

Schools of architecture as an instrument of architectural policy on the examples of European countries

A O Yesipov¹, V P Myronenko¹ and N V Ivanova²

¹ Department of Design of Architectural Environment, Kharkiv National University of Civil Engineering and Architecture, Sumska Str., 40, Kharkiv, 61002, Ukraine

² Department of Architectural Construction, Kharkiv National University of Civil Engineering and Architecture, Sumska Str., 40, Kharkiv, 61002, Ukraine

esipov1995@gmail.com

Abstract. The purpose of this article was to analyze the cultural policies in the field of architecture in various European countries and consider the principles of using the tools of schools of architecture as its element. Such issues are especially relevant for Ukraine, where the problem is the lack of regulated norms for Ukrainian architectural policy and specialized state institutions. The need to draw attention to the architectural education of Ukraine is due to its lack of actualization compared to advanced European countries and the depletion of the physical plant of universities. An analysis of foreign experience will make it possible to use the potential of universities to solve the problems facing the society.

1. Introduction

Architectural policy can be described as a set of principles, goals, objectives and forms of activities that guide authorities in the process of maintaining and developing the urban environment. It outlines the interests of a state with regard to architecture, contributes to the creation of state institutions and the introduction of tools to help achieve the desired results.

Nowadays, the goal of architectural policy in various cities and countries is to create conditions for the formation of an aesthetically beautiful, comfortable and diverse environment, providing prerequisites for a harmonious co-existence of citizens of different ages, backgrounds and wealth. The influence of urban environment on people comes to the fore in the discussions of politicians, architects and sociologists from different countries. Architecture, urban planning, landscape solutions determine the behavior, well-being and quality of life of all citizens. Understanding of this issue led to the fact that the relevant documents of regulated actions on the sphere of culture began to be developed.

2. The experience of the EU countries

The end of the XX and the beginning of the XXI century was a time for developing and passing of the cultural policies in the field of architecture at the state level around the world. Over the past twenty years such documents have appeared in many countries of Europe. Countries learn how to form architectural policy, share their experience with others. As a result, such process has a positive impact at the European level, making possible a closer rapprochement among member states and encouraging to improve the quality of architecture.



The EU resolution “On the quality of architecture in urban and rural environments” [2], accepted in 2001 under the chairmanship of France, establishes the following principles on which architectural policies of all EU countries should be based:

- improving the qualifications of customers and the level of public awareness in the field of architecture, urban planning and landscape design;
- the promotion of quality architecture through the construction of exemplary public buildings;
- stimulation of the international exchanges of knowledge and experience in the field of architecture with the help of student scholarships and grants, as well as hiring foreign professionals to work.

In the present situation, it should be noted a certain gap between cultural policy and the mechanism of its implementation. European countries have predominantly centralized models of the relationships between culture and state. First of all, due to the undeveloped multi-channel financing of cultural sphere, the formed state policy often appears not enough financially and materially (in legal and personnel relations) provided in its implementation at the municipal level. This requires a significant improvement of the "lower links" of the government and a direct interaction with the population, providing greater independence to regional and municipal cultural authorities [3]. They should have freedom of choice of methods and forms of work that provide the most effective ways of interacting with various organizations, institutions, faiths, commercial structures in solving cultural problems.

The author of the article assumes that schools of architecture, which distributed throughout Ukraine, working with the people and possessing the material and technical base as well as specialists, have huge potential, resources and the ability to be a key link between the authorities and the population in matters related to architectural policy. The integration into such projects will allow universities, staff members and students to increase their importance in society and to receive preferences and benefits from the state – it will help in promotion of architectural education.

It is proposed to consider the experience of European countries, as well as what resources and tools higher education have, and after this, to conduct a comparative analysis of some points that can be somehow implemented with the support of universities.

2.1 Belgium

The Belgian program involves work in the educational field: it offers lectures handled by invited architects at universities, work in the field of continuing education, as well as internship programs and diploma certification in architecture in other EU member states. These goals are aimed at providing students with the opportunity to learn from practicing architects, sometimes world-class, as well as to increase the competitiveness of architects outside the country [4].

The Belgian concept involves taking advantage of the European Union to develop students' potential so then their schools of architecture will be competitive in the world. In this case, the measures are aimed at the long-term perspective and development of cooperation programs at the level of individual universities, but not affect usage of the material and technical resource base.

2.2 Croatia

In Croatia, the idea of architecture is considered as the basis of national identity. In order to increase public awareness of the importance of a high-quality architectural environment, it is planned to introduce architecture into the National Program for Preschool and Compulsory General and Secondary Education, as well as to create a media platform [5].

The Croatian concept involves the use of scientific and pedagogical resources of university to increase awareness among the general public about architecture, to create a demand for the services of their graduates and for a high-quality architectural environment. Universities as state institutions, in most cases, can act as suppliers of architects and educators. The Croatian program does not give a comprehensive answer to the question: what opportunities should universities have in order to be included in architectural policy of the country? However, it can be said that the main ideas support the common policy of the European Union in this regard.

2.3 Czech

Czech policy is more detailed, here are some of the provisions that assume to engage architectural educational institutions [6]:

- to plan further training in cooperation with universities for civil servants in the form of courses aimed at presenting trends and best practices in the field of architecture;
- to expand the system of further education for architects, civil engineers and others involved;
- to revise educational programs for schools thus to include architecture, urbanism, spatial planning, landscaping and building culture in separate areas of education and relevant thematic sections. To pay attention to a person's attitude to his home and city, including caring for the environment where he lives. To use examples of good practice and architecture as educational material during training. To include practical exercises in education that teach how to improve an artificial environment. To ensure with the necessary teaching materials and professional support for teachers;
- to include training on topics related to architecture and building culture in primary and secondary schools in the teacher training system;
- to ensure background materials and initiate more opportunities in the public media to discuss topics related to architecture, urbanism, spatial planning, landscaping and building culture;
- to increase customer inquiries by using good practice examples. To support for sightseeing tours with architects or with their commenting on new buildings;
- to involve people (adults, children and especially schoolchildren) in projects that affect the public space.

The main directions of the Czech architectural policy generally assume cooperation with higher education institutions as suppliers of qualified personnel. Training courses aimed at raising the awareness of civil servants, the possibility of using university as a media platform, or working with people on projects that affect the public space – all of this assume using of the material and technical resource base. Such events can be held in universities as public hearings, seminars. It will increase the popularity of universities, as well as teachers will have an opportunity to earn extra money as consultants, guides or teachers while working with the general public.

2.4 Denmark

The basis of Danish schools of architecture is artistic, and institutions are not just seen as educational, but as cultural institutions with a deeper responsibility in their field of education. The programs need to be compared and their quality should comply with international standards to ensure Danish architectural studies are in line with best in the world. Higher education institutions in the field of architecture organize exhibitions, international lectures, conferences and other events throughout the year that are open to a wide audience.

Education and research in schools of architecture should take place in collaboration with the professional sector and be adjusted in accordance with its needs, and the sector should be involved in the quality development of universities. In order to provide the best conditions for further education and scientific research in collaboration with the sector, schools of architecture will create advisory councils that are closely related to school management. Council members should represent leading architectural firms and include international architects, and their responsibility is to provide advice on school development issue to Rectors and to minister of education.

Danish architectural education should be internationally competitive and engaging. For this reason, it is important that universities enter into strategic cooperation with leading international schools of architecture and contribute to enhance the international exchange. One way is to increase the supply of English-language programs that can attract foreign scholars, professors, exchange and scholarship students.

The constant development of new knowledge in the field of architecture is a decisive condition for qualitative progress in both education and the profession. Such development of knowledge can be successfully carried out in partnerships between universities and architectural firms. Universities will

ensure it by accomplishing doctoral dissertations in collaboration with relevant partners and by increasing external research funding. By cooperating with this sector, schools of architecture must develop and adapt training courses to meet labor market needs.

One feature of the Danish experience is the various centers of architecture and construction, one of whose tasks is to build partnerships between schools of architecture and the commercial sector. This means that the centers work as the main operator in coordinating and implementing the new interagency architectural policy.

Center for Industrialised Architecture at The Royal Danish Academy of Fine Arts Schools of Architecture specializes in education and research in the field of industrial architecture and seeks to establish cooperation with parties in the construction sector. The subjects of the center's research include the deployment of the design process in industrial practice, building systems, mass customization in architecture and architectural potential of various building materials, construction technologies, industrial architecture as a lever for sustainable development, the importance of new digital technologies in the design process, etc.

The Danish Architecture Center is an information development center of architecture and construction, its task is to build partnerships that disseminate Danish architecture and construction. The activity is aimed at both the professionals and general public. The goal of the DAC is realized through exhibitions, meetings and conferences, educational services, Internet events and other information events. The goal is to contribute to the dissemination and development of Danish architecture at both national and international levels [7].

Thus, enhanced cooperation between universities and other components of the architectural sphere of culture, as well as the architectural sphere of industry, is a priority for Danish policy. This interaction should have positive results in terms of employing university graduates, as well as cooperation with other participants in the professional sector will allow the development of architectural education.

2.5 Finland

Finland has rich experience in promotion of the architectural policy: documents governing it have been passed since 1997. It's been 20 years since the first program was completed, the new one should be completed in October 2020.

The Ministry of Education explores possibilities for developing architectural education as part of voluntary adult education in order to improve the ability of citizens to make their own decisions on environmental changes. In the field of architectural education will be an opportunity to design and implement experimental buildings to demonstrate and to supplement teaching and research work [8].

Finland draws attention to educational work among the adult population, tools should be developed for this outside the higher education system, however, they must be based on the higher educational institutions, as well as additional opportunities should be provided for students of architecture schools.

2.6 France

The first document defining the vector of development in this direction – French Law on Architecture – was published in 1977. Without a doubt, France is a veteran in architectural policy. The cultural policy of France was considered by the author in a separate article [9], because thanks to her experience, the initiatives of France on schools of architecture should be considered with particular care.

In 2015, the Minister of Culture Fleur Pelleren, as part of its consideration of the draft law on creative freedom in the National Assembly [10], introduced the National Architecture Strategy [11]. The goal of the strategy is to change the attitude of the society towards architecture and to increase the role of architects in the community. Architecture remains as remotely understandable concept in the minds of many citizens, so it is necessary to develop awareness-raising activities aimed at the general public and work with stakeholders, especially local elected representatives. Engaging an architect is too often the exception rather than the rule. It is advisable to emphasize every architect's contribution with the help of new incentives. It is necessary to promote the know-how of architecture to owners and developers of buildings and to encourage the expansion of the sphere of influence of architects in new areas of

construction. Supporting the export of architecture to the European and other international markets also provides an opportunity to develop. The export of architecture will not only adjust the trade balance of the sector, but also will demonstrate national architecture and young talents who possess all the skills which are necessary for more successful participation in the international competitions.

The strategy consists of six so-called "axes", each of them is aimed at the development of one of the areas of architecture culture. Fleur Pelleren is confident that the cultural, scientific, technical and architectural successes of initiatives is based on educational, research and business activities, and architecture schools are its epicenter [12]. The third axis of the national strategy is dedicated to them. Educational institutions of architecture with all their components: administrative, educational and scientific, as well as school students will be closely linked to the implementation of the strategy.

Public procurement should play an exemplary role for young architects who face difficulties in the early years of their careers. That is why the access for new firms of architecture to orders is facilitated.

Among other measures, there will be created the status of teacher-researcher. It should preserve academic and professional origin of the teaching profession and enrich their missions by expanding participation in teaching and research. Also, partnership research departments will be created in tandem with professional and economic entities to make institutions more recognizable.

A national assessment plan of the state licensed architect authorization will be launched to ensure proper project management on his behalf. It is especially important to know that the level of qualifications and competencies are necessary for recognition in the European Union.

Measures aimed at raising public awareness are already provided in "National Architecture Days", organized in October each year [13]. The Ministry of Culture welcomes cooperation with any partners who wish to participate in this event: professionals, local authorities, associations, public institutions. National Architecture Days are coordinated by the General Directorate of Heritage and held in regions by regional cultural management. They can expect on revitalization and greater mobilization of architecture networks at the national and regional levels: National Schools of Architecture (ENSA), National Council (CNOA) and Regional Councils of the Order of Architecture (CROA), House of Architecture, City of Architecture and Heritage (CAPA), Councils for architecture, urban planning and the environment (CAUE), a network of Cities and Lands of Art and History (VPAH), etc. [14].

The purpose of the Days of National Architecture is advancement of knowledge of the general public. They offer to reveal the riches of wonderful modern architecture, wherever it is, to show the history that the surrounding buildings tell us, to arouse interest and artistic feelings, to increase cultural, scientific awareness. These events are entrusted with the mission of informing the citizens that France requires architects to rethink future ways of housing, working, mobility, caring, education in a wider context of improving the architectural environment of cities. To achieve success in the ecological transition, come up with cities and territories of tomorrow. The program includes meetings and debates with figures in architecture, visits to construction sites and city walks, technical and art exhibitions or educational seminars. Visits to agencies of architecture, city routes, films and exhibitions are organized throughout France and help to interest the general public.

Many agencies of architecture have research practices that deserve improvement due to the presence of doctoral students who will base their work on the knowledge developed by the professional practice. The goal is for a quarter of post-graduate architects to be placed in professional structures by 2020.

"Cities and lands of art and history" is a French program in which communities commit themselves to develop action programs aimed at introducing young people to architecture and urban planning, promoting a heritage for a diverse audience, raising environmental awareness, training events for municipal staff, enrich knowledge through communication with artists and professionals, stimulate creativity by putting it into practice [15]. As of May 2019, the program included 195 cities and lands of art and history. The program is implemented at the expense of the Center for the Interpretation of Architecture and Heritage (CIAP), which is also supposed to be: a place for receiving visitors, a place of debate for public, a place for open events for tourists. The agreement provides for financial and technical support from the Ministry of Culture and Mass Media and includes an obligation for

communities to use qualified personnel approved by the ministry (e.g. guide-lecturer and coordinator for heritage issues).

France has rich and wide experience in the development and the implementation of its architectural policy. More importantly, a special place is given to educational institutions of architecture, which play a key role in government strategy. Many of the objectives of raising awareness, conducting various events and interagency cooperation in architecture are impossible without qualified university staff. Attention is also drawn to specialists who graduate from schools of architecture since they are the driving force in the development of environment, design, architectural education of the country and others in the future.

2.7 Germany

It's certainly that the German population has a propensity for architecture: during studies almost every fifth person had a desire to get a job in the field of planning and construction. This interest makes it necessary to inform the majority population about the topic, and therefore, to develop appropriate projects for schools, for example. Against this background, architectural education in schools plays an increasingly important role. The corresponding projects have been developed by the twelve state architectural chambers and the Federal chamber of architects, nowadays it has already had a positive effect, for instance, the initiative "Architektur macht Schule" (Architecture in schools) [16].

But such experience from other European countries also show that a much wider integration of building culture topics into general education is possible, for example, in many countries it is included in the main curriculum on an ongoing basis. This is an important basis for awareness and active participation in the development of our artificial environment, and therefore Germany should be given even greater support in the implementation of it.

2.8 Norway

The Norwegian Center for Design and Architecture wants to contribute to the understanding, knowledge and usage of design and architecture in terms of business and community structures. A dedicated foundation will have to promote quality and innovation by using design and architecture to develop environment, products and services. This will stimulate innovation and rationalization, as well as increase value creation in Norwegian business and in the public sector [17].

Norwegian priorities are placed on the development of innovations in architecture and thereby popularization of architecture among the public. With this it is also planned to attract business investment in real estate and architecture. Students could help in the development of innovations in the field of architecture together with professionals, as a result such cooperation would benefit the development of professional skills of future specialists and would increase enrolment of the studied areas. Attracting business investment will help to develop higher educational institutions of architecture.

2.9 Poland

The opening of the National Institute of Architecture and Urban Planning in Poland aims: to create public awareness, to promote architectural and urban culture, to preserve the national architectural heritage of the XX century by research, documentation, popularization, exhibition, educational and publishing activities [18]. One of the objectives of the Institute is constant collaboration between architects, local authorities and users of public spaces in order: to improve the quality of environment, to find a balance in their development and to coordinate processes of their design and planning [19]. In the program of Polish architectural policy of 2018, there is a separate section devoted to architectural education, which shows the relevance of this topic and the work in this direction.

Polish both architectural and cultural policies have proved their worth on the example of preserving the architectural environment of the historical city centers in the post-war years. Such expertise, improvement in the work with society and cooperation with architects can lead to remarkable results. The architectural community of universities can find response and support in the community in their endeavors and gain the opportunity to influence municipal projects with their criticism.

2.10 Portugal

The priority areas in Portugal are informational, awareness-raising and educational measures.

Among educational measures, one can single out the stimulation of a sense of belonging, identity and responsibility among people in relation to the community and territory, increasing the interest and involvement of citizens and communities in the processes of participation, evaluation and decision making. It is supposed to inform the public about the importance of architecture, urban planning and landscape design to create a quality environment, as well as the dissemination of best practices in design, planning and preservation of the cultural landscape by organizing events, publications and exhibitions.

It is planned to integrate the theme “Architecture, city and landscape” into school curricula at various levels of non-specialized education, especially in curricula of primary and secondary schools, with the aim of promoting the construction culture. Training events will be organized in the field of: architecture and landscape, in particular on sustainable architecture and urban planning, architectural and urban preservation, reconstruction and restoration, landscape protection, management and planning.

The higher education sector is responsible for developing innovative conceptual and methodological foundations that can respond to the evolution of society and its values, to transferring such knowledge in an appropriate way not only to professionals, but also in forms that are understandable to the population, which contributes to the development of the territorial culture and promotes informed participation.

It is stated to promote the use of traditional knowledge, processes and methods for building construction and maintenance with the aim of preserving the heritage and passing it on to future generations. At the same time, the selection and the dissemination of examples of best practices and best experience will be carried out: research in the field of the sustainable construction, facilitation of relations with industry and the promotion of the technological innovations in construction, materials, energy production and consumption, and so forth [20].

All of the above requires the widespread involvement of both practitioners and theoreticians of architecture, thus enhanced cooperation and interaction is necessary between the scientific, technical and political communities, as well as between them and the population as a whole.

3. The results of the research

World experience clearly demonstrates that the demand for the profession of an architect cannot be overestimated since architecture is a cultural field, which the quality of people's life directly depends on. Therefore, it is necessary to pursue a consistent policy aimed at maintaining this area.

The architectural policy is developed both at national and city levels, however, the municipal authorities take responsibility for it and manage most basic tools. Having examined the European experience, the author of the article believes that schools of architecture in Ukraine could be exactly that key tool that is worth paying attention to. Architectural educational institutions have every opportunity to improve results in carrying out activities aimed at introducing a national cultural policy. In turn, universities and staff members can receive tax benefits or other privileges, as well as moral and legal support from the state.

Many of the tasks that the authorities of European countries assign to architectural communities should be carried out with the help of architecture schools at the planning stage. Some programs are not well-developed with regard to cooperation with universities, and some do not imply it at all.

The architectural policies of European countries cover a wide range of topics, but all of them have a similar focus. Among these areas we can distinguish:

- improving the business and social climate in the field of architecture and urban planning;
- development of infrastructure for professional activities;
- development of new technologies;
- increasing the professionalism of architects and stimulating interdisciplinary interaction;
- raising public awareness of architecture and urban development, involving local population in the development of design solutions;
- improvement of national architecture presence in the international arena;

- preservation and revitalization of cultural heritage;
- stimulation of a constructive dialogue between state, the professional community, business and public;
- development of architecture as a full-fledged mainstay of economy.

As for the tools of higher educational institutions, they can be divided into 2 groups. The first is scientific and pedagogical resource base (e.g. teachers and students), the second is material and technical resource base (e.g. premises and equipment of university). Among the general directions of European architectural policy, for example, engagement with scientific and pedagogical resource base includes grants and competitions for students of architecture, provides the opportunity for them to work together with professionals in other fields and learn from their experience, provides employment assistance to graduates, includes educational events for general public held by qualified teachers, etc. As concerns engagement with material and technical resource base, for example, it involves: the expansion of universities infrastructure, the use of universities premises for open seminars and lectures, excursions and other educational events, the investment attraction for universities, etc.

The above indicates that it is advisable for Ukraine:

- to develop and implement a more systematic and articulated architectural policy, as well as pay attention to the whole complex of higher architectural education after a thorough review of the EU countries experience;
- to draft legislation relevant to activity regulation of the state, municipal and university administration authorities to make successful realization of the established goals;
- to provide for the interaction of public with private institutions, which included in the architectural policy program implementation, and to create their rights and divide duties;
- to create benefit programmes for schools of architecture, as well as a set of principles and measures to support scientific and pedagogical, material and technical resource bases;
- to entitle the architectural community to determine the most effective tools for architectural policy implementation at both local and global levels.

In conclusion, I would like to emphasize the need to draw attention to the full range of the higher architectural education in Ukraine, especially schools of architecture. They have the potential to become a key link in the national architectural policy.

References

- [1] Council resolution of 12 February 2001 on architectural quality in urban and rural environments OJ C 73, 6.3.2001
- [2] Borucka J, Macikowski B 2017 Teaching Architecture – Contemporary Challenges and Threats in the Complexity of Built Environment *IOP Conf. Ser.: Mater. Sci. Eng.* **245** 082058
- [3] Ordre des Architectes 2016 *Guide de l'Architecte* 3rd edition (Bruxelles: Ordre des Architectes and Conseil francophone et germanophone) [in French]
- [4] National guidelines for quality and culture of building – architectural policies of the republic of Croatia (2013–2020) URL <https://mgipu.gov.hr/naslovna-blokovi-133/about-the-ministry-139/scope-of-the-ministry/housing-8652/apolitika-8754/8754>
- [5] Czech Ministry of Regional Development and Institute for Spatial Development 2015 *Architecture and Building Culture Policy of the Czech Republic* (Prague and Brno: Ministry of Regional Development and Institute for Spatial Development)
- [6] Ministry of Culture 2007 *A Nation of Architecture, Denmark: Settings for Life and Growth: Danish Architectural Policy 2007* (Copenhagen: Ministry of Culture)
- [7] Finnish Association of Architects and Arts Council of Finland 1999 *The Finnish Architectural Policy* ed H Korpelainen (Helsinki: Arts Council of Finland and Ministry of Education)
- [8] Yesipov A O, Myronenko V P 2019 National strategy in the field of architecture as a part of cultural policy *Scientific Bulletin of Civil Engineering* **1(2)** 144–9 [in Russian]
- [9] LOI n° 2016-925 du 7 juillet 2016 relative à la liberté de la création, à l'architecture et au patrimoine URL <https://www.legifrance.gouv.fr/eli/loi/2016/7/7/MCCB1511777L/jo/texte>

- [10] Accroître le rôle des architectes URL <http://www.culture.gouv.fr/Thematiques/Architecture/Strategie-nationale-pour-l-architecture>
- [11] Discours de Fleur Pellerin, ministre de la Culture et de la Communication, prononcé à l'occasion de la présentation de la Stratégie nationale pour l'architecture, à Paris, le 20 octobre 2015 URL <https://www.culture.gouv.fr/Sites-thematiques/Architecture/Accroitre-le-role-des-architectes/Discours-de-Fleur-Pellerin-ministre-de-la-Culture-et-de-la-Communication-prononce-a-l-occasion-de-la-presentacion-de-la-Strategie-nationale-pour>
- [12] Journées nationales de l'architecture URL <https://journéesarchitecture.culture.gouv.fr/Journées-nationales-de-l'architecture> URL <http://www.culture.gouv.fr/Thematiques/Architecture/Strategie-nationale-pour-l-architecture/Les-Journees-nationales-de-l-architecture>
- [13] Villes et Pays d'art et d'histoire URL <https://www.culture.gouv.fr/Regions/Drac-Auvergne-Rhone-Alpes/Pole-action-culturelle-et-territoriale/Villes-et-Pays-d-art-et-d-histoire-Action-culturelle-patrimoniale>
- [14] Federal Foundation of Baukultur 2015 *Baukultur report 2014/15: built living spaces of the future – focus city* ed A Schmedding, D Michalski *et al* (Potsdam: Federal Foundation of Baukultur)
- [15] Ministry of Culture and Church Affairs 2009 *Architecture.now: Norwegian architectural policy* (Oslo: Ministry of Culture and Church Affairs)
- [16] Marczak P 2017 Shaping space programme as a tool for educating youth about architecture *IOP Conf. Ser.: Mater. Sci. Eng.* **245** 042075
- [17] Andrzejewski P, Baranowski A, Buczek G, Chwalibóg A, Chwalibóg K, Śmiechowski D, Wojciechowski S and Wolski P 2018 *Polska polityka architektoniczna: polityka jakości krajobrazu, przestrzeni publicznej, architektury : rozwinięcie tematów* 3rd edition ed K Chwalibóg, I Hardej *et al* (Warszawa: Narodowe Centrum Kultury) [in Polish]
- [18] Resolução do Conselho de Ministros 45/2015 2015 *Diário da República* **130** pp 4657–67 [in Portuguese]