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Dato:
12. maj 2020

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LAU (translation)

MINUTES

USE OF OPEN SOURCE

1. Introduction

In connection to Energinet's Digital Strategy and the resulting use of digital tools in Energinet's task performance, a number of questions arise about the extent to which digital resources that are the result of increased digitization can be utilized "outside the house".

A subset of these resources is the software that Energinet creates, which may be of value to others outside of Energinet.

Specifically, the question is whether Energinet can make use of digital resources in the form of e.g. open source or free software, such that the resource is made freely available to interested actors in the "market", so that the actors can further develop and optimize software.

2. Main conclusions

- The "Principle of Legality" (Legalitetsprincippet) means that, as a predominant rule, Energinet may only carry out tasks authorized by law. Two exceptions apply to this; associated business and ancillary activities.
- Due to the claim of commercial basis for the two exceptions to apply, use of open source/free software (which is made available on a non-commercial basis) cannot constitute a legal associated business or ancillary activity.
- Open source/free software must therefore be utilized as part of Energinet's main business in order to be legal.
- A basic prerequisite for legal use of open source is - in addition to the requirement of being part of Energinet's main tasks - that Energinet does not intervene in markets for similar products, as Energinet's intervention in markets can take place without Energinet running a commercial risk at the same time (consumers pay).
- Given that the two basic conditions are met: 1) belonging to a main task 2) not interfering with markets, the use of open source/free software is seen to be legally an option.
- Any legal use of open source/free software always contains a company ethical/strategic assessment, which must be handled before use.

3. The Principle of Legality

3.1 Basis of evaluation

The basis for this assessment is, that Energinet as a public enterprise is subject to the so-called Principle of Legality, and hence must have a legal base in the legislation, in order to carry out activities.

In other words, If Energinet has no legal base for carrying out the activity, then Energinet by default cannot carry out the given activity. Hence, activities on a non-regulated commercial basis is as a general rule, not possible.

3.2 Exceptions

There are two exceptions to the general rule:

1. In cases involving associated business,
2. In cases involving ancillary activities.

A necessary condition for being applicable to any of the two exceptions is, that associated business/ancillary activities only can be proceeded with legally, if they happen on commercial market conditions.

A legal utilization of digital resources therefore requires, that they happen on commercial conditions, equally in competition with other suppliers of the same services. This applies to both intellectual and material resources. Any hardware/software to be made available as associated business, must therefore also happen on commercial market conditions.

3.3 Assessment of exceptions

A problem arises in relation to using open source technology, since the premise is that the software is provided to be used freely by any interested party. The whole commercial approach is hence non-existing.

The conclusion here is, that a provision of hardware/software as open source, free software is not consistent with the conditions to be a legal associated business, as the provision does not happen on market conditions, since everyone can use the resource freely.

Additionally, such provision of open source resources does not fulfill the criteria to constitute an ancillary activity, as the provision does not happen at a market price for such resources, but as a free service to any potential users.

4. Main tasks of Energinet

Given the above assessment, a precondition for offering open-source access/free software to the digital solutions of Energinet, is that the activity falls within Energinet's main tasks and that potential additional costs of providing the software can be considered necessary costs, to be covered by the tariffs.

The current regulation of Energinet's core tasks does not contain any conditions that gives Energinet legal basis for providing open source data, source code etc. However, this does not preclude that specific core tasks can contain a provision of open source data.

The core tasks of Energinet are described in the Elforsyningslov (Supply Law for Electricity) §28, the Naturgasforsyningslov (Supply Law for Natural Gas) § 12, and the Law for Energinet § 2 (However, note that in connection to implementing the new directive of electricity, there will probably be requirements for addressing Energinet's obligation to generally digitalize the transmission system, to add to §28).

4.1 Relevant Categories

Based on these regulations combined with an increased use of digitization, the following categories of tasks can be immediately identified, which can be said to fall under Energinet's core tasks, where a possible provision of digital resources in the form of open source/free software can be a legal provision:

- Optimization of netdata for the Transmission net
- Optimization of digital tools for net operation in broad
- Optimization of net planning tools
- Optimized/new functionalities in the DataHub
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Although these categories of tasks can be said to fall under Energinet's main tasks and can therefore in principle be legally made available as open source/free software and including that the costs of such free access can be said to be a necessary cost (under the applicable economic regulation), the free access must take into account the rest of the market for similar products/services.

4.2 Market related challenges

To the extent that Energinet, through financing via electricity-consumers' money, provides source codes, digital processes, etc. freely available to the "market", there will be a latent risk of Energinet effectively removing an opportunity from the market to develop the same software, etc. on a commercial basis.

Energinet may thereby risk "pulling the rug away" from potential commercially good business opportunities by using electricity-consumers' money, i.e. without running a commercial risk themselves, which raises both competition law/state aid law but also corporate ethical questions.

4.2.1 Relevant assessments

It is hence of significant importance, that the following elements are considered before open source/free software is made available outside of Energinet:

- Is there an already established commercial market? Or
- Is there an "up-coming" market for the product provided openly? Or
- Is there potentially a new market, however not yet initiated?

And as a consequence:

- If there is an established market; Does Energinet's use of open source/free software potentially completely or partially remove the business basis for the players on the market? This also includes an assessment of the size of the market and the "impact" Energinet's actions will have.

- Is there an up-coming market that is in motion; will Energinet's use of open source/free software take the momentum out of market development and thus "kill it"?
- If there is no market yet, but there is a potential and realistic market; will Energinet's use of open-source/free software mean that the market cannot be established?

To the extent that Energinet's behavior has a not insignificant influence on an established market or a market under start-up/up-coming, there may be a risk that Energinet's behavior will competitively be regarded as "predatory behavior" in the form of "price dumping", which takes place through the use of state funds in the form of electricity consumers' money.

Regardless of the fact that, after a concrete assessment of the situation, this cannot be said to be illegal/punishable, there can be major image/corporate ethical challenges with such behaviour.

5. The two tracks

There should therefore be two initial tracks that are pursued when/if Energinet wants to get involved in the use of Open Source/free software.

One track is handling image/company ethics, where it will be necessary to have a "press readiness"/a "strategic explanation model" and process which can be activated if there is criticism of Energinet's behavior in the outside world.

The second track is an initial assessment of those in point 3.2.1. mentioned points, where a search of the current market must be carried out for the specific functionality/product that is desired to be published in open source/as free software.

Based on the above points, the starting point here will be that to the extent that it can be established that there is no potential/current market or signs that there is a market on the way immediately, open source/free software will be freely used, provided of course that the digital resources used can be said to be covered by Energinet's main areas of responsibility, see point 3.1 above.

The assessment of the market must here be considered in the commercial aspect of a market. Markets that are already based on open source or markets that do not have a commercial basis will therefore not be problematic as arenas for Energinet's use of open source/free software.

In addition, it is conceivable that the market participants in a market do not find it problematic that Energinet – e.g. because it is a niche in a large market or the players want to participate/contribute – access the market with digital resources in the form of open source/free software. Here, Energinet will therefore legally be able to make the resources available, but regardless, a company-ethical assessment should be carried out prior to such provision in order to exclude/mitigate any criticism of Energinet's behavior from others than the players on the market.

6. The public's use of Open Source

The IT- and Telecom Agency (replaced by the Digitalization Agency) published a document in 2008 about the use of Open Source Software in governmentally owned businesses¹. The publication concludes that the software-strategy of the government must ensure competition, quality and cohesion based on the following principles:

- Best and cheapest, regardless of the software type
- Competition, independency and optionality
- Cohesion and flexibility
- Development and innovation

It is recommended to use Open Source, wherever possible and logical, as it ensures innovation and increased competition, since more actors obtain the possibility to participate in developing new solutions to the public.

In addition, the code can be reused by others, thus minimizing their development costs, which benefits the public.

The publication does not relate to the issues mentioned about whether it is permissible for Energinet to develop solutions itself and to enter the market at a different level than that by making the developed tools available, other players will be able to further develop the solution.

In Europe, several large cities have entered into the development of various solutions using Open Source. The solutions are subsequently made available to others who use it "as is", or who have further developed it for their own use, e.g. Paris' Lutece project. The United States has similar projects at the state level.

The background for these projects and the sharing of the developed solutions is the principle of "Public Money, Public Code", which means that when the public spends the citizens' money on development, this development must be given back to the citizens.

These principles are in line with the Digitalisation Agency's recommendations on the use of Open Source, and can be immediately transferred to Energinet, which will use consumers' money for development, which is why what has been developed should be made available to consumers (according to the principle of Public Money, Public Code) .

Although Energinet is not to be regarded as an ordinary tax-financed public authority, Energinet must be subject to the same principles, since Energinet's costs are borne by the consumers (citizens).

A distinction is made between new development and further development of an existing Open Source solution. In the case of new development, all mentioned parameters must be taken into account, while in the case of further development of existing Open Source solutions it depends on the scope of the development, as the solution is already on the market.

Based on the above scenarios, it can be argued that Energinet can basically develop solutions based on Open Source, however with an assessment of the market situation as mentioned in section 4.2 and below.

¹ <https://www.digitaliser.dk/resource/2212763/artefact/OpenSource-softwareidetoffentlige.pdf?artefact=true&PID=2212766> (tilgængeligt 14. juli 2020)

7. Is there an existing market? / Is a market coming?

A concrete assessment of the market situation must be carried out in each individual case where Energinet wants to develop its own solutions which it wishes to publish as Open Source, in order to discover whether there is an existing market or whether there is a market under development.

8. Special attention points on the use of Open Source

If it is assessed that Open Source can be used (applicable to both new development and further development of existing solutions) within the framework set out above, there are further points that Energinet must be aware of before development takes place.

1. Which type of Open Source license is considered/used?
2. Copyright issues
3. Integration with proprietary software
4. Contract law issues

These issues are elaborated, among other things, in "Guidance on public authorities' acquisition and use of Open Source software - legal aspects", which is published by the IT and Telecom Agency (replaced by the Digitalisation Agency).