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**REPORT TO THE COUNCIL AND THE EUROPEAN PARLIAMENT  
ON HARMONIZATION REQUIREMENTS**

**DIRECTIVE 96/92/EC CONCERNING COMMON RULES  
FOR THE INTERNAL MARKET IN ELECTRICITY**

(presented by the Commission)



# **REPORT TO THE COUNCIL AND THE EUROPEAN PARLIAMENT ON HARMONIZATION REQUIREMENTS**

## **DIRECTIVE 96/92/EC CONCERNING COMMON RULES FOR THE INTERNAL MARKET IN ELECTRICITY**

### **I. INTRODUCTION**

Pursuant to Article 25 (1) of Directive 96/92/EC<sup>1</sup> of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity “the Commission shall submit a report to the Council and the European Parliament before the end of the first year following entry into force of this Directive on harmonization requirements which are not linked to the provisions of this Directive. If necessary, the Commission shall attach any harmonisation proposals necessary for the effective operation of the internal market in electricity”.

In this context, the issue of harmonisation essentially concerns the issues of energy taxation and environmental considerations. The issue of taxation is discussed for the moment by the Council in the context of the Commission’s proposal<sup>2</sup> to set up “a common framework for the taxation of energy”. The present report, therefore, concentrates on the issue of environment, and in particular on the role of renewable electricity production in the single market. In this respect, contacts between the Commission’s services and the Member States have revealed a large variety of schemes proposed or already introduced to support electricity produced from renewable sources. The same variety has not been revealed concerning the treatment of electricity from combined heat and power plants and, therefore, this report does not treat this issue. The co-existence of different schemes for renewables appears likely to lead to trade distortions and limitations. In the recent White Paper<sup>3</sup> on renewable energies, which stressed the importance of ensuring fair access for renewables to the electricity market, it was stated that the Commission intends to move forward quickly to the proposition of a harmonisation Directive in this respect both for internal market reasons and to support the development of renewables. This report marks the first step in the preparation of such a Directive.

### **II. RENEWABLES AND THE INTERNAL MARKET FOR ELECTRICITY**

The “Third Conference of the Parties to the United Nations framework on Climate Change” was held in Kyoto in December 1997. The outcome for the European Union was that the Community agreed to a commitment of an 8% reduction of greenhouse gas emissions for the period 2008 to 2012 compared to 1990. Major energy policy decisions, focusing on reducing energy and carbon intensity, need to be taken in order to achieve such reductions in greenhouse gas emissions. Accelerating the penetration of renewable energy sources in the

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<sup>1</sup> OJ No L 27/20, 30.1.97

<sup>2</sup> COM(97) 30 final, 12.3.1997, Proposal for a council Directive on “Restructuring the Community Framework for the Taxation of Energy Products”

<sup>3</sup> COM(97) 599, 26.11.97, “Energy for the Future: Renewable Sources of Energy - White Paper for a Community Strategy and Action Plan”.

production of electricity is seen by the Commission as a major potential area for action which will enable the EU to meet its commitments in this respect.

The importance of renewable energy has also been stressed in the Protocol to the United Nations Framework Convention on Climate Change. The countries which have agreed to the protocol are requested to promote, research, develop and increase the use of new and renewable forms of energy as one important instrument to limit greenhouse gas emissions.

The Commission's policy on renewable energy was recently presented in the abovementioned White Paper<sup>4</sup> on renewable energies. This White Paper provides an overview of the objectives of the Commission concerning Community energy policy, which were dealt with in detail in its White Paper, "An Energy Policy for the European Union"<sup>5</sup>. Three key energy objectives are identified: improved competitiveness, security of supply and protection of the environment. Promotion of renewables is regarded as an important factor to achieve these aims.

The White Paper on renewable energy includes a Community Strategy and Action Plan to substantially increase the use of renewables to 12% in 2010. Currently, renewables account for approximately 6% of EU electricity production. These figures include large-scale hydro power, for which the potential exploitation in the European Union, for environmental reasons, is very limited. This means that the increases required in the use of other renewables in order to meet the 12% overall objective will be substantial. As electricity is the single most important energy sector in the European Union, accounting for about 40% of the gross energy consumption, a substantial part of the increased use of renewables must take place in the electricity production.

At least for the medium-term, it appears likely that electricity produced from renewable sources may be more expensive to produce than electricity from competing fuels. Schemes to promote renewable energy will therefore be necessary.

Currently, electricity produced from renewable sources may appear to be more expensive to produce than electricity from competing fuels because environmental benefit of renewables as well as support for competing fuels are not taken into account. Policies that take this into account and which foster renewable energies need to be pursued.

Member States are proposing or have introduced a number of different schemes to increase the use of renewables. These schemes include guaranteed prices for producers, tax exemptions, direct support schemes per kWh produced etc. In a non-liberalised market where the electricity is sold to captive customers with no other choice of where to purchase the electricity, the absence of common rules does not create any distortions of the electricity trade between Member States, as trade is limited and strictly regulated.

In a liberalised electricity market, however, or even in a partially liberalised market, some harmonised rules on the treatment of renewables are required. The need for co-ordination in this respect can be seen from the following two issues that need to be addressed:

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<sup>4</sup> See footnote 3.

<sup>5</sup> COM(95) 682, 13.12.1995, "An Energy Policy for the European Union".

First, this will result in distortions in trade for renewable electricity. Assume, for example, country X paid significant state aid to renewable producers, but country Y operated a system of green certificates. If producers from X were permitted by country Y to issue and sell green certificates in Y, they may receive double support. Producers in Y selling in X would, on the other hand, receive no support whatsoever. Mechanisms to ensure that this situation would not happen can, at least in theory, be set up. However, too bureaucratic and complex mechanisms involving the support schemes in all Member States should be avoided as the costs involved could be very high. A more simple approach would be preferable.

Second, if the level of support differs significantly between Member States, this can also result in important distortions of more general trade and competition. Electricity from renewable sources will cost at least in the medium term more to produce than electricity from "conventional" (fossil/nuclear) sources. Where renewables account for a significant proportion of total domestic electricity production, this may result in a significant increase in the overall average cost of producing electricity in a Member State, compared to a neighbouring country without a developed renewables policy, or an Independent Power Producer (IPP) producing from fossil fuels. If not all customers in a given Member State, eligible or not, participate in the financial support of such a renewable policy the eligible customers, would, if free to do so, normally choose not to pay for this "renewables surplus", purchasing therefore abroad, or from IPPs. As a consequence, the overall customer base in question would reduce, meaning the additional cost of renewables per customer would increase, leading to higher domestic prices, thus prompting further, less price-elastic eligible customers, to seek supplies elsewhere. In this way markets would be distorted via a "vicious circle", forcing increasing numbers of eligible customers out of the domestic system - not due to inefficient or uncompetitive "conventional" electricity production - but simply due to a significant pro-renewables policy.

Evidently, the likelihood and/or extent of such an effect will depend on a number of factors, the additional cost of renewables, the percentage of renewables purchased over total purchases etc.

Thus, the issue arises how to ensure the introduction and development of renewable technologies in the context of a single market for Electricity. The ability of eligible customers to purchase throughout the EU raises two basic issues in this respect.

The first concerns mechanisms introduced to ensure the purchase and financing of renewables, the second - a subsidiary question to the first one - the possibility for customers obliged to purchase a certain proportion of their electricity requirements from renewable sources to acquire these supplies from abroad ("imports and exports").

### **III. MECHANISMS TO ENSURE THE PURCHASE AND FINANCING OF RENEWABLES**

In considering such schemes, it is necessary to examine first the provisions contained in the Directive, second the measures taken at Member State level, and finally the compatibility of such schemes with the Directive and EU law.

## **1. The Directive**

The Directive provides only one explicit mechanism for the favourable treatment of electricity from renewable energy sources, Article 8(3) :

“A Member State may require the system operator, when dispatching generating installations, to give priority to generating installations using renewable energy sources or waste or producing combined heat and power”.

This provides an exception from the basic rule, established in Article 8(2), that in normal circumstances the “dispatching of generating installations and the use of interconnectors shall be determined on the basis of criteria (which)... take into account the economic precedence of electricity from available generating installations...”.

This mechanism is, in fact, one followed by most Member States prior to liberalisation : the transmission system operator (TSO) purchases renewable energy sourced electricity (usually at advantageous prices), and passes this on to its captive customers, spreading the cost of this over the total captive consumer base.

It should be noted, however, that the Directive limits itself to favourable dispatching. It does not cover schemes providing direct or indirect support schemes to renewable energy sources, and it does not *in se* permit Member States to authorise the TSO to oblige eligible customers to purchase “their” share of renewable energy - either directly, or via the imposition of levies or green certificates.

In reality, therefore, the mechanism provided in the Directive appears to be of limited use - in the absence of accompanying measures not explicitly authorised by the Directive - in permitting Member States to develop or maintain a significant policy for promoting renewables.

Therefore, if Member States wish to support renewable energy beyond the favourable dispatching, they will have to make recourse to two other provisions of the Directive: Article 3(2) - public/environmental service obligations, and Article 24 - transitional regimes. Following a notification of such schemes the Commission will then examine the compatibility with the Directive. This question is discussed in detail in section 3.2 below.

## **2. Schemes developed at Member State level**

Member States have, therefore, been reflecting on how to deal with this issue. Different types of schemes have been implemented across the EU or are under consideration at Member State level. It should be noted, that certain of the elements figuring below are (or can be) used in combination with one another.

The schemes - or elements of schemes - fall into two basic categories. First, aid schemes - intended to pay for the cost of these schemes and second, schemes intended to finance the aid.

## **2.1 Support schemes.**

A large number of different aid schemes exist, including the following :

- guaranteed purchase obligation at a guaranteed price - often on an avoided cost basis, or on the basis of a regulatory-based calculation as to the necessary level of support required to generate the desired level of renewable electricity production;
- tax exemptions, in particular from energy and CO<sub>2</sub> taxes, but equally from non-energy taxes;
- support scheme per kWh produced;
- other support schemes; support for R&D, capital investment, etc. These aids may be granted either at Member State, or Community level.

## **2.2 Schemes intended to finance or complement support schemes.**

Again, a number of variations have been - or are in the process of being - developed.

- Levy on all consumers of electricity within a given Member State, characterised as a “renewable”, “green” or “non-fossil fuel” levy. All consumers must pay, irrespective of whether they actually purchase the electricity in the Member State in question (but see below, imports and exports). The levy may be a fixed payment per kWh consumed, or a transparent and separate fee added to the transmission tariff.

The levy is fixed by the Member State in question, and varies depending on the level of support the Member State in question feels is necessary to generate the requisite level of renewables production.

- System of Green certificates.

In this system the Member State simply decides the level of renewable electricity that it desires to be produced (or consumed - see below, imports and exports) within its electricity system. It then simply requires all consumers to purchase x % of their electricity requirements from renewable sources. Evidently, given the impossibility of separating “green” from “conventional” produced electrons, it is not possible for all consumers to actually be supplied x % of the electricity that really originates from renewable sources. To overcome this, consumers are obliged to purchase “green certificates” representing the x % of their overall requirements. Green certificates are issued by renewable producers, under the control of the appropriate Member State authorities. For domestic consumers the certificates are purchased by the distributors that supply them.

In practice, therefore, renewable electricity producers sell their electricity to the TSO at normal market prices. The additional cost of producing renewable electricity is covered by the price that all, final consumers, eligible and captive, pay for the green certificates. Thus, a secondary market develops for green certificates, which will be priced at a function of the difference between the market price for electricity and the (average) cost of producing renewable electricity that is additional to that market price.

- Compensation payments into a renewable fund

Distributors are legally obliged to dispatch x % of their electricity requirements from renewable sources. If they do not fulfil this obligation they, alternatively, have to make a compensation payment into a renewable fund. This fund is used selectively to grant investment support, e.g. through a tender for renewable based plants.

- Obligation to purchase.

Consumers in a Member State may be obliged to actually purchase "their" share of the renewable electricity that the government decides should be acquired by the TSO. They would be obliged to purchase this at a supra-market price, reflecting the additional cost of producing renewable electricity. This item would be billed separately, such that the additional cost involved is transparent.

- Other non-financial measures :

General possibility for the TSO to refuse access to eligible customers to the network for TPA/transit requirements in the event that it became difficult for it to pass the renewable sourced electricity that it has been obliged to purchase by the government on to consumers.

### **3. Analysis of these different approaches : compatibility of community law**

The schemes applied by Member States must be analysed from different view points: State aid, compatibility with the Directive and the Treaty, in particular the environmental provisions. Rules setting up a common framework for the support schemes would be major step forward as it would clarify the room for manoeuvre for Member States and reduce the distortionary effects. This would allow Member States to promote renewables more efficiently.

#### **3.1 State aid.**

The state aid issue is dealt with separately from the issue of compatibility with the Directive and the Treaty articles on which the Directive is based. It is not proposed to discuss this issue in the context of this analysis. However, it may be noted that until present the Commission has taken a favourable approach regarding aid to renewable energy production examined pursuant to point 2.3 of the Community Guidelines on state aid for environmental purposes<sup>6</sup>. This approach will be pursued, taking into account the necessity to put into place and to consolidate the internal market for electricity.

#### **3.2 Compatibility with the Directive and EU law.**

The Directive, pursuant to Article 8(3), covers only priority dispatching at TSO level for renewables. *In se* it covers none of the above schemes.

In such circumstances recourse to two other provisions of the Directive becomes relevant : Article 3(2) - public/environmental service obligations, and theoretically Article 24 (transitional regimes). It is on the basis of these provisions, seen in the light of the

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<sup>6</sup> See Community guidelines on state aid for environmental purposes. (OJ C72, 10.3.1994, p. 3)

Community's active policy of promoting renewables as outlined in the recent White Paper, that compatibility of measures with the Directive set out above will need to be examined.

In reality, however, it is suggested that almost all schemes adopted in this context will need to be examined in the light of the environmental service obligation provisions of Article 3(2). Article 24, transitional regimes, are temporary support schemes, which will cease to exist in the foreseeable future and seem therefore not suitable for renewables. On the contrary, these renewable schemes are envisaged to be operational for the foreseeable future. Nonetheless, this needs to be kept under regular review.

When examining whether any of the abovementioned schemes are compatible with Article 3(2) of the Directive, it is necessary to take account of the principles laid down by the European Court of Justice in interpreting Article 90 of the EC Treaty, in combination with the free movement and competition provisions of the Treaty. Whilst an exhaustive discussion of this jurisprudence is not within the scope of the present examination, it is clear that the following basic principles will guide the Commission's analysis of any environmental service obligation such as those considered above.

First, the Commission will always commence its examination by asking whether the underlying objective pursued by the Member State in question is legitimate - i.e. that it could permit derogation from the normal competition/free movement rules. In this context it should be noted that environmental protection has been recognised by the Commission and Court of Justice as a mandatory requirement which may limit the application of Article 30 of the Treaty and an objective that may permit the exemption - pursuant to Article 85(3) - of an agreement restrictive of competition<sup>7</sup>. Thus, in general, it is concluded that this first test will be met by such schemes.

Second, the Commission will examine whether the measures in question are reasonable and proportionate in order to meet the objectives pursued by the Member States. Obviously, each scheme must be examined on its own merits. However, it is clear that one element that is fundamental in considering this question is the contemporaneous examination of comparable schemes all seeking the same objectives. In determining the proportionality of one scheme it is necessary to examine whether alternatives exist, which are less disruptive of competition and trade between Member States, which nonetheless equally meet the objectives in question.

Evidently, this aspect of the analysis is of limited importance at present : the various schemes are either in their infancy or are presently being conceived. In the future, once they have entered into force, this will become increasingly relevant.

Finally, a further issue that will require careful consideration in the context of schemes financed by a levy is the question at which level the levy might be imposed. Such a levy may be imposed either at the production level, the transmission level, or, most usually, at consumption level. Whilst the Commission has reached no final conclusion regarding the relative merits of these different approaches, it does appear that a number of significant advantages attach to the imposition of a levy at consumer level. Such a levy is directly related to the amount of electricity actually used, and is highly transparent. If a levy would be imposed at transmission level, however, a number of difficulties would arise. First, the

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<sup>7</sup> See 22nd competition report I at paragraph 77.

payment would not relate directly to the amount of electricity consumed (the relationship between the distance electricity travels and the amount consumed not being a constant). This is particularly the case regarding autoproduction, which does not go through the network. Second, this would represent an inevitable handicap to Community trade in electricity. This handicap would be increased where electricity is traded across borders, as two "transport levies" would be imposed. The situation is still worse in case of transit.

These difficulties have also been recognised in the Commission Proposal for a Directive on restructuring the Community framework for the taxation of energy products (referred to in section I) where taxation on consumption rather than production of electricity is recommended. That Proposal also makes provision for fiscal support for the production of electricity from renewable resources.

Furthermore, the different levels or methods of imposing a levy may also lead to trade distortions.

It should also be noted that national schemes which support electricity generated from renewables sources could have competition distortive effects. It is only, therefore, as an interim arrangement for the time being that the Commission can accept any such scheme(s) and that any such acceptance is without prejudice to a re-examination of any such scheme(s) in the future, e.g. due to changes on the market.

A final issue also merits consideration here. Already at this stage it may be stated that schemes which introduce competition between producers of renewables are likely to require less support, and are more likely to become fully competitive with "conventionally" produced electricity. There are two methods by which such competition might be introduced. First a regulator or other body may periodically review the level of support, with the intention of exerting downwards pressure reflecting technological advances. The level of support would therefore be regularly and automatically adjusted on the basis of a formula that takes account of reductions in the cost of generating renewable electricity. Second, the system of green certificates by its very nature introduces competition for renewable electricity production. The secondary market for green certificates will set the level for the price of renewables. New, more efficient, lower cost producers will enter the market if they can produce below the "market price" for green certificates.

As stated above schemes which introduce competition between producers of renewables are most likely to maximise the cost-effectiveness and should therefore be encouraged. It is of course too early to state if a system of periodically review of the support schemes or a system of green certificates are most likely to produce the most rapid reduction in the cost of renewables. However, it does appear at this stage that if the system of green certificates works effectively in practice, it is likely to exercise a constant and important downwards effect on the price for renewables.

Furthermore, whilst again it is too early to state whether the introduction of a scheme with no mechanism to encourage efficiency and price reductions whatsoever would be compatible with the Electricity Directive, it appears reasonable at this stage to assume that the introduction of such a mechanism would be more likely to ensure compatibility with the relevant EU rules.

#### **IV. IMPORTS AND EXPORTS**

All of the above schemes raise the question of imports and exports of electricity produced from renewable sources. Green certificates can, for example, be issued by renewable producers outside the territory in question. Domestic companies with the obligation to pay a levy or which are submitted to a purchase obligation could be exempted from this levy if they demonstrated that their imports were sourced from producers with at least the same minimum level of renewables as that required by domestic legislation. Whilst certain administrative measures would need to be taken to prevent avoidance of the relevant renewable purchase obligation, it would be possible to permit renewable obligations to be made up through imports if desired.

However, the decision whether or not to permit imports to fulfil this role is not simple. The cost of producing renewable electricity varies according to the geographic area in question - this is particularly relevant regarding large hydro, the marginal cost of which is very low during summer months. In such circumstances, at least with respect to certain countries, over time, an as yet undetermined proportion of the renewable electricity for which their citizens would be paying through higher prices would be sourced abroad. The direct benefits of the renewable production (e.g. reduced emissions of CO<sub>2</sub>, SO<sub>2</sub>, NO<sub>x</sub>) would, therefore, accrue abroad (although especially the actual benefits of reduced CO<sub>2</sub> are wider than a limited geographic area). In any event, it is unclear whether the consequent CO<sub>2</sub> reduction would accrue to the paying country, or the producing country, when the question of meeting CO<sub>2</sub> reduction objectives are considered.

On the other hand, the prohibition of imports in this respect would contravene the most basic provisions of the EU Treaty regarding free movement of goods. Equally, in terms of overall EU energy policy, it makes considerable sense for renewable energy to be encouraged under the most cost-effective conditions. The different opportunities offered by regional policy should also be taken into account.

The Commission services have reached no conclusions on these issues at present.

#### **V. CONCLUSION**

The intention of this report was to present the initial considerations of the Commission on the questions which arise concerning the treatment of electricity from renewable sources in the light of the internal market for electricity. This paper represents the first follow-up measure to the Commission White Paper in terms of electricity produced from renewable sources. As mentioned above, this White Paper sets a global objective for the EU of increasing the share of renewables of total energy consumption of 12% by 2010. Article 25 of the Directive requests the Commission to attach any harmonization proposals if necessary. However, before drawing up a proposal to harmonise the treatment of electricity from renewable sources the different schemes need to be analysed more thoroughly in terms of advantages and drawbacks.

Notwithstanding this, as already outlined clearly in the White Paper on renewable energies, a clear need for common rules in this area can already be identified. The contemporaneous existence of different support schemes appears likely to result in distortions of trade and competition. The role of renewables in the EU will clearly increase in the coming years, given the Kyoto commitments. Thus, potential market distortions will accordingly increase. Whilst

the trade and competition distorting effects of different renewable support schemes is rather limited at present, given the limited EU market share of electricity from renewable sources. This negative effect appears likely to significantly increase in the coming years. In this light, it is appropriate to move towards the definition of some common rules in this area as rapidly as practicable. As mentioned above, whilst at present it is not appropriate to identify the likely contents of such a Directive, the White Paper on renewables<sup>8</sup> indicates that in addition to those matters discussed above :

*“Other issues to be addressed will include the following :*

- *the way in which transmission system operators should accept renewable electricity when offered to them, subject to provisions on transport in the internal market in electricity Directive;*
- *the guidelines on the price to be paid to a generator from renewable source which should at least be equal to the avoided cost of electricity on a low voltage grid of a distributor plus a premium reflecting the renewables' social and environmental benefits and the manner in which it is financed: tax breaks, etc.;*
- *on which categories of electricity purchases such measures fall;*
- *with regard to network access, avoiding discrimination between electricity produced from solar radiation, biomass (below 20 Mwe), hydroenergy (below 10 Mwe) and wind.”*

### **Next step**

Presently, the Commission is examining closely the different schemes proposed or introduced by the Member States. However, in order to establish a more profound overview of the many different schemes the Commission intends to launch a series of cost/benefit and cost effectiveness studies.

The aim of these studies will be to provide clear information, with respect to each Member State as well as number of third countries where such schemes are operating, on the following issues:

- detailed analysis of the manner in which support is granted
- the costs involved for consumers, producers and the state for the different schemes
- the CO<sub>2</sub> emission reduced due to each scheme in force
- the effectiveness of the different schemes in terms of their success in promoting renewables.

As a result of these studies it should be possible to get an overview of the relative efficiency of the different approaches taken by the different countries, permitting the Commission to draw up rules for the future treatment of renewable energy in the light of the Electricity Directive.

The studies should permit the Commission to - in a final report - give the answers to the following questions:

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<sup>8</sup> COM(97) 599, 26.11.97, “Energy for the Future: Renewable Sources of Energy - White Paper for a Community Strategy and Action Plan” p. 12.

- the internal market distorting effects of the contemporaneous existence of differing support schemes at the Member State level;
- the relative costs of the different schemes introduced to support the introduction and development of renewable electricity;
- the effectiveness of such schemes in terms of cost/benefit regarding CO<sub>2</sub> reduction;
- the level of additional benefits to the EU of an increased role for renewables, including increasing employment possibilities, the maintenance of a European lead in renewables technology and thus export opportunities, and regional development advantages;
- whether the introduction and development of such schemes results in a competitive handicap for EU industry. In analysing this consideration it will be necessary to determine the approach - quantitatively and qualitatively, of our major trading partners.

Following this, the Commission will propose a Directive establishing common rules for the treatment of renewables. The intention is to present this proposal before the end of 1998.

The Commission has been concentrating on the co-operation with Member States on the transposition on the Directive since the Directive entered into force on 19 February 1997. This has shown that the treatment of renewables is a priority in most Member States. The interest in this area is increasing, particularly in the light of the Commission's recent green and White papers on renewable energy sources, and the EU commitment accepted at Kyoto. Other issues may show up in the coming months and years. Therefore, it is the intention of the Commission to present a new harmonization report each year. The next report will be presented in February 1999.

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