
National guidelines for Open Access to Research results

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Introduction

The Government aims to make the results of all Norwegian research openly available and that Norway shall be a cautious forerunner in this respect. At the beginning of 2016, the Ministry of Education and Research established a working group that had as its goal the creation of guidelines for open access to research articles¹. In the long run, there are other types of research results that could and should be made openly available, and published research articles should be seen as only one part of the larger goal of open science. The working group describes the mandate and limitations further in Appendix 1.

Immediate and free access to research publications for all will have many benefits, and will contribute to creating a knowledge society:

- The advancement of science will be strengthened due to all researchers, nationally and internationally, having free access to research results they previously did not have access to.
- The private sector will have access to the latest research, which will help meet the growing need to innovate and increase efficiency in a knowledge economy.
- Employees in the public sector, health workers, teachers and journalists and a wide range of other professions will be able to benefit from easier, faster and free access to research results.
- Patients, consumer and special interest groups will benefit greatly from free access to research results
- The general public will benefit in a wide variety of ways from having free access to research results, and will increase the understanding of research, and the ability to participate in it.

¹ <https://www.regjeringen.no/no/aktuelt/the-norwegian-approach-to-open-science-im-pact-and-evaluation/id2482412/>

The fact that publicly funded research is not publically available is deeply problematic, with the exception of cases involving privacy concerns and security related matters. Only around 16% of Norwegian scholarly research articles published in 2015 were openly accessible². The remaining articles were published in traditional journals, where only those who had access via a paid subscription were able to read them. There is a general move towards open access, but this change is slow, and the transition is resulting in increasing costs. The Government wishes to make a rapid transition from the current subscription model to a publishing economy based on open access. An additional aim must be that researchers will consider it natural and beneficial to publish in journals that are openly accessible to the public.

2 Figures from CRISTin

Part 1. National goals and guidelines

Academic publishing is international, and any formulation of national goals for open access in Norway must be in line with developments in other countries and in the EU especially. The EU Competitiveness Council agreed in May 2016 that all scientific papers should be freely available by 2020³. This highly ambitious target demonstrates that the EU assigns high priority to open access, and we believe that Norway should support this common goal. The hearing and debate on our report are valid starting points for such an assessment and discussion.

We suggest the following national guidelines for open access to research publications:

National guidelines

1. Publically funded researchers shall select as their first choice to publish their research articles in open access journals (so-called Gold Open Access).
2. Researchers who choose to publish in subscription-based journals shall make the article openly available in an academic repository (so-called Green Open Access). The article should become openly available maximum 6 months after publication for STM subjects (science, technology and medicine), and 12 months for the humanities and social sciences, in line with the EU Commission's recommendations.
3. All institutions conducting research shall ensure that their research articles are deposited in a suitable repository at the latest by the date of publication, independent of publication channel and of whether it is possible to make them publically available. Only articles thus deposited may be candidates in the performance-based funding system.
4. Institutions and consortia that negotiate agreements with publishers for the purchase of electronic publications shall ensure that the agreements include measures that:
 - a. allow open access,
 - b. are transparent with regard to terms and conditions
 - c. are budget neutral.
5. Public institutions that fund research shall contribute to the funding of open access publishing. Private and charitably funded organisations which fund research are encouraged to do the same.
6. All institutions that conduct and fund research shall establish or revise their own guidelines for open access in line with the national guidelines.
7. All institutions that conduct research shall establish the necessary infrastructure and administrative routines that make it possible for researchers to easily adhere to the guidelines.

³ <http://www.consilium.europa.eu/en/meetings/compet/2016/05/26-27/> See also <https://www.theguardian.com/science/2016/may/28/eu-ministers-2020-target-free-access-scientific-papers>

Part 2. Measures and preconditions

The working group recommends measures within a number of areas in order to successfully implement the guidelines and achieve a rapid transition to open access. Measures are proposed in connection with incentives and funding, for the technical infrastructure, international unitisation and for information work. The measures must contribute to changed practices on the part of individual researchers, in the scientific community as a whole, with publishers, and in institutions that conduct and fund research, as well as the authorities.

The measures aim to balance the need for national governance and the consideration for the autonomy of the individual institutions. The measures are explained and discussed further in Part 3, *Background and discussion* of the report.

Introduction of incentives for publishing open access

(To the Ministry)

It is essential that researchers are given real opportunities to choose open access. The working group recommends that, as a minimum, the committees prioritise open access publication channels on level 2 if they have the choice between publication channels of the same quality. One important incentive is to introduce a separate element for open access publication in the Norwegian Publication Indicator. The Norwegian Publication Indicator already plays a role as an incentive to influence the behaviour of researchers, so this is neither new nor particularly radical. Starting in 2015, a new element was introduced in the Norwegian Publication Indicator for the Higher Education sector to help achieve a political target concerning increased international cooperation. We recommend introducing a similar element to stimulate increased open access publication. Simulations are necessary to determine the required size of such an element to achieve the desired effect.

Financing of open access

(To the Ministry and institutions)

Individual researchers should not cover the costs of open access publication themselves in cases where a publication fee applies. Financing arrangements must be established to cover the costs. Over time, it would be desirable to develop a culture where costs of open access publication are included in the budget for research activity on the same level as for costs

related to other activities.

As long as this is not the norm, the costs must be covered by institutional or national arrangements, for instance through funds. The arrangements must provide all people from all types of research institutions with the opportunity to publish. We also need arrangements that will finance research performed by people with no such affiliation, although this research is far less common. The working group did not have enough time to assess the details of what such financing arrangements should look like. In all likelihood, it would be most beneficial to allow these types of schemes to develop over time, thereby gaining experience with what works. The working group recommends that the discussion of specific financing arrangements be continued between the Ministry, institutional and library management and CRISStin.

Norwegian journals within the humanities and social sciences that wish to continue to receive funding from the Research Council of Norway, must convert to open access from 2017. The Norwegian Association of Higher Education Institutions (UHR), CRISStin and the Research Council of Norway have taken the initiative to establish a national consortium for these publications. The working group places great emphasis on the importance of implementing this measure.

Depositing in a local or national academic repository

(To CRISStin/the Ministry)

One of the most important instruments recommended by the working group, is that depositing of research articles in an academic repository is a precondition for the articles to be considered in the performance-based funding system (cf. guideline 3). This will ensure that most articles are available in an academic repository and many of them can be made openly available after a certain period of time. Currently, all Norwegian researchers technically have the option to deposit their articles in an academic repository, but the solution is perceived as being cumbersome, and there are many institutions that are not familiar with the options. If depositing of articles becomes a requirement, all researchers must have the opportunity to meet the requirement without excessive extra work. A minimum measure would involve ensuring that all institutions either have their own repository or have set up an agreement with a supplier of repository solutions.

The working group believes that the best way to solve this issue would be to create a shared national academic repository. This would conserve resources. As each article is only saved and checked for copyright infringement once, it would make it easier to prepare good statistics and analyse the development within open access, and would generate the lowest costs related to technical operations.

Improved functionality for depositing in an academic repository

(To the Ministry and CRISStin)

There is already functionality in place to deposit articles in the institutions' academic repositories via CRISStin, instead of depositing the articles directly in the repositories. Depositing via CRISStin has the advantage of making it easier to re-use metadata. This is an added benefit as CRISStin contains updated information about which articles have been deposited. However, the current functionality is perceived as difficult to use by both researchers and the owner of the repository, which conducts copyright checks. The working group recommends the development of more user-friendly functionality in order to simplify the process for researchers to deposit articles.

The working group recommends that functionality is added to CRISStin that automatically deposits all articles that are published in open access journals in academic repositories. This routine would prevent the researcher from having to deposit articles that are published with open access and would serve as an additional incentive to select open access publication.

Strengthening the register of approved publication channels and publishers

(To the Ministry)

In order for open access publication to be considered legitimate, it is important to have a channel register where researchers can find an overview of high-quality open access publication channels. The Norwegian Centre for Research Data (NSD) is doing important work to ensure the researchers have such a register. The working group recommends that this work be strengthened financially, to assure the allocation of sufficient resources to NSD so that this work can be continued, while also ensuring high quality and short processing time.

Strengthening cooperation on agreements with international publishers

(To CRISStin and the institutions)

A solid foundation for cooperation has been established at the national level between consortia of research institutions at academic libraries and CRISStin concerning agreements with publishers. In the past two years, Norway has also taken part in intensified international cooperation. Alternative paths for transition to open access publication are tested, experience is exchanged, and it could also become relevant to enter into joint international agreements. International cooperation is crucial in order to have a unified approach in the negotiations with the major international publishers, and continued participation is essential. Because the consequences of the negotiations affect the research activities directly both with regard to content and finances, it is necessary to also involve the heads of research at the institutions in the negotiation process. The working group supports the further strengthening of national and international cooperation around negotiations with publishers aiming at the transition to open access publishing. The active involvement of heads of research in the negotiation process is also recommended.

A group of Norwegian heads of research participated at the Berlin12 conference in December 2015. An initiative that supports a transition from subscriptions to open access publication was prepared after this conference. All Norwegian participating institutions have signed the initiative, and the working group calls on more Norwegian institutions to support the initiative (<http://oa2020.org/>).

Compiling indicators and statistics

(To CRISStin and the institutions)

Because significant changes are expected throughout the entire scientific publication business model, and because it is difficult to predict what consequences this may have for publication patterns and prices, the development must be closely monitored. Good indicators and statistics are required to evaluate whether measures have the desired effect. The Ministry of Education and Research has given CRISStin the task of compiling a set of indicators and statistics covering open access in Norway at a national level. This is to be done in cooperation with the other Nordic countries and through the EU project OpenAire.

The research institutions have the same need locally. CRIStin and the institutions have already started cooperating on the preparation of national and local statistics, and the tools necessary to achieve this are being introduced. Statistics and indicators for open access are expected to be included as natural new elements in this cooperation. The working group does not find that further measures are necessary in this area, but stresses the importance of further developing the existing cooperation.

Improving the criteria for evaluating research

(To the institutions)

The current criteria for evaluating researchers and research groups in connection with appointment, advancement, allocation of research time and project funds are largely based on an assessment of where the researcher/researchers has/have been published. This practice gives considerable power to the publishers of the most prestigious journals. The working group calls for institutions conducting and financing research to sign The San Francisco Declaration On Research Assessment (DORA, <http://www.ascb.org/dora/>), and to amend their evaluation procedures and guidelines in line with the intentions of this declaration. DORA states that systems of remuneration should be based on other quality goals than the prestigious standing of the journal in which the researcher's work has been published. The working group encourages Norwegian institutions to sign the declaration.

Raising awareness and providing information

(To the institutions)

Open access is a complex subject, and there is a high demand for information among both researchers and heads of institutions. In order to achieve the political objectives for open access, comprehensive information must be available on both the benefits and challenges of open access publication, how potential challenges will be handled, and the obligations and opportunities that follow from the new guidelines and from financing requirements. Good information is important, and it is important that everyone help raise awareness concerning the principal and practical aspects of a transition to open access publication. Studies have revealed that part of the key to open access success is a management that supports the principles and stipulates these in a dedicated institutional policy⁴. Many Norwegian research institutions already have open access guidelines in place, but they should be revised revised and synchronised with the national guidelines. Among other things, the

⁴ http://pasteur4oa.eu/sites/pasteur4oa/files/resource/From_policy_development_to_effectiveness_and_alignment.pdf

the institutions must consider dedicated guidelines for depositing in repositories, acceptable embargo, and use of open licence. They must consider financing arrangements for publication fees and practical support for individual researchers to ease use of the arrangement.

The working group recommends that funds be allocated to finance a public information campaign based on material prepared by the institutions, the Research Council of Norway and CRISStin. It is also recommended that the institutions assist researchers with information related to the practical aspects of open access publishing, which options are available to them and their consequences. The practical application of this must be up to the individual institution, but the working group recommends open access training and the inclusion of open access publication in PhD programmes.

Establishment of a steering committee

(To the Ministry)

The working group recommends establishing a national steering committee with responsibility for following up the implementation of the recommended measures, follow-up of the development within open access, potential revision of the guidelines or initiating new measures and studies. The steering committee should be composed of representatives from institutions with key tasks in the implementation of the measures. The working group recommends representatives from research and library management, the Research Council of Norway and CRISStin.

CRISStin has already been appointed as the national coordinator for the work on Open Access and has also been proposed as the secretariat for the steering committee.

Formulation of an implementation plan

(To the steering committee)

The working group recommends that the steering committee, in conjunction with other relevant parties, works to prepare an implementation plan as soon as possible. The plan should contain a cost estimate for the recommended measures, and must evaluate whether other measures are necessary and how the measures should be prioritised. Dependency between measures and the sequence in which they should be implemented must also be assessed.

Part 3. Background and discussion

The work for open access to scientific publications has been ongoing for decades, but there is still a long way to go before the research policy goals in the area have been realised.

The working group believes that helping this work progress faster is a social responsibility of the research community. Central institutions that finance research such as Wellcome Trust, the National Institutes of Health in the US, the Higher Education Funding Council for England (HEFCE), the Research Council of Norway and not least the EU through the Horizon 2020 framework programme, require open access publication of research results from projects they have financed. Other organisations such as UNESCO and the World Bank have also adopted open access guidelines, and private foundations such as the Bill and Melinda Gates Foundation and the Ford Foundation also require the articles financed by them to be published with a so-called CC licence (Creative Commons), an open licence that allows sharing and reuse⁵. In Norway, the principle of open access was addressed in the research white paper “*Vilje til forskning*” (Storting White Paper No. 20, 2004-2005)⁶. Ch. 12.2 of Storting White Paper No. 30 (2008-2009)⁷, “*Klima for forskning*” states that “In principle, the Government believes that all public research should be available to the general public, insofar as this is not prevented due to other concerns”. This was further clarified in Storting White Paper No. 18 (2012-2013) “*Lange linjer*” which states that: “In principle, the Government believes that all research that is fully or partially publicly funded shall be openly available.”⁸

5 <http://creativecommons.org/licenses/>

6 <http://regjeringen.no/nb/dokumenter/stmeld-nr-20-2004-2005-/id406791/?docId=STM-200420050020000DDDEPIS&ch=1&q=&ref=search&term=>

7 <https://www.regjeringen.no/nb/dokumenter/stmeld-nr-30-2008-2009-/id556563/?docId=STM-200820090030000DDDEPIS&ch=1&q=&ref=search&term=>

8 <https://www.regjeringen.no/nb/dokumenter/meld-st-18-20122013/id716040/?docId=STM-201220130018000DDDEPIS&ch=1&q=&ref=search&term=>

Academic freedom - academic responsibility

It is occasionally asserted in open access debates that requirements or expectations for open access publication conflict with principles of academic freedom. The working group is of the opinion that this viewpoint is based on an extremely narrow concept of freedom. Academic responsibility is an important dimension in the concept of academic freedom. As mentioned in the introduction, the working group believes that the core of the open access debate revolves around the academic responsibility that researchers must assume in order to make their results available to everyone who may benefit from, be interested in or enjoy them. The academic responsibility applies to both the scientific community as a whole and individual researchers.

To further elaborate upon this viewpoint, the working group would like to reiterate what researchers actually do when publishing in subscription-based journals. According to the Copyright Act, the author generally holds the rights to distribution and use of texts and other material that is produced. In traditional academic publication, authors usually sign away most rights to the publisher. This limits the possible dissemination and reuse of research results. The Copyright Act governs the moral rights, which cannot be transferred, but the right to produce copies is usually an exclusive right that the publisher demands in order to publish. The working group is of the opinion that this restriction of publicly funded knowledge is a much greater real threat to academic freedom than the introduction of requirements and incentives for open access publication with the potential consequences this could have for researchers.

An increasing number of open journals are using Creative Commons licences (CC licences). These are open licenses that describe an agreement between the author and the user/reader. A piece of work that holds a CC BY Attribution licence signals that the reader/user is granted permission for several forms of use and re-use of the work, while the author retains the right to be named as the creator of the piece. In traditional publication, the rights are transferred to the publisher exclusively, while open access allows everyone the right to read and share.

Academic freedom is not just a philosophical concept, it is also founded in law. Academic freedom has a strong standing in Norwegian research institutions, and is laid down in Norwegian law. In November 2007, the Storting adopted an amendment (Section 1-5 Academic freedom and responsibility) in the Universities and Colleges Act⁹. This amendment requires the institutions to promote and protect academic freedom. Open access

9 Academic protection statute: <https://lovdata.no/dokument/LTI/lov/2007-12-14-117>

to results is also stipulated in the Act, which inter alia states that “Universities and university colleges must ensure transparency of results from research or academic or artistic development efforts.” (Section 6). The Act points out exactly what the working group has discussed; that the freedom to research what you want is inextricably linked to a responsibility for transparency, and to publish the results of the research. NOU 2006:19, which was a report on academic freedom and its relationship with management and leadership, did not address open access publication as a subject, but did discuss the concept of academic freedom from multiple angles. The following is quoted from the report: “The concept of freedom must be understood in this institutional context. It does not mean a private privilege for only certain people. It is also not an unconditional right for the individual researcher and teacher to act entirely at their own discretion. The freedom is both founded in and restricted by Academia’s statutory purpose and international values and norms, and must be used to contribute to good research, education and other forms of knowledge dissemination.”¹⁰

The guidelines we recommend in this report do not require selecting channels with open access. It could be discussed whether such a requirement would conflict with academic freedom. When a researcher receives funding from the Research Council of Norway or the EU, it would be unproblematic for open access publication of the results to be a condition of this funding. It is not a given that the Norwegian State, as the primary sponsor of Norwegian research through basic grants, cannot stipulate the same terms in their agreements with the institutions. However, the working group has concluded that a requirement would be a step too far at a time when several important challenges still need to be solved before open access publication is consistent with expectations for quality and before some of the practical aspects are in place in order for such publication to not be considered a burden.

However, the working group does not believe that it would be an infringement of academic freedom to provide additional incentives for selecting open access channels.

10 NOU 2006: 19 Akademisk frihet— Individuelle rettigheter og institusjonelle styringsbehov. <https://www.regjeringen.no/no/dokumenter/nou-2006-19/id392466/?ch=1&q=>

Gold, green and hybrid - versions of open access

The BBB Declarations (Budapest, Bethesda, Berlin¹¹) are three declarations from 2002-2003 that laid down and defined open access as a principle. The declarations define both green and gold open access. Gold open access entails that the published version of an article is made publicly available immediately, whereas green open access means that the publisher grants permission for a version of the publication to be made available in an academic repository, usually after a set period. A few publishers/journals allow making the publisher's PDF available. As a general rule; however, only the most recent peer reviewed version is permitted before printing, which means that important formatting (such as page numbers and figures) could be missing. Many research communities are accustomed to sharing early versions like this, while others are less comfortable making this version available because the article is not presented in its final format. There is also a risk of incorrect citations in such versions. A third option for making articles publicly available is to purchase free individual articles in subscription-based journals (so-called hybrid open access). A large number of publishers offer this option. The challenge is the risk of having to pay twice, through paying both for the subscription and for purchasing the article.

The working group recommends making gold open access the norm for research articles as quickly as possible. This is reflected in the first of the recommended guidelines, where each researcher is expected to publish in the sense of gold open access. Compared to green open access, this will provide faster access to the final version of the article, and is also a cheaper solution than hybrid, as it is not necessary to maintain the subscription system while also having arrangements for financing open access. However, the working group still believes that, under certain terms, green and hybrid open access could play an important role during a transition period. Even the most optimistic estimates indicate that it will take several years before open access publication becomes the norm. In the meantime, green open access represents an opportunity to make a relatively significant share of the articles available. Hybrid open access is a more expensive alternative than gold, but has the major advantage of allowing researchers to continue publishing in the journals they are accustomed to. However, the working group does not recommend individual free purchase of articles in subscription journals because this could result in paying twice, and it has proven to be difficult to retrieve the articles as open access. Hybrid publication could become an alternative if this were to take place as a part of collective agreements with the publishers for offsetting payment for free purchase against subscription costs (often referred to as offset agreements). This is discussed further in the chapter on financing and licence agreements.

11 https://en.wikipedia.org/wiki/Berlin_Declaration_on_Open_Access_to_Knowledge_in_the_Sciences_and_Humanities

Many previously published articles can be made available in academic repositories. However, it is challenging both to determine the terms and conditions stipulated by the publishers at the time the articles were published and to obtain a version that the publisher allows to be made publicly available. The working group therefore does not recommend any joint guidelines or measures in this area, but leaves it up to the individual institution to consider what is possible and appropriate.

Benefit to society and global solidarity

As mentioned in the introduction, the private sector, public enterprises and society at large will benefit from open access. A large number of studies have revealed significant socioeconomic gains from improving access to research results. One of these is a report from Denmark's Electronic Research Library (DEFF), which investigated the effect of improved access to research literature in a selection of small and medium-sized companies. The result showed that the majority of the employees in these companies had problems obtaining access to the research literature that they needed. The time spent getting access alone was an average of 60 minutes per article. The overall value of the time spent and the disadvantages of not getting access was estimated to be DKK 540 million¹². To clarify, the study did not focus on large companies that can potentially afford to buy expensive subscriptions, but the socioeconomic losses would probably be much greater if the entire private sector was examined as a whole. There has not been a corresponding study on Norwegian conditions, but it would not be unreasonable to assume that the potential is comparable with the findings from Denmark. In the working group's dialogue with the Confederation of Norwegian Enterprise (NHO), there was a perception that perhaps the Norwegian business community does not have sufficient awareness of the vast scope of knowledge that could benefit them if research articles were more easily accessible. We would like the NHO to take part in the ongoing debate on the Norwegian business community's need for access to research.

Open access to scientific journals is not only a question of better research and improved competitiveness. Nor does it exclusively revolve around a national perspective where the Norwegian taxpayer – the journalist, teacher, general practitioner, or the curious citizen – shall have the right to use knowledge that was produced through public funding. Open access also has an important global dimension. Carlos Moedas, the EU's Commissioner for Research,

12 http://www.deff.dk/uploads/media/Access_to_Research_and_Technical_Information_in_Denmark.pdf

Science and Innovation, recently put the debate on the EU's research policy into a global solidarity perspective¹³. As one example, research articles are a crucial element in the work to improve health services in low and middle-income countries. There are measures in place to improve access to scientific journals for health researchers in several of these countries, but such access would be both better and cheaper if most research was published open access. Open access to research literature has also been pointed out as an essential instrument for UNESCO in their work¹⁴.

13 https://ec.europa.eu/commission/2014-2019/moedas/announcements/european-research-21st-century-global-challenges_en

14 <http://www.unesco.org/new/en/communication-and-information/access-to-knowledge/open-access-to-scientific-information/>

A new publication economy

The market for scientific journals is characterised by imperfect competition and market failure. It appears as if neither European nor national competition authorities are willing or able to try to change this situation. The successful transition to a new publication economy could entail that major publishers will lose their dominant market power. Most scientific journals are currently based on subscriptions, and the price of subscriptions has risen sharply in recent years.

The consumer price index in the US was 1.5% for 2013, whereas the increase in subscription prices for scientific journals was 6.1%. During the period from 2010 to 2014, the price of subscriptions rose by an average of 24.7%¹⁵. For several years, the price of subscribing to the literature they need has been too high for small research institutions. In recent years, major institutions such as Harvard have also been forced to cut their benefits for researchers, and the situation is no different for the biggest institutions in Norway. On top of this, electronic literature in Norway is subject to VAT, which is not the case for paper-based literature.

Open access is currently financed in a multitude of ways. For most journals that are currently open access, no payment is required to publish an article, because this is financed through membership fees in an association or through having a research institute publish the journal. Though this applies to the majority of journals, overall, they make up a relatively small share of articles. Most articles are financed through an Article Processing Charge (APC). The charge in open access journals (gold open access) varies from approx. EUR 400 to about EUR 2000. Prices are normally higher for free purchase of articles in subscription-based journals (hybrid open access), ranging from EUR 2000 to EUR 5000 or more for the most prestigious publications.

Many are concerned that a transition to open access publication will become more expensive than the current subscriptions. In 2015, the Max Planck Digital Library published a comprehensive report which shows that this need not be the case¹⁶. Based on figures from the publishers' subscription revenue and the articles that are published on a global scale today, they estimated that we currently pay between EUR 3800 and EUR 5000 for each article that is published. This far exceeds the average Article Processing Charge. In Germany, the average Article Processing Charge (which includes the highest charges in prestigious journals) is well under EUR 1500. Even with a significantly higher Article Processing Charge, it would

15 American Library Association <http://www.ala.org/alcts/resources/collect/serials/spi>

16 <http://pubman.mpdl.mpg.de/pubman/faces/viewItemOverviewPage.jsp?itemId=escidoc:2148961>

be possible to pay for open access for all the articles produced around the world with a good margin¹⁷.

Information on subscription costs, costs associated with the funds and the Research Council of Norway's programmes must be collected for the purpose of obtaining an overview of how much Norway and the individual institutions pay publishers today. Only a very small number of funds and financing programmes currently cover hybrid publication, and the working group is of the opinion that this practice is sound, as the hybrid publication method often results in paying the publishers twice. However, as this is a popular form of open access, the working group has found that considerable sums are paid from budgets at lower levels in the institutions for such purchases. These funds must be included as well, but it is difficult to gain a proper overview. Calculation of societal benefit should ideally be included in the total equation, but there are no analyses for Norwegian conditions yet. According to calculations, there are already sufficient funds in the subscription system in Norway to fully finance a transition to open access.

Regardless of how one predicts that the transition from subscription-based financing to a situation where open access is the norm will take place, the period of transition will be expensive. It is therefore essential that the transition is implemented as quickly as possible. Transparency regarding prices and other terms and conditions, as well as close international cooperation with exchange of experience, will be crucial for achieving the target.

The Max Planck Digital Library has taken an initiative for international cooperation to achieve this. Based on their own experiences and corresponding experiences from Austria, the Netherlands and the UK, they invited players to the Berlin12 conference in December 2015, the twelfth consecutive open access conference.

A declaration on how such a transition could be implemented was signed at the conference and several European countries decided to cooperate on this work. The most active participants in this cooperation are Germany, the Netherlands, the United Kingdom, Austria, Norway, Sweden and Finland.

17 http://pubman.mpd.l.mpg.de/pubman/item/escidoc:2148961:7/component/escidoc:2149096/MPDL_OA-Transition_White_Paper.pdf

Who will pay?

In research projects that are financed by the EU, open access charges can be covered by the project budget. However, many scientific articles are written during regular working hours where the researcher is an employee at an institution with a public basic grant, and the researcher does not have a dedicated project budget to cover the publishing expense.

It is important to avoid ending up in a situation where the individual researcher will have to pay out-of-pocket to publish. It is also important to ensure that researchers do not opt out of publication in open access journals for financial reasons. At the same time, it is absolutely necessary to establish mechanisms that prevent article processing charges from spiralling out of control. Many institutions have established funds to cover publication costs, provided that the article fulfils certain requirements. All the largest higher education institutions in Norway have such funds and more and more are following suit. The funds are supported by the Research Council of Norway, which implemented the measure STIM-OA, a grant scheme for the transition period. During 2015-2019, the Research Council of Norway will cover up to 50% of the research institutions' publication costs in open access journals from previous years¹⁸.

It is important that the allocation of funds through such schemes is based on objective criteria and that they are anchored at a high level in the institutional hierarchy, to ensure the publication support cannot be used for rewards and screening. The working group has encountered an occasional concern that the funds for publication fees will become a scarce resource at the local level, and that the budget will be distributed based on criteria that are not academic. It is also important that the routines for allocation and payment are made as simple as possible, to prevent excessive use of resources for administration. Transaction costs from extensive processing of applications and bills for individual articles cannot take up the institutions' time and budgets. Among other things, we must aim for national agreements with the publishers that will prevent the practice of new invoices for every single article.

New models with various forms of individual or institutional membership have been established within the humanities, such as PeerJ, which is based on individual membership, and Open Library of the Humanities, which is based on membership from libraries/institutions. These models are relevant in this context.

18 http://www.forskingsradet.no/no/Nyheter/Gir_stotte_til_apen_publiser-ing/1254005930483?lang=no

The Norwegian Publication Indicator

Performance-based redistribution of research funds (RBO) is used to stimulate behaviour that contributes to the achievement of political research goals. The Publication Indicator, a part of RBO, was introduced to stimulate increased publication while simultaneously maintaining quality levels. An evaluation conducted in 2014 showed that these goals have largely been achieved. Starting in 2015, the Publication Indicator also contains an element for incentivising increased international cooperation in the higher education sector. Similar elements were already in place for the health sector and institutional sector.

The central document that describes the background and intentions of the so-called Norwegian publication indicator system (tellekantsystemet), is a report from 2004 entitled "*Vekt på forskning - nytt system for dokumentasjon av vitenskapelig publisering*" prepared by the Norwegian Council for Higher Education (UHR) on behalf of the Ministry of Education and Research. In Chapter 9 of the report, UHR emphasises that "bibliometric statistics can only be used in this manner on overall general levels for financing research." (pg. 59)¹⁹. An evaluation of the Publication Indicator from 2014 claimed that the indicator is often used in other ways than what it was intended for, and that Norway has underestimated how strong the tendency is for the indicator to also work on an individual level²⁰.

This means that, initially, the system was only intended for use at an aggregated level. This would create incentives at an institutional level. An important aspect of the indicator is also that it should be relatively easy to determine which publications should be included and which should not, to prevent excessive use of resources. The system was therefore designed such that it is mainly the article type in combination with the approved channel that determines whether it should be included, and so it would very rarely become necessary to assess the content in each article. This functions well enough at the institutional level, but could easily be perceived as unreasonable by authors at the individual level.

The Norwegian channel register²¹ which is used as a basis for calculating points in the publication indicator, was structured so that all channels that maintain adequate quality will be approved at level 1, whereas the most prestigious channels will be elevated to level 2. The aim is for 20% of articles to be published in journals at level 2. How many and which journals will belong to level 2, is the subject of annual discussion by tertiary vocational councils within the various disciplines.

19 http://www.uhr.no/documents/Vekt_p_forskning_sluttrapport.pdf

20 http://www.uhr.no/documents/Evaluering_af_den_norske_publiceringsindikator.pdf, pg. 86 and pg. 97

21 <https://dbh.nsd.uib.no/publiseringskanaler/Forside>

Most journals with a high ranking are subscription-based and have usually spent several decades building their reputation. Young journals can hardly compete with these, and open access journals normally fall within this category. The current design of the publication indicator therefore entails that most open access journals have a handicap along with other newcomers. It can be practically impossible within many fields to publish at level 2 and open access at the same time. The national publication council has stated that the publication indicator should remain neutral to open access publication. However, the working group believes that, in practice, the current indicator is not neutral, but rather poses a disadvantage for open access publication. The working group believes that many tertiary vocational councils do not have sufficient awareness about the national and international open access work that is being carried out, and the working group strongly encourages the councils to take the issue seriously.

The working group has discussed multiple methods for compensating for this factor, and has had several discussions with external communities and experts. One option is removing the different levels in the publication indicator. The working group sees strong arguments for this solution. Another option is radical allocation of quotas to journals with open access with appointment to level 2, so that there are a minimum number of open channels on level 2 within all fields. The working group encourages the Ministry to thoroughly consider a continuation of the publication indicator, in light of the evaluation report from 2014 and other considerations²². As an absolute minimum, the working group recommends a moderate allocation of quotas where the tertiary vocational councils elevate open channels to level 2 if they have the choice between otherwise qualitatively equal channels. This comes in addition to the proposal to introduce a separate factor that rewards open access publication.

Channel register and other joint services

The Norwegian Centre for Research Data (NSD) is doing important work associated with investigating the quality of the scientific channels in which Norwegian researchers publish. The channel register also contains labelling of which channels are open. The volume of work associated with the register is rising, and it is absolutely necessary for NSD to be allocated sufficient resources to maintain both high quality and acceptable processing times. This is why the working group established strengthening of the NSD's work in this area as an important measure to ensure the success of the open access work.

22 http://www.uhr.no/documents/Evaluering_af_den_norske_publiceringsindikator.pdf

The emergence of a model that is based on payment per published article has been accompanied by an increase in unprofessional players. There are publishers that are obviously swindlers and others that do not prioritise peer review. Though researchers have an independent responsibility to evaluate where they publish their own research, unprofessional publishers pose a challenge to researchers that are under significant pressure to publish. The channel register therefore has a new role as a gatekeeper to weed out the unprofessional publishers. The working group is of the opinion that NSD's work to weed out unprofessional publishers is essential to maintain legitimacy for professional publishers.

Evaluation of research

Good framework conditions for scientific production are contingent upon researchers holding a relevant position with associated time and resources to conduct research projects and publish results. Naturally, their behaviour is influenced by the factors that are emphasised when they and their work are evaluated in connection with job vacancies and allocation of research time, internal budgets and project funds. The two groups that hold the most power over these factors are research leaders and research sponsors. Good, fair and reasonable evaluation practices are extremely important.

Journal Impact Factor was launched in 1975 as a measure of a journal's relative level of prestige. Though the weaknesses of the Impact Factor are well-known and documented, it is still the most used and recognised system for ranking channels. Over the years, Impact Factor has also increasingly been used as an indicator for the quality of individual articles. In connection with appointments and award of research funds, researchers are often assessed based on where they have been published and not the publications themselves. This means that it is even more important for researchers to publish in the highest ranked journals, a pattern that reinforces the major publishers' dominance in the market.

The practice of evaluating publications based on the prestige of the channel in which they are published instead of the quality of the individual publication is discouraged by a growing number of researchers, and many editors²³. Along with several editors and publishers within scientific publication, the American Society for Cell Biology (ASCB) took the initiative to write The San Francisco Declaration on Research Assessment in 2013 (DORA, see <http://www.ascb.org/dora/>). The Declaration recommends a shift within how research is assessed. A number of leading research institutions and organisations have signed DORA, but very few

²³ European Association of Science Editors (EASE) Statement on Inappropriate Use of Impact Factors”

Norwegian institutions have signed yet. The working group encourages everyone to support the recommendations.

Work is ongoing on multiple international fronts to produce other types of indicators that are based on the individual publication to a larger extent. Norway is considering the introduction of a new type of indicator in the publication indicator system based on citations. The working group considers this development to be positive, but also believes that it is important to keep in mind that the traditions within different fields can vary widely as regards citation practices, and that no single indicator could ever replace a quality assessment that entails reading and evaluating a scientific work on its own merits, by other researchers.

International coordination

Norway is just one single country in international research, and we cannot create the desired change in the publication culture and economy by ourselves. It is crucial that Norway participates in the forums where national and international open access policy is discussed. In 2012, the EU Commission published guidelines for open access and recommendations to the member countries concerning implementation. Most member countries have now adopted such guidelines, but with variations and different approaches.

In the UK, the Government-appointed Finch Committee submitted its report in 2012, with the recommendation to make British research publicly available with an emphasis on publishing in open access journals²⁴. The Netherlands has set a goal of 60% open access in 2018 and 100% in 2024. Open access has also been a priority area during their Presidency of the Council of the EU in the first half of 2016. Their recommendations were presented at a conference in Amsterdam on 4-5 April.

The recommendations from this conference were processed in the EU's Competitiveness Council on 26-27 May. The participants in this meeting agreed to aim for full open access from 2020. The working group believes this goal should be supported, though it may appear too ambitious for some.

Norway participates in several European networks with the goal of international cooperation on Open Access and Open Science. Norwegian research institutions participate

²⁴ <http://www.researchinfonet.org/wp-content/uploads/2012/06/Finch-Group-report-FINAL-VERSION.pdf>

via the European University Association (EUA) and League of European Research Universities (LERU) and the Research Council of Norway participates in Science Europe and Global Research Council. The European Research Area (ERA) road map also clearly points toward open access. CRISTin participates in the EU Commission's network for National Points of Reference within Open Science and as a partner in the EU projects PASTEUR4OA and OpenAIRE, and is responsible for national coordination of the work. The goal of the EU project PASTEUR4OA has been to coordinate the European countries' open access guidelines to the extent possible²⁵.

The most important topics in the international cooperation are the alignment of guidelines for open access to publications and research data, shared technical infrastructure, negotiation of agreements with publishers, plans for financing open access, incentive systems and evaluation of research, as well as establishment of joint indicators to follow the development. It is absolutely essential that Norway's work be included in such an international context.

Multiple European countries and certain leading institutions have entered into agreements with publishers concerning collective free purchase of articles in subscription-based journals. The agreements are based on settlement of open access publication fees against the subscription costs (often called offset agreements), so that publishers are not paid twice for articles. It is important to avoid ending up in a new and undesirable monopoly situation when entering into such agreements, but the working group believes that this could function as a good transition scheme from the subscription model to open access publication. Such agreements allow the researchers to continue to publish in the journals they are accustomed to, while the publications will become open access. The goal of the international cooperation is to ensure that enough of these agreements are entered into, causing publishers to eventually convert entire journal groups from subscription to open access publication.

There are also good examples of academic environments addressing the problems on their own. One such supranational initiative is SCOAP3²⁶, where a consortium of more than 3000 libraries from 47 countries buy free articles published within the field of particle physics. Such agreements will help lay the foundation for a new publication economy and should form part of the basis for negotiations in Norway as well. Another example is the linguistics environment, which took editors and peers from five central journals, turned them into open access journals and moved the publications from traditional major publishers to a smaller and more reasonable publisher²⁷.

25 <http://www.pasteur4oa.eu>

26 <https://scoap3.org/>

27 <http://www.lingoa.eu/>

Requirements concerning depositing

Experience from both Norwegian and foreign institutions has shown that access via versions of the articles saved in academic repositories (green open access) in the short term could provide a significant contribution to open access, though access is usually delayed due to the publishers' embargo requirements. Usually no copyright checks are required for articles that are published open access before they are made available in an academic repository.

Making an accepted version of an article available in an academic repository is an important manner of providing access to research literature until publication in open access journals becomes the norm. A survey commissioned by CRISTin in 2012 showed that at least 40% of Norwegian publications can be made available in an academic repository within the terms stipulated by the publishers for such copies. This can be done without making additional payments to the publishers, but requires considerable work by the libraries to obtain full text versions of the articles and copyright checks.

An academic repository represents the "memory of an institution" by showing what has been published throughout the years. It is not uncommon for articles that have previously been available from the publisher to no longer be available. This could e.g. be due to bankruptcy or that the institution cancelled the subscription and no longer has access to previous material.

The work on collecting full text versions of the articles could be extensive. This job will be less laborious if done around the time when the attention regarding the article is greatest, which is at the time that the article is accepted by the publisher for publication, or at the time it is actually published. In order to provide a strong incentive for doing this work, the working group proposes stipulating a requirement that all articles must be deposited in a suitable academic repository, and that this must be done in order for the article to generate publication points in the performance-based re-distribution (cf. guideline 3). The requirement only relates to depositing, i.e. adding a temporarily hidden copy of the article in the repository, it is not an open access requirement.

Depositing is only the first step in the process of making the article publicly available, but experience from the (former) Oslo University College shows that depositing is the key to a high percentage of open access articles in academic repositories. At the Oslo University College, nearly 90% of all articles are deposited. Previously, the (former) Oslo University

College linked depositing to internal incentive schemes that are similar to those proposed in the national guidelines. Though this incentive scheme no longer exists, the pattern appears to remain. These experiences correspond well with the recommendations from the EU project PASTEUR4OA, which determined the most efficient guidelines for achieving open access. The analyses from PASTEUR4OA also showed that linking the depositing requirement to an incentive scheme is important to achieve the optimal effect.

On this basis, the working group recommends introducing a requirement concerning immediate depositing of articles for the purpose of achieving full impact in RBO. A key part of the practical work of making results available would be accomplished through such a requirement.

Good support from libraries and research administrative personnel is absolutely essential in order for researchers to understand the purpose of the scheme and to implement the practical aspects of the depositing. Our final proposed guideline addresses this.

Depositing – too cumbersome?

The proposed national guidelines do not explicitly state what version of the article must be deposited. The working group believes this should be decided at the institutional level. As regards the embargo, the working group proposes a maximum of six months for STM subjects, and 12 months for humanities and social sciences. This is in line with recommendations from the Research Council of Norway and EU Commission. To ensure mandatory depositing will not draw unnecessary resources away from the research, it must be ensured that there are good services in place to facilitate the administrative work for both researchers and the libraries.

Both the CRISTin system, academic repositories and services such as the channel register are important parts of the administrative infrastructure. This point has also been emphasised by the political leadership²⁸. The current functionality in CRISTin for uploading full text versions of articles is perceived as cumbersome by both researchers and administrators. The plan for CRISTin 2.0 involves developing an improved version of this functionality.

It is possible to develop functionality in the CRISTin system to collect articles that are

28 <https://www.regjeringen.no/no/aktuelt/the-norwegian-approach-to-open-science-impact-and-evaluation/id2482412/>

published in open access journals automatically, provided that there is a link (DOI) to the actual full text and that the journal is registered in DOAJ. The working group believes this should be implemented to reduce the burden placed on researchers in connection with depositing.

Local and national academic repositories

Institutional academic repositories are important both as a part of the open access infrastructure and for scientific communication in general. The repository coverage in the higher education sector is good. Previously, the health library under the Knowledge Centre for the Health Services had a repository service in HERA, but this service has been discontinued, and the health trusts currently have very poor repository coverage. Several research institutes also have no academic repositories. As of mid-2016, there are about 70 academic repositories in Norway. Research cooperation and co-authoring often entail that the same publication is saved in multiple repositories, which results in extensive duplication of data. This also means that the work to clarify copyrights is done multiple times for the same article. These problems would not be an issue with a national repository. Centralising operations would also yield significant gains from a technical operations perspective. Today, BIBSYS runs most of the repositories, but many players, including the universities of Oslo, Bergen and Tromsø, run their own repositories.

Many institutions have requested for several years that the academic repositories be collected in a joint national academic repository. The working group believes that this work should start now. It would result in less work, improved data quality and full national coverage for all the research institutions in Norway. Among other things, a national academic repository must satisfy the institutions' need to be able to show their own production, which is technically possible. In addition to the scientific production, a national academic repository must cover master's theses, doctoral dissertations, educational material and the like. For this reason, the academic repository should not become an integrated part of the CRISStin system, but the uploading of research publications to such a repository should take place via CRISStin. The work on integrating the current repository services into a joint academic repository is expected to be considerable, but this one-time investment will result in substantial savings for the institutions over time.

Social media

One trend that is speeding up the movement towards open access is the so-called sharing economy, or sharing culture, a product of the increased use of and development within social media. The principles and opportunities for sharing and communicating research have clearly changed with the introduction and increased use of social media. This change in use is illustrated in the academic world through the widespread sharing of scientific articles in new social media services such as ResearchGate and Academic.edu. These social media services are based on network technologies and have functionalities that allow peers to easily share research articles with others. Researchers can easily make their own user profiles, upload their own research articles, and gain access to statistics over how many people read and download their articles. This could therefore be characterised as a self-organisation of a sharing culture in dedicated social networks.

The sharing movement for academic articles started around 2008, and has exploded in popularity ever since. Academia.edu alone has more than 38 million users and contains more than 8 million research articles as of 2016. The popularity of both Academia.edu and ResearchGate shows that they represent a challenge for traditional communication of research and general access to scientific publication. It is important to note that the sharing movement can never replace initiatives for open access that are made by Governments, supranational agencies and research institutions. A research institute cannot trust that a service such as Academia.edu will function as the institution's memory for the foreseeable future. As access to articles also requires user registration and log-on, these services are not in line with the principles for open access.

What about the author's rights?

Concern has been expressed with regard to the authors' rights and income in a new publication economy. Much of this concern is related to the systems that have been developed in Norway to safeguard intellectual property rights. In Norway, Kopinor negotiates with the school system, the Union of Education Norway and the private sector regarding fees that are paid to reproduce and use works that belong to Kopinor's 22 member organisations²⁹. Kopinor receives more than NOK 300 million in fees for reproduction and use every year, and this money is returned to the licensees that Kopinor negotiates for. The most important recipients are book publishers and non-fiction authors and translators.

29 <http://www.kopinor.no>

If one were to consider researchers to be authors, the transition to open access publication could appear to represent a setback. This is claimed by the Non-Fiction Writers and Translators Organisation (NFF), among others³⁰. With open access publication there will no longer be any fees to distribute for non-fiction authors and translators, and this will thus cause Norway to lose an important source of financing of new book projects, among other things. NFF's income from Kopinor over the past 10 years is approximately NOK 473 million. During the same period, NFF granted 3003 project stipends of varying durations, which could presumably have resulted in between 250 and 300 books per year. NFF has also awarded extraordinary stipends and travel stipends. Approximately two-thirds of NFF's income comes from Kopinor, and it is thus reasonable to say that just under 200 books every year are supported and published via stipends from NFF that are based on non-fiction reproduction fees. In an open access publication economy, Norwegian non-fiction and factual prose authors would lose important income in the form of stipends.

The working group agrees that the author's perspective must be taken very seriously in open access debates, but the working group is also of the opinion that the argumentation put forward by NFF and others is not entirely sound. Many of the researchers we address here as authors are public employees, so they already receive a steady income for writing articles and books. Even in an open publication economy, the authors will retain moral rights to their works, but they will have to split the right to reproduce and use what they have written. There are, of course, some researchers and authors who do not have permanent positions, or who have positions where they do not have time to write. Income from reproduction fees administered by NFF has undoubtedly been very important for this group. However, we are of the opinion that the system of fees administered by Kopinor is an obsolete system that most likely cannot survive in a world where technological development makes reproduction and sharing increasingly easier. The working group is of the opinion that discontinuance of the fee can be accompanied by a political debate on grant schemes for researchers and non-fiction authors, especially for those who do not benefit from a permanent position with the right and obligation to conduct research and write during regular working hours. It may very well be the case that the Norwegian political debate will conclude that an extensive grant scheme is desirable. However, it does not appear to be reasonable to claim that the fee scheme and Kopinor is the only system that can preserve the authors' interests. The broader political debate on grant schemes falls outside the mandate for this report.

30 <http://www.kopinornytt.no/artikler/forskeren-som-forfatter>

Norwegian journals within the humanities and social sciences - Norwegian as a research language

Another issue of a national nature, is the Norwegian journals. Norwegian journals within humanities and social sciences play a special role for the national public academic discourse linked to these subject areas. These journals also hold a special position in the broader Norwegian public discourse because the research is often communicated in easily accessible language and they have the potential to reach a large audience outside academia, for example in public administration, in education and in the media. During the period from 2005 to 2012, journal articles in Norwegian accounted for 25% of all scientific publications and 47% of all journal articles within the humanities. Equivalent figures for social sciences were 23% and 38%, respectively, according to a report from 2013³¹. The journals also play a role in academic discourse in the form of comments, debate pieces, and book reviews. The 36 most important Norwegian journals within the humanities and social sciences are currently funded by the Research Council, and of these, approximately half are published by Universitetsforlaget. In 2013, the Research Council decided that national journals within the humanities and social studies that receive funding from the Research Council must be published in an openly available format as of 2017³². There is a substantial potential for these journals to reach a far broader audience through the transition to open access, but at the same time, it is important that the journals are guaranteed robust funding in order to continue operating. Under the assumption that the Research Council maintains its support of (up to) 50%, the loss of subscription income must be compensated. Normally, a system involving a fee per article would be the preferred business model for open access journals, but these are small journals with limited administrative resources, which will complicate this work. One proposed solution involves establishing a national consortium for journals within the humanities and social sciences with open access, where the Research Council's publication support is included as a block grant and where the rest of the financing is lifted up to the institution level based on an annual settlement of each institution's scope of publication. We believe this is a good solution, and emphasise it as one of the elements in the measure Financing of open access earlier in the report, addressed to both the Ministry and the institutions.

31 <http://www.nifu.no/publications/1055091/>

32 http://www.forskningsradet.no/no/Nyheter/Alle_far_tilgang_til_den_nyeste_kunnskap-en/1253992358970?lang=no

Appendix 1: The group's mandate and work

The mandate from the Government reads as follows:

The committee shall discuss, assess and propose measures linked to:

- *National guidelines for open access to research results*
- *Preconditions for success using the proposed guidelines from CRISStin (risk analysis/SWOT analysis)*
- *A general plan for the practical work to introduce the guidelines, including a schedule and quantifiable goals*
- *Preconditions for achieving the goals (topics may include infrastructure (repositories, funds), academic freedom and academic responsibility, premises for measures proposed in the guidelines)*
- *Financial issues linked to implementation*
- *Delineations made in the proposed guidelines*
- *Areas that require further study, cf. proposals in the guidelines*

The draft guidelines issued to the group along with the mandate intentionally omit a number of issues:

- Open access to scientific monographs and results from artistic development projects. These items could and should be included in the principle of open access, but it is
- currently easier to secure access to articles in scientific journals, as the latter is to a greater extent based on electronic publication.
- Open access to research data: Research data is of great significance in connection with open access, but this is also a highly complicated area, e.g. due to a number of practical challenges concerning access.
- Legal licences and open access: Even though licences are of great importance in order to ensure that access is preserved, a requirement to use specific selected licences may complicate the issue (e.g. if a special type of CC licence were to be required).
- Financial matters: The guidelines will likely have economic consequences. There should be a study of whether this requires new money or reallocations in the budget, and at what level this should take place, but it is appropriate to exclude this from the guidelines.

Interpretation of the mandate

The working group has deemed it to be important that guidelines and measures clearly indicate who is expected to implement them. The guidelines are generally aimed at researchers, as well as institutions that conduct and finance research, whereas the measures are aimed at both the Ministry and underlying stakeholders. The working group's mandate is limited to guidelines for open access to articles. We believe this has been wise, as this is the area where the work on open access has progressed the most at the international level. However, it is important that the Government also proceed on equivalent work both for open access to research data and to scientific monographs and anthologies.

Members

- Torkel Brekke, Oslo Peace Research Institute (PRIO)/University of Oslo Oslo/Civita (chair of the working group)
- Petter Bae Brandtzæg, SINTEF,
- Johannes Waage Løvhaug, Research Council of Norway
- Tove Klæboe Nilsen, Northern Norway Regional Health Authority
- John-Arne Røttingen, Norwegian Institute of Public Health
- Oddrun Samdal, University of Bergen
- Margunn Aanestad, University of Oslo

Secretariat

Lars Wenaas, Nina Karlstrøm and Katrine Weisteen Bjerde, CRISStin

Meetings

The group has held four meetings, to which external lecturers were also invited. The group chair has also conducted a number of conversations and interviews on his own or along with the secretariat. The group members have also participated in and contributed to various national and international meetings concerning open access. The following people and/or organisations have met the group as a whole or parts thereof:

- Jan Erik Frantsvåg, University Library at the Arctic University of Norway (UiT)
- Vidar Røeggen, Norwegian Association of Higher Education Institutions (UHR)
- Gunnar Sivertsen, Nordic Institute for Studies in Innovation, Research and Education (NIFU)
- Nils Erik Gilhus, chair of the National Publication Council
- The Norwegian Association of Researchers' rights committee (Forskerforbundets rettighetsutvalg)
- Tore Slaatta, head of the Norwegian Non-Fiction Writers and Translators Organisation
- Hege Gundersen, Norwegian Publishers Association
- Ole Petter Ottersen, rector at UiO
- STM Publishers' Association

Appendix 2: Glossary

- *Open Access*
Articles can be freely downloaded and read, as well as reused without restrictions. This includes so-called text and data mining.
- *Institutional academic repositories*
A digital repository for scientific material, which is often found in the institution's library. The institution itself determines the guidelines for what is to be archived, but in addition to scientific articles, it is also common to deposit doctoral dissertations and student assignments. Certain disciplines have specific repositories across national and institutional boundaries. Examples of this include arXiv.org, where physicists deposit their articles, and RePEc, which gathers articles within the discipline of finance.
- *Self-archiving ("Green open access")*
Involves the researcher storing a copy of an article published in an ordinary subscription-based journal, in an openly accessible academic repository. Certain journals often operate with an embargo for when articles are made available and have restrictions regarding which version of the publication that can be self-archived.
- *Open publication ("Gold open access")*
Publication in journals where the article is made openly accessible immediately. All articles in such journals are, by definition, openly accessible.
- *Hybrid open access*
Hybrids are openly accessible articles in otherwise subscription-based journals. Instead of the entire publication being open, one can purchase individual articles or groups of articles that are made openly accessible.
- *Article Processing Charge (APC)*
A fee many open journals charge per article for publication. (Other open journals are financed through various forms of membership.) The fee varies in size from journal to journal. The average is around USD 900, but can also be as high as USD 4000³³.
- *Institutional schemes*
Many Norwegian research institutions have established their own funds to cover the APC costs. The Research Council has its own scheme, STIM-OA, which covers up to 50% of the institutions' costs for open publication.

33 Solomon, David and Björk, Bo-Christer, A study of open access journals using article processing charges, *Journal of the American Society for Information Science and Technology*, pp. 1485–1495, August 2012

- *CC - Creative Commons*
Creative Commons is a licence framework that can be used to permit and restrict sharing.
- *Embargo period*
The embargo period is the period from the time of publication until the publisher allows for the article to be made accessible in an academic repository. This varies from journal to journal and between subject areas. The EU's required embargo period has been set at 6 months for STM subjects and 12 months for the humanities and social sciences.
- *DOI*
Stands for "digital object identifier" and is a standard for reliable identification of electronic documents. DOI is thus a unique link that leads the user to e.g. a scientific article.
- *Preprint/Postprint/publisher's PDF*
These terms describe the different versions of a scientific article. Preprint is the manuscript the researcher sends to the publisher, i.e. prior to peer review. Postprint is the accepted and peer-reviewed version of the article that has yet to undergo final formatting. The publisher's PDF is the final version of the article as published.