

Europe banks on fixed tariffs

Minimum price systems dominate the renewable promotion systems in Europe. Only six states have chosen **quota models**.

By Mischa Bechberger and Danyel Reiche

Clean energy industries are keenly anticipating a report to be published by the European Commission this autumn. Four years after the EU Directive 2001/77/EC on promoting renewable sources in the energy market went into force, an assessment is to be made of how the various promotion instruments in the member countries have performed. But it will be more than a report of experiences. One consequence could be the EU Commission recommending uniform European promotion measures.

Fundamentally there are two promotion models: feed-in remuneration with fixed tariffs and so-called quota models. Politicians, scientists and lobby groups have been in hot dispute for years over which is the 'better' instrument.

Feed-in systems with fixed prices clearly dominate in the 25 EU states. Since the first was introduced in 1988, 15 more countries adopted it. If one also counts the system for promoting photovoltaic power production in Flanders, Belgium, there are 17 EU states with feed-in schemes. Other countries tried it but now have other provisions - Italy (1992 to March 1999), Ireland (until the end of 1994) and Poland (1993 to 2001).

Only five countries are using a quota system to promote clean energy sources. If one counted Denmark it would be six; the Danes decided to bring in a quota system back at the end of 1999 but it's been put off several times.

Germany's fixed price model

Portugal was the first to introduce a feed-in remuneration model in 1988, which continues in modified form. The countries seen as role models for the system are Germany (since 1990), Spain (1994) and Denmark (1992).

For many the example to follow is the German Renewable Energy Sources Act (EEG). It was the orientation for several EU states introducing their own systems. For example, the Czech clean energies association had the EEG translated and passed it to all members of parliament. This resulted in lively debate and adoption of a similar support mechanism in the Czech Republic.

France also fashioned its support provisions after the EEG following a comparative study of various systems. The study was commissioned by the then prime minister, Lionel Jospin, and Yves Cochet, member of the French national assembly recommended a fixed price system, citing the success of the German and Spanish legislation.

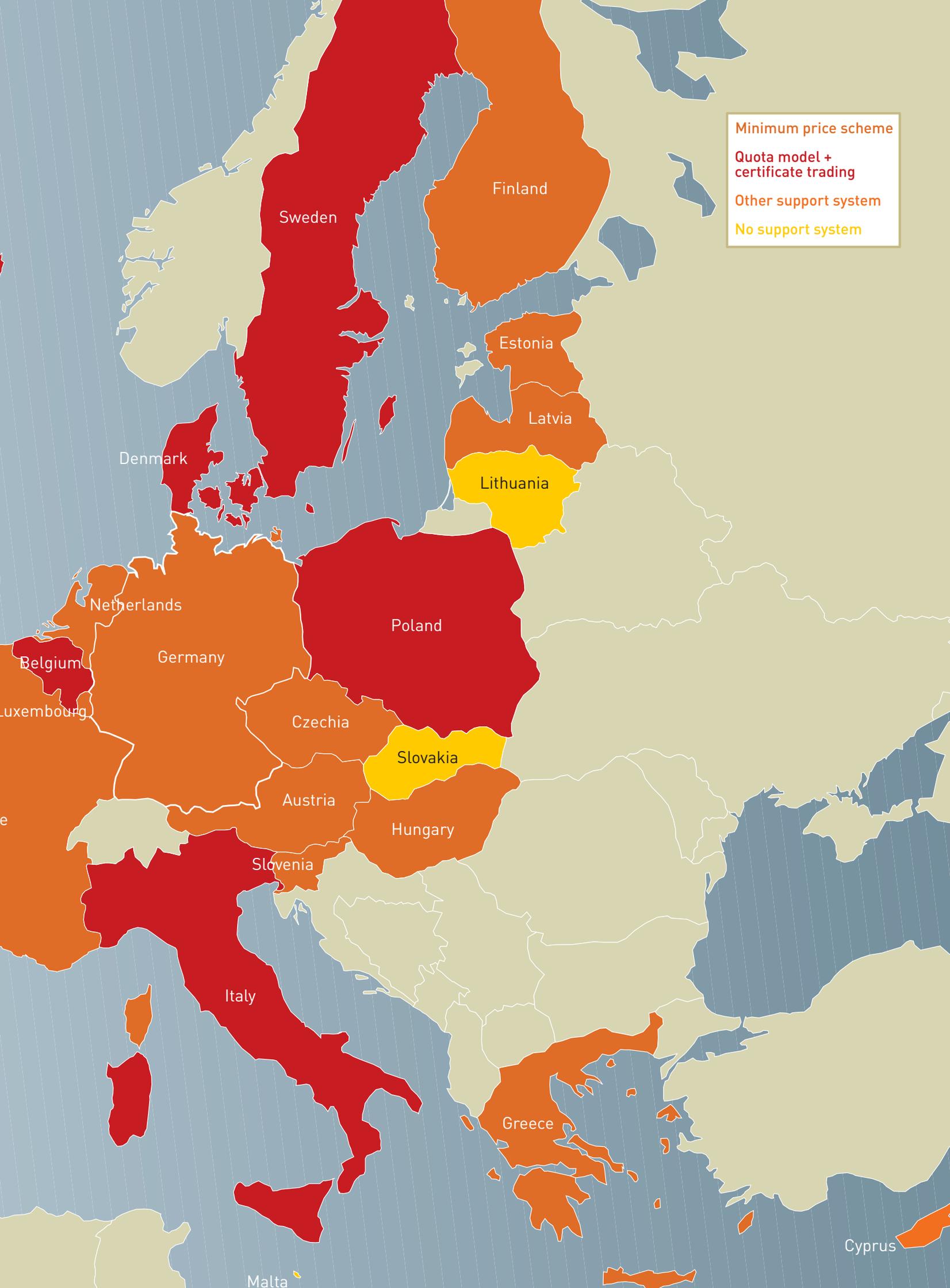
The March 2004 revision of the Spanish ecological energy legislation in turn borrowed from the provisions of the German Electricity Feed-in Law of 1990. And the tabled draft of a new Czech feed-in law is very similar to the currently valid Spanish rules.

All in all, since 2001 more and more fixed-price systems have come in: in France in 2001, in the Czech Republic and Slovenia in 2002, in Austria, Hungary and the Netherlands in 2003 and in Cyprus last year.

There are several reasons for the advance of the fixed-price system:

- ▶ The need to promote various targeted energies arising from the European Directive to promote renewables in the energy market and the fact that the





Minimum price scheme
Quota model +
certificate trading
Other support system
No support system

Sweden

Finland

Estonia

Latvia

Lithuania

Denmark

Poland

Netherlands

Germany

Belgium

Luxembourg

Czechia

Slovakia

Austria

Hungary

Slovenia

Italy

Greece

Malta

Cyprus

Fixed tariffs or quota: What sets the two remuneration systems apart?

- ▶ Feed-in remuneration models (also called fixed price or minimum price models) not only require energy utilities to buy the cleanly produced power and feed it into their grids, but also to pay a fixed price for it, often for a certain period, say 15 years. The specific conditions – such as various technologies, remuneration rate, grid access issues – are regulated by law or agreed rules.
- ▶ In quota models the state stipulates an amount or a certain proportion of renewable energy in the national power market. This amount has to be produced, sold or bought in by a group of players – producers, merchants, grid operators or consumers – within a certain time span. To police the observance of the volume obligation, the power from regenerative sources is certified. Using the certificates, everyone has to prove on a certain day that they have met their obligations; the relevant certificates are then called in. Those who have not met their obligations have to expect sanctions. The specific provisions – such as quotas for the various technologies or the height of the penalties – are mostly anchored in a law or regulation. Quota models are usually introduced in connection with certificate trading.

Directive did not determine a particular promotion model.

- ▶ On the basis of a ruling by the European Court of Justice there has been legal security since March 2001 about the conformity of the German power feed-in law with European competition law.
- ▶ And last but not least the successes driven by this promotion system and achieved in countries like Germany, Spain or Denmark speak for themselves, especially with wind energy.

Quota models popular in the late 1990s

A chronological tally of the spread of quota models produces an altogether different picture, however. The first country to opt for this way of advancing green power was the Netherlands in 1998. But the Dutch attempt at volume-based promotion lasted only three and a half years. In July 2001 the seaboard country changed back to a demand-based model with regenerative power exempted from energy tax.

Despite this, introduction of quota models was dominant in the period from 1998 to 2001. In 2000 Denmark followed the Netherlands but hasn't yet put the system into force. Austria tried it between 2000 and 2003. In 2001 Italy, Belgium and – as the only new member – Poland brought in such a model. Only Estonia (1998) and France (2001) chose fixed price systems in the same period.

Three reasons made quota systems so popular for a while:

- ▶ The European Commission's first unofficial draft of the 1998 EU Directive for the promotion of renewable energy sources in the internal electricity market favoured a promotion system based on quotas.
- ▶ Also in 1998, resistance of the German electricity utilities to the recently renewed German electricity feed-in law (StrEG) reached the European level. The former utility Preussen Elektra filed a complaint against the StrEG at the Kiel regional court, which passed it on to the European Court of Justice. Only in March 2001 the European court ruled that the provisions of the StrEG do not constitute state aid and hence don't violate European competition law. Until that judgement was handed down, states considering a fixed price system lacked legal security.
- ▶ Not least the liberal economic orientation of many states favoured the increasing spread of quota models. In line with the canon of classic economic theory they are rated as more compatible with the terms of international trade, the market and competition.

But the announcement of the judgement by the European Court of Justice in March 2001 ended the brief dominance of the quota systems. Since then only two more states have adopted them, the United Kingdom in 2002 and Sweden in May 2003.

Why feed-in systems are successful

Although from a research perspective no promotion instrument can be attested as

having a natural superiority per se, it has clearly emerged that minimum price systems have proved more effective in increasing clean energy capacity. Europe's leading wind energy countries, Germany and Spain, have successfully used the instrument. Almost all the installations in Denmark so far are also based on such a system. In the European Union, 83.8% of wind power capacity (based on the 28,542 MW at the end of 2003) is installed in these three countries.

What drove this development? The primary reason is planning safety offered investors by the specific provisions of the rules used in these countries. Germany, for example, guarantees investors a feed-in remuneration for a period of 20 years. The new Spanish model even contains fixed tariffs for the life span of the plant. Of the new EU members only Hungary (eight years) and Estonia (seven years for biomass and hydropower, 12 years for all other renewable energy sources) offer long-term investment security. The Czech Republic and Slovenia, also using minimum fixed prices, review the rates annually, which prevents planning security. This could explain why hardly any capacity was added in those two countries even after minimum remuneration was brought in. Hence the Czech Republic is revising its legislation along the lines of the Spanish. However, only 15 years, not lifelong remuneration is planned.

Another very important criterion is that many minimum price systems provide technology-specific remuneration. This is a way to address the differences in cost structures of the various green sources and to achieve a broad mix. A uniform remuneration rate would concentrate development on the currently most profitable sources. Leading example for a differentiated minimum price system is once again Germany, whose EEG differentiates the amount of remuneration by technology, size of the installation and in wind energy also age and amount of power produced. The success of such fine-tuning speaks for itself: Germany is world champion in the amount of wind capacity installed and second, after Japan, with photovoltaics.

Variety will stay

Since introduction of the first fixed price system in Portugal in 1988 this clean power promoting instrument has asserted itself in the majority of the 25 EU states. The main reason for this in many cases was the greater planning security for investors than with quota models. But in addition to the right design of the promotion instruments, a number of other factors determine success or failure of promoting renewables. These include in particular the geographic, political, economic, technical and cognitive parameters.¹⁾

If contrary to the signals coming from Brussels the EU Commission were to decide by the end of 2005 a set of uniform promotion instruments, it could go into force in 2012 at the earliest. This is because the EU Directive 2001/77/EC provides transition periods of at least seven years for this case. This means that promotion systems like the German one can't be ended abruptly. But even for the mid-term it has to be assumed that various promotion instruments will continue to coexist in the individual states.

That's primarily explicable from the varied regulation traditions in the member countries. Europe-wide introduction of a harmonised support system appears to be realistic only in a longer-term perspective once comprehensive experience has been gathered with the various options.

It looks as if the two main promotion instruments will continue to compete for supremacy, with the feed-in models currently clearly ahead in the race. At a later stage, however, approaches might be feasible in which the confrontation ends and a combination of both approaches ensues – for example fixed (national) remuneration rates for photovoltaics and other still relatively market-distant technologies as well as a Europe-wide quota model with certificate trading for the other renewables. ◀

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¹⁾ Other publications by the authors address this in detail, e.g.:

- Reiche, Danyel (Ed.): Handbook of Renewable Energies in the European Union – Case studies of all Member States. Frankfurt/Main, 2002.
- Reiche, Danyel (Ed.): Handbook of Renewable Energies in the European Union II – Case studies of all Accession States. Frankfurt/Main, 2003.
- Reiche, Danyel (Ed.): Rahmenbedingungen für erneuerbare Energien in Deutschland – Möglichkeiten und Grenzen einer Vorreiterpolitik. Frankfurt/Main, 2004.
- Bechberger, Mischa/Körner, Stefan/Reiche, Danyel: Erfolgsbedingungen von Instrumenten zur Förderung erneuerbarer Energien im Strommarkt, FFU-Report 03-1. Berlin, 2003.
- Bechberger, Mischa/Reiche, Danyel: The spread of renewable energy feed-in tariffs (refits) in the EU-25, Berlin Conference 2004 "Greening of Policies Interlinkages and Policy Integration", Berlin 3-4 December 2004.

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