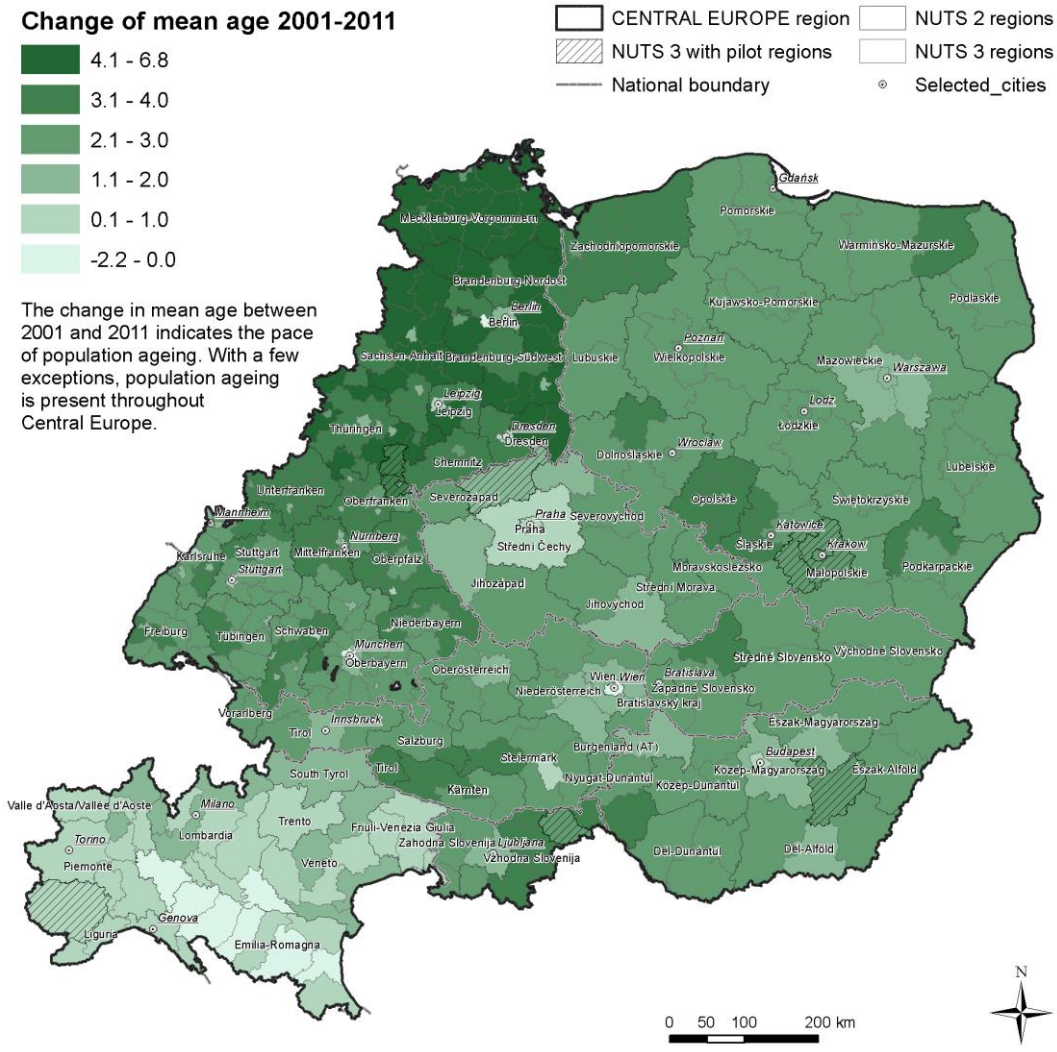
1.1 Demographic facts[6]

Key trends in demographical development in Central Europe include above all an increase of longevity, persistence of low fertility levels, continuing population ageing and shrinking. The positive increase of **longevity**, which reflects more quality life conditions of past generations, means longer life expectancy but also changing demands. The **fertility** levels are below replacement level in all Central European member states in medium-term perspective. Insufficient reproduction of population will inevitably lead to a reduction of total population in the next years. The **in-migration** from other countries is because of many reasons, including lack of attractiveness in labour market opportunities, in living conditions and in lack of good enough quality of life. The migration so is limited due to various financial and integration issues. But this in-migration has a limited mitigating impact on demographic change. Migration within Central Europe cannot balance population change; traditional source regions of migration are facing the same or major demographic challenges as target regions. Under such conditions population ageing and diminishing of total population is to be expected.

The **spatial dimension** of demographic change plays a crucial role in demographic development *per se* and also in related policy response. Population **ageing** measured by value of mean age is widespread in almost all regions in Central Europe (see Map 1). There is a convergence trend in ageing as the regions with currently younger population will experience faster population ageing in next decades. Continuous decline in number of young cohorts together with parallel population ageing will create more pressure on welfare system redistribution and reproduction of human capital in general.

[6] More and detailed analysis could be found in the D3.1.5: Comparative socio-economic background analysis of shrinking regions and cities in Central Europe.

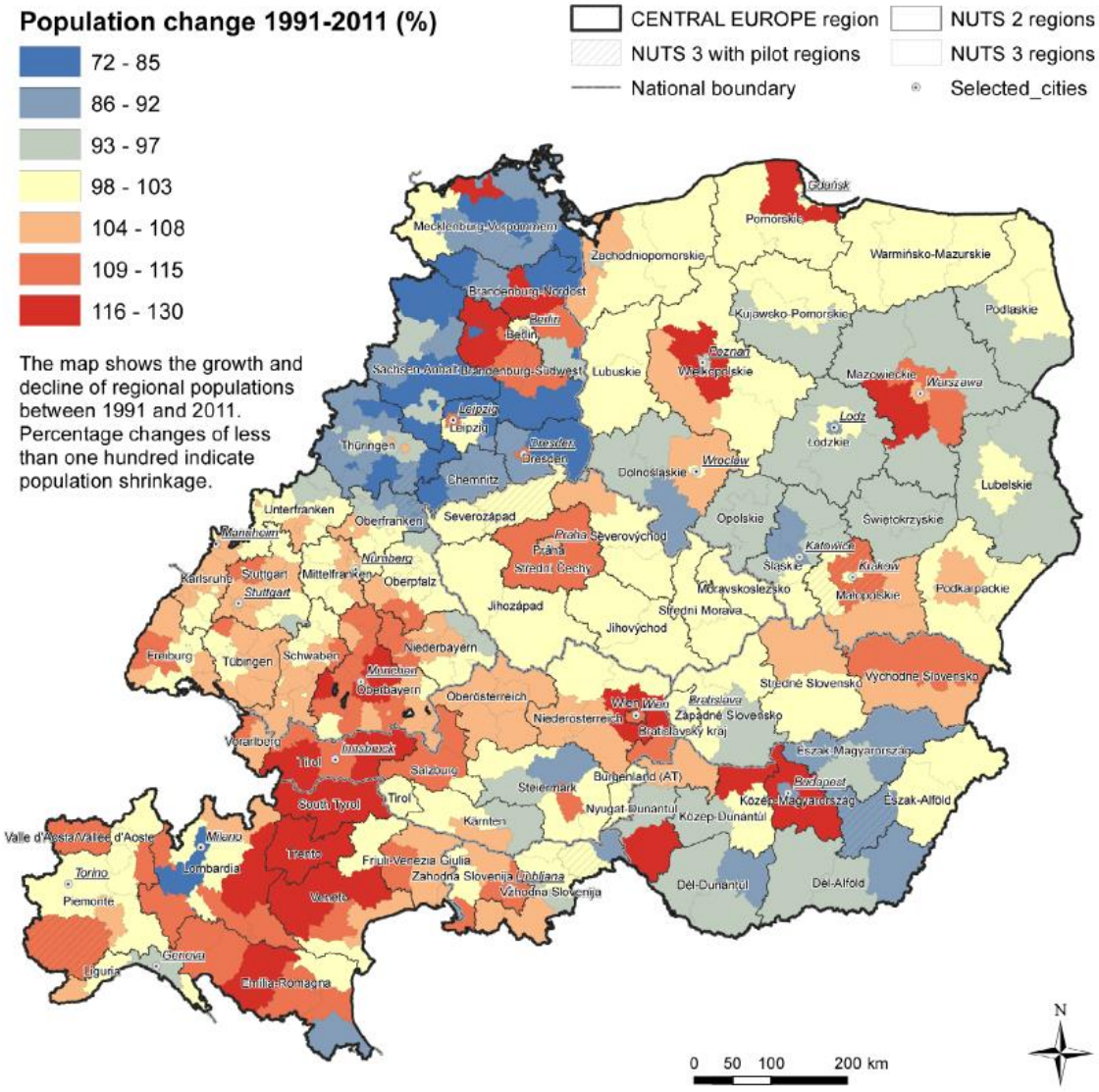
Map 1. Change of mean age in 1991-2011 in Central Europe region.



Source: based on D.3.1.5.

Population **shrinkage**, which is defined as a relative decline in total population size in a region in a ten year period, is more spatially selective than population ageing (see Map 2).

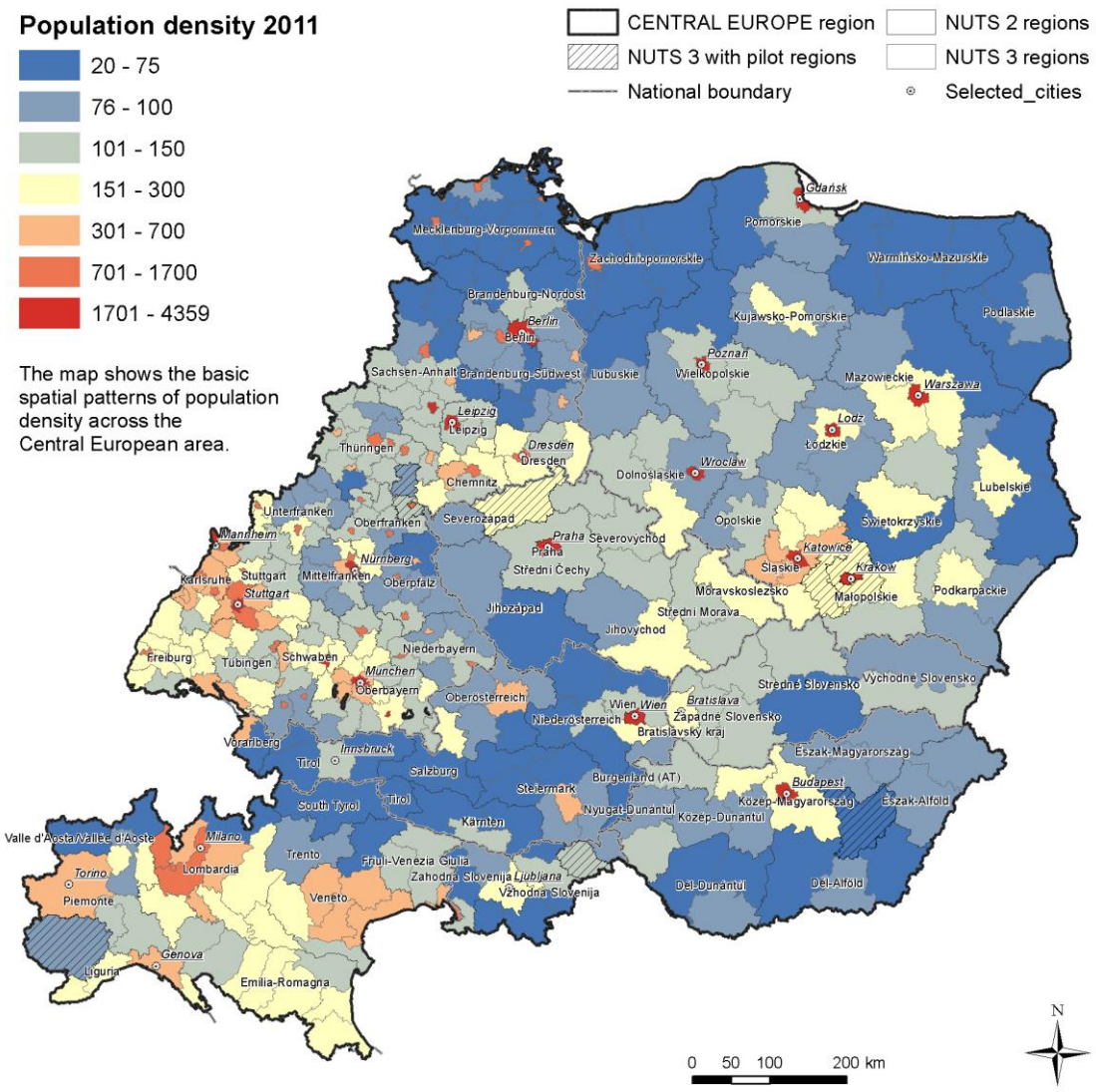
Map. 2. Population change in 1991-2011 in Central Europe region.



Source: based on D.3.1.5.

Regions (and surrounding areas of the cities, capitals of some regions) more attractive in view of labour market opportunities gain while those which cannot offer enough good and well paid jobs and also related to it good quality of life loose. National metropolises and several second-rate metropolitan areas also show population growth. The remaining non-metropolitan areas have a stable population or are experiencing population shrinkage. It should be stressed that not all rural regions show similar population development because of varying demographic structures and inherited infrastructures. Contemporary population developments are shaped among others by the changing economy, the environmental qualities of regions and the accessibility to metropolitan areas. But, in principle, sparsely populated rural areas are more vulnerable to population shrinkage because of their general lower population density than urban and metropolitan regions (see Map 3).

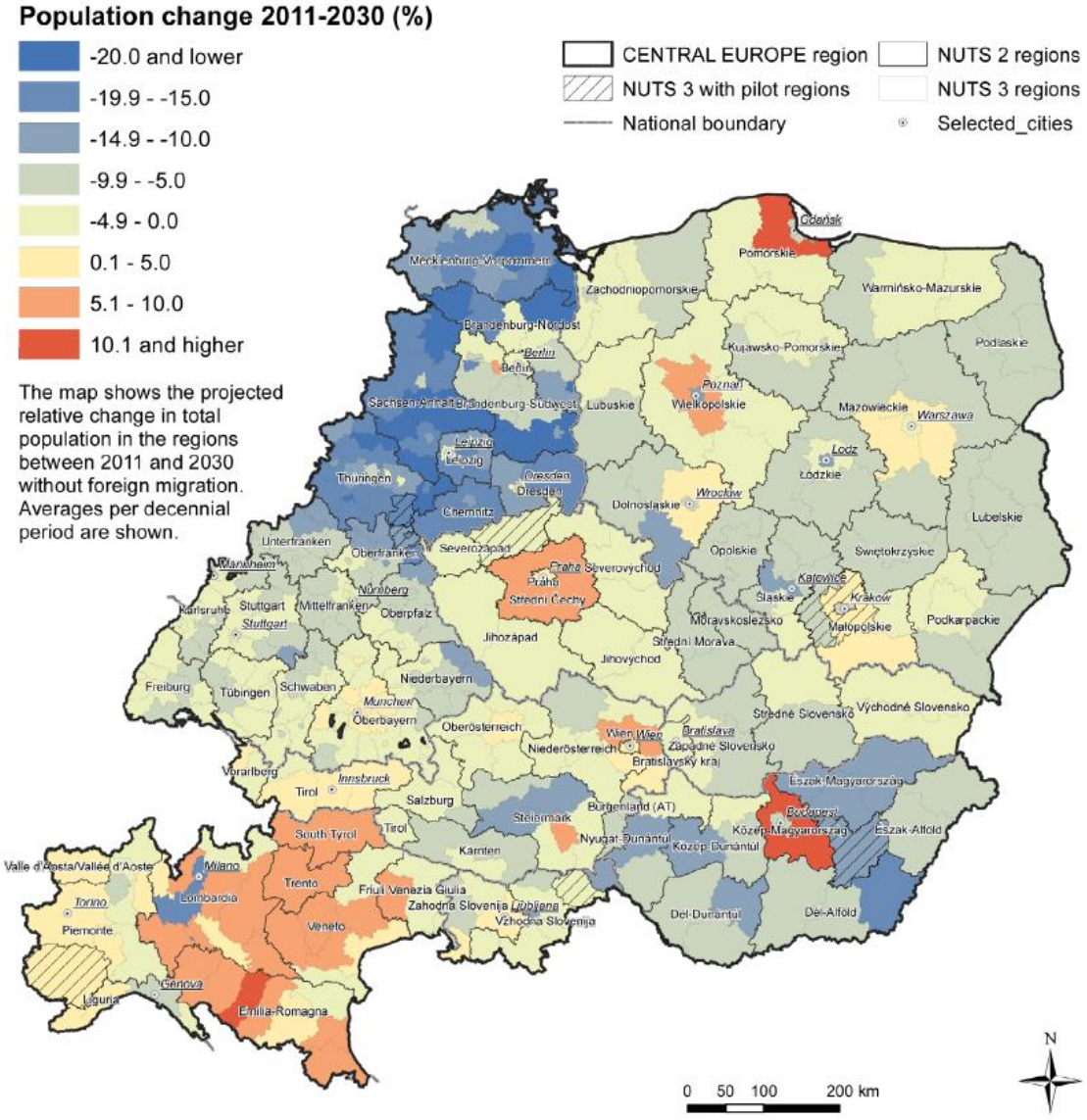
Map 3. Population density in Central Europe region (year present and future).



Source: based on D.3.1.5.

Population projections for Central Europe show a persistence of low fertility levels which in turn restrict population development into stable or declining trajectories in a majority of regions (see Map 4). Migration is unlikely to change this pattern in a short-term period. The effects of demographic change such as population ageing and population shrinkage will become even more relevant in the next ten years. Further management of population ageing and mainstreaming of population shrinkage is to be expected.

Map 4. Population change projection 2011-2030 in Central Europe region.



Source: based on D.3.1.5.

1.2 Impact of the demographic change on policy

The contemporary demographic situation in Central Europe is a basis for social and economic development in the area. The shifting population cohorts in a majority of regions leads towards older and less numerous populations. This development poses a serious challenge as well as opportunity to governance at all spatial levels. Policy and planning tools can help adapt to the changing demographical conditions and secure more cohesive and resilient European communities.

Demographic change poses a **serious challenge** to a whole array of life conditions. Ageing and diminishing population might lead to: decline in tax revenues for municipalities; a decline of economic competitiveness due to labour shortage and rising welfare costs; disruption of social cohesion between generations stemming from conflicts of interest in welfare system redistribution between young and old (young unemployment, pension and benefit systems, etc.); bankruptcy of municipal and regional governments because of growing per capita costs for service and infrastructure provision; overall decrease of quality of life considering lower availability and accessibility of services and infrastructure; acceleration of polarisation between leading and lagging regions.

The demographic change *per se* is shaping several mutually interrelated realms of everyday life in localities and regions. From **social perspective** fewer and older population living in an area will lead to changes in consumer demand in services as well as local housing market. Maintaining availability and accessibility to convenience goods for old people will be crucial considering current policy position where “ageing in place” is preferred. **Economic impact** of demographic change in regions will mainly be a decrease of funds available for service of general interest (due to decreasing tax yield) and also increasing per capita cost. These trends can be mitigated by cost-saving solution in infrastructure and service provision and innovation in service management. Changing supply and demand of the population for services and infrastructure might lead also to spatial mismatch. The increasing per capita cost for provision and maintenance of infrastructure are also expected in case of **physical infrastructure** such as roads, water and sewage infrastructure, housing and public buildings. The inherited structures designed for higher population numbers might imply a long-term burden for service providers and operators including public administration. From policy point of view it is important to highlight, that under shrinking conditions infrastructure is a pull factor for migration in a different sense than usually conceived. It means that new and better infrastructure will not reverse the patterns of population decline but in the past it worked.

The availability of certain type of infrastructure might lead to population redistribution at local level, but not to reversal of general shrinking patterns. From **regional policy** point of view a rationalisation of service and infrastructure provision is a technical as well as political issue. Whereas a need to optimise costs is usually well understood the decision where the change should occur is highly contested. In ageing and shrinking regions such distribution discussions under the headline “Not In My BackYard” will be common. It creates further pressure on solutions driven by stakeholder cooperation and regional governance. In

conclusion, the effects of population change such as ageing and shrinkage will become even more relevant in the majority of regions in Central Europe in near and midterm future.

1.3 The European strategic documents related to demographic changes[7]

Demographic change is a cross-cutting issue tackling various fields of policy like public finances, employment, social protection, immigration and family policies at different levels of governance including a supranational one. Although the EU competences on demography are rather limited the organization has been active in elaborating policy responses concerning problems of the changing population age structure change since the 1990s. Demographic problems were acknowledged to be a serious challenge for the EU in the **Lisbon strategy** which called for increase in employment of older workers. In 2004 the High Level Group on revision of the Lisbon strategy recommended development of a more comprehensive active ageing strategy by 2006. Of the five headline targets of the **EU 2020 Strategy** three are related to the issues of demographic change. The Innovation Union that belongs to the flagship strategies within Europe 2020 comprises the **European Innovation Partnership on Active and Healthy Ageing** which has been selected as a pilot to tackle the challenge of an ageing population.

The European Commission is active in addressing demographic changes at the European level and formulates the EU policy guidelines in this respect. An intensive debate on this subject was initiated by the Commission in 2005 with the Green Paper "**Confronting demographic change: a new solidarity between the generations**". According to this document Europe should pursue three essential priorities: return to demographic growth, ensuring a balance between generations, and finding new bridges between the stages of life. In 2006 the Commission set the core policy directions related to demographic future of Europe which refer to demographic renewal, employment, immigration and public finances. The issue of an appropriate family policy taking into account demographic changes was raised in 2007 (**Promoting Solidarity between the Generations**). Social considerations with respect to the labour market and long-term care needs of ageing workers have been the most important topics discussed by the Commission in the document "**Renewed Social Agenda**". The current policy debate revolves around active and healthy ageing. This was reflected in proclaiming of the year 2012 the **European Year for Active Ageing and Solidarity between Generations** (Decision 940/2011/EU) aiming at changing attitudes towards older people, engaging all levels of society in an effort to offer better opportunities to older people to remain active and to participate as full members of society alongside the younger generations. It could be noticed that the at European level more focus is on social policy agenda - not on infrastructure - related to demographic ageing per se, but it also shows a lack of such direct links in other European documents to the topic.

Additionally, the European Parliament and the European Economic and Social Committee draw attention to the **regional dimension of demographic challenges** and their importance for the EU cohesion policy. In this regard the European Commission supports this view noting that "*regions with declining populations consisting mainly of senior citizens will face difficulties in supplying essential public goods and services, such as health care, housing,*

[7] All mentioned here documents and others related to the topic are listed in the Annex.

urban planning, transport and tourism services". The European Commission called the Member States to ensure that operational programmes support initiatives of regions to meet the demographic challenges. Explicit measures to be realized at the regional level and related to demographic ageing are included in the document "**Regions for economic change**" COM (2006) 675.

As the European Parliament considers that regions should pay more attention to the problems of ageing and dwindling populations and adapt their development strategies, implementation of these strategies should be supported by the use of the structural funds. In 2010 and 2011 the European Economic and Social Committee elaborated several documents addressing demographic challenges in perspective of health and welfare systems, immigration, family policy and the labour market. It stressed the importance of involvement and participation of older people in labour market and in society but not only, as well female labour participation is important for economic development (Martinez-Fernandez, 2013). Responding to the European Year of Active Ageing and Solidarity between Generations the European Economic and Social Committee proposed numerous initiatives related mainly to the problems of older citizens. The Committee identified four areas crucial for active ageing policies implemented at the regional level. They include: access to social services, mobility and accessibility of transport, adapted housing for the ageing population and participation in community activities.**The ageing dimension is much elaborated in EU policies, but what here in this ADAPT2DC project was specific that there was more focus on adapting infrastructure to demographic change and taking into account the change of the various services cost.**

As on EU-level, policies and strategies have already been developed in order to cope with demographic change (see chapter 2 of the Position Paper and Review of the Strategic Documents[8] related on the demographic change), nevertheless the project team of ADAPT2DC is convinced that it is necessary to develop more advanced policies and recommendations, especially highlighting the consequences demographic change will have for the provision, management and financing of public infrastructures and services in shrinking regions and cities in Central European regions.

The existence of fundamental infrastructures and services such as roads, a functioning public transport system, day-care services for the older people or doctors are decisive when it comes to retaining and/or attracting residents to regions and cities. Therefore it is important to think about innovative ways of providing, managing and financing infrastructures and services also under shrinking conditions. The Position Paper[9] was helpful in this respect as there was presented general recommendations for the handling of demographic change through policies and there were given specific recommendations for various infrastructure areas and it was the basis for the development of this European Transnational Strategy for tackling the consequences demographic processes will have for the provision and financing of public infrastructures and services.

[8] See chapter 2 of the Position Paper and Review of the Strategic Documents.

[9] See Position Paper of the ADAPT2DC project - link

Summing up, there are already a lot of initiatives, projects and strategies related to the topic at European as well at national or also regional level. In general, such trend could be found across Central Europe but as well in some regional perspective the picture is different. Cost-saving policies instead of ethernal growth policies are still marginal. And there is a need to promote solutions how to effectively and successfully adapt to demographic change. The following chapters offer some of these solutions in the fields health care, social service provision, mobility and transport, public housing and other technical infrastructure.

Chapter 2: Policy recommendations in relation to demographic changes

2.1. General recommendations

From policy perspective it is crucial to acknowledge in strategic and planning documents that a path of demographic development is very robust and it is unlikely to change in a short term perspective. And one of the first general recommendation is that **demographic projections should be included in various regional policies, not only those related to social and health issues.**

In the course of the ADAPT2DC project it became evident that the availability of data concerning the costs of infrastructures and services shows large gaps, especially if we would like to take additional into account the issue of demographic change. Statistics on socio-demographic developments are available at European, national or regional level, but as soon as the costs of infrastructure provision are concerned, hardly any comparable data exist at all. In all the investigated fields, from social service provision, education to health care, from water provision to transport there are situations that some data are available but they are not comparable. Additional, if even some data are available and even comparable but they are not easily transferable to teritorial units with matching to the real policy making (and governance possibilities). And if some data are available and even transferable, they are not updated and in fact in policy making at local level they are useless.

An additional difficulty in this regard is that these services are provided at different governance levels in the different countries, so that it may be difficult to compare the data across Central Europe. In order to analyze spending on infrastructures in comparative perspective, it would be highly desirable to gather this type of data in a local and then regional central manner (then at national level, later, if possible, a European comparison could be attempted).

Therefore, general recommendation is to **enhance data collection on income and expenditure for infrastructures** in a comparative and systematic, updated way which will include also a possibility to make projections of these flows with taking into account changes of population. However, not only improving data collection is needed but even more also better use of available data by policy makers at various levels of governance.

Other "general" points can also be derived from the project based on Position Paper findings:

- *Acknowledge the reality of shrinkage*: although shrinkage has been a reality in many places for years, the political discourse is often still dominated by notions of "growth" – a more realistic discussion would be helpful.
- *Long-term thinking is necessary*: the process of demographic change will in all likelihood continue for the next decades – therefore the planners and policymakers must keep this in mind when deciding the design of infrastructures.
- *Cooperation and coordination between municipalities should be improved*: any competition (for inhabitants or for companies) is expensive and leaves losers. Cooperation is in many cases more efficient.
- *"Compact growth" instead of sprawl*: As far as settlement structures are concerned, the development of town centers should come before the development of suburbs.
- *Holistic* thinking *and then actions*: Interventions in one field often have effects on other fields. This is true horizontally (for instance for different fields of infrastructure) but also vertically (changes at higher levels of governance influence the lower levels).

2.2. Health

The challenge

Demographic changes, namely population ageing and population shrinkage, have the most serious impact on health care sector. Growing demand for health care services increase per capita costs while rationalisation of health service networks worsen accessibility for its users. More and more elderly people (including those in need of care and support) increase the demand for certain health care services. At the same time, this augmented demand increases the implementation and operating costs of the overall system of services that all of the Central European governments have to guarantee to citizens as an obligatory responsibility of the welfare state. The public health care sector thus needs to be constantly adjusted taking into account not only the needs of growing group of senior citizens but also financial constraints. However, the adjustment and development of health/medical care services could also be treated as a unique opportunity to develop the "white" sector[10] of the economy.

Population shrinkage creates the problem of how to maintain medical and health care services in an increasing number of poorly-inhabited areas, mainly localised in the countryside. In these locations, in fact, a shortage of medical staff has already been diagnosed, and a further decrease in the numbers of doctors, health care specialists, nurses, and carers is forecasted.

[10]White economy" refers to those products, services, and activities related to health care and care including dependent, disabled and the elderly (OECD).

Moreover, in many Central European countries demographic change challenges occur in health care systems that are already neither effective nor efficient, where solutions which are innovative and based on modern technologies are neither affordable nor accessible.

To sum it up: The challenges in the area of health are not only related to citizens' accessibility of services (especially in shrinking areas and areas with a significant number of elderly people) but also to their affordability.

Current solutions and good practices

There are already various solutions and good practices in the area of health, which are accessible and cost-effective. Even though there are different national, regional and sometimes local governance and financing systems of health care in Europe, some good examples may be found which can provide inspiration for local and regional governments on how to deal with the demographic change with regard to health care.

Based on the analysis carried out within the ADAPT2DC project, some good practices has emerged, which show that it is possible to deliver affordable health services even in rural and low-density regions, such as:

- **Mobile medical doctors**[11]

The opportunity to check citizens' health conditions at their place of residence instead of compelling them to travel to health centres offers new possibilities for treatment, but also disease prevention, to people who have difficulties accessing the health centres regularly (residents of rural areas, disabled, dependent, and elderly people). Some initial investments may be necessary (like an equipped car), but in the long term higher benefits will result from the improvement of the general health status and the decrease of the costs of hospital treatments in serious cases.

- **Highly – specialized medical and health care services in one place** (e.g. ambulatory health-care centre)

The spatial concentration of highly – specialized medical and health care services in one single place permits to provide services at lower costs (for instance via the common use of equipment and the sharing of overhead costs such as administration costs and rent).

- **ICT (innovative) solutions in health care services (prevention and treatment)**
  The use of innovative technological solutions can enhance the effectiveness, efficiency, and accessibility of health services in several fields:
  - **Patient's prevention** (using telemedicine in prevention[12]),

[11]See The Best Practice Catalogue O 4.1.1. and following links: Competition BMVBS 2011 "People and Success" http://www.menschenunderfolge.de/beitrag.html?frame=../../db/frontend.php/api/detail/id/751, http://www.eler.brandenburg.de/sixcms/detail.php/492304

- **Patient's treatment** (using ICT in medical emergency supply),
- **Consultation between patients and doctors** (especially at low-density and rural areas),
- **Consultation between doctors and other medical staff,**
- **Consultation between medical staff and patient's families**.

- **Attracting medical staff** to low-density, rural, and depopulated areas by:
  - *developing scholarship schemes or other incentives* for doctors (especially younger ones) which allow to maintain medical services (as example "Thüringen Stipendium" - Germany)
  - *mentoring system* (younger and experienced doctors collaborate) that could facilitate the process of integration and support of the staff in the field of health care (called it as "Family Doctor Academy"[13])

However, it has to be stressed that in giving recommendations in this field there should be taken into account that:

- *Various systems of organization* (referring to funders, providers, and end-users) of health care services exist in Europe, which are not directly regulated by the EU
- The costs of health care provision are taken into account in national regulations with aim to manage the system as effective as possible (better quality with the cost-effective perspective)

Recommendations

Future solutions for health in the face of demographic change (including ageing) in Central Europe have to consider the accessibility of health infrastructure and the provision of adequate health options for people who need them, especially in rural and low-density areas.

Therefore the following recommendations can be given:

1. At the European and national level, future programmes and initiatives in health care sector should include not only the reference to recognized and confirmed solutions (best practices) to respond to the forecasted higher demand for services by elderly and dependent people, but also solutions on how to improve accessibility and affordability of the services with the indication of who should be responsible for their provision in longer perspective.
2. Concerning health care, the national regulations should be carefully examined and, if needed, adjusted to give possibilities for the provision and the financing of new, innovative solutions (for example telemedicine and telecare services) which could be less expensive than currently used.

[12] Link to the Pilot Action, Małopolska, www.adapt2dc.eu

[13] Link to the practice "Family Doctor Academy" in the Best Practice Catalogue

3. Due to demographic changes, in particular ageing, special support should be given to medical education system and not only supporting geriatrics and gerontological teaching but mostly including different methods of effective and attractive education, like learning by doing, mentoring (with experienced staff), special scholarships for new professionals, and using IT technologies.
4. In some Central European countries, regional and local authorities could be more active in organization cost-effective ways of delivering health care services to their inhabitants. The existing good practices in health care (not only from Europe but also from outside) should be actively and widely disseminated especially among policy makers at different level of governance, who are primarily responsible for actions in this domain. For instance:
    - Concentration of medical specialists in central places (central locations which can easily be reached by a number of inhabitants of surrounding areas)
    - Where possible, support the appointment of community nurses / mobile care assistants for general practitioners (these nurses are working for a particular practice and they unburden the doctor in the home visits by taking over those home visits where a medical degree is not necessary / basic care tasks)
    - Usage of new communication technology for remote areas (telemedicine) + usage of "Ambient Assisted living" systems to enable people to stay in their own homes longer
    - Ensure coordination between regional health care and transport providers (so that health centers can be easily reached even without car)
    - Mobile units (either in the form of a "mobile practice" or in the form of a mobile treatment unit which can be rented by different doctors from the medical association, for instance)
    - Support for those (particularly young) doctors who wish to open a practice in rural remote areas (it can be monetary support but it does not have to be - also help in finding a flat or an office building, help in finding childcare, special offers of the municipality)
    - In order to counteract the decrease of doctors in rural areas: raise incentives for graduates to work in rural areas already during the medical degree (either linking scholarship programmes to the commitment to settle down in a rural area or by introducing quotas for "rural doctors" into the student body)
    - Raising awareness for the needs of employees who are informal carers for relatives
    - Support of (or raising awareness for) alternative living forms for seniors, such as "pensioners flat-share" or assisted living (in order to postpone the moment when a person has to move to a care home)

However, we should remember that best practices face the limits of transferability due to different legal and financial systems and different modes of governance.

2.3. Social service provision

The challenge

With a decrease of income for shrinking municipalities, a range of social services are at risk. Financing oversized social infrastructures is in contrast with the decreasing number of population. To satisfy the needs of various groups (such as elderly, children and disadvantaged persons) is a challenge, seeing that managing of different social services (i.e. care homes, schools and day-care services for children, elderly etc.) in parallel is necessary.

The citizens demand the maintenance of a high level of quality of certain services, whereas authorities have to deal with decreasing income to finance them. However, focusing only on financial aspects without paying attention to the quality of life can threaten the operation of social services and make citizens (especially young families with children) more willing to move to the places where such services are maintained and available. Private contributions such as donations can make a difference, but they are not possible and also available everywhere.

Even though the number of various groups is decreasing in many municipalities across Central Europe, this does not diminish the need for financial resources. In some cases the centralization social services (along with the closing of some of the not profitable institutions) can save operating costs for the relevant municipalities. But evidently this process has limitations, seeing that centralization of services also creates problems for mobility for citizens (including longer travel distances, additional and higher costs etc.).

One of the challenge is so to provide accessible, available and affordable social services for the citizens with a cost-effective way.

To sum it up: It is a challenge for authorities to provide the same – good enough - quality of social services for inhabitants in shrinking population areas in a sustainable way while local incomes from taxes are decreasing.

Current solutions and good practices

Some good practices already exist which enhance cost efficiency in the field of social services provision in shrinking areas:

- *Involving citizens as volunteers*

  A regularly applied solution in many countries to decrease costs is to create flexible organizations via activation of voluntary work by citizens. Resources of civil society were involved in financing social system to reduce and supplement public expenditures.
- *Creating new ones and/or adjusting already existed organization of care (for children[14]) and for elderly*[15]

  There is a possibility to find savings in organization of care for children but also for elderly by different and cost-effective, integrated services for such groups at local

[14] As example please see the Pilot project in the Jászság - "Promoting the return of women to the labour market by launching integral nursing services for children", LINK to the pilot project from the web page.

[15] http://www.adapt2dc.eu/adapt2dc/BestPracticeCatalogue_WP_4_1_1.pdf

level. It includes solutions at citizens' place of living (their homes) and in the special daily centres for children and for elderly with various services available.

- *Utilising abandoned buildings*[16]
  It is recommended to use older estates instead of building new ones, mainly if these items are owned by local governments. Thereby, the municipality does not only save the costs of building an entirely new institution, but also addresses the problem of unused decaying buildings in the town centre. Feasibility study should be used to decide this question in particular case.

- *Multifunctional community centres*
  Creating community centres (central meeting points) where citizens can keep in touch together and where different services are offered to inhabitants in the same spot (e.g. meeting rooms, ICT items, offices, learning centres, consulting).

- *Integrated spaces for the elderly and the youth to take part in common activities*
  As it was presented in detail in the best practice catalogue, it is practical to combine services of elderly and child care institutes or schools where different age groups can share experiences, knowledge, give advises to each other or take part in common workshops/activities (intergenerational cooperation/communication).

Recommendations

Solutions should react to demographic changes by taking into account the lack of resources, the changing needs of a society for social infrastructures and flexible organizations and diversified financial models are required.

The following recommendations can be determined:

1. At European and national level a radical change is needed to replace growth-oriented strategies into qualitative decline-oriented methods in social infrastructure.
2. Adapted solutions would be effective only in case local, regional and national policies co-operate and the different levels respect the initiatives of each other. There is a need to change attitudes of policy-makers to adopt sustainable solutions, build up co-operation with citizens.
3. At local level an important step is to identify demands of citizens, in order to realise which social services and infrastructures are relevant to secure in a longer term, what are the necessary types of social services to preserve communities which suffer from demographic change.

[16]See, the case in Nowa Huta, Cracow, Małopolska, (Poland), "Malopolska Region Demographic Transition: Working for the Future", Perek-Białas, J., C. Martinez-Fernandez and T. Weyman *OECD Local Economic and Employment Development (LEED) Working Papers*, No. 2013/06, OECD Publishing. doi: 10.1787/5k4818gwg2jk-en

http://www.adapt2dc.eu/adapt2dc/BestPracticeCatalogue_WP_4_1_1.pdf

- *Adapting flexible organizations connected with demand responsive social care services*. For instance integrated community centres where different types of services are situated in one centre can save on the maintenance costs that would normally be necessary if all these services were maintained separately. Another example is the combination of schools with kindergarten/daycare services, in order to benefit from common overhead costs.
- *Diversify financing via involving various resources* (not only public but also private),.
- *Utilise redundant capacities*, use available items and support investments in quality improvements to reduce operating costs.
- *Fostering civil participation* in managing demographic changes, involve voluntary engagement. In the case of childcare: actively involve parents and grandparents.

2.4. Transport and mobility

The challenge

Mobility – i.e. the possibility of every person to get access to goods and services, to employment and education – of the residential population is a main determinant for quality of life and a precondition for any sustainable regional development. In addition to the decentralised provision of the above mentioned services the transport system plays a crucial part for accessing these offers.

As shown in chapter 2 many parts of Central Europe are facing a decline as well as an ageing of their population. In all political fields due to the decreasing demand the decline of population requires an adaptation of capacities either for economic or for technical reasons (or for both). This also applies to the transport system, where the affordability of the technical infrastructure as roads and road maintenance, railway lines, regional airports or public transport has to be thoroughly questioned. On the other hand in CE the rural areas with low population densities are especially affected by demographic change. In those areas due to the very low demand the supply of technical infrastructure is already often not satisfactory – a further decline of supply is almost not possible without cutting off entire regions from a basic accessibility.

Finally the ageing population leads to changing mobility patterns of the local population: Less pupils, less people in education, less people in employment mean a significant decline of demand in public transport and threaten its economic viability above all in rural regions. On the other hand the relative and absolute increase of older people can't compensate for this lack of demand for public transport as this age group tends to be less mobile, has more diverse targets and will consist more and more of learnt car users.

To sum it up: The challenges for transport and mobility lie besides the general affordability of transport infrastructure and networks in the provision of public transport in low density areas for inhabitants.

Current solutions and good practices

In the past two decades a considerable shift between the transport modes has taken place from rail to road, which was supported by the following European and national transport policies:

- High investment, modernisation and extension of the road network esp. concerning motorways on a supraregional scale (mostly co-funded by ERFD)
- Modernisation of parts of the rail network on a supraregional scale (mostly co-funded by ERFD)
- Closure of many railway lines on a regional level
- Modernisation of many urban public transport systems
- Reduction of public transport supply in many rural areas
- No consistent policies so far to adapt the regional and local road network to the declining population

As a consequence of these policies the interregional connectivity in Central Europe has been improved significantly at the costs of very high public expenditure mainly for road transport (to a lesser extent also for rail). The growing motorisation of major parts of the population resulted in an improved accessibility and mobility for many people. However, the situation for people with no car in rural areas has deteriorated since and is still the main challenge.

Good practices to improve public transport in rural areas at comparably low costs are:

- *Integrated transport planning*
  This attempt of including all modes of transportation (car, non motorised traffic, PT) and all levels of governance is probably the most important one. The best practice catalogue shows different solutions either improving quality and accessibility via various means of transport or cutting costs without reducing the standards of Public transport.
- *Combined school and public passenger transport*
  The example of opening school transport to the public is a very important solution for securing transport and mobility in rural areas.
- *Combined freight and passenger transport*
  This has been a well-known solution for decades in many countries and is still practiced in Switzerland and Austria. In some countries combined freight and passenger transport is currently being tested.
- *Demand responsive transport (DRT)*
  This established and well investigated solution for rural areas is a possible backbone of public transport in rural areas.
- *Citizen Buses*
  This issue is shown in the best practice catalogue with many interesting examples dealing with local civil initiatives.
- *Rural car / ride sharing schemes*
  These attempts also can be subsumed under the roof of solutions by the civil society. In many “old” member states of the EU car sharing schemes as well as ride sharing are booming due to the possibilities offered by the internet.

Recommendations

Future solutions for transport and mobility under the conditions of demographic change in Central Europe have to regard the future affordability of transport infrastructure and the provision of adequate mobility options for non-car-users in rural areas. Therefore the following recommendations can be given:

1. At a European and national level all investment in TEN-T or national transport infrastructure should be checked under aspects of future affordability: Will there be sufficient demand for new infrastructures in 25 years? What operational costs will incur? Who will pay for it?
2. Concerning public transport the national law should clearly foresee which governance level (PTA – Public transport authorities) has responsibilities for the provision of such offers. These levels have to be endowed with adequate financial resources.
3. At a regional and local level a cost effective public transport in rural areas (beyond the provision of decentralized services as recommended in the other chapters) should be organized by these PTAs around the following issues:
    - *Integrated public transport planning*, i.e. integration of all means (rail and bus) in one plan to avoid non efficient competitive supply.
    - *Bundling of demand as much as possible*, i.e. integration of public and school transport or – if possible – freight and passenger transport to secure maximum capacity utilisation
    - *Flexible and demand responsive public transport* (including taxi services) in areas of very low demand to secure a minimum level of public service
    - *Encouraging civil and/or market driven solutions* as citizen buses, car sharing/ride sharing schemes etc. These solutions may be difficult to be introduced but may have very positive side effects concerning the local identity and the social cohesion of the residents.

2.5. Public buildings and housing

The challenges

In case of publicly-managed buildings, the effort of municipalities to minimize (or at least reduce) the financial costs associated with operating and maintaining such buildings, plays a major role. In this regard, the demographical change is often associated with attempts to reduce or to find multiple uses for existing public infrastructure (such as merging schools, building multigenerational leisure centers etc.). Local authorities in affected regions are facing a difficult task - to ensure adequate quality of life of the population in a situation when the public budget of municipalities is being constantly reduced.

Regarding the issue of housing, the relationship between the demographic change and housing is essentially two-edged. Decline in population reduces demand for housing in a particular region. On the other hand, appropriate housing support may affect the attractiveness of the region for current residents and create a potential for attracting new ones. It is necessary to adapt current housing available in the region into a form that meets the requirements of changing age structure of the population. In case of housing, the demographic change creates several major challenges. For example there will be more flats and houses in which mostly elderly will be living. In current approach where ageing in place I preferred preliminary measures such as barrier-free housing or sustainable health and social services provision should applied. There could be a need to provide a new type of housing or better adaptation of existing housing to secure the adequate capacity of housing. The socio-economic situation of different population groups must be taken into account. Municipalities in regions can use public housing management as a policy tool facilitating local housing provision.

The main (key) challenges include the following:

- High cost of operating of public buildings.
- The need for rationalizing existing network of educational, social and health institutions (with regard to operating property in the public domain).
- Large number of unused and abandoned industrial areas (applies to big cities and traditional industrial regions).
- Large number of vacant public buildings (housing) in rural cities as well as cities in weak structural regions.
- Inadequate capacity of social housing for vulnerable groups disadvantaged by demographic change.
- Weak housing market as a restriction of mobility.

To sum it up: The challenges in the area of public buildings and housing are related to several problems. Firstly – reduce of operating costs of management of public buildings (multiple use for existing infrastructure), secondly – adapt current housing for needs of elderly.

Current solutions and examples of good practice

Majority of the problems outlined above is being solved at local level. Dealing with available housing, for example, fully depends on the particular owner - local authorities are capable of procuring changes in this regard only to a limited extent. Another problem is management of buildings and industrial areas, which are abandoned by their first owners. All costs for the administration (even minimal) of such premises are at the expense of local authorities and public budgets.

Examples of good practice aimed at saving public resources can include:

- **Merging primary schools with regard to driving distance within micro-regions**[17]

A number of regional integrated plans for reorganization of primary education were drawn up due to the declining number of students in primary schools. Many (not only) rural schools are being merged and municipalities thereby save costs for their operation. As merging of institutions – saving management costs or merging of branches – saving property management costs.

- **Concentration of different services in one building**

It is already evident that it could be effective to save operating costs via concentration of multiple different service offers into one building (various services and actions could be organized with different ways of responsibility and financing as a solution)[18].

- **Provision of unused public building to cultural or entrepreneurial activities for a reduced or very little price**

It is based on assumption that a minor profit from rent is always better than cost related to maintenance of unused buildings. Even temporary or non-profit use of public buildings can generate values of general interest with an possible spread effect.

Recommendations

- **Analysis of public money spent on operating public buildings (including publicly managed available housing) in a medium-term perspective**

It is necessary to thoroughly critically analyze the structure of public funds that are being spent on operating public buildings, including (public owned) housing[19]. There is a need for active communication between the representatives of municipalities and increase willingness to cooperate for a longer term than just the current election period.

- **Energy audits of public buildings**

A good example of this kind of practice is so called the "Green Savings Program[20]". The funds from such a Programme are primarily intended for "green" renovation of buildings, houses and flats, resulting in lower operating costs. The program could be open to both municipalities and citizens. In known cases, grants are awarded based on clear rules and a certain degree of co-finance participation of owners is expected.

- **Each municipality should support some vulnerable groups in public housing if they cannot afford for it**.

If authorities want to provide their population with a certain level of quality of life, they cannot ignore housing issues. The ideal solution would be a low-cost housing that can be

[17] See, example of Brehem, Germany, in the Best Practice Catalogue – Ch. 3.4.1, p. 23

[18] Reference to Pilot Action – Italy, LINK

[19] For more information see a pilot project of the Czech government – the Administrative Model

[20] LINK to this Programme? Czech Republic

allocated to members of vulnerable groups (the elderly, young families, the socially excluded) in their difficult situations.

- **Creation of a centralized database of unused public buildings (at regional level)**

The database would serve as an information platform for all potential investors or nongovernmental nonprofit organizations that are in need of space in order to be able to implement their (business) plans in a particular locality. The database would also be used by local authorities for formulating regional policies. Such databases of available public buildings does not currently exist in many or even all Central European countries.

- **Initiation of an operational program (regional/national/European) focused on providing financial support for vacancy management of abandoned housing/industrial sites**

In some cases it is not possible to meaningfully revitalize abandoned housing/industrial areas. One of the last of reasonable solutions that remains is demolition, however in the long run this will save money (like saving the operational and maintaining costs). Local governments operating with limited budgets cannot afford to manage vacancies without external support.

2.6. Other technical infrastructure

The challenge

In Central Europe as in the rest of the European Union, the on-going economic crisis contributes to make demographic change a more and more urgent issue. Particularly, the sustainability and organisation of current welfare state services and infrastructures is considered at risk. Increasing costs, inefficient sizing and distribution, lack of financial and human resources affect many technical infrastructures such as water, sewage and energy supply. This is particularly evident in rural and isolated areas where the ageing processes overlap with demographic shrinkage, depopulation and economic marginalisation. In these contexts the reduction in the number of inhabitants, households and activities entails a reduction in the usage of water and energy, so that the infrastructures used to their production and delivery/transport (water pipelines and sewers, electric networks, power stations and plants, etc.) often end up being utilized *below capacity*. Since fixed costs are high, this type of infrastructures cannot be easily adapted to the modified demand. Additionally many of these infrastructures do not meet environmental standards and are in need of a fundamental modernization. At the same time, however, the supply of energy and water has to be guaranteed to all citizens, including those who live in scarcely and sparsely populated areas. The costs must be then distributed between fewer inhabitants, which determines higher prices *per capita*.

To sum it up: Decreasing number of inhabitants, and so households and their activities entails a reduction in the usage of water, energy, so that the related infrastructures often

end up being utilized in an effective way while fixed costs are too high to be still maintained and such infrastructures cannot be easily adapted and changed to the less demand.

Current solutions and good practices

Although demographic change determines similar challenges to water infrastructures and energy infrastructures, market and supply conditions are different, which means that also the solutions to be experimented are different.

- As to energy, few large private and state-owned companies form oligopolies and rule the main markets. At the same time, however, the increasing diffusion of green technologies exploiting locally available renewable energy sources is paving the way for a complementary energy supply system, more decentralised and open to private or community based operators.
- As to water, the management of this resource still largely relies on public authorities and agencies. This is consistent with the far more pervasive implications of water management, which includes the provision of water for civil, industrial, agricultural and sport/entertainment uses, the management of waste water, the contrast to droughts, floods and landslides, the safeguard of soils, rivers and humid areas from water pollution, etc.

Within such a framework, the ADAPT2DC project presents a selection of best practices, showing how to cope with the augmented costs, the inefficiencies and the rigidities of technical water and energy infrastructures in Central Europe. More specifically, the solutions proposed included:

- measures (when feasible) of reduction, re-organisation and even closure of existing infrastructures and networks;
- inter-urban and inter-regional cooperation agreements and projects to increase efficiency and reduce costs;
- further development of autonomous, decentralised and demand-oriented channels (e.g. local energy production, local sewage treatment plants);
- creation of new market opportunities, jobs and income in the green economy market.

Recommendations

As far as technical infrastructures are concerned, the challenge of demographic change consists above all in the containment of increasing operational costs in a context characterised by rising environmental standards, rigid facilities (and networks) and elevated fix costs.

As to water and sewage infrastructures, the following recommendations can be determined:

- *All actors should keep demographic decline in mind when it comes to planning of water/sewage networks*. For instance, when new networks are planned, their economic viability should be assessed along the minimum level of anticipated demand, not the maximum level. Similarly, each replacement/renewal of pipes should consider whether a downsizing would be feasible. When new facilities (such as sewage plants) are planned, a modular construction should be considered (which makes future structural alterations easier).
- In areas with particularly low population densities, more *flexible legal standards* should be considered, for instance the usage of personal/private wells (for drinking water generation) should be allowed in order to reduce the size of water networks. Also, the usage of small sewage treatment plants may be considered as an alternative to central (municipal) sewage treatment plants.
- *Intercommunal cooperation*: if some water or sewage companies (which are often in the hands of local administration) centralized their structures, often costs can be saved, including joint initiatives of few municipalities in region and so sharing the cost.
- *Minimization of designation of new development areas / concentration on development of brown fields*: each new (additional) industrial estate or residential area needs new connection to water/sewage networks: by concentrating on vacant lots in town centres those costs are saved (keyword “compact development”).
- In the case of rain water drainage in rural areas, *the usage of trenches/ditches* might be considered (the investment costs are much lower than those for sewage pipes)

As to energy infrastructures, the following recommendations can be determined:

- **Expansion of decentralized energy production and communal energy networks** (in order to ensure local supply and to be more independent from global price fluctuations) –particularly in scarcely populated regions
  - *One possibility in securing the community-based energy supply* is the involvement of citizens. This can for instance be the case for direct shareholding in energy plants (citizens cooperatives).
  - *Engagement of municipal utilities and/or public-private partnerships* (for instance with agricultural cooperatives)
  - *Inter-communal cooperation*: shared management of centralized energy facilities can unify dispersed markets into larger ones, which is a step to mitigate the financial burden caused by dispersed oversized infrastructure.
  - *Usage of (urban) vacant lots / brownfields for the production of renewable energies* (for instance photovoltaic systems) / lease of municipal spaces for the private generation of energy
  - *Publicity for the advantages of autonomous supply with renewable energies*/ diffusion of green energy technologies such as photovoltaic panels and biomass power stations producing electricity and heat for neighbouring facilities and households

- When it comes to the planning of networks, effects of demographic change, such as the regionally differentiated drop in private demand for energy, cannot be considered isolated, but only in the context of developments of other energy users. Increased energy efficiency is an important component.

- Minimization of the designation of new industrial and residential areas with need for new energy connections in rural/remote regions.

3. Summary and conclusions

Demographic change is one of the most important challenges for an economically, socially and environmentally sustainable development in many Central European regions. Population losses due to low fertility rates and emigration and an ageing society could already be experienced in many parts of mostly peripheral regions outside the metropolitan areas. All forecasts say that these processes will continue for the next decades and will widen the gap between a prosperous core and a shrinking periphery all over Europe.

The aim of this European Strategy for regional responses to demographic changes as part of the EU-funded InterReg-project "ADAPT2DC – Adaptation to Demographic change" was:

(1) to identify the risks and challenges for shrinking regions,
(2) to provide an overview over good regional solutions and practices and finally
(3) to give recommendations for regional actors how to successfully and cost effective respond to the threats those regions are facing.

As ADAPT2DC is a transnational interregional project we decided to mainly address the regional level. The most important fields of political intervention we concentrated on were

- Health care
- Social services provision
- Transport and mobility
- Public buildings and housing
- Other technical infrastructure

One **overall challenge** for all regarded fields of public infrastructure and service provision are the problems of securing the existing level of services under financial aspects as a shrinking and ageing society means less public income at all as well as per capita. This decrease of financial means hits low density areas worst as they already often suffer from poor supply and economic inefficiencies. In all cases due to declining public expenditure solutions have to be more cost effective. The other common challenges in all political fields are the rising standards and expectations due to a changing demand and a modernization of society. Just securing the status quo in many cases is not sufficient – in many cases the regions should do better than nowadays to improve the living conditions and thus contribute to stabilizing the regions for interregional competition.

The overview over **good regional practices** shows that in all regarded fields many good solutions already exist. Many regions – in- and outside central Europe – have already gained experience with demographic change and reacted to it in an exemplary manner. With respect to their transferability these good and successful practices were in many cases the ground for the recommendations given at the end of each chapter. Also on a European level the problems of demographic change are well known and stay in the focus of many European policies and strategic papers. However, all strategic documents rather formulate general objectives or define instruments than show precise solutions for regions how to react. Furthermore very little is known about the cost-effectiveness of such solutions – a substantial problem for recommending financially sustainable solutions.

Concerning the fields of political intervention we concentrated on the following results can be summarized:

The challenge for **health care** is mostly associated with population ageing and how to secure the growing demand for health care services for more and more older inhabitants. To support heath care sector the new, innovative and technological advanced ways could be used mainly to decrease costs of providing health care services. Besides of that, the other issue important to advocate is that even technology could be successfully supportive, there is a need to attract medical staff to work in this sector, especially in rural and low-density areas.

The challenge for social service provision is to manage providing social services at adequate level of quality adjusted to needs of inhabitants, especially in shrinking areas. Shrinking areas are where the local population on working-age and thus local incomes are decreasing, while the ratio of elderly groups is increasing parallelly. Recommended solutions for regions to utilise the resources of civil society (involving voluntary work) to diversify financing. Flexible and combined organizations can preserve the quality of the supply system, and can provide responsive social care services.

The challenges for **transport and mobility** lie in the provision of public transport in low density areas for inhabitants. Successful and recommended solutions for regions are above all an integrated public transport planning on a regional scale, the bundling of demand of different user groups on main lines, flexible and demand responsive public transport in areas of very low demand and finally the encouragement of civil and/or market driven solutions

The challenges in the area of **public buildings and housing** are related to several problems. Firstly – reduce of operating costs of management of public buildings. This problem can be solved, for example, by multiple use for existing infrastructure or by making of energy audits of public building. Secondly – adapt current housing for needs of elderly. It is recommended to use preliminary measures such as barrier-free housing or sustainable health and social services provision.

Other technical infrastructure

Overall the recommendations show that in all fields there are cost-effective solutions for the provision of public infrastructure and services in shrinking regions which will not only secure

the status quo but also can improve the level of services. However, many of these solutions will still demand not only a considerable amount of public responsibility and expenditure but also – and maybe first of all – awareness that this demographic change is a fact and we all should prepare for this change in various domains. Many of issues presented here as crucial for shrinking regions have to be examined in long term perspective and with focus on synchronizing of adequate strategies with working planning systems in regional and local communities. Solutions appearing from comparative studies have to be carefully placed in local context, due to specific of target groups and local circumstances for sustainability.

All even known solutions how to deal with the demographic changes require special managerial skills and new approaches to processes of governance at local and regional level and to try to promote actions beyond incidental (only once) actions within time limited projects. It means that new arenas for local governance should be established, with verified routines for local planning. Consequently, good solutions for shrinking regions appeal for new institutional innovations and arrangements of local governance practices

Public intervention – be it national, be it regional, be it local – is crucial for the future of shrinking regions. Nevertheless in most cases the economic environment should be designed encourage entrepreneurship and to attract private investments for a sustainable regional development. Finally the assets of an ageing population – experience, responsibility, time – should be used to promote civic solutions for many problems especially in small neighborhoods. If state organizations, private capital and the civic society work successfully hand in hand the adaptation to demographic change is much more a chance than a threat for shrinking regions.

Annex A.1. Differences in NUTS between countries and implications for policy recommendations

The regional level in the EU was defined by the Eurostat in the form of "NUTS". The Nomenclature of Territorial Units for Statistics (NUTS) was introduced by Eurostat more than forty years ago for the needs of classifying territorial structures and, nowadays, serves as a reference for the collection, development and harmonization of Community regional statistics, for socio-economic analyses of the regions and for the framing of Community regional policies. It currently comprises a simple three-level hierarchical classification based on unified methodological principles and it is presented in Table 1.

Table 1. EU NUTS Levels

Level	Minimum Population	Maximum Population
NUTS – 1	3 milion	7 milion
NUTS – 2	800,000	3 milion
NUTS – 3	150,000	800,000

According to the EC Regulation "Existing administrative units within the Member States shall constitute the first criterion used for the definition of territorial units (…). Administrative unit' shall mean a geographical area with an administrative authority that has the power to

take administrative or policy decisions for that area within the legal and institutional framework of the Member State"[21].

Despite the aim of ensuring that regions of comparable size appear at the same NUTS level, each level contains regions that differ greatly in terms of area, economic strength, administrative powers, and even population. See Table 2.

Table 2. Differences between NUTS in Europe and in countries.

NUTS level	EU-Terms	AT	CZ	DE	HU
NUTS 0	nation	AT - ÖSTERREICH	CZ - ČESKÁ REPUBLIKA	DE - DEUTSCHLAND	HU - MAGYARORSZÁG
NUTS 1	major socio-economic regions	3 - Groups of states (Gruppen von Bundesländern), eg. Westösterreich	1 - the same as NUTS0	16 - States (Länder) eg. Thuringia	3 - Statistical Large Region (Statisztikainagyrégiók), eg. ALFÖLD ÉSZAK-Magyarorszag
NUTS 2	basic regions for the application of regional policies	9 - States (Bundesländer), eg. Kärnten	8 - Oblasts (Oblasti), eg. Severozápad	39 - Government Regions (Regierungs Bezirke), some smaller Länder (=NUTS 1 as Thuringia)	7 - Planning and statistical region (Tervezési-statisztikairégiók), eg. Észak-Alföld
NUTS 3	small region for specific diagnoses	35 - Groups of districts (Gruppen von Politischen Bezirken), eg. Klagenfurt-Villach	13 - Regions (Kraje), eg. Ústecký kraj + Prague	Districts (Landkreise, KreisfreieStädte)	20 counties (Megyék) and Budapest, eg. Jász-Nagykun-Szolnok
LAU 1	local administrative units 1	35 - the same as NUTS3	77 - Districts (okresy)	1457 - Collective municipalities (Verwaltungs-gemeinschaften)	174 - Statisitcal Sub-regions (Statisztikaikistérségek)
LAU 2	local administrative units 2	2357 - Municipalities (Gemeinden)	6249 - Municipalities (obce)	12379 - Municipalities (Gemeinden)	3152 - Settlements (Települések)

NUTS level	EU-Terms	IT	PL	SI	SK
NUTS 0	nation	IT - ITALIA	PL – POLSKA	SI - SLOVENIJA	SK - SLOVENSKO
NUTS 1	major socio-economic regions	5 - Groups of regions (Gruppi di regioni), eg. Nord-Ovest	6 - regions (regiony) - groups of voivodships, eg. Central Region)	1 - the same as NUTS0	1 - the same as NUTS0
NUTS 2	basic regions for the application of re gional policies	21 - regions (Regioni), eg. Piemonte	16 - voivodships (województwa) eg. Województwo Śląskie)	2 - Macroregions (Kohezijske regije) - Vzhodna Slovenija, Zahodna Slovenija	4 - Oblasts (Oblasti), eg. StrednéSlovensko
NUTS 3	small region for specific diagnoses	107 - Provinces (Province), eg. Torino	66 - sub-regions (podregiony) - groups of districts, eg. PodregionKatowicki)	12 - Statistical regions (Statističneregije), eg. Gorenjska	8 - Regions (Kraje), eg. Žilinský kraj
LAU 1	local administrative units 1	107 - the same as NUTS 3	379 - Districts (powiaty), eg. Powiat Mikołowski	58 - Administrative units (upravneenote)	79 - Districts (okresy)

[21] Regulation (EC) No 1059/2003 of the European Parliament and of the Council of 26 May 2003 on the establishment of a common classification of territorial units for statistics (NUTS).

LAU 2	local administrative units 2	8101 - Municipalities (Comuni)	2478 - Municipalities (gminy), eg. Suszec	211 - Municipalities (občine)	2928 - Municipalities (obce)

Annex A.2 Various important documents at European level related to and on demographic changes:

Communication from the Commission, Europe 2020 *A strategy for smart, sustainable and inclusive growth*, COM(2010) 2020 final, Brussels, 3.3.2010.

Communication from the Commission to the European Parliament and the Council, Brussels, *Taking forward the Strategic Implementation Plan of the European Innovation Partnership on Active and Healthy Ageing*, , COM(2012) 83 final, Brussels, 29.2.2012.

Communication from the Commission. *Green Paper "Confronting demographic change: a new solidarity between the generations"*. COM (2005) 94 final.

Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions: *Promoting Solidarity between the Generations*, COM (2007) 244 final.

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Territorial Agenda of the EU

Green Paper on Territorial Cohesion
Regions 2020 - An assessment of futures challenges for EU regions, Commission Staff Working document

Barca-Report – An Agenda for reformed cohesion policy

European Spatial Development Perspective: Towards balanced and sustainable development of the territory of the EU

Others:

- EU Convention on Demographic Change – Age Platform Europe, see http://www.age-platform.eu/
- Report of the previous Inter-REG project on Demographic Change, link
- OECD publications like Martinez-Fernandez, 2013

Selected deliverables of ADAPT2DC project which could be found at the www.adapt2dc.eu:

D3.1.5: Comparative socio-economic background analysis of shrinking regions and cities in Central Europe
D4.1.1: Best Practice Catalogue
D4.2.8: Transnational Guidebook for Pilot Action Implementation
D4.1.2: Regional Guidebook: methods to adapt to or counterbalance shrinking
D5.2.8: Recommendations from the Best Practice Catalogue
D5.2.10: The Transnational Review of European and Regional Strategic Documents on Demographic Changes (Appraisal of advantages / disadvantages)