

Regimes for granting right to use hydropower in Europe – executive summary¹

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The characteristics of hydropower make this energy source prominent in liberalized electricity systems integrating more and more renewable energy. Hydropower indeed provides widespread benefits to the whole power supply chain. First of all, it can substitute any other technology (either baseload, shoulder or peak power plants). Besides, pumping stations have a major place in balancing the system because of their significant flexibility, all the more useful to the system that intermittent generation is to be integrated. Hydropower has also the advantage to be emission-free technology. Moreover, considering its concentrated location in Europe, in the Alps, Pyrenees, in Scandinavia, etc., it also impacts significantly the network constraints at interconnections between the European countries.

Meanwhile, hydropower is also a peculiar generation technology as it significantly impacts its local environment. This may impact other water uses (tourism, agriculture, aquaculture, etc.) or even aquatic life for long distance. Its benefits for the whole power system should hence be weighed against its impact on watercourses quality. That is why the right to use hydropower as energy from watercourse is granted by the States or local authorities. This right can take different forms (authorisations, licences, concessions) with different durations (for a limited - e.g. several decades - or an unlimited period of time) and different obligations in terms of investment, environment protection (e.g. residual ecological flow) and tax payments.

The European States are in various situations with regard to their legislation for granting or renewing rights to use hydropower. Some countries implement a competitive process to grant rights to use hydropower to new installations (e.g. France, Italy, Great Britain or Spain) or to renew them (e.g. France or Italy) while others do not (e.g. Norway) and their duration greatly varies from some years (in Great-Britain, for new hydropower plants) to unlimited duration (Sweden).

In this context, over the last decade, the European Commission has launched several procedures concerning the compatibility of hydropower right granting with European laws and regulations in several countries (e.g. France, Spain, Italy, Portugal, etc.). Meanwhile, other hydropower regimes

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(e.g. in Austria or Sweden) are not subject of such investigations despite not being grounded on competitive process. This difference of treatment raises questions about the drivers of the European Commission actions.

Understanding and grasping the main differences between the national hydropower regimes is then of particular interest. In 2010, the Florence School of Regulation had realised but unpublished such a benchmarking for European countries. The main objective of this study is hence to provide an updated benchmarking of hydropower concession regimes in Europe, describing hydropower regimes in 10 European countries (Austria, France, Germany, Great-Britain, Italy, Norway, Portugal, Spain, Sweden and Switzerland) and regions when appropriate (e.g. cantons in Switzerland or Lands/States in Germany).

This report describes and scrutinizes hydropower regimes through a unified analysis framework to ensure their comparison on an equal basis. This framework is structured around 4 blocks: (1) the institutional framework of hydropower regimes (e.g. type of rights to use hydropower, authorities granting rights to use hydropower, etc.); (2) the framework for granting right to use hydropower (duration of rights and procedure, competitive process and existence of a possible EC infringement procedure); (3) the obligations of the hydropower operator (environmental and investment obligations and royalties); and (4) small hydro characterisation and support schemes.

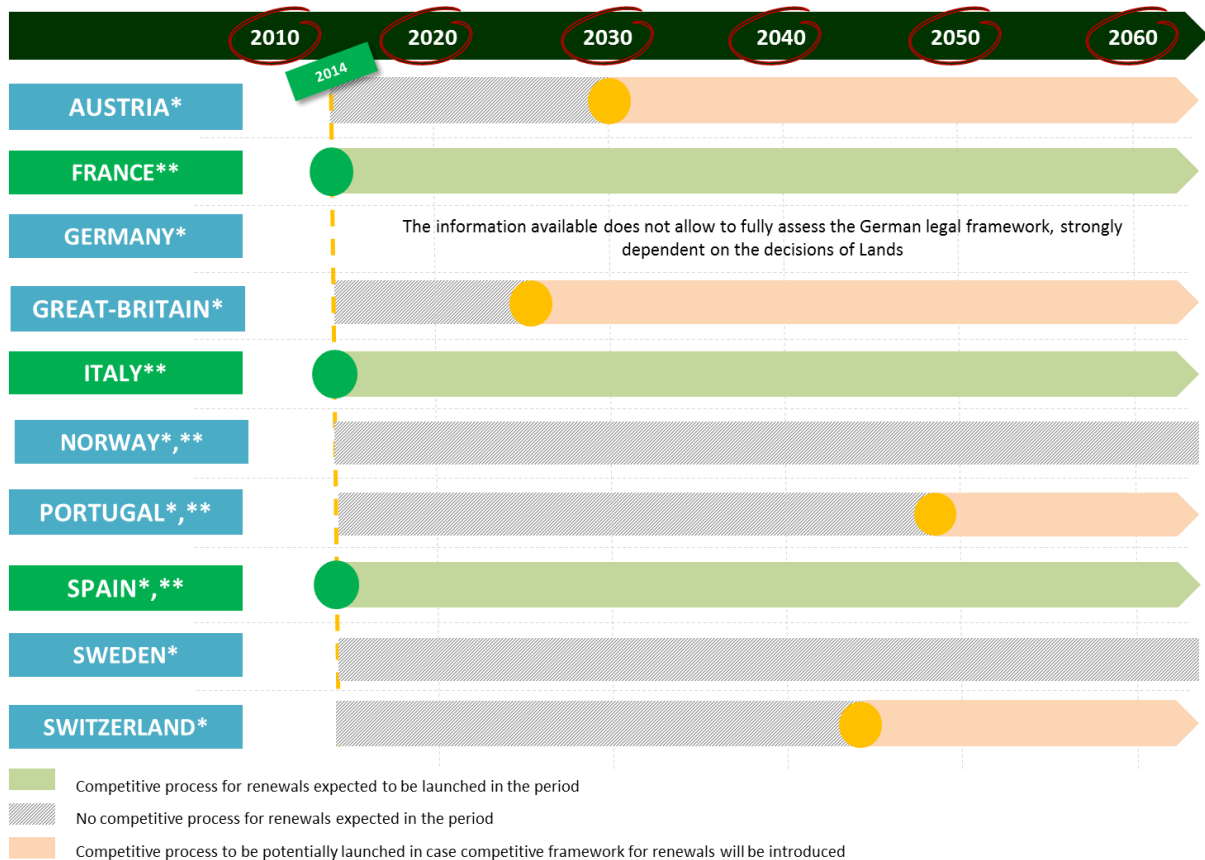
The analysis of the selected countries is summed up in the four following figures concerning respectively the implications of local or regional authorities in the granting of right to use hydropower (figure 2), the different types of right to use hydropower and their duration (figure 3), countries that have been subject to infringement procedure (figure 4) and countries that implemented competitive process to grant those rights (figure 5). Table 1 also compares national situations and currently engaged procedure for competition infringement. To sum up country per country,

- in Austria, concessions to use hydropower and renewals are negotiated;
- in France, a competitive process exists for granting concession and renewal but its implementation is still waited while concessions have already expired;
- in Germany, national legislation does not seem to provide for competitive process to grant permit to use hydropower;
- in Great Britain, only the licences granted after 2003 have a limited duration and a competition process exists to grant and renew these licences but they can be indefinitely granted by a periodic application for a replacement licence;
- in Italy, a competitive process exists for granting concession and renewal;
- in Norway, hydro concessions are granted without time limit to public companies whereas private companies must revert their concession right at the expiry date. Only leasing of hydropower plants is now possible for private companies;
- in Portugal, a competitive process exists for granting new concessions, but such a process might not exist for renewals;
- in Spain, a competitive process exists for granting concession and renewal;

- in Sweden, hydro concessions are granted without time limit under the conditions that hydropower operators invest to respect more and more stringent environmental obligations;
- in Switzerland, concessions to use hydropower and renewals are negotiated and tenders are not mandatory for granting them.

Figure 1 also presents graphically the schedule. Each country is described by a timeline. A dot indicates an estimation of renewal potential start date for the national hydropower park, considering available information. Countries in green boxes have a legislation providing public and competitive procedures for renewals of all hydroelectric concessions while countries in blue boxes do not have such legislation for renewals of all the hydroelectric concessions.

Figure 1. Indicative schedule of hydropower renewals



* National legislations do not seem to provide public and competitive procedures for renewal of all the hydroelectric concessions

** Countries concerned in past decade by EU infringement procedures or similar procedures from the European Free Trade Association for Norway) that led to the revision of national framework

Figure 2. Local or regional authorities can play a large role in the decision making process

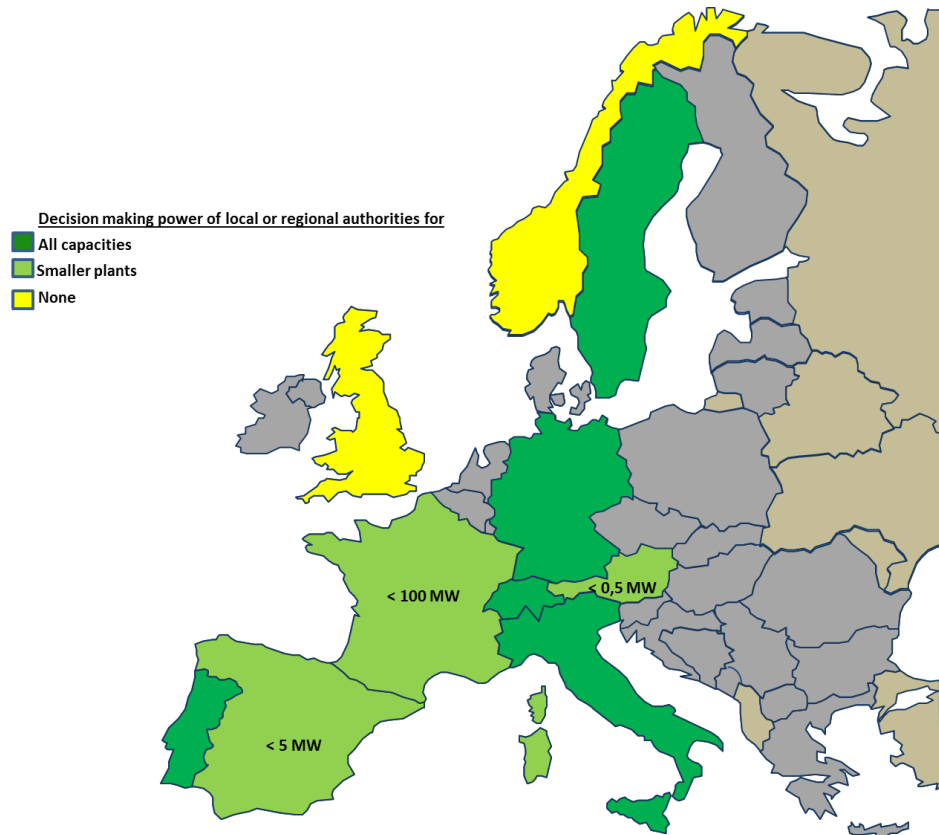


Figure 3. Different forms of right to use hydropower granted for different durations

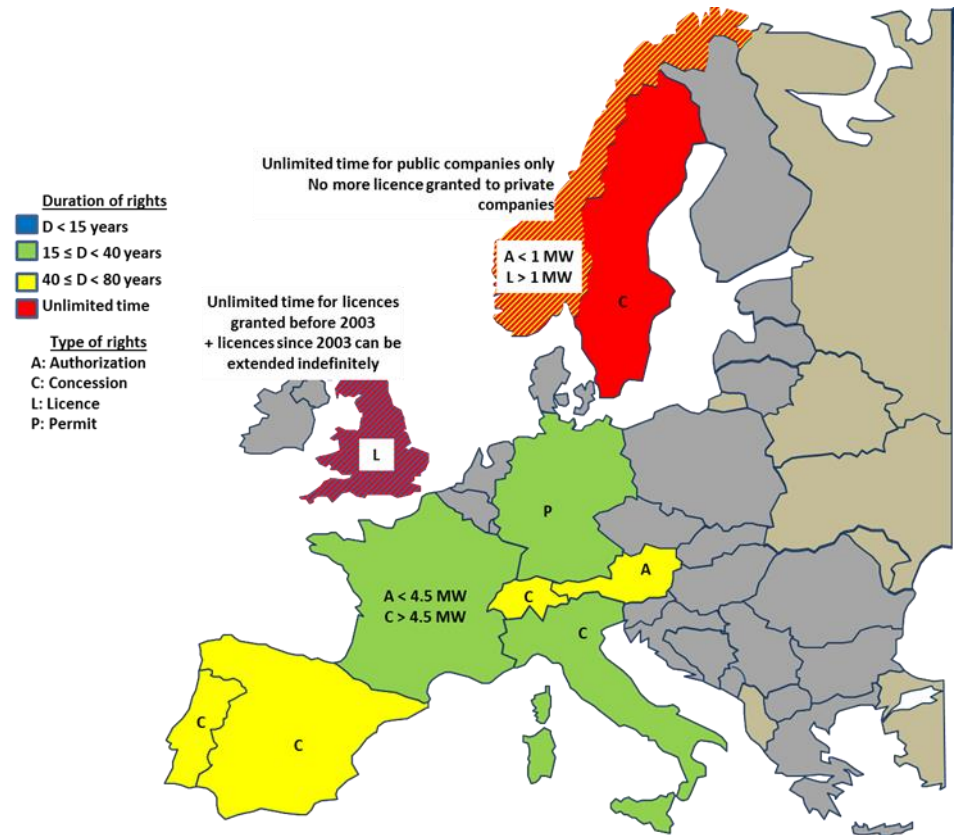


Figure 4. Several countries have been subject to infringement procedure

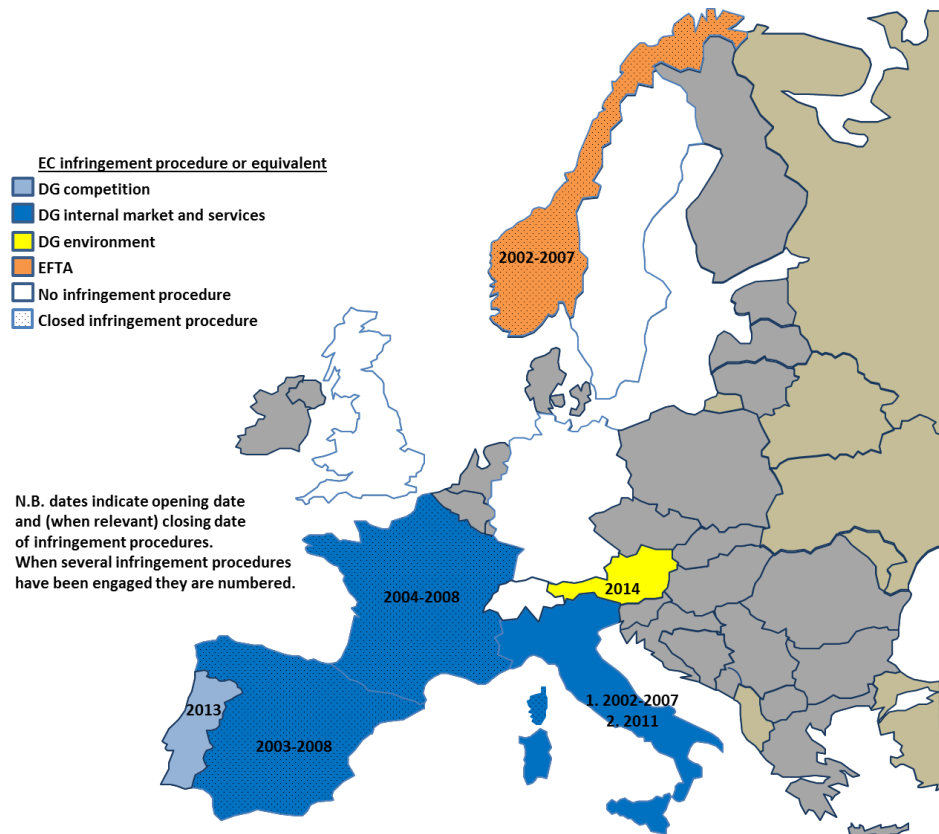


Figure 5. Competitive process to grant right to use hydropower

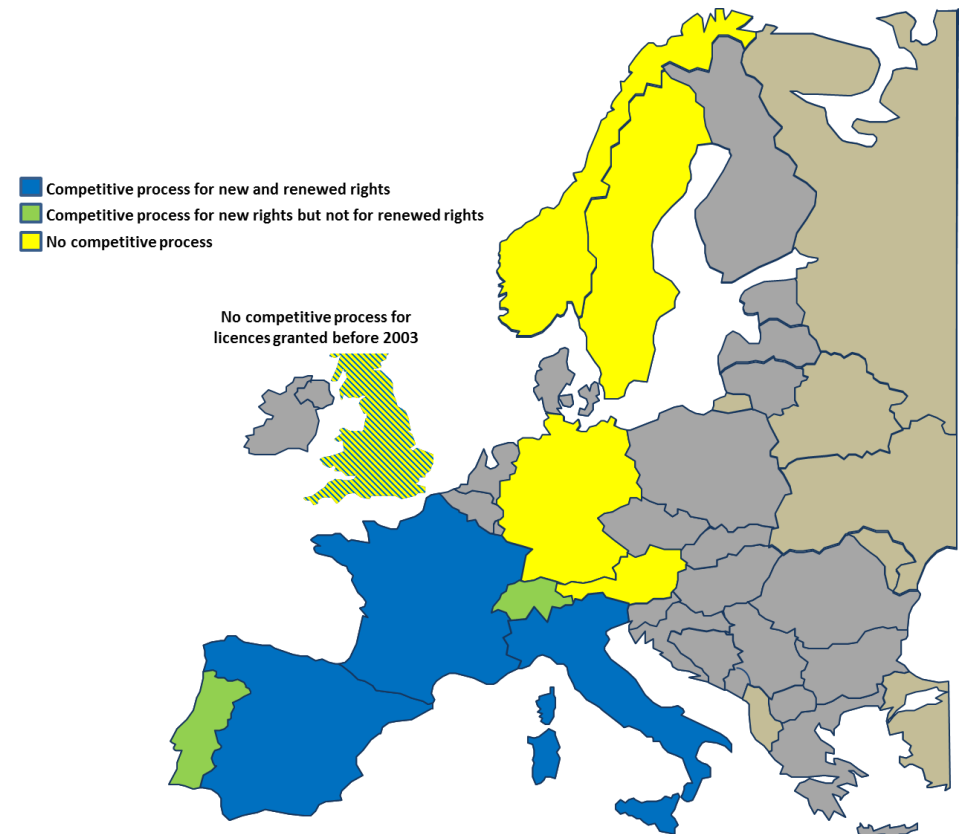


Table 1. Comparison of national situations and currently engaged procedures for competitive infringement

Countries	Type of right to use hydropower	Evaluation of granting procedure		Currently engaged procedure for competition infringement?
		Duration	Competitive process?	
Austria	Authorization	●	●	No
France	Concession > 4.5 MW	●	●	No
Germany	Permit	●	●	No
Great Britain	Licence	● (before 2003) ● (after 2003)	● (before 2003) ● (after 2003)	No
Italy	Concession	●	●	Yes
Norway	Licence > 1 MW	●	●	No
Portugal	Concession	●	●	Yes
Spain	Concession	●	●	No
Sweden	Concession	●	●	No
Switzerland	Concession	●	●	No

From the figures and table above, three main conclusions can be drawn:

1. The first one is that **the institutional framework relative to hydropower is generally complex with a stacking of interests and decision-making powers** from the European Commission (or EFTA, for non EU members) to local authorities (in several countries) through national authorities. Trade-offs between these interests are then needed to come up with decisions regarding hydropower right of use. With this regard, the national and local interests have a significant weight because of the environmental impact of hydropower on watercourses. This is also reinforced by the participation of hydropower to security of supply or climate change policy, even if this is also true to a variable extent for other types of generation technology;
2. For the same reasons, the precise definition of the **liabilities of hydropower operators is actually very consequential**. The operators' decisions have indeed an important impact on the environmental quality of the watercourses they exploit. These liabilities account for the in-depth controls for granting rights of hydropower use, as much for the operators' qualifications as for terms of rights and quality of assets during transfers of liabilities at renewals;
3. Analysing the framework of granting right to use hydropower, it is noteworthy that the implementation of competitive process remains secondary in this respect in the EU Member States as well in other external countries. A number of countries implement authorisations (e.g. Austria), grant concessions for unlimited time (e.g. Sweden), or directly negotiate concession without a transparent competitive process for granting rights to use hydropower. Different levels of opening are observed for initial granting rights to use hydropower or for renewals. For example, the UK is in a hybrid situation: licences granted before 2003 were given for an unlimited period of time but new licences are granted for 12 or 24 years. Moreover, Spain and Portugal grant new concessions in a competitive process but such a process does not seem implemented for renewals. Several countries were hence under pressure (from the European Commission) to make their legislation evolve toward more competition and transparency (France, Spain, Italy – all granting concessions). Considering the situation of the different countries, these pressures nevertheless do not seem totally related to the openness or closure of the hydropower granting process alone. For instance, Sweden grant right to use hydropower for unlimited time, Austria grant right to use hydropower for a very long duration and Germany does not implement a competitive process to grant right to use hydropower. Nevertheless, they are not under any pressure to further open more and make more transparent their granting process.

Beside these main conclusions, it can be noted that **competition framing should not be the only concern with regard to hydropower since distortions can also come from unharmonised obligations, taxation and support**. Because of interdependencies among the national hydro sources through the European power market, the question whether the non-harmonisation of obligations, taxation and support is prejudicial to the efficient use of hydropower in Europe (or whether it reflects justified national specificities) should also be addressed at the European level.