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Aligning European OA policies with the Horizon 2020 OA policy

This article considers that the Horizon 2020 (H2020) Open Access (OA) policy can be adopted as a policy model in European Research Area (ERA) countries for the development and increasing alignment of OA policies. Accordingly, the OA policy landscape in five ERA countries – Greece, Italy, the Netherlands, Turkey and the UK – is assessed and the extent of alignment or divergence of those policies with the H2020 OA policy is examined. The article concludes by considering some of the impacts that aligning OA policies may have and looking at mechanisms that may contribute towards enhancing policy alignment.

Note: the supporting data from this assessment may be found in the following data repository: https://zenodo.org/record/31155.

Introduction

Open access (OA) policies, in parallel with advocacy-based strategies and infrastructure development, are considered to be important means by which to promote the objectives of OA and to make scientific information freely available online. Usually, they define a set of rules or principles that seek to guide a specific behaviour: that academics and researchers make their scientific publications openly available. Research institutions, funders and, to a lesser extent, national governments have been key players in promoting the development and implementation of OA policies worldwide.

In Europe, the European Commission (EC) has been playing a leading role in advancing open access to scientific information and research data. As a policymaker, it has issued a recommendation on access to scientific information to European Union (EU) member states, advising them to develop OA policies and strategies that are compatible with the EC's strategy[1]. As a research funder, it has set its own policy on access to and dissemination of scientific information for the EU research funding programme, Horizon 2020 (H2020)[2]. As a capacity builder, it has funded projects on OA infrastructures, publishing, research data and preservation, such as PASTEUR4OA, OpenAIRE, FOSTER and RECODE.

OA policies are important to ensure increased access to scientific information[3]. However, they are many and varied. At the global level, there are now 724 OA policies recorded in ROARMAP. Policies are often expressed in different ways and there is wide variation in the elements and requirements expressed in them. They can vary between being mandatory or only encouraging OA to taking a preference for green or gold OA models. As a result, researchers and professional staff in research institutions are often faced with numerous challenges when seeking to comply with or provide information on different policies. A major challenge arising from the extensive variation between OA policies is compliance. OA policies often do not produce the expected results. Researchers required to comply with more than one OA policy may be deterred from doing so when requirements are contradictory and policies complex. As a result, the alignment of OA policies, where a consistent set of policy requirements is in place (across institutions, funders and countries), would harmonize the process of providing scientific information on open access and maximize compliance. Because the EC's H2020 programme has an impact on all ERA countries,

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'OA policies often do not produce the expected results'

this places the H2020 OA policy in a strategic position to be the policy model through which ERA countries develop and align their OA policies. Moreover, recent research has shown that the H2020 OA policy model is an effective policy model type[4].

This article examines the OA policy landscape in five ERA countries. By considering the H2020 OA policy as the policy model that ERA countries can use to develop and align their OA policies, a qualitative framework with parameters that define the H2020 OA policy was developed to assess the extent to which national, institutional and funders' OA policies are aligned with the H2020 OA policy. Drawing on political science and Europeanization literature that examine cross-national policy convergence, transnational communication mechanisms are highlighted as means that contribute to policy alignment.

Literature review

Literature on OA has mainly focused on examining the advantages, implications and challenges of making scientific information available online for free. At the policy level, some studies describe and present an overview of governments', institutions' and funders' OA policies and strategies[5]. Other studies examine OA policies in relation to their impact on the amount of content deposited in repositories[6] or published in OA journals[7]. There are also studies that seek to inform good practice in policymaking[8], to provide guidelines on how to develop OA policies[9] or to examine the effectiveness of OA policies whilst making recommendations on criteria that OA policies must include and on which they should align[10]. Most policy-related studies show that different types of policies exist. Some acknowledge that different policies have varied levels of success and identify some of the strengths and weaknesses in the existing policy strategies. The OA policy literature, however, lacks systematic research on the level of variation between cross-national OA policies and on what the respective implications are. In addition, there are no links between the OA policy literature and other scientific disciplines that examine policymaking developments, trends and patterns from a broader perspective.

In political science and Europeanization studies, extensive research has been conducted on cross-national policy convergence[11]. Policy convergence literature examines the propensity for policies to become increasingly similar in terms of 'structures, processes and performances'[12] as well as in terms of policy objectives, instruments and settings. Cross-national policy convergence literature also examines the causes for convergence: imposition, international harmonization, regulatory competition, transnational communication and independent problem-solving[13]. Studies on policy convergence demonstrate that EU member states' policies have been converging in areas that range from education to the environment, renewable energy, health and trade. These studies demonstrate that the EU has been playing a key role in influencing policy convergence and in promoting policy models that aim to accelerate and facilitate cross-national policy convergence.

> 'the EU has been playing a key role in influencing policy convergence'

The EC has recommended EU member states to develop OA policies and strategies based on the principles followed by the Commission and communicated in the H2020 OA policy[14]. Currently, a cross-national legally binding law on open access that would require all ERA countries to develop or align OA policies with the H2020 OA policy does not exist. Notwithstanding, one route that has been demonstrating some results in enhancing OA policy convergence at the cross-national level is transnational communication. Transnational communication is solely based on 'patterns of international governance that exclusively rely on voluntary processes of communication and information exchange'[15]. Transnational communication mechanisms that can play, and in some cases are already playing, a role towards policy convergence include: lesson drawing, transnational problem-solving, emulation and international policy promotion. The role these mechanisms play in contributing to OA policy alignment in the ERA is further addressed in the discussion.

Methodology

The approach taken in this article was based on semi-structured case studies and went through three phases. The first phase involved selecting the cases for this article. This selection was based on choosing a diverse sample of ERA countries that experience distinct levels of performance on research & development (R&D) (see Appendix 1) and where OA policies have been adopted at a more or less widespread level. Countries with better performance in higher education and R&D indicators seem to be the ones experiencing a more widespread adoption of OA policies at the national, institutional and funder levels. The second phase involved identifying which stakeholders have implemented OA policies in the selected ERA countries: Greece, Italy, the Netherlands, Turkey and the UK. This was done from the collection of public information on websites and in the research institutions' and funders' OA policies database, ROARMAP, and in the research funders' OA policies database, SHERPA/JULIET. The third phase involved developing a qualitative framework that defines the H2020 policy and through which the content of OA policies was cross-checked against the H2020 OA policy. This methodology enabled the assessment of OA policies, particularly their similarities and differences, but also the identification of where they converge with the H2020 OA policy and where further alignment can be promoted.

> 'Countries with better performance in HE and R&D indicators seem to be the ones experiencing a more widespread adoption of OA policies'

Analysis of OA policies in Greece, Italy, the Netherlands, Turkey and the UK

Greece

In Greece, law number 4310 on Research, Technological Development and Innovation was adopted in December 2014[23]. This law signals the Greek government's attempt to formulate a national OA policy aligned with that of H2020. The law promotes open access to scientific publication through self-archiving (green OA). It stipulates that the General Secretariat of Research and Technology and research institutions should provide OA to publicly funded scientific publications through the deposit of an electronic copy of the final manuscript in a repository, but it does not specify other requirements referred in the H2020 OA policy. Due to the absence of a national OA policy until recently, the support and information on OA provided to researchers and institutions was solely focused on the FP7 and H2020 OA requirements. The National Documentation Centre (EKT/NHRF) is the national contact point for European-funded research projects and provides support on FP7 and H2020 OA policy requirements through seminars and the operation of a helpdesk. EKT's OA online platform provides general and up-to-date information on OA developments in Europe and beyond.

> 'This law signals the Greek government's attempt to formulate a national OA policy aligned with that of H2020'

Institutional OA policies are still non-existent in Greece. However, EKT is leading the way and is currently developing an OA policy for its host institution, the National Hellenic Research Foundation. The policy will promote a green OA model and will be aligned with the H2020 OA policy. An OA policy template, which was developed by the FP7-funded MedOANet and PASTEUR4OA projects, will be disseminated to Greek institutions in an effort to co-ordinate nascent OA policies.

At the research funders' level, OA policies are still non-existent in Greece.

Italy

In August 2013, law number 91 was adopted, which instituted Italy's national OA policy framework[24]. Accordingly, research institutions and funders are required to adopt policy measures which promote OA to publicly funded research outputs. Both green OA and gold OA models are accepted under the current legislation. At the national level, various support activities have been promoted by OA working groups and

> 'In August 2013, law number 91 was adopted, which instituted Italy's national OA policy framework'

communities. The most prominent include the Conference of Italian University Rectors (CRUI) OA working group, the Ministry of Education, Universities and Research (MIUR) OA working group and the Italian OA promotion community which includes the OA-Italia mailing list and the Italian Wiki-OA page. In the tenth anniversary of the Messina Declaration, the Messina OA Roadmap 2014-2018 was defined to strengthen actions, co-operation and a shared vision on OA and was signed by more than 40 Italian institutions. At the European level, distinct Italian institutions and organizations have been participating in OA capacity building projects such as DRIVER, OpenAIRE and MedOANet.

At the institutional level, 50 Italian universities and research institutes have implemented OA policies. Green OA constitutes the predominant way to make research outputs freely available online.

At the research funders' level, MIUR, Italy's main public funder, implemented and funded the Scientific Independence of young Researchers (SIR) Programme in 2014. The programme includes a clause on OA that requires provision of free online access to research publications and research data. Two private research funders, Fondazione Cariplo and Telethon Foundation, have also issued OA policies.

Following the assessment of Italian national, institutional and funder OA policies (54 in total), Figure 1 shows which policy elements are aligned with the H2020 OA policy.
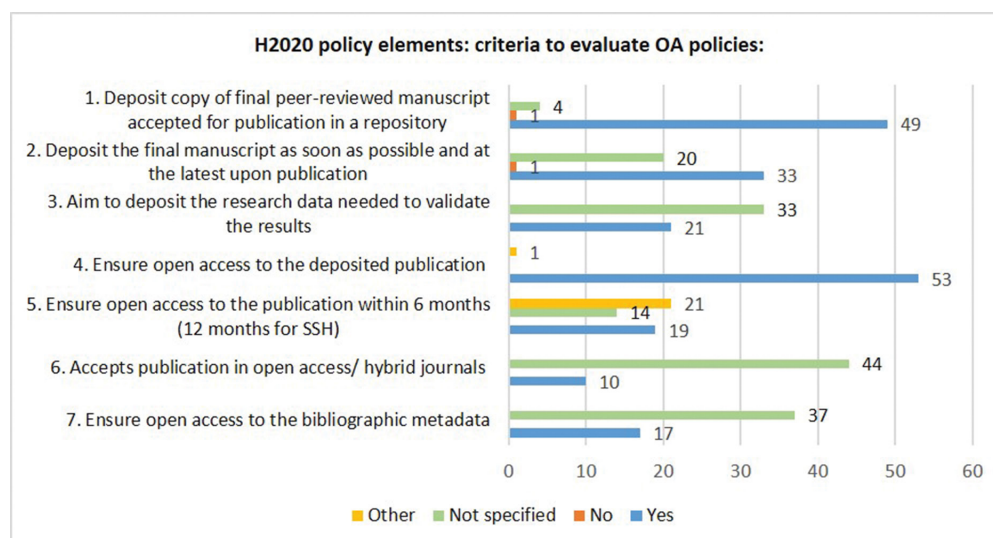

H2020 policy elements: criteria to evaluate OA policies:

	Other	Not specified	No	Yes
1. Deposit copy of final peer-reviewed manuscript accepted for publication in a repository		4	1	49
2. Deposit the final manuscript as soon as possible and at the latest upon publication		20	1	33
3. Aim to deposit the research data needed to validate the results		33		21
4. Ensure open access to the deposited publication	1			53
5. Ensure open access to the publication within 6 months (12 months for SSH)	14	21		19
6. Accepts publication in open access/ hybrid journals		44		10
7. Ensure open access to the bibliographic metadata		37		17

Figure 1. Italian OA policies aligned with H2020 OA policy elements

The Netherlands

In 2013 the Dutch Secretary for Education, Culture and Science, Sander Dekker, affirmed in a letter to the Dutch Parliament the government's OA policy and defined an OA roadmap[25]. Dekker's letter informed that the funding conditions for OA would be tightened, based on a preference for gold OA, provided there are no associated embargo periods, and with green OA as an alternative. The targets for the publication of peer-reviewed articles in OA format are 60% by 2019 and 100% by 2024. At the national level, Dutch institutions, funders, associations and independent organizations have been actively involved in promoting open access to scientific information. Dutch institutions and funders have also been involved in various EU-funded projects dedicated to promoting open access to scientific information and research data.

In the Netherlands, six research universities and the Royal Netherlands Academy of Arts & Sciences (KNAW), which is both a research funder and a research institution, have adopted institutional OA policies. The Dutch institutional OA policies largely accept both green and gold routes to open access but the government recommended that institutions prioritize gold OA.

> In the Netherlands, six research universities and the Royal Netherlands Academy of Arts & Sciences … have adopted institutional OA policies.

The main research funder, the Netherlands Organization for Scientific Research (NWO), determined its OA policy in the Regulation on Granting of May 2011, and it supports the gold OA route. NWO promotes publications in OA journals, prohibits payments for publication in hybrid journals and provides funds to cover article processing charges (APCs) in OA journals.

Figure 2 shows the policy elements where Dutch national, institutional and funder OA policies (nine in total) are aligned with the H2020 OA policy.
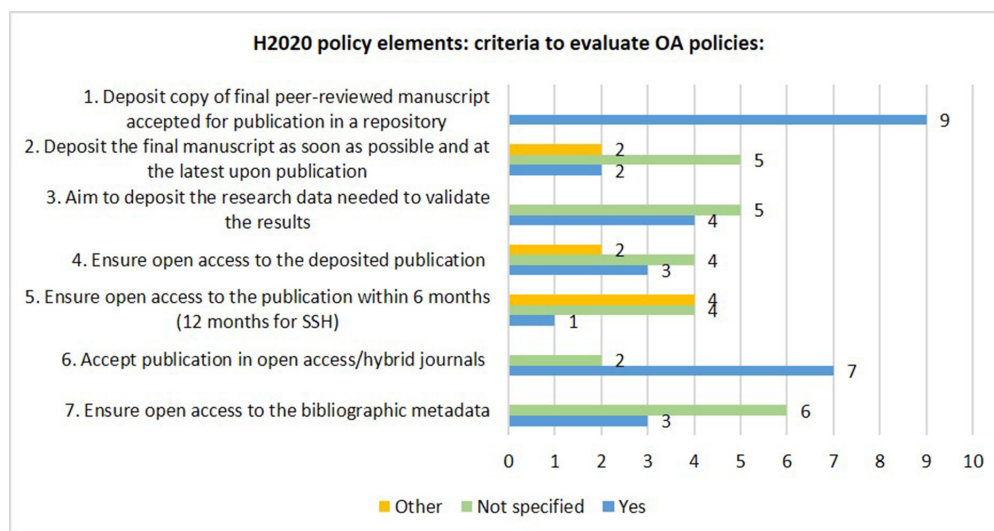

Figure 2. Dutch OA policies aligned with H2020 OA policy elements

Turkey

Turkey is associated to the EU research and innovation programmes[26] and is one of the ERA associated countries that participates in more EU-funded projects[27].

Turkey does not have a national OA policy. OA has yet to be dealt with on a higher level and brought to the attention of the government through the Turkish Scientific and Technological Research Council (TUBITAK), the main public research funder. Notwithstanding, the Consortium of Anatolian University Libraries (ANKOS) has played an important role in raising awareness about OA through its OA Working Group. Turkey's collaboration in EU-funded OA projects such as MedOANet, OpenAIRE and PASTEUR4OA have also brought OA policy and infrastructure-related issues to the forefront of the information management landscape.

'Turkey does not have a national OA policy'

A total of 72 institutional OA policies were identified, of which only 30 are currently listed in ROARMAP. The institutional OA policies favour the green OA model and a few mention a meek support for authors seeking other publishing avenues.

In Turkey there are no funders' OA policies. Overall, a number of stakeholders are engaged in promoting the introduction of OA legislation and funder mandates, as well as in supporting the increase of institutional OA policies and encouraging the existing ones to be strengthened.

Figure 3 summarizes the elements of the Turkish institutional OA policies (72 in total) that are aligned with the H2020 OA policy.
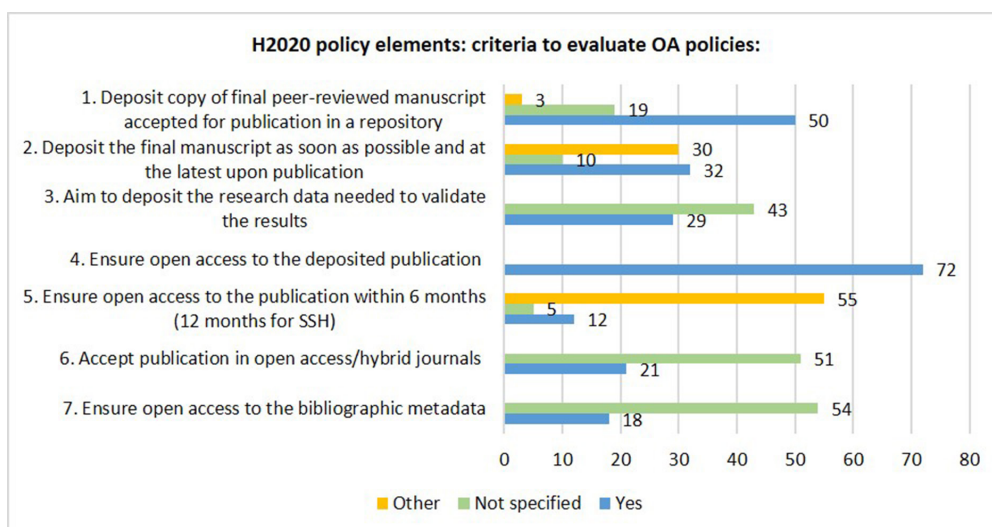
H2020 policy elements: criteria to evaluate OA policies:

1. Deposit copy of final peer-reviewed manuscript accepted for publication in a repository — Other: 3, Not specified: 19, Yes: 50

2. Deposit the final manuscript as soon as possible and at the latest upon publication — Other: 30, Not specified: 10, Yes: 32

3. Aim to deposit the research data needed to validate the results — Not specified: 43, Yes: 29

4. Ensure open access to the deposited publication — Yes: 72

5. Ensure open access to the publication within 6 months (12 months for SSH) — Other: 55, Not specified: 5, Yes: 12

6. Accept publication in open access/hybrid journals — Not specified: 51, Yes: 21

7. Ensure open access to the bibliographic metadata — Not specified: 54, Yes: 18

Legend: Other, Not specified, Yes

Figure 3. Turkish OA policies aligned with H2020 OA policy elements

The UK

The UK government officially declared its support to increasing open access to research publications in July 2012 following the publication of the Finch Group report. The national OA policy favours immediate unrestricted open access (gold OA) and funds have been made available to cover publication costs in OA and hybrid journals[28]. Green OA is accepted as an alternative to gold OA during a period of transition. National networks such as the UK Council of Research Repositories (UKCoRR), the Society of College, National and University Libraries (SCONUL), Research Libraries UK (RLUK), the Association of Research Managers and Administrators (ARMA) and Universities UK (UUK) have been actively involved in promoting OA. At the European level, various UK stakeholders have been participating in EU-funded OA projects.

Currently, there are a total of 83 institutional OA policies in the UK. The overwhelming majority of the UK's institutional OA policies support green OA.

H2020 policy elements: criteria to evaluate OA policies:

1. Deposit copy of final peer-reviewed manuscript accepted for publication in a repository — Yes: 101

2. Deposit the final manuscript as soon as possible and at the latest upon publication — Other: 61, Not specified: 27, Yes: 13

3. Aim to deposit the research data needed to validate the results — Not specified: 56, Yes: 45

4. Ensure open access to the deposited publication — Other: 1, Yes: 100

5. Ensure open access to the publication within 6 months (12 months for SSH) — Other: 48, Not specified: 26, Yes: 27

6. Accept publication in open access/hybrid journals — Not specified: 23, Yes: 78

7. Ensure open access to the bibliographic metadata — Not specified: 33, Yes: 68

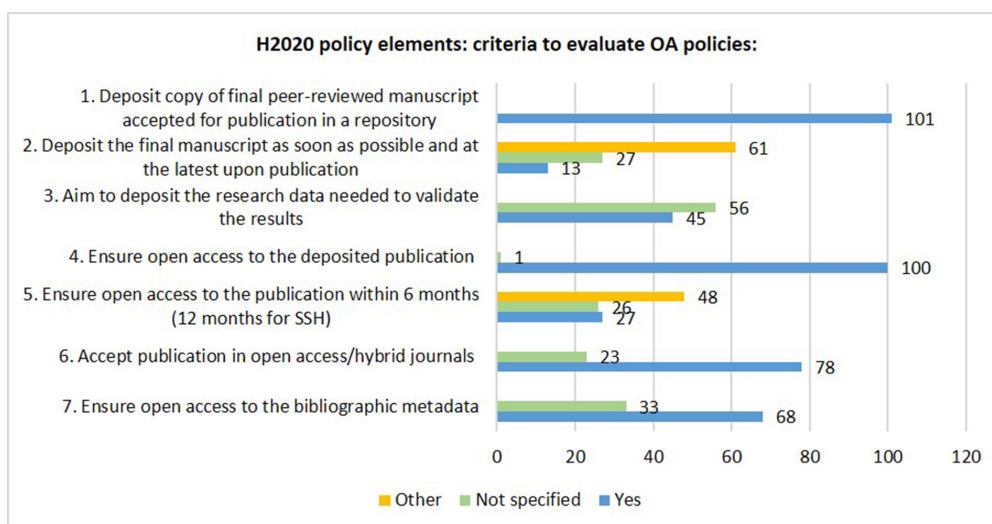Legend: Other, Not specified, Yes

Figure 4. UK OA policies aligned with H2020 OA policy elements

In the UK, a total of 35 public and private research funders have developed OA policies. The revised OA policy of the UK Research Councils (RCUK), the major public research funder, favours immediate open access (gold OA). The OA policy of the UK Higher Education Funding Councils, the major providers of funding for UK universities, will require that between 1 April 2016 and 31 March 2017, researchers deposit the final peer-reviewed

'In the UK, a total of 35 public and private research funders have developed OA policies'

publication in an institutional or subject repository 'at any point between acceptance and up to three months after the date of publication' and that from 1 April 2017, researchers deposit outputs 'within three months of acceptance'[29]. Research outputs must be made OA after a 12/24-month embargo period. Some UK government divisions and private research funders have also adopted OA policies.

The results from the assessment of the UK national, institutional and funders' OA policies (119 in total) show in Figure 4 which policy elements are aligned with the H2020 OA policy.

Cross-national results

The results from the assessment of a total of 255 OA policies in five ERA countries show that national, institutional and funders' policies are closely aligned with the H2020 OA policy in the following requirements:

- deposit of the electronic copy of the final peer-reviewed manuscript accepted for publication in a repository (228 policies or 89%)

- ensure OA to the deposited publication (244 policies or 96%).

Conversely, the policy elements where there is greater divergence between national, institutional and funders' OA policies with the H2020 OA policy are:

- deposit the final peer-reviewed article as soon as possible and at the latest upon publication (101 policies or 40% specify different deposit dates from that expressed in the H2020 OA policy and 69 policies or 27% do not specify this requirement)

- ensure OA to the publication within a maximum of 6 months (12 months for social sciences and humanities, SSH) (132 policies or 52% specify different embargo periods from that expressed in the H2020 OA policy and 64 policies or 25% do not specify this requirement).

In a significant number of OA policies, reference was not made to requirements specified in the H2020 OA policy:

- aim to deposit the research data needed to validate the results (147 policies or 58%)

- acceptance of publication in OA or hybrid journals (127 policies or 50%)

- ensure OA to the bibliographic metadata (144 policies or 57%).

Discussion

The data collected from the case studies show that, at the cross-national level, OA policies are largely aligned with the H2020 OA policy requirements to deposit peer-reviewed articles and to ensure open access to them. This demonstrates that when OA policies are adopted, they share a common goal: to make scientific information freely available online. Considerable divergence between OA policies is, however, observed in terms of embargo periods and deposit dates. The implications here are that extensive variation between embargo periods and deposit dates add increased complexities to the process of complying with one or multiple policies and can set back compliance. Accentuated differences in the requirements of these policies also have implications in negotiations with publishers and in the probability of reaching cross-institutional and cross-funder co-ordinated agreements with publishers. In a relevant number of cases, OA policies do not make reference to requirements such as depositing research data, publishing in OA or hybrid journals and providing bibliographic metadata. These results suggest that OA policies need to become clearer and more consistent.

'OA policies need to become clearer and more consistent'

OA experts[30] have been strongly recommending that policies become aligned so that researchers can comply with a single and consistent set of requirements across agencies – i.e. research institutions and funding organizations – and so that, ultimately, more scientific

information is available for free. Recent research also demonstrates that the H2020 OA policy has a specific set of requirements that make it an effective policy model type. The implications of aligning OA policies in the ERA would be that strategies to make scientific information open access would advance OA more effectively. Common strategies would be more effective in increasing researchers' awareness about OA and promoting policy compliance. Policy alignment could benefit research libraries by directing resources to the development of common OA strategies and promoting the use of similar or interoperable infrastructure and monitoring systems. Research institutions and funders could benefit from jointly addressing issues related to copyrights, licensing, embargoes, compliance monitoring, infrastructure development and interoperability.

'the H2020 OA policy has a specific set of requirements that make it an effective policy model type'

Cross-national policy convergence literature suggests that transnational communication mechanisms can advance policy convergence. Table 1 illustrates some of the ways in which OA policy convergence can be promoted or is already being promoted in the ERA.

	Outcome	Cross-national OA policy convergence in the ERA
Lesson-drawing	Countries learn from successful problem-solving approaches in other countries, which are perceived as best practice, to address their national problems.	An ERA country facing challenges in developing and implementing aligned OA policies and strategies with that of H2020 learns from the experiences of other countries and uses that knowledge to address its national problems.
Transnational problem-solving	Transnational networks share common challenges, conceive solutions to answer similar national challenges and implement solutions at national level.	OA transnational networks such as the PASTEUR4OA's Key Nodes engage in joint problem-solving to address national problems in developing, implementing and aligning OA policies with that of H2020.
Emulation	Countries copy policy models already in use by other countries with the aim of reaching conformity with other countries.	An ERA country emulates the EC's H2020 OA policy model.
International policy promotion	International institutions promote policy models that they consider to be promising and pertinent. For example, 'non-binding international agreements or propositions on broad goals and standards that national policies should aim to achieve'[31].	The EC promotes an OA policy model based on the Recommendation on Access to Scientific Information and the H2020 OA policy that ERA countries are strongly encouraged to follow.

Table 1. Transnational communication policy convergence mechanisms

In practice, some steps are being taken in the direction of promoting OA policy alignment. Greece, Italy, the Netherlands, Turkey and the UK have been engaged in facilitating communication and information exchange on open access, the H2020 OA policy and policy alignment through national and international networks – for instance, the Knowledge Exchange – as well as through participation in EU-funded OA projects such as PASTEUR4OA, OpenAIRE, MedOANet, RECODE and FOSTER. The involvement of ERA countries in pan-European networks such as the OpenAIRE NOADs and the PASTEUR4OA Key Nodes means these also work as spaces where information is shared about the H2020 OA policy, where best practices and shared problems are discussed, where advocacy materials are disseminated and where policy development and alignment is encouraged. National, institutional and funder OA policies proposed or already adopted in Slovenia, Croatia, Greece, Belgium, Ireland and Norway show that they are following the H2020 OA policy model. The way forward to promote OA policy alignment in ERA countries in a more systematic way can be through the development of a network that engages with distinct national stakeholders in promoting policy development and alignment. PASTEUR4OA is exploring paths to establish such a network.

Conclusion

OA policies play a significant role in advancing open access to scientific information and act as mechanisms that facilitate an increasing awareness about OA. Whilst the number of OA policies has been increasing, they are often formulated in different ways and the extent of variation in the requirements of OA policies has numerous implications for multiple stakeholders. The EC's H2020 OA policy is considered as an effective policy model that can be used as a framework for the further development and alignment of OA policies in the ERA. OA policies are to a large extent harmonized with the H2020 OA policy on requirements to deposit scientific information and to make that information open access. There is scope for policies to become increasingly aligned with the remaining H2020 OA policy requirements. Transnational communication mechanisms have in some cases been shown to be effective vehicles to promote policy alignment. The exchange of information, lesson learning, and problem-solving techniques at the bilateral level, through transnational networks and through the EC, can further enhance the harmonization of OA policies.

'There is scope for policies to become increasingly aligned with the remaining … requirements'

Glossary

DRIVER	Digital Repository Infrastructure Vision for European Research
EC	European Commission
ERA	European Research Area
EU	European Union
FP7	Seventh Framework Programme
FOSTER	Facilitate Open Science Training for European Research
H2020	Horizon 2020
MedOANet	Mediterranean Open Access Network
OpenAIRE	Open Access Infrastructure for Research in Europe
PASTEUR4OA	Open Access Policy Alignment Strategies for European Union Research
RECODE	Policy RECommendations for Open Access to Research Data in Europe
ROARMAP	Registry of Open Access Repository Mandates and Policies
SHERPA/JULIET	Database of research funders' open access policies

Appendix 1

General indicators for higher education and R&D

	Greece[16]	Italy[17]	Netherlands[18]	Turkey[19]	UK[20]	EU average (2012)[21]
Population (million, 2013) (source: ERAWATCH)	11.1	59.7	16.7	74.7	63.5	N/A
GDP per capita (EUR, 2012) (source: ERAWATCH)	€19,200	€25,200	€32,800	€7,500	€28,300	€25,500
HEIs (number, total) (source: ERAWATCH)	21	95	14	164	165	n/a
GERD (% of GDP, 2012) (source: ERAWATCH)	0.69%	1.27%	2.16%	0.86%	1.72%	2.06%
Higher education research and development expenditure (HERD) (EUR, 2012)	€534.3m	€5,676.5m	n/a	€2,429.7m	£7.2 billion	n/a
R&D performed by HEIs (% of GERD, 2012) (source: ERAWATCH)	39.9%	28.6%	33%	43.9%	27%	24%
R&D performed by PROs (% of GERD, 2012) (source: ERAWATCH)	1.0%	13.7%	11%	11%	8%	12.4%
R&D performed by Business sector (% of GERD, 2012) (source: ERAWATCH)	34.3%	54.5%	57%	45.1%	63%	63%
Total researchers (FTE, all sectors, 2012) (source: EUROSTAT)	24,800.00	110,695.00	71,133.00	82,122.00	256,156.00	1,678,083.00[22] (EU 28, total)

Note: GDP = gross domestic product; HEIs = higher education institutions; GERD = gross domestic expenditure on research & development; HERD = higher education expenditure on research & development; R&D = research & development; PROs = public research performing organizations. Sources: ERAWATCH, UK Office for National Statistics.

References

1. Recommendation on access to and preservation of scientific information:
   http://ec.europa.eu/research/science-society/document_library/pdf_06/recommendation-access-and-preservation-scientific-information_en.pdf
   (accessed 17 February 2015).

2. Guidelines on open access to scientific publications and research data in Horizon 2020:
   http://ec.europa.eu/research/participants/data/ref/h2020/grants_manual/hi/oa_pilot/h2020-hi-oa-pilot-guide_en.pdf (accessed 18 February 2015).

3. Swan, A, Policy guidelines for the development and promotion of open access, 2012, Paris, UNESCO:
   http://www.unesco.org/new/en/communication-and-information/resources/publications-and-communication-materials/publications/full-list/
   policy-guidelines-for-the-development-and-promotion-of-open-access/ (accessed 15 April 2015).

4. PASTEUR4OA, *Open Access policy effectiveness: A briefing paper for research institutions*, 2015:
   http://www.pasteur4oa.eu/ (accessed 31 July 2015).

5. Archambault, E, Amyot, D, Campbell, D, Caruso, J, Deschamps, P, Nicol, A, Provencher, F, Rebout, L and Roberge, G, *Evolution of Open Access Policies and Availability, 1996–2013*, 2014, Montreal, Science-Metrix:
   http://science-metrix.com/files/science-metrix/publications/d_4.5_sm_ec_dg-rtd_oa_policies_proportion_oa_1996-2013_v05p_0.pdf (accessed 2 April 2015).

6. Xia, J, Gilchrist, S B, Smith, N X P, Kingery, J A, Radecki, J R, Wilhelm, M L, Harrison, C H, Ashby, M L and Mahn, A J, A review of open access self-archiving mandate policies, *Libraries and the Academy*, 2012, 12(1), 85–102:
   https://www.press.jhu.edu/journals/portal_libraries_and_the_academy/portal_pre_print/current/articles/12.1xia.pdf (accessed 9 April 2015).

7. Eger, T, Scheufen, M and Meierrieks, D, The determinants of open access publishing: survey evidence from countries in the Mediterranean Open Access Network (MedOANet), Social Science Research Network, 2014; DOI:
   http://dx.doi.org/10.2139/ssrn.2457550 (accessed 24 August 2015).

8. Shieber, S and Suber, P, *Good practices for university open-access policies*, 2013, Harvard Open Access Project:
   http://cyber.law.harvard.edu/hoap/Good_practices_for_university_open-access_policies (accessed 8 September 2015).

9. MedOANet, *Guidelines for implementing open access policies for research performing and research funding organizations*, 2013:
   http://www.medoanet.eu/sites/www.medoanet.eu/files/documents/MED2013_GUIDELine_dp_EN_ws.pdf (accessed 15 April 2015).

10. Swan, A, Gargouri, Y, Hunt, M and Harnad, S, *Working together to promote open access policy alignment in Europe*, 2015, PASTEUR4OA:
    http://www.pasteur4oa.eu/news/109#.VSU258N0zlU (accessed 9 April 2015).

11. Knill, C, Introduction: cross-national policy convergence: concepts, approaches and explanatory factors, *Journal of European Public Policy*, 2005, 12(5), 764-774; DOI:
    http://dx.doi.org/10.1080/13501760500161332 (accessed 24 August 2015).

12. Drezner, D W, Globalization and policy convergence, *International Studies Review*, 2001, 3(1), 53–78.

13. Holzinger, K and Knill, C, Causes and conditions of cross-national policy convergence, *Journal of European Public Policy*, 2005, 12(5): 775–796.

14. Open Science (Open Access):
    http://ec.europa.eu/research/swafs/index.cfm?pg=policy&lib=science (accessed 31 July 2015).

15. Vögtle, E M, Knill, C and Dobbins, M, To what extent does transnational communication drive cross-national policy convergence? The impact of the bologna-process on domestic higher education policies, *Higher Education*, 2011, 61(1), 77-94.

16. [This ref. appears in Appendix 1] ERAWATCH Greece:
    http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/gr/country (accessed 9 September 2015).

17. [This ref. appears in Appendix 1] ERAWATCH Italy:
    http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/it/country (accessed 9 September 2015).

18. [This ref. appears in Appendix 1] ERAWATCH Netherlands:
    http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/nl/country (accessed 9 September 2015).

19. [This ref. appears in Appendix 1] ERAWATCH Turkey:
    http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/tr/country (accessed 9 September 2015).

20. [This ref. appears in Appendix 1] ERAWATCH UK:
    http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/country_pages/gb/ (accessed 9 September 2015).

21. [This ref. appears in Appendix 1] EU Fiche:
    http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/european_perspective/EU_Profile/eu_profile?section=OverviewEUprofile
    (accessed 9 September 2015).

22. [This ref. appears in Appendix 1] Eurostat Database: Tables by themes: Science and technology: Research and development: Statistics on research and development: Total researchers (FTE), by sectors of performance (tsc00004), 2012:
    http://erawatch.jrc.ec.europa.eu/erawatch/opencms/information/european_perspective/EU_Profile/eu_profile?section=OverviewEUprofile
    (accessed 9 September 2015).

23. Law number 4310 on Research, Technologic Development and Innovation and other provisions, OJ, Volume A, 8 December 2014:
    www.et.gr (accessed 3 August 2015).

24. Law number 91 of 8 August 2013 (modified by law number 112 of 7 October 2013), Urgent measures for the protection, enhancement and recovery of property and cultural activities and tourism:
    http://www.normattiva.it/uri-res/N2Ls?urn:nir:stato:decreto-legge:2013-08-08;91 (accessed 25 March 2015).

25. Open Access to publications:
    http://www.government.nl/documents-and-publications/parliamentary-documents/2014/01/21/open-access-to-publications.html
    (accessed 31 July 2015).

26. European Research Area: Facts and Figures 2014: Research and Innovation Turkey:
    https://ec.europa.eu/research/era/pdf/era_progress_report2014/country_fiches/era-turkey.pdf (accessed 3 August 2015).

27. CORDIS Seventh Framework Programme Projects by Country: Turkey
http://goo.gl/uPHsWs (accessed 3 August 2015).

28. Letter to Dame Janet Finch on the Government response to the Finch group report: accessibility, sustainability, excellence: how to expand access to research publications:
https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/32493/12-975-letter-government-response-to-finch-report-research-publications.pdf (accessed 19 February 2015).

29. HEFCE Open Access research:
http://www.hefce.ac.uk/rsrch/oa/Policy/ (accessed 2 August 2015).

30. Swan, A, Time to align policy, *Nature*, 495: 442–443 (28 March 2013); DOI:
http://dx.doi.org/10.1038/495442a

31. [This ref. appears in Table 1] Holzinger, K and Knill, C, ref. 13, p. 785.

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