European Parliament

EU support for coal regions

SUMMARY

The EU has committed to cut greenhouse gas emissions by 40 % before 2030, and by at least 80 % by 2050. This will require a transition from relying on fossil fuels to renewable energy sources, and in particular a reduction in power generation from coal.

While EU production and consumption of coal has declined steadily, coal still provides about a quarter of EU power generation. Coal is mined in 12 Member States, and coal-fired power plants operate in 21 Member States. The European coal sector employs 238 000 people in directly linked activities, such as coal mines and power plants. An estimated 160 000 jobs could disappear by 2030. Further job losses are expected in indirect activities along the value chain, e.g. power generation, equipment supply, services, research and development. Impacts of phasing out coal are also likely to be felt in the iron and steel sectors, mining equipment manufacturing and coal terminals.

Transition to a low-carbon economy will therefore require structural changes in coal-producing regions. Proposed solutions include helping workers to retrain and supporting their search for new employment, promoting local economies' diversification, modernising energy and power generation systems, developing the renewable energy sector, and rehabilitating mining land, for instance by converting former mines for renewable energy use or creating industrial heritage sites.

The EU provides a variety of funding that can be used to alleviate the socio-economic consequences for coal regions. Energy and climate adaptation programmes, along with cohesion policy and research funding opportunities, offer financial support, while additional technical assistance is also available. The European Commission's Platform for Coal Regions in Transition assists regions to prepare and implement transition activities. As the EU is currently negotiating its post-2020 budgetary framework, the European Parliament and the European Committee of the Regions call for specific measures and tailored funding sources to offer support to facilitate transition in coal regions. The Commission President-elect has announced the establishment of a Just Transition Fund as part of the European Green Deal, and new legislative proposals can be expected early in her term in office.

In this Briefing

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Background

The EU, as a signatory to the 2015 Paris Agreement, has committed to a 40 % cut in greenhouse gas emissions (GHG), compared to 1990 levels, by 2030. In preparation for the COP24 conference in Katowice in 2018, the European Commission also presented its vision for a climate-neutral Europe by 2050, based on an at least 80 % reduction in emissions. This will require a transition from relying on fossil fuels to renewable energy sources, and in particular a reduction in coal power generation.

The currently binding 2020 climate and energy package is a set of legislation setting targets until 2020. Three key targets (20 % cut in GHG emissions (from 1990 levels), 20 % of EU energy from renewables and 20 % improvement in energy efficiency) are monitored as part of the Europe 2020 strategy, with annual reports available from Eurostat. According to the 2018 Eurostat report, the EU is on track to achieve its target of 20 % emission reduction by 2020 and even expected to exceed it. Already by 2016 (latest available data), emissions of GHG across the EU had fallen by 22.4 % compared with 1990 levels. However, the implementation of this goal varies between Member States. While all economic sectors contributed to this reduction (except for fuel combustion in transport and international aviation),[1] energy industries were responsible for the largest reductions in absolute terms. The share of renewable energy in gross final energy production amounted to 17 % in 2016, with biofuels providing the biggest share of total renewable energy in the EU and being the largest renewable energy source used in transport and for heating and cooling. In the electricity sector, hydropower remains the dominant renewable energy technology, but the shares of wind and solar energy are steadily increasing.

The main policy instruments to achieve the emissions reduction target are the EU Emissions Trading System (EU ETS) in the power and heat, energy-intensive, industry and commercial aviation sectors. The Effort Sharing Decision (ESD) applies to other sectors, such as transport (except aviation and international maritime shipping), buildings, agriculture and waste. These instruments will continue to be used under the 2030 climate and energy framework, adopted by the European Council in 2014, and revised in 2018. This new framework sets the following key targets for 2030: 40 % cuts in emissions, 32 % share of renewable energy, and a 32.5 % improvement in energy efficiency. The Energy Union, a governance framework for climate and energy goals established in 2015, covers a broader range of policies, with annual updates in the reports on its implementation.

While reaching the EU-wide targets for 2020 looks to be on track, further emission cuts of 40 % by 2030 and then at least 80 % by 2050, may require more sustained effort. At the same time, the transformation of the energy system will have significant impacts on regional economies and employment in the traditional energy sectors. In particular, the effects on the coal industry and linked sectors are expected to be substantial. Regional transitions based on well-designed strategies can succeed if they are supported at the European, national, regional and local level.

Coal sector in the EU

According to the European Commission's 2018 report on EU coal regions, coal currently provides 16 % of EU energy consumption and about 24 % of the power generation mix.[2] The main applications of coal include heating in buildings, energy and material production in industry, and power generation (combined production of electricity and heat, and/or production of heat for district heating). Nine Member States make marginal or no use of coal in power generation, but in others coal use is much higher than the EU average. For instance, Poland generates almost 80 % of electricity from coal, while four other countries generate at least 40 % (Czechia, Bulgaria, Germany and Greece).

The Commission report states that, in 2015, there were about 128 coal mines in 12 Member States (41 regions at NUTS-2 level) and 207 coal power plants in 21 Member States (103 NUTS-2 regions).[3] The largest number of coal mines is in Poland (35), followed by Spain (26), Germany and Bulgaria (12 each). Between 2014 and 2017, 27 mines were closed across Czechia, Germany, Hungary, Poland,

Romania, Slovakia, Slovenia and the United Kingdom (UK). Further closures were scheduled in 2018, including 5 in Germany, Italy, Poland, and Romania and 26 in Spain. While, previously, many uncompetitive coal mines continued to operate thanks to state aid subsidies permitted under Council Regulation No 1407/2002, the process of mine closure was accelerated by Council Decision No 2010/787/EU, wherein state aid is only allowed to facilitate closure of uncompetitive coal mines.

Germany is the largest European producer of coal (184 million tonnes annually), followed by Poland (135 million tonnes), Greece and Czechia (46 million tonnes each). The largest number of coal power plants is in Germany (53), Poland (37) and Spain (16).[4] Map 1 shows the locations of operating coal mines, two thirds of which are hard coal mines. Some countries exclusively produce hard coal (Spain and the UK), others exclusively mine lignite/brown coal (Bulgaria, Greece, Hungary, Slovakia and Slovenia). Other countries have both types of coal (e.g. Czechia, Germany, Poland and Romania). Almost half the mines are surface (open cast) operations, with lignite predominantly mined in open pits and hard coal mines existing in both types of operations (surface and underground).

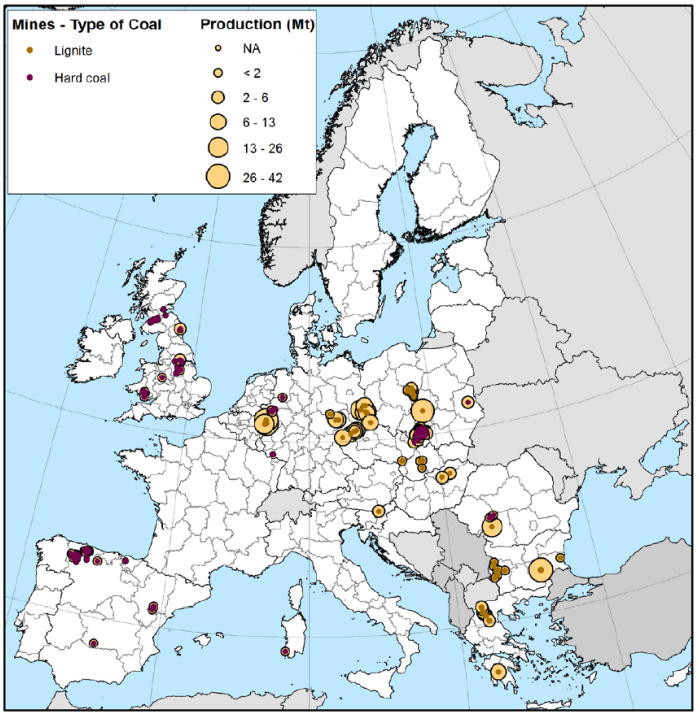
Direct employment in the coal sector amounts to 238 000 jobs (including 185 000 workers in coal mines and 53 000 workers in coal power plants). It is estimated that indirect activities throughout the coal value chain, including power generation, equipment supply, services, research and development and other dependent activities provide an additional 215 000 jobs. In total, the European coal sector currently employs almost half a million people in direct and indirect activities.

However, employment in the coal sector varies between regions and countries. Numbers of coal mine workers range from around 350 in Italy to just below 100 000 in Poland,[5] while employment in coal power plants varies from about 100 in Sweden to around 13 500 in Poland. The regions with the highest number of direct jobs in the coal sector (mines and power plants) are located in Bulgaria, Czechia, Germany, Greece, Poland and Romania. The regions with the highest number of indirect jobs are in Bulgaria, Czechia, Germany and Poland.

It is estimated that by 2030, around 160 000 direct jobs in the coal sector may be lost. Two thirds of the coal power plants currently operating in Europe are expected to close between 2020 and 2030. Long-term viability of coal mines depends on their competitiveness, which is linked to mine productivity, type of coal produced, mine sub-type (opencast or underground), mine depth, coal quality and resources to production ratio. Mine productivity is measured as the annual production of coal per person employed.

According to projections, out of the total estimated current 238 000 direct jobs, 12 % (or 27 000 jobs) are likely to be lost by 2020, another 20 % (49 000 jobs) by 2025, and a further 35 % (83 000 jobs) by 2030. If the forecast reduction in coal activities takes place, about one third (around 78 000) of the current estimated workforce may still be employed in the coal business after 2030.

Map 1 – Coal mines in the EU by type of coal



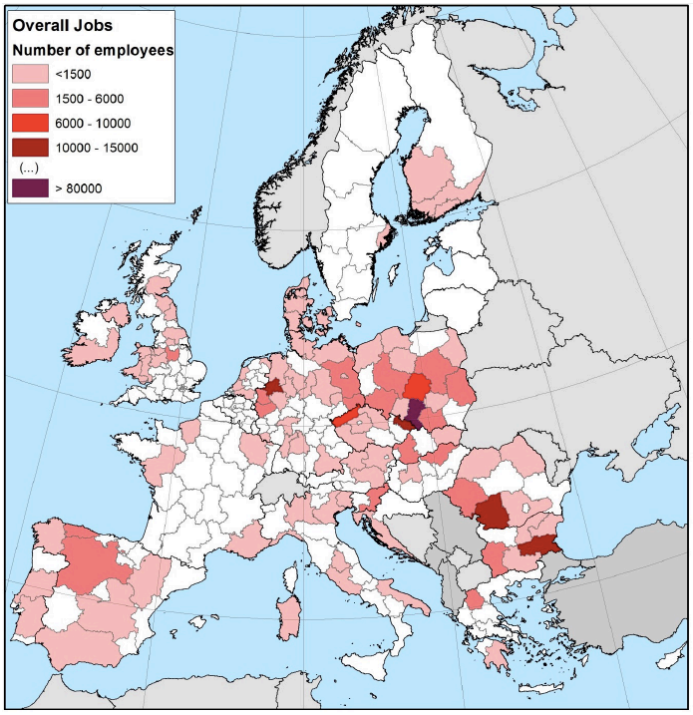
Source: European Commission, 2018.

The highest regional impacts of job losses in the coal sector are expected to be felt in Bulgaria, Germany, Poland, Romania, Spain and the UK. Between 2020 and 2025, the most significant

job losses (both in coal mines and power plants) are expected in Czechia (Severozápad and Moravskoslezsko), Germany (Köln and Brandenburg) and Poland (Śląskie and Małopolskie, with over 2 000 potential losses each. A further 1 000 to 2 000 positions may also become redundant in regions located in Germany, Poland, Slovakia, Slovenia, Romania, Greece, and the UK. Between 2025 and 2030, the Śląskie (Poland) and Yugoiztochen (Bulgaria) regions may experience the highest number of potential job losses in power plants and mines – up to 39 000 in total. In addition, several other regions in south-eastern Europe may potentially be greatly affected. To fully assess the magnitude of social consequences, it is also necessary to take the share of jobs at risk in the economically active population of a region into account, as well as the current unemployment rate. If such criteria are taken into account, the Greek region of Dytiki Makedonia and the Romanian region of Sud-Vest Oltenia will find themselves among the most affected.

A number of solutions have been proposed to tackle the consequences for regional economies and redundant coal workers. A viable socio-economic transformation includes reskilling and retraining workers, and helping them find alternative jobs. New jobs can also be created as a result of diversification of the local economy and tapping into the potential of the renewable energy sector. Former mine sites can be reconverted to renewable energy generation, such as wind or solar parks, or re-used for geothermal energy or hydropower applications. Co-firing of biomass or other fuels in power plants, as well as modernisation and decarbonisation of industrial, transport and energy systems may offer further economic opportunities. Developing facilities such as recreation centres, museums or science centres helps build on coal regions' industrial heritage and provides alternative uses of former mining areas.

Map 2 – Total number of jobs in coal power plants and coal mines at NUTS-2 level



Source: European Commission, 2018.

EU support

The current Multiannual Financial Framework (MFF), for 2014-2020, ensures that at least 20 % of the European budget is dedicated to climate-related expenditure. Climate adaptation actions have to be integrated into all major EU spending programmes, and a tracking system monitors achievement of the main objectives. A wide array of funding is available at EU level to finance the transition in coal regions. While the majority of funding sources is not targeted at coal regions per se, they can be used to finance various aspects of this transition. For instance, social funding can help fund worker retraining and assist their job search. Funding for energy and climate action can help finance the development of renewable energy sectors and the modernisation of energy networks. Other sources can help finance the conversion of mines into industrial heritage sites and conduct research into transition from coal to other energy sources. Technical assistance is also available via the Structural Reform Support Service and the Platform for Coal Regions in Transition.

European structural and investment funds (ESI funds) for 2014-2020[6] have several thematic objectives that can support coal regions. The European Regional Development Fund (ERDF), with a budget of €196 billion, supports the shift to a low-carbon economy (between 12 % and 20 % of its resources, depending on the type of region). Specific actions include promoting the production and distribution of renewable energy sources, supporting energy efficiency in public buildings and in the housing sector, promoting low-carbon strategies, adoption of low-carbon technologies, investments in adaptation to climate change, and industrial transition towards a resource-efficient economy. Similar actions can be financed from the Cohesion Fund, with a budget of almost €75 billion. However, this fund is only available in countries with GNI per capita of less than 90 % of the EU average, and focuses mainly on the transport and energy sectors. It is important to note that the ERDF also supports European Territorial Cooperation (ETC), including cross-border cooperation on climate action between Member States (see Interreg).

The European Social Fund (ESF), with a budget of over €86 billion, supports the shift towards a low-carbon and climate-resilient economy through the improvement of the education and training systems necessary for the adaptation of skills and qualifications, the up-skilling of the labour force, and the creation of new jobs in sectors related to the environment and energy.

In addition to the ESI funds, several other EU funding sources may be relevant for coal regions. The European Globalisation and Adjustment Fund (EGF) provides support for people who lose their jobs as a result of structural changes linked to globalisation (for instance when a large company shuts down, or production is moved outside the EU). The Fund has an annual budget of €150 million for 2014-2020, and funds projects designed to help workers find another job or set up their own business via advice, retraining and allowances. Support for coal workers who lose their jobs falls under adjustments to structural changes financed by this fund.

The LIFE programme, with a budget of €3.4 billion in 2014-2020, provides funding for the environment and climate action. Its climate action sub-programme can be used to support projects in energy efficiency, renewable energies, and projects contributing to the reduction of greenhouse gas emissions, among other areas. The Connecting Europe Facility (CEF) also has an energy component (CEF Energy) with a budget of €5.35 billion in 2014-2020. It offers grants and financial instruments supporting investments in the energy sector, including energy transmission infrastructure, smart grids and support to deployment of energy from renewable sources.

The European Fund for Strategic Investments (EFSI) budget of €33.5 billion is used to offer support in the energy sector, with at least 40 % of EFSI infrastructure and innovation projects aiming to contribute to climate action. Funding is offered in the form of guarantees. The Fund is managed by the European Investment Bank (EIB), which also offers other funding sources in the 'climate and environment' area (25 % of the Bank's total financing is dedicated to climate change adaptation and mitigation). Part of the funding is made available via the Private Finance for Energy Efficiency (PF4EE), supporting energy efficiency investments. Also hosted by the EIB, the European Investment Advisory Hub offers tailored advisory support for investment projects, including the energy sector (renewable energy, energy efficiency, energy infrastructure) and climate action. In the future, the Hub will be joined by the Structural Reform Support Service (SRSS), which has been offering help in implementing structural reforms in EU Member States since 2015, and manages the Structural Reform Support Programme since 2017. Its areas of supporting reforms include energy, climate, labour market issues and many others. The latest annual SRSS activity report provides information on supporting authorities in coal regions to prepare for a transition out of coal, helping prepare action plans and recommendations on the rehabilitation of mining land. The SRSS also assists Member States in drafting of National Energy and Climate Plans, and preparing action on energy efficiency and renewable energy sources. A further possibility for technical assistance is offered by the Platform for Coal Regions in Transition set up in 2017, with the aim of supporting Member States and regions in modernising their economies and preparing them for the structural transition. Currently, 18 coal regions participate in the initiative.

Horizon 2020 is the largest EU research and innovation programme with a budget of €80 billion for 2014-2020 and 35 % of resources dedicated to climate-related research. Dozens of projects are funded under the themes: 'Climate action, environment, resource efficiency and raw materials' and 'Secure, Clean and Efficient Energy'. In addition, the Research Fund for Coal and Steel offers €40 million every year to universities, research centres and private companies to fund research and innovation projects in coal and steel sectors. The research themes include: production processes; application, utilisation and conversion of resources; safety at work; environmental protection; and reducing CO_2 emissions from coal use and steel production. The ETS Innovation Fund is one of the world's largest funding programmes for innovative low-carbon technologies.

Box 1 – Transition examples in coal regions

Poland – Transformation of the Guido mine in Silesia into an industrial heritage museum.

Germany – Conversion of the Göttelborn coal mine in Saarland into a solar energy park.

Czechia – Reconversion of the old Frantisek mine into a modern industrial park.

Spain – Hydro power plant project at the open cast 'As Pontes' hard coal mine.

Climate-KIC is a public-private innovation partnership, helping entrepreneurs to create a business, training students in climate change issues and helping public and private sector partners to develop climate change innovations. The InnoEnergy community of the European Institute of Innovation and Technology (EIT) works with business, research and education organisations on innovation projects, including in the area of clean coal technologies.

Multiannual Financial Framework 2021-2027

Under the post-2020 budgetary framework currently being negotiated, many of the instruments described above will continue to operate, with the target of contributing EU expenditure to climate objectives raised to 25 %. The European Fund for Strategic Investments will be replaced by InvestEU, with funding available for the energy sector (e.g. modernisation of energy infrastructure, carbon-capture and storage, expansion of clean and renewable energy). Horizon 2020 will become Horizon Europe and continue to fund research on climate and energy, including decarbonisation. The ESI funds will continue under the label 'Union funds'.[7] Cohesion policy support from ERDF, ESF and the Cohesion Fund will continue to be available under new policy objectives, with social funding under the ESF (e.g. skills development, improving access to employment and social inclusion), while ERDF and the Cohesion Fund will continue their strong thematic focus on the low-carbon economy (supporting green infrastructure, renewable energy and energy efficiency investments). The LIFE programme will be extended for 2021-2027, with a sub-programme on clean energy transition, as will the European Globalisation and Adjustment Fund, with support for workers affected by the transition to low-carbon economy. Moreover, the new Reform Support Programme (building on SRSP) will offer financial and technical assistance for structural reform, including in the areas of climate action and energy. Stakeholders point out that a high number of regions compete for these resources, and call for dedicated resources to be made available for coal regions. A Just Transition Fund has been announced by the Commission President-elect as part of the European Green Deal.

European Parliament

In its March 2019 resolution on 'Climate change – a European strategic long-term vision for a prosperous, modern, competitive and climate neutral economy in accordance with the Paris Agreement', the European Parliament highlighted the need for a long-term strategy and consideration of the social impacts under existing climate funding. It also stressed the importance of creating a just transition fund, especially for the regions most affected by decarbonisation, such as coal mining regions. Parliament therefore called for an allocation of €4.8 billion for a new just energy transition fund under the 2021-2027 MFF, with the aim to support workers and communities in such regions adversely affected by this transition.

In another March 2019 resolution on 'A Europe that protects: Clean air for all', Parliament recognised the importance of phasing out coal in the context of reducing emissions, and welcomed the commitments of at least ten EU Member States, while encouraging others to follow. It also drew attention to the need to support regions affected by the energy transformation, especially the mining regions.

Parliament's 2018 resolution on 'The next MFF: Preparing the Parliament's position on the MFF post-2020' called for support for the transformation of the energy sector in light of the current climate objectives, especially in coal regions and countries. In particular, it called for supporting investments to ensure the diversification of energy sources and routes, increase energy security and energy independence, and enhance energy efficiency and the use of renewable energy. It highlighted the importance of the modernisation of power generation and grids, the modernisation of district heating, the development and deployment of renewable sources, energy efficiency solutions, electro-mobility solutions and infrastructure, advanced power generation technologies, including carbon capture and storage (CCS), carbon capture utilisation (CCU), and coal gasification, as well as addressing the social, economic and environmental impacts of these measures.

European Committee of the Regions

The European Committee of the Regions (CoR) is currently working on an opinion 'The socio-economic structural change in Europe's coal regions', to be adopted in the October 2019 plenary session. The draft opinion discusses achieving EU climate policy goals while also alleviating the socio-economic and environmental effects of the required transition in coal regions. In particular, the opinion advocates a holistic approach, including measures for infrastructure development, innovation, research and science, business support and development, development of skilled workers, marketing, culture and tourism. It also highlights the role of promoting socio-economic transformation in coal regions through capitalising on their strengths (e.g. regional industrial clusters), cross-border cooperation, modernisation of the transport and energy systems, tapping into the capacity for innovation, and improving the environment for start-ups. It calls for adequate earmarked financial support at EU level for coal regions that goes beyond the currently available sources of funding. It suggests additional funds are tailored to coal regions, for instance from the Reform Delivery Tool (part of the Reform Support Programme), the Fair Energy Transition Fund proposed by the Parliament, and allocations under the future cohesion policy (especially the ERDF and ESF programmes). Moreover, the CoR gives policy recommendations on revising state aid rules and adapting them for these regions, to enable measures aimed at facilitating structural change.

Outlook

With the increasingly ambitious EU climate goals, the transition to a low-carbon economy is likely to accelerate in the coming decades. The increased share of green seats after the 2019 European Parliament elections, and the new President of the European Commission's call for a European Green Deal, are likely to put the environment and transition to a low-carbon economy high on the European agenda. While the socio-economic consequences of phasing out coal are expected to be felt in a number of EU coal regions, carefully planned transition strategies can facilitate the diversification of local economies, creation of new employment opportunities and development of new energy infrastructure. Already today, the EU offers a variety of funding sources that can be used by coal regions to facilitate this energy transition and alleviate the consequences for the affected workers. Under the planned 2021-2027 MFF, a number of funding sources will continue to be available for this purpose, ranging from social funding targeted at reskilling and job search support, investment opportunities in the energy and climate adaptation sector, and research on new clean technologies. While stakeholders advocate reinforced support for a 'just' transition in coal regions, the Commission President-elect has announced the establishment of a Just Transition Fund as part of the European Green Deal. New legislative proposals are expected to be presented early in her term in office.

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ENDNOTES

1 The report refers to total reductions between 1990 and 2016.

2 Compared with 41 % of energy consumption and 39 % of power generation in 1990.

3 In total, coal activities are present in 21 Member States and 108 NUTS-2 regions. This is because some of them host both coal mines and coal power plants. This is over one third of all NUTS-2 regions in the EU (the total is 281 regions at NUTS-2).

4 Data in this section are based on the 2018 European Commission report on coal regions.

5 The Silesia (Śląskie) region in Poland provides about 80 000 coal mining jobs. This is almost half of the total coal mining jobs in the EU.

6 The five European structural and investment funds include the European Regional Development Fund (ERDF), the European Social Fund (ESF), the Cohesion Fund (CF), the European Agricultural Fund for Rural Development (EAFRD) and the European Maritime and Fisheries Fund (EMFF). Only the first three funds are formally part of EU cohesion policy in 2014-2020. In the context of the topic of this briefing, the EAFRD and EMFF only offer support for environmental action, such as energy efficiency measures, in relation to agriculture and fisheries.

7 In the ongoing 2021-2027 MFF negotiations, EAFRD is being discussed as a separate proposal. The new Common Provisions Regulation for 2021-2027 also covers rules for the Asylum and Migration Fund, the Internal Security Fund and the Border Management and Visa Instrument.

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