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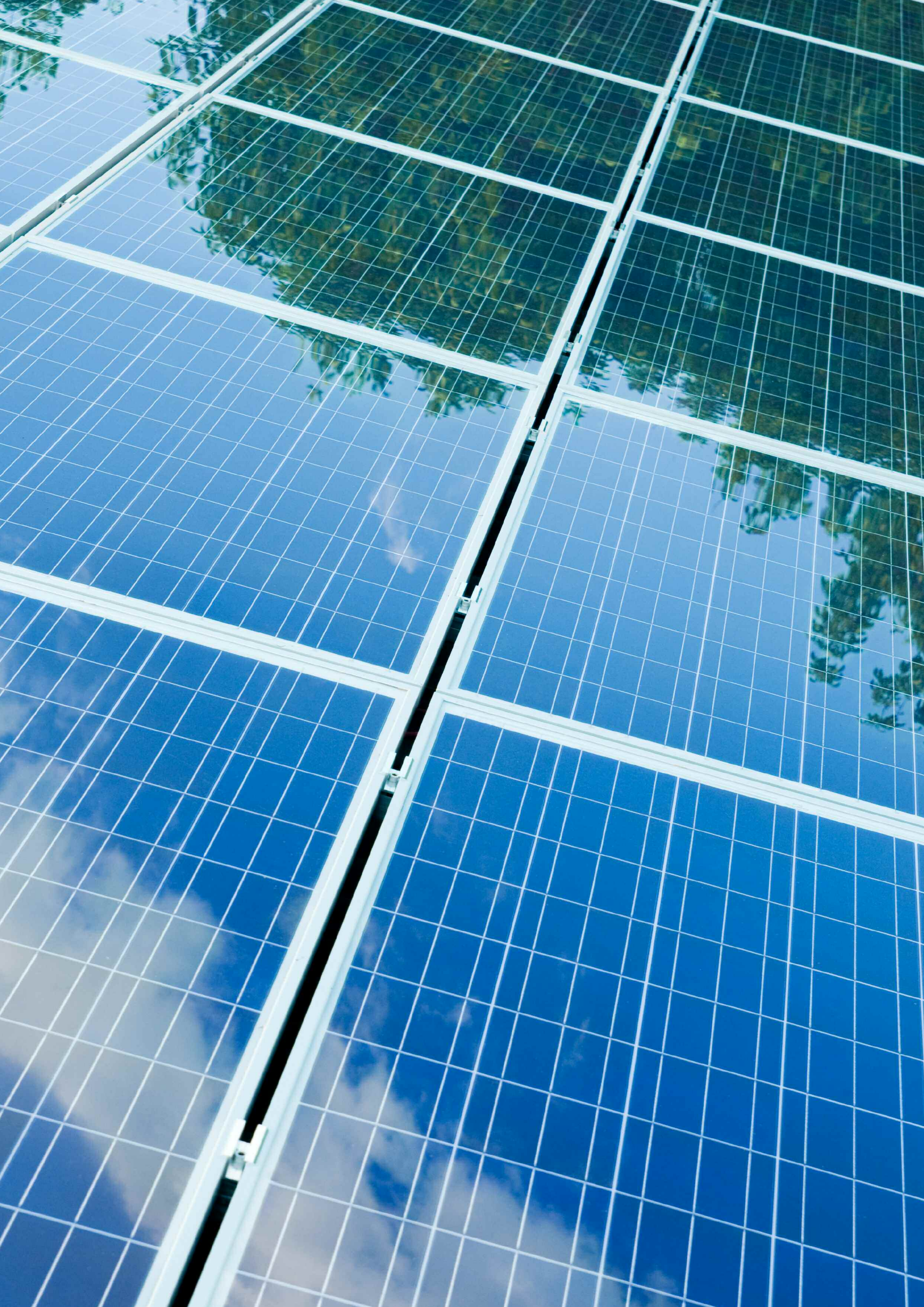
Renewable Incentives: Approaching Maturity

4th Edition

contents



June 2014-4th edition

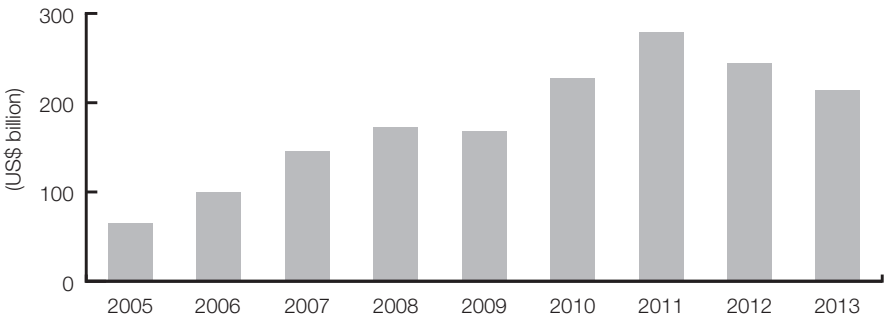
Renewable Incentives Guide: 4th edition

Introduction

The last few years have seen a turbulent time for the renewable energy sector. 2013 figures show that global investment in renewables fell significantly in both 2012 and 2013. Continuing global economic problems and uncertainty over renewable policy frameworks in key countries take a significant share of the blame. In particular, retroactive reductions in incentives in a number of European countries (in the solar sector) have caused investors to be extremely cautious about the stability of financial support mechanisms.

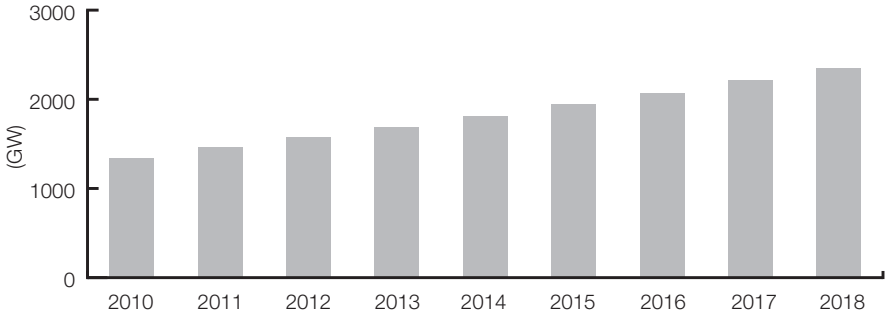
Interestingly, part of the reason for the declining value of investment in 2012/13 has been the reduction in technology costs, especially in solar and wind markets. This reduction in costs has helped deployment of renewables to continue rising despite recent falling value of investment, and deployment is projected to grow strongly at least up to 2020. In 2012, total renewable electricity generation capacity hit 1579 GW, and the International Energy Agency expects renewable electricity production to be 60% of the increase in power generation across the OECD between 2012 and 2018 (see tables inset).

Growth in Global Renewables Investment



Figures extracted from Global Trends in Renewable Energy Investment 2014 – Frankfurt School – UNEP Centre / Bloomberg New Energy Finance

Global Renewable Electricity Capacity and Projection



Figures extracted from IAE's Medium-Term Renewable Energy Market Reports 2012 and 2013

Is renewable generation becoming cost-effective without subsidies? In some cases, e.g. Turkey and New Zealand, onshore wind can compete effectively in the wholesale electricity markets. However, in the main, renewable generation capacity still needs financial subsidies to ensure continued growth in capacity. How does this fit with achieving targets?

In Europe, there are some encouraging signs of progress on meeting 2020 climate change targets. The European Commission (the Commission) expects the 20% carbon reduction and renewables targets will be achieved across the EU, although around half the Member States need to make increased efforts.

However, while the Commission seeks increased carbon reductions and renewable targets in its new 2030 climate package, a number of Member States are resisting binding renewables targets as they look to other potential medium-term ways of reducing emissions. These include possibly using shale gas as an interim measure to take over from coal capacity. It remains to be seen how the potential for a shale gas bonanza in Europe will affect national policy on renewables, particularly in light of geo-political conflict in Eastern Europe, and the desirability of reducing reliance on uncertain fuel supplies. Already the UK Government has sought to push the EU to expand shale gas development to improve EU energy security.

This Guide, now expanded to 19 countries across the world, gives a description of the key renewable incentive schemes in these countries, focussing principally on electricity generation. Over the years, a number of different types of

subsidy mechanism have developed. Recently, Feed-in Tariff (FIT) / Feed-in Premium (FIP) schemes and, to a lesser degree, Green Certificate-type schemes have become the pre-dominant support mechanisms. For example, REN 21[i] notes that five FIT schemes alone were adopted in Africa and the Middle East in 2012. These are joined by a wide range of other ways of encouraging the growth of renewable energy, including tax advantages, levies and grid connection advantages (see box inset).

Incentive schemes each have advantages and disadvantages in terms of encouraging production of new capacity, ensuring flexibility faced with rising or falling costs, achieving renewables targets, providing certainty for investors, and their impacts on electricity markets. Experience of such schemes in Europe has led to one of the most significant recent developments: a new push by the European Commission to regulate the forms of financial support for renewable electricity generation on offer in Member States.

Intervention by the EU Commission

The Commission has recently taken a more interventionist approach to renewable subsidies. It has looked not only at whether support should be provided, but also at the forms of support on offer. This responds to a number of concerns. In particular, the Commission is worried that Member States are not considering suitable alternatives (such as expanding inter-connection capacity) before introducing support schemes. Also, the lack of flexibility of schemes to deal with changing market conditions and falling costs of technology has led to the controversial retroactive changes made to a number of support schemes in recent years. These retroactive changes are still continuing; see recent proposals in Romania. The renewables sector now has significant market share and there is greater recognition that incentive schemes can have an impact on grids and system stability. They can also impact on competition, not only between renewable and traditional generators, but also between Member States, given a European electricity market which is set to become more integrated over the next few years. Conflict can exist not only over the level of aid that can be given to renewable generators but also over the extent to which domestic industries can be protected by the rises in prices that this will cause.

The Commission's new intervention has broadly taken two forms:

Common types of renewable incentive mechanism for electricity generation

Green Certificates (or Quota obligation mechanisms)

Green Certificate schemes operate by awarding qualifying renewable energy generators with certificates equivalent to the amount of renewable energy generated. Some newer renewable energy technologies may receive a larger number of certificates than long-established technologies, to reflect the difference in deployment costs. Electricity suppliers are placed under an obligation to source a certain proportion of their electricity from renewables and they evidence satisfaction of their obligation by presenting Green Certificates to the regulator, which are bought from renewable generators. Penalties are payable if suppliers do not meet their obligation.

Feed-in Tariffs (FIT) / Feed-in Premiums (FIP)

FIT schemes are more numerous than Green Certificate schemes as they are easier to administer and generally provide renewable energy generators with greater certainty of income. FIT schemes pay a sum of money or tariff to generators on top of their electricity sales. The sum paid is often a variable amount to "top up" the sales income to an agreed level. This provides a high level of price guarantee to the generator.

FIPs are a more developed form of FIT scheme, which have been adopted by a number of countries. They often involve payment of a fixed amount, irrespective of the electricity sales price received by the generator, but they can be variable payments which respond in some degree to fluctuations in market pricing. They result in generators being still exposed to electricity market prices.

Other types of subsidy / incentive measure

A wide variety of policies and support measures exist, including:

- Carbon pricing and taxes on fossil fuels
- Tax exemptions and deductions for energy saving investments
- Priority rights to connect renewables to the grid
- Tax-efficient loan finance for renewable investment
- Guaranteed purchasers through "Supplier of last resort" mechanisms
- Exemptions from licensing requirements or discounts in fees

[i] Renewable Energy Policy Network for the 21st Century, in their Renewables 2013 Global Status Report

- adoption in principle of new updated Guidelines on environmental and energy aid published in April 2014 (the New Guidelines); and
- publication of a Communication with accompanying working document setting out best practice on renewable subsidies (Best Practice Guidance).

The New Guidelines will be of great interest to developers as they set out the parameters for when the Commission will consider new subsidy mechanisms as being compliant with EU law. The Best Practice Guidance is a more prescriptive document setting out not only the best way to design schemes, but also the process to follow to determine whether they are needed in the first place, and whether alternative options might suffice. However, the Commission will also look to the Best Practice Guidance when applying the new guidelines, so these documents should be read in conjunction with each other. The sting in the tail is the Commission's announcement that it is considering the extent to which renewables incentives could be harmonised at European level. Harmonisation would be a radical shift which is likely to be very unpopular at national level.

The remainder of this article focuses on issues relating to State aid and the structure of renewable support mechanisms. It also comments on issues relating to efforts to shield domestic heavy industries from paying the levies that are often applied to fund such mechanisms. Finally, it looks at a potentially bigger threat on the horizon to the current structure of national renewable support mechanisms, which might in effect boost the Commission's case if it presses for harmonisation of mechanisms: an impending decision of the Court of Justice of the EU that might require national mechanisms to be opened up to energy generation anywhere in the EU.

The Commission's general direction

The Commission recognises that the various forms of support mechanism have different advantages and impacts. In particular, FITs / FIPs tend to protect producers better from revenue risk but do not provide the efficiency benefits of exposure to market pricing. Green Certificate mechanisms, on the other hand, introduce market exposure but can, as a result, increase the capital cost of projects. The Commission does not favour either tariff mechanisms or Green Certificate mechanisms. However, as far as tariff mechanisms are concerned, the Commission comes down in favour of FIPs rather than FITs and suggests that FITs should be phased out due to their adverse impact on the development of liquid electricity markets as the renewables market grows. It is also in favour of increasing competition in awarding support for all types of incentive schemes. The Commission recommends greater co-operation between national support schemes which, although permitted under the Renewable Energy Directive, has never taken off. The Commission wants to see renewable energy produced in the most efficient locations across the EU, and for national renewable energy schemes to recognise this. Ultimately, harmonisation of support may be the only way to realise this goal.

The importance of following State aid rules

The application of State aid rules to renewable energy support mechanisms is not new. A number of European Cases in the past have considered the extent to which particular forms of support constitute State aid in the first place. This question arises as such mechanisms often do not use government funds.

What is State Aid?

Under EU law, state aid potentially arises whenever state resources are used to provide assistance and that assistance gives some organisations an advantage over other organisations. It will be State aid if the aid is liable to distort competition in a relevant market and would be sufficient to affect trade between Member States. The advantage may, for example, be a grant, loan or tax break or the use of a State asset at below market price. Member States must notify proposed State aid measures to the Commission. Whilst there is a general prohibition on State aid, the Commission can give clearance for specific instances of State aid as a result of the notification procedure. The Commission will only grant clearance where the State aid is considered compatible with relevant policy objectives.

In the case of *Essent Netwerk Noord and Others* [2008], a levy upon consumers was put in place in the Netherlands to refund power companies for certain infrastructure investments. The Court of Justice of the EU (CJEU) determined that this "price surcharge scheme" would amount to State aid where (as in this case) the relevant Member State is in control at any time of the funds raised by the levy. This contrasts with the *PreussenElektra* case in 2001, where the Court held that an obligation on suppliers to purchase renewable electricity at minimum prices, funded directly from their own resources, did not amount to State aid. It might be thought that the question of whether or not schemes involved State aid should be settled now, but these debates still continue.

The potentially dire consequences of getting State aid questions wrong are

illustrated by the case of the French FIT scheme for wind power. Under the initial version of the scheme established in 2000, the costs of the FIT scheme were imposed upon producers, suppliers and distributors (as in *PreussenElektra*) and the French administrative courts found that this did not constitute State aid. A change to the scheme was made in 2003 to pass these costs onto domestic consumers, with the amount to be paid calculated in proportion to the quantity of electricity consumed, and the funds to be held by the *Caisse des depôts et consignations*, a French public body (similarly to the *Essent Netwerk Noord* case). When adopting a new order setting out conditions for the purchase of electricity from wind sources in 2008, the French Government did not consider this change to the funding of the scheme to constitute State aid either and did not seek clearance. Following a challenge to the 2008 order by activist group *Association Vent de Colère*, the CJEU in December 2013 held that the scheme did indeed constitute State aid in respect of onshore wind tariffs, and subsequently required immediate implementation of its decision. The consequences are that the scheme has recently been found to be unlawful by the French *Conseil d'Etat* and annulled in respect of onshore wind tariffs.

Many wind farm projects in France have been put on hold over recent years whilst sponsors and lenders waited to see how this crisis would be resolved. Fortunately for the French wind industry, the French Government's urgent application made recently for State aid clearance for onshore wind tariffs was successful, and it is expected to take steps to legislate retroactively to ensure that generators' previous tariff payments and entitlements to future tariff payments are protected. It is possible, however, that tariffs for other technologies will be challenged, and the French Government is now mulling over making further notifications to the Commission.

Updated State aid Guidelines

State aid Guidelines are published as a guide to how the Commission will assess clearance requests and the factors it will use in approving or declining them. Current guidelines are fairly non-prescriptive, broadly aiming to ensure that generators are not over-compensated and, for certificate schemes, that generators remain competitive. The New Guidelines, on the other hand, adopt a much more interventionist approach in the design of support schemes (see box, "Key aspects of the new state aid guidelines"). The New Guidelines are supposed to be aligned with the Best Practice Guidance (although the fit is not perfect) and provide a default minimum position for mechanisms to be considered acceptable.

Particular consideration is given to FIP and Green Certificate (or quota obligation) mechanisms. For the first time, the Commission is contemplating that supported generators under FIPs and Green Certificate mechanisms take on responsibilities for balancing the electricity system (i.e. ensuring that electricity supply always meets demand) where competitive intra-day markets exist. Currently, balancing operations are mainly the preserve of baseload generators and large industrial consumers. Schemes will be approved for ten years and re-approval must be sought after such time if they continue to operate. Beyond this requirement, the criteria depend on whether technologies are supported by tariff schemes or Green Certificates.

KEY ASPECTS OF THE NEW STATE AID GUIDELINES

Feed-in Premium Schemes

For all installations

- Aid must only be granted until plant is depreciated (biomass may be exempted from this on the basis of specific control measures)
- Investment aid must be deducted from operating aid

For all installations of 1 MW or more, or for wind, over 6 MW or 6 generation units

- The following "general conditions" apply for new schemes as from 1 January 2016:
  - Aid must be granted by a premium on top of the market price and involve direct marketing of electricity
  - Generators receiving support must be subject to standard balancing responsibilities where competitive intra-day balancing markets exist
  - Generators must not be incentivised to generate electricity when prices are negative
- From 1 January 2017, support must be allocated by a genuinely competitive bidding process with clear transparent and non-discriminatory criteria (biomass can be excluded from this), unless only a very limited number of sites would be eligible or if bidding processes would lead to higher support levels or low project realisation rates
- All renewable generators must be able to bid, although Member States may be able to exempt certain technologies due to their long-term potential, need for diversification, grid stability or other network issues or to avoid distortion to biomass markets

For all installations of less than 1 MW, or for wind, up to 6 MW or 6 generation units

- The general conditions listed above apply
- No competitive bidding process is required but "additional conditions" as to the aid intensity and updating of production costs apply. For example, the aid per unit of energy must not exceed the difference between market price and total levelised costs of producing energy from the specified technology

For installations up to 500 kW or, for wind, 3 MW or 3 generation units)

- No competitive bidding process is required
- Although the guidelines are confused on this point, it seems likely that neither the general conditions nor additional conditions mentioned above apply
- Whilst not specifically mentioned, it appears that FITs could be used for these installations (as confirmed by the Commission's Q&A document)

Certificate Schemes

For all technologies

- Aid must be essential to ensure the viability of the relevant renewable energy sources
- It must not result in overcompensation or dissuade producers from becoming more competitive
- Investment aid must be deducted from operating aid
- No different levels of support may be applied unless justified (in the same terms that competitive bidding can be excluded for FIPs)
- The effect of this is somewhat uncertain but, where technically possible, the "general conditions" (as set out above in relation to FIPs) apply

Best Practice Guidance

The New Guidelines need to be read in conjunction with the more detailed Best Practice Guidance. Key aspects include:

- Member States must identify whether other alternative options could be adopted: e.g. demand side response, smart metering or expanding inter-connection capacity; phasing out fossil fuel subsidies (required in any event by 2020)
- Member States should use the option in the Renewable Energy Directive to co-ordinate their schemes, e.g. allowing renewable energy generated in one State to count towards renewable targets and obligations in another
- Investment aid should be preferred, since operating support can lead to generators unnecessarily producing excess energy
- Flexibility in schemes to adapt to changing market conditions (changes in costs and technologies) is required, but retroactively changing schemes will undermine investment and should be avoided

Additional significant aspects are set out in the Annex to this introduction.

The end of FIT schemes?

It appears that support for small scale renewable capacity (up to 3 MW or 3 generation units for wind installations, and up to 500 kW for other technologies) will still be possible using FITs. For all other installations, the guidelines provide that support through tariff-based schemes should only be provided through FIPs (leading to the general phasing out of FITs).

After difficult negotiations, the Commission strengthened its original proposal, which placed competitive bidding requirements only on specified technologies with a significant share in the electricity market ("deployed technologies"). In the final version, a "genuinely competitive bidding process" with "clear, transparent and non-discriminatory criteria" to allocate support must apply to all FIP schemes (subject to a small scheme exception) unless the following justifications are made out: that only a few projects or sites would be involved, or there are fears that using bidding processes would lead to higher support levels or low project realisation rates. Specific technologies can in future only be exempted from bidding where this is necessary due to the potential of the technology, the need to diversify supply, network or system issues or for reasons relating to the biomass market. Bidding mechanisms will need to be fully in place for all technologies from 1 January 2017, with 5% of capacity being subject to bidding during 2015 / 2016.

These proposals have been met with mixed reaction. Some, such as the UK Renewable Energy Association, believe that FIT schemes should continue to be allowed, more broadly, as they are shown to be effective in encouraging more generation capacity; relying on untested competitive bidding mechanisms is a big risk. Others, such as Eurelectric, the European electrical power sector association, welcome the introduction of more market-based rules to ensure a level playing field.

The UK is currently in the process of implementing a new FIT scheme for renewable generation to take over from its Green Certificate scheme (the Renewables Obligation). As a result of publication of the draft guidelines, the UK government decided to change the scheme to subject the more established technologies to immediate competition in order to improve its prospects for securing State aid clearance. Whether the Commission will be happy to accept a FIT scheme remains to be seen, in particular given that some newer technologies would not be subject to competitive bidding. Germany is also moving to a FIP model for larger installations. Spain is currently in the process of legislating for a FIP-type model which may be retroactively applied back to July 2013 (the kind of step the Commission is trying to avoid through its Best Practice Guidance).

Green Certificate Schemes

The major change in the updated guidelines for Green Certificate schemes is that, in principle, there should be no differentiation in support between technologies. Differentiation would only be allowed where justified (using the same grounds for excluding FIP schemes from competitive bidding as mentioned above).

The new rules could provide problems for Green Certificate schemes, for example, of the type found in Romania and the UK, where differentiation of support between technologies applies. Although Poland plans to introduce a FIP scheme, it will retain a modified version of its Green Certificate scheme for projects commissioned before the new FIP scheme comes into force, and some modifications of the proposals are likely to be necessary as a result of the New Guidelines, in particular in relation to its differentiation for technologies such as co-firing.

Only relevant for new schemes?

In principle, the New Guidelines are only relevant for schemes for which approval is sought after 1 July 2014. However, significantly, where a relevant change is

made to a scheme, the competent Member State will be required to bring the scheme in line with the guidelines. Any adjustment to the scheme which is not purely formal or administrative or which increases the scheme's budget by over 20% will constitute a relevant change for these purposes. What will amount to a formal or administrative adjustment is uncertain and there will be concern that existing schemes could well be caught by the New Guidelines, especially where Member States seek to make structural changes to schemes or alter support outside of a scheme's pre-published methodology.

Indeed, the French Government is concerned that these new stricter guidelines might be applied to its current FIT schemes (rather than the guidelines that applied at the time in 2008) if they decide to notify them to the Commission following the *Association Vent de Colère* case mentioned above.

Shielding energy intensive industries and competitive conflicts

Renewable support mechanisms typically lead to rises in the price of electricity, as levies are often placed on customers to fund the mechanisms. In recent years, Member States have often sought to shield energy intensive industries from the impacts of such rises to ensure that important national industries do not relocate to third countries where costs are lower. The Commission has recently launched investigations against Germany and France in relation to exemptions for energy intensive businesses from green surcharges. Such support also brings State aid rules into play, and it is important to note that issues regarding the structure of support given to renewable generation are intrinsically linked with those efforts to shield energy intensive users.

The debate on renewable energy support has developed beyond competition between technologies, into potential competition and conflict between Member States. For example, Germany is keen to support its industry by heavily subsidising renewable energy given its move from nuclear generation, whereas Spain has recently complained that it does not have the funds to allow such protection and this disparity is therefore anti-competitive. In the Netherlands, the bankruptcy of Dutch aluminium producer Aldel was blamed on high electricity costs-producers in Germany could produce aluminium much cheaper due to the exemptions from surcharges in Germany.

Influenced by pressure from the German Government, the State aid guidelines have been revised to formalise the ability to shield heavy energy users from up to 85% of levies. Whilst this appears to be a good result for heavy industry, it is likely to put up prices for other users to compensate. Romania is already planning a scheme based on this exemption, and there are concerns also that this may lead to insufficient demand for Green Certificates in Romania.

Opening up national renewable incentive mechanisms to other EU countries

Currently, under Article 3 of the 2009 EU Renewable Energy Directive, Member States are allowed to exclude electricity generated abroad from access to their renewable incentive schemes. In practice this severely restricts trade in renewable electricity between Member States, a source of concern given increasing pressure by the Commission to improve the integration of the European Electricity Market for competition and energy security reasons. In a potentially landmark judgement, the European Court of Justice is likely to determine a challenge brought by *Ålands Vindkraft* against the Swedish Energy Agency against the Swedish Green Certificates scheme. Ålands produced wind power in Finland and exported it to Sweden. The Swedish Energy Agency refused Ålands' application to be granted renewable

energy certificates under the Swedish scheme on the basis that, as permitted by the Directive, power produced outside Sweden does not qualify for certificates. Ålands challenged this decision in the Swedish courts on the basis that preventing overseas supply from qualifying for support is contrary to Article 34 of the EU Treaty guaranteeing freedom of movement of goods (and prohibiting 'quantitative restrictions and all measures having equivalent effect' between Member States).

In January 2014, Advocate General Bot, the appointed adviser to the CJEU, provided his formal Opinion on the case (such opinions are normally followed by the CJEU). In Bot's view, excluding access to foreign schemes was in breach of Article 34 of the Treaty, and Article 3 of the 2009 Directive is therefore unlawful. In particular, Bot relied on the Internal Energy Market Directive which seeks to create a more integrated EU market in renewable electricity. It was also significant that the Communication on State aid (referred to above) noted the benefits of cross-border arrangements (for example between Norway and Sweden) in facilitating competition between Member States. However, given the prospects of significant claims by generators against Member States, Bot felt that the CJEU should exercise its powers to allow a delay in implementation of its decision and thereby allow Member States two years to amend their schemes to allow access to foreign supplies.

The CJEU's decision is expected shortly. If the CJEU agrees with its Advocate General, the opening up of national support schemes to foreign supplies will most likely lead to further major overhaul of support schemes, and particularly those with generous payouts, such as the German Feed-in Tariff Scheme. In turn this could lead to efforts by the Commission to seek full harmonisation of support schemes.

Final words

Like the plague of retroactive changes to renewables support schemes in the last few years, the prospect of State aid investigations against new or changed support schemes is likely to cause anxiety to investors. The intense negotiation of the New Guidelines has created some confusion in the drafting, which is not helpful for certainty, as stakeholders begin to test national schemes against them. From an investment perspective, it will also be preferable for the Commission to show its hand sooner rather than later as to whether it intends to seek harmonisation of national support schemes.

In addition, it is possible that more challenges to national support schemes might be expected based on the *Association Vent de Colère* case, and depending on its outcome, *the Ålands Vindkraft* case. The possibility of schemes having to be remodelled, and even generators having to refund support payments already made, is likely to make investors incredibly nervous for those schemes that might be at risk.

This edition of the Renewables Incentives Guide marks a new phase in renewables incentives in the EU. The Commission expects that renewable energy generation will become competitive without subsidy by 2030 and that incentives should be withdrawn by then. The next few years are likely to see increasing pressure on national support schemes to be competitive, open and potentially harmonised as part of that journey.

EUROPEAN COMMISSION BEST PRACTICE GUIDANCE

Summary of additional general points

- Support schemes should use long-term legal commitments and be phased out when no longer needed
- Schemes should have planned review periods and no unannounced interim changes. They should be subject to wide consultation on scheme design
- FITs should be phased out so producers are exposed to market prices (use FIPs and quota obligations instead)
- Genuinely competitive allocation mechanisms such as tendering should be adopted (rather than administrative price-setting) to encourage competition between operators and between technologies
- Duration of support: Give consideration to limiting support in terms of "number of full-load hours supported"

Auctions / tenders

Renewable energy support should be auctioned to secure competition among bidders and the lowest prices. Ideally, competition would apply between locations and technologies. It may not be suitable for smaller producers given the administrative burden. Auctions are particularly suitable for mature technologies such as wind power as technology costs reduce to general market levels. Given observed problems of generators not delivering capacity (e.g. in the wind sector), sufficiently robust penalties are required. Auctioning / tendering could be used for the various types of support.

Feed-in Premium schemes

FIPs are preferred over FITs for almost mature technologies. They can be floating (with or without cap) premium or fixed depending on the desirable level to be placed on producers. There should be no premium payment for production when system prices are negative, or higher than necessary levels of remuneration. Premium reductions should be planned and volume based. Reviews of premiums for new installations should be regular, planned and subject to wide consultation.

Feed-in Tariff schemes

These should be phased out except for small-scale activities or for non-developed technologies (where a pre-established capacity cap should be used). Reductions in tariff levels should be built in for new installations to reflect changes in costs. They may also vary over time for existing projects where capital costs can be adjusted. Like FIP schemes, tariff reductions should be planned and volume-based.

Quota obligation schemes

These schemes should either be technology neutral, or banded schemes, in order to avoid over-compensation of the cheapest technologies and to secure innovation and diversity of energy sources. They should be based on long-term quotas which are transparent and planned. They should have adequate penalties (e.g. buy-out prices) to secure compliance. Market data should be made available to all stakeholders.

Clifford Chance's Global Renewables Group offers depth in resource, local expertise and a long-term presence in, and commitment to, the key markets across the globe. Our market-leading team comprises acknowledged industry experts across all legal disciplines, providing top-tier renewables capability. If you would like to know more about the subjects covered in this guide, or about our Global Renewables Group, please contact any of the lawyers below or your usual Clifford Chance contact.

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Australia

National Renewables Targets?	The renewable energy target for Australia is 20% by 2020. In August 2009, the Australian Government implemented the renewable energy target scheme, which is designed to deliver that target.
Main Renewable Sources	Hydro, wind turbines, solar thermal, solar photovoltaic, biomass, geothermal and wave and tidal energy.
Green Certificates?	Yes. The Australian Government has been supporting the deployment of renewable energy in Australia's electricity supply through the renewable energy target scheme which guaranteed a market for additional renewable energy generation using a mechanism of tradable Renewable Energy Certificates (RECs) that are akin to the Green Certificate systems used throughout a number of European countries. From 2001 to the end of 2010, RECs were the commodity in the market, but from 1 January 2011 RECs were reclassified into: ■ Large-scale generation certificates (LGCs) that fall under the large-scale renewable energy target (LRET) scheme; and ■ Small-scale technology certificates (STCs) that fall under the small-scale renewable energy scheme (SRES). The LRET creates a financial incentive for the establishment and growth of accredited renewable energy power stations. There are currently more than 15 different types of renewable energy sources being used in accredited renewable energy power stations in Australia. The LRET creates financial incentives for the accredited renewable energy power stations by legislating demand for LGCs. LGCs are created based on the amount of eligible renewable electricity produced by the renewable energy power stations, with one LGC being equivalent to 1 MWh of eligible renewable electricity generated above the power station's baseline. LGCs must be correctly created and validated in the REC Registry before they can be made available for purchase and surrender. Once created and validated, LGCs can be sold or traded to renewable energy target (RET) liable entities such as electricity retailers. In addition, renewable energy power stations can also sell generated electricity to the grid. RET-liable entities have a legal obligation to buy LGCs and surrender them to the Clean Energy Regulator on an annual basis. The number of LGCs that must be obtained and surrendered is determined through a mathematical formula that considers a number of factors. The SRES creates a financial incentive for owners to install eligible small-scale installations such as solar water heaters, heat pumps, solar panel systems, small-scale wind systems, or small-scale hydro systems. It does this by legislating demand for STCs. STCs are created for these installations according to the amount of electricity they produce or displace, with one STC being equivalent to 1 MWh of: ■ Renewable electricity generated by the solar panel, small-scale wind or small-scale hydro system; or ■ Electricity displaced by the installation of a solar water heater or heat pump. STCs are credited by owners directly in the online REC Registry but must be correctly created and validated in the REC Registry before they can be made available for purchase and surrender by RET-liable entities. RET-liable entities have a legal requirement to buy STCs and surrender them to the Clean Energy Regulator on a quarterly basis. The number of STCs that must be obtained and surrendered is determined through a mathematical formula that considers a number of factors.
Feed-in Tariff (FIT)?	Australia currently has no nationalised FIT program, and each Australian State and Territory runs schemes that vary substantially between jurisdictions. Most jurisdictions have set a minimum FIT amount, with many electricity retailers offering above the minimum rate in a bid to gain further market share. A uniform federal scheme to supersede all State and Territory schemes has been proposed but not enacted. In Victoria, for example, a standard FIT is available to households, community organisations and small businesses with a solar or other renewable energy system generation capacity less than 100 kilowatts in size. The Victorian standard FIT currently has no legislated end date. In contrast, the New South Wales "Solar Bonus" scheme is closed to new applicants that were not connected to the electricity network by 30 June 2012. Existing New South Wales customers whose systems are already connected to the electricity grid are not affected and will continue to receive the FIT until the scheme terminates on 31 December 2016. However, households and businesses with solar photovoltaic units who are ineligible to participate in the Solar Bonus scheme can still earn FITs for electricity exported to the grid based on a price set by the NSW Independent Pricing and Regulatory Tribunal.
Other Incentives	As part of its new Direct Action Plan for addressing Australia's carbon emissions, in late 2013 the new Australian Government announced the Solar Towns and Solar Schools program which will allocate A$100 million for the development of solar facilities in schools and townships over the next six years. Priority is to be given to low-income households, not-for-profit groups and indigenous communities. Details of both programs are still being developed.
Additional Comments	A new Australian Government was elected in September 2013. A key focus for the Government has been the repeal of the carbon price that has applied since 1 July 2012 and the development, of its Direct Action Plan to encourage lowest costs emissions reductions. The detail of the Direct Action Plan is still being developed but a key component of the Plan is a new Emissions Reductions Fund, which is a fund through which the Government will purchase lowest cost emissions abatement through reverse auctions. It is intended that the fund will provide incentives to increase energy efficiency. At this point, the renewable energy target scheme described above does not appear to be affected by the implementation of the Direct Action Plan. However, an independent expert panel has been appointed by the Government to review the scheme, with a report to be presented by the middle of 2014. Clean technology and clean energy grant schemes that were established by the previous government (such as the Clean Energy Finance Corporation and the Australian Renewable Energy Agency) are proposed to be abolished or reduced in scale, or the previously allocated funding is to be diverted into new programs under the Direct Action Plan. Based on data from the Australian Bureau of Resources and Energy Economics and the Clean Energy Regulator, as at the end of 2011 the amount of installed generation capacity from large-scale renewable sources (i.e. excluding domestic rooftop solar installations) totalled 13,700 GWh, which is above the 2011 target of 10,400 GWh. The targeted capacity for 2014 is 16,940 GWh. As at July 2013, electricity production from renewables constituted approximately 2% of total electricity production in Australia, representing a drop from previous years.

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Belgium

National Renewables Targets?	The renewable energy target for Belgium is 13% by 2020. The EU has granted an exception to the 20% rule due to the particular nature and geography of Belgium.
Main Renewable Sources	Mainly biomass and, to a lesser extent, wind, solar and hydropower.
Green Certificates?	Yes. Since early 2000, there has been a Green Certificate system with a quota obligation in each of the three Belgian regions (the Flemish Region, the Walloon Region and the Brussels Metropolitan Region, each in respect of their own territories) and the Belgian Federal State, in respect of offshore wind power in the North Sea. The four systems are comparable, but procedures for obtaining the certificates, the conditions under which these are granted, minimum prices and fines for suppliers that do not meet the quota obligations may vary. The support scheme is two-pronged. On the one hand, producers of electricity based on renewable energy sources receive Green Certificates, which they can sell to energy suppliers or the distribution grid operator. On the other hand, energy suppliers have to submit a specific number of Green Certificates to the authorities. This number is equal to a percentage of the energy supplied to the end customers. The minimum price of a Green Certificate is guaranteed. In theory, the actual price of a Green Certificate may be higher if the offer of certificates on the market is scarce. However, so far, there has been a structural oversupply of Green Certificates in the market. As a result, the actual value of the Green Certificates was far below their guaranteed minimum price. Consequently, the costs of the Green Certificates scheme were considered to be too high and major reforms of the systems were implemented in 2013. As a result of these reforms, in the Flemish Region, from 2013, the price of the Green Certificates is controlled by means of a banding system. The main objective of this system is to limit the level of support to the increased costs that result from the specific green energy production method that was used, compared with the cost of using conventional production methods. In the Walloon Region, the Green Certificate regime has been replaced by a guaranteed global support mechanism (referred to as Qualiwatt), which will reflect the benefit of the reverse meter (i.e. prosumers (consumers who also have a small production facility) only pay grid fees at the rate of the balance measured on their meter between the quantities consumed and injected as their meter turns back when electricity is injected). It reflects a predetermined rate of return and the income of the eligible producers. The system applies to new plants, put into operation after 1 March 2014. The Federal Government also intends to reform the support mechanism for offshore wind, whereby the number of Green Certificates will depend, inter alia, on the electricity price, operational costs and the technology used. Green Certificates are freely transferable within the Region system in which they were issued but are not recognised by other regions. The only exception is that Green Certificates issued in Wallonia are, under certain conditions, recognised in Brussels. However, in a recent opinion of the Advocate-General (*Essent Belgium* (C-204/12)), the view was expressed that the Flemish support mechanism, which only recognises renewable generation originating within Flanders, is in breach of EU rules on the free movement of goods. The Court of Justice of the EU has not ruled on this matter yet.
Feed-in Tariff (FIT)?	No, but there is a guaranteed minimum price for the purchase of Green Certificates.
Other Incentives	Increased investment tax deductions are applied to certain qualifying energy saving investments. The increased investment deduction is a non-recurring tax deduction applied to the investment value of the asset. For example, for the financial year ending 31 December 2013, the deduction amounted to 14.5%. Alternatively, and provided certain conditions are complied with, Belgian companies can apply the recurrent investment deduction, which implies that the investment deduction is calculated each year as a percentage of the annual depreciations (and not on the investment value) on the assets concerned. The recurrent investment deduction is determined on the basis of the basic investment deduction and is increased by 17%. As such, for the financial year ending 31 December 2011, the recurrent investment deduction amounts to 21.5%. The recurrent investment deduction is only applicable with regard to assets which are used to promote the research and development of new products and future-oriented technologies and may be subject to aggregation by the competent authorities.
Additional Comments	Particular issues hindering the development of renewable energy in Belgium are the lack of natural resources and space; for example, Belgium only has 65 km of coastline, which reduces its ability to develop marine-based renewables on a significant scale (unlike the UK and Germany, for example). At this stage, Belgium has not yet reached its 2020 13% target, but remains on track to respect the milestones agreed with the European Commission to reach that goal.

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Czech Republic

National Renewables Targets?	The renewable energy target for the Czech Republic is 13% by 2020. The 2005 baseline is 6.1%.
Main Renewable Sources	Hydro, solar photovoltaic, wind, geothermal, biogas and biomass.
Green Certificates?	No, although a green bonus is available (discussed below) which is similar. It does not, however, place an obligation on any party to acquire a specific number of certificates.
Feed-in Tariff (FIT)?	Yes. A fixed FIT payable by certain electricity traders (subsidiaries of the three main distribution system operators) is available to currently operating renewable electricity generators. As of 1 January 2013, FITs are only available for new hydro power plants with maximum output up to 10 MW and for other newly commissioned facilities with an output not exceeding 100 kW. Other facilities commissioned in 2013 are entitled to a green bonus only. No incentives (whether FIT or green bonus) are available to plants commissioned after 31 December 2013, save for new hydropower plants with output not exceeding 10 MW and save for hydro, wind, geothermal and biomass plants which were under construction as of 31 December 2013 and which will be commissioned before the end of 2015. Once a generator has obtained the FIT applicable in the year of commissioning of its plant, it is entitled to benefit from such FIT for the entire expected lifetime of the plant (15 to 30 years). The duration of the entitlement to the FIT and the amount of the FIT depends on the source of renewable energy used. The FIT is increased annually by up to 2% through application of an indexation formula. The applicable FITs/green bonuses are: ■ Hydroelectricity (maximum output 10 MW): FIT 117.71 €/MWh or green bonus 87.83 €/MWh; ■ Biomass: • subsidies on electricity generation from biomass substantially differ according to the type of biomass; • combustion of municipal waste – only indicative (no entitlement) FIT 56.12 €/MWh and green bonus 25.15 €/MWh; • combustion of pure biomass – dependent on category of biomass; FIT ranges from 47.74 €/MWh to 121.54 €/MWh, and green bonus 16.76 €/MWh to 90.56 €/MWh; ■ Wind: FIT 73.40 €/MWh or green bonus 55.90 €/MWh for plants commissioned in 2014; ■ Solar: • highest subsidies are for plants commissioned in the years 2006-2010. Depending on the installed output, FITs range from 556.12 €/MWh to 470.23 €/MWh and green bonus from 522.23 €/MWh to 436.33 €/MWh; • the subsidies fell to half for plants commissioned in the year 2011, and, as of 2012, only plants with maximum output up to 30 kW are entitled to subsidies, although in a substantially limited amount; • as mentioned above, no incentives are available for plants commissioned after 31 December 2013.
Other Incentives	*Green bonus* Green bonuses are subsidies paid on top of the market price which are only payable if the generated electricity, heat or bio-methane is either (i) actually sold on the market for the market price or (ii) consumed by the producer itself. *Priority to connect and supply* Generators of electricity from renewable sources have a priority right to connect their facilities to the electricity distribution or transmission grid, and a priority right to supply electricity to the grid. In practice, this means that, where a generator opted for the FIT, it is now able to sell all the electricity it generates to the relevant electricity trader for the price set by the relevant FIT.
Additional Comments	Solar boom-until the end of 2010, particularly generous support was provided to solar photovoltaic (PV) plant operators (around €0.50/kWh), irrespective of the size and location of the plant. This led to an increase in the total installed capacity of PV plants in the Czech Republic from 65 MW on 1 January 2009 to almost 2,000 MW by the end of 2011. On 1 January 2011, the subsidies for newly commissioned PV plants were reduced to approximately €0.23/kWh, and, since 1 March 2011, subsidies have only been available to PV plants with an output of less than 30 kW and only if such plants are located on the roofs or facades of buildings. Moreover, a special 26% tax has been introduced (decreased as of 1 January 2014 to 10%), reducing the revenues from electricity sales generated by PV plant operators. This tax applies to all PV plants commissioned between 1 January 2010 and 31 December 2010 with an output exceeding 30 kW. Due to these changes, no new large PV plants are currently being commissioned or likely to be commissioned until 2020. Nonetheless, the currently operating PV plants connected under the generous 2009 and 2010 FITs, combined with the priority to connect and supply, are increasingly targeted by foreign investors. Currently, there is also about 250 MW of installed wind power capacity. Operational wind power plants, as well as new wind facilities to be commissioned by the end of 2015, are also increasingly targeted by domestic and foreign investors. The Czech scheme for promoting electricity production from renewable energy sources may be substantially amended in the future as a result of the recently adopted Guidelines of European Commission on State aid for environmental protection and energy for 2014-2020. The existing Czech scheme has been notified to the European Commission as State aid and may be also amended as a result of the requirements of the European Commission raised within this notification procedure. These amendments, as well as the fact that the existing Czech scheme has not yet been approved by the European Commission, may have an impact on existing plants. Major amendments may be expected in relation to the principle that State aid should not result in overcompensation.

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France

National Renewables Targets?	The renewable energy target for France is 23% by 2020.
Main Renewable Sources	Hydroelectricity, wind and solar.
Green Certificates?	No, but these could be introduced into French law at a later stage-see "Additional Comments" below.
Feed-in Tariff (FIT)?	Yes. A FIT scheme implemented in 2000 obliges Electricité de France (EDF) and other "non-nationalised operators" to purchase electricity produced by hydroelectricity, wind and solar panels, provided that certain conditions are met. Producers must obtain an authorisation to operate an electricity production facility. In order to benefit from the FIT, they must also obtain a power purchase certificate which then allows them to enter into a purchase agreement with EDF or non-nationalised operators. The applicable tariffs are: ■ Hydroelectricity: 6.07 €/kWh (with premiums for small installations and regular production); ■ Wave and Tidal: 15 €/kWh; ■ Onshore wind (mainland France and Corsica): 8.2 €/kWh (reducing over time); ■ Onshore wind (French overseas territories and Corsica located in high-risk area for cyclones): 23 €/kWh (reducing over time); ■ Offshore wind: 13 €/kWh (reducing over time); ■ Offshore wind: a second new call for tenders was launched on 18 March 2013 and bids were submitted on 29 November 2013; ■ Solar: • 13.81 c€/kWh to 28.51 c€/kWh. The purchase price will be revised on a quarterly basis, based on the volume of projects developed and the number of tendering processes that are initiated for large roofs and ground-mounted solar farms; decreases in FIT rates are capped at 20%; and • 7.36 c€/kWh for significant plants (depending on the position of photovoltaic panels: > 36 kWh or > 100 kWh) and all ground-mounted solar. A bonus of up to 10% added to FIT rates depending on the location of solar panel construction (applicable where solar panels are made in the European Economic Area) was instituted in January 2013. The bonus has, however, recently been abolished except for power installations for which the producer has sent the grid connection request before 10 March 2014. ■ Solar-two new calls for tenders: • a basic tender was launched on 27 March 2013 for installations placed on buildings between 100 and 250 kilowatts. Bids were submitted on 28 February 2014; and • a call for tenders was launched on 13 March 2013 for very large roofs exceeding 250 kilowatts and ground-mounted plants. Bids were submitted on 16 September 2013. The Conseil d'Etat recently struck down the French FIT scheme for wind energy. Retroactive legislation is being considered in order to ensure that the FIT scheme for wind energy complies with State aid rules (see the introductory article to this Guide under "The importance of following State aid rules"). This will largely affect onshore wind projects: as offshore wind power is mainly promoted through calls for tenders, i.e. on a contractual basis, at the price resulting from the tender, the required changes should have no impact on that industry.
Other Incentives	N/A
Additional Comments	The French Government is entitled to issue calls for tenders to reach the targets set in the multiannual investment program (MIP) of electricity production. The French Government is increasingly having recourse to this option, which allows it to control (i) the number of megawatts to be installed in France and (ii) the tariffs at which EDF will purchase the electricity generated from renewable sources. Following a national debate on energy transition, a process of simplification of the regulatory framework applicable to renewable energies is underway. A draft bill in relation to energy transition (setting out guidelines) will be published in 2014. To this end, the French Government has launched a number of public consultations; in particular: ■ A white paper on the financing of environmental transition (ongoing), which aims to modify the regulatory regime for investments; and ■ A consultation about the new contemplated regulatory framework. The following options are under examination: (i) a new FIT system with new obligations for power generators; (ii) a move from FIT to a FIP model; or (iii) green certificate schemes based on quotas. The way in which the French regulatory framework will be modified will also have to take account of the new Guidelines on environmental and energy State aid for 2014-2020 recently published by the European Commission, which aim to limit FIT-type support for new renewable energy installations. In total, RES represents 16.4% of the French electricity generation mix.

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Germany

National Renewables Targets?	The renewable energy targets for Germany are: 35% by 2020, and 80% by 2050.
Main Renewable Sources	Onshore wind, photovoltaic, biomass, hydro, offshore wind, solar heat and geothermal energy.
Green Certificates?	Yes, but only for power generated in installations from renewable energies which do not make use of FITs or FIPs.
Feed-in Tariff (FIT)?	Yes, FITs have existed since 1990. Grid system operators are obliged to connect installations generating electricity from renewable energy sources to their grid; furthermore, they have to purchase, transmit and distribute the entire available quantity of electricity from renewable energy sources as a priority. Finally, they have to pay official guaranteed tariffs for a period of 20 years, as well as for the rest of the year in which the installation was commissioned. The tariff rate, which is fixed at a certain rate when commissioned, depends primarily on the type of renewable technology, and secondarily on other factors such as location and size of the installation, as well as when the installation was initially commissioned. Applicable rates are reducing over time for new installations (i.e. a degression): ■ Hydro: 3.4 c€/kWh – 12.7 c€/kWh depending on the rated average annual capacity; ■ Offshore wind: 3.5 c€/kWh (basic tariff) with the possibility of higher initial tariffs ranging from 15.0 c€/kWh – 19.0 c€/kWh during the first 8 – 12 years after commissioning; ■ Onshore wind: 4.87 c€/kWh (basic tariff) with the possibility of higher initial tariffs of 8.93 c€/kWh – 9.41 c€/kWh during the first five years after commissioning; ■ Photovoltaic: • For installations with installed capacity of not more than 10 MW, 13.5 c€/kWh-19.5 c€/kWh depending on location and installed capacity; and • For installations in, attached to or on top of a building with an installed capacity of 10 kW to 1 MW, only 90% of the annual produced quantity of electricity is eligible to receive a FIT. ■ Biomass: 6.0 c€/kWh – 25.0 c€/kWh depending on rated average annual capacity and substances used; ■ Geothermal: 25.0 c€/kWh; utilising petrothermal technology will increase the tariff by 5.0 c€/kWh.
Other Incentives	Operators are free to move between the FIT scheme and FIP model. The FIP model functions as a hedge for the spread between the individual hypothetically-applied FIT and the monthly average spot market price. The incentive given by this hedge is that there is an opportunity to exceed the FITs on the wholesale market, if the operator is able to achieve a price higher than the monthly average spot market price by producing and selling power; in particular, in peak-price periods.
Additional Comments	Due to the costs of the FIT and FIP schemes and pressure from the EU Commission through a State aid procedure opened in December 2013, a legislative procedure to amend the legal framework has already started. According to the information provided so far, there will be no changes for existing installations. For new installations with installed capacity of more than 500 kW and which are commissioned under the new legal framework, direct marketing of electricity shall be mandatory. Additionally, for each technology, a target corridor of yearly new build capacity shall be defined within the law. Depending whether the new build capacity within a reference period exceeds or falls short of the defined target corridor, the applicable rate (FIT or FIP) for the respective technology will decrease or increase automatically. Furthermore, the Government has announced within the draft bill that the promotion system will shortly be remodelled to implement tendering processes by 2017 at the latest. Until then, pilot processes to gain experience with tendering processes shall apply to photovoltaic installations which are not installed on or attached to buildings.

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Italy

National Renewables Targets?	The renewable energy target for Italy is 19-20% by 2020 (as per the National Energy Strategy).
Main Renewable Sources	Onshore wind, hydro, solar and biomass.
Green Certificates?	Yes, until 2015, for renewable energy plants (other than solar photovoltaic (PV) plants), but only for those operators that have already applied for the RECs incentive system. In 2012, an incentive system for renewable energy plants (other than photovoltaic plants) was introduced (RES Decree). The RES Decree is gradually replacing the RECs incentive system (which will be abolished starting from 1 January 2016, but with a transitional period from 2012 to 2015). Plants that are currently benefitting from RECs will continue to do so until 31 December 2015, but from 1 January 2016 until the end of the respective applicable incentive period, plants eligible for the transitional regime will receive a FIP.
Feed-in Tariff (FIT)?	*Renewable energy plants (other than PV plants)* Starting from 1 January 2013, the RES Decree has introduced an all-inclusive FIT, to serve both as compensation for the sale of the electricity produced and as incentive for using renewable sources. Pursuant to the RES Decree, the electricity produced by registered renewable plants with capacity of up to 1 MW is purchased by the GSE (*Gestore dei Servizi Elettrici S.p.A., a state-run company*), while admitted plants with a capacity of more than 1 MW are able to sell the electricity produced on the electricity stock exchange or by contract. The RES Decree has introduced a new classification of plants by source and power class, as well as a new admission procedure: ■ Micro plants (i.e. capacity equal to or lower than 60 kW), which have direct access to an all-inclusive incentive tariff system; ■ Small-medium plants (i.e. capacity of over 60 kW to 5 MW), which must first be enrolled in a dedicated register; and ■ Large plants (i.e. capacity of more than 5 MW), which must go through a reverse auction process to access the incentive system and are subject to an annual cap on capacity. *Photovoltaic plants* Over the past decade, photovoltaic plants in Italy were eligible to benefit from a specially created incentive system, known as "Conto Energia", consisting of the payment by the GSE of incentives to the plant, for twenty years starting from the date the plant commenced operations. The terms and conditions of this incentive system have been changed repeatedly in the past ten years. The Fifth Conto Energia (the last to have been implemented) expired on 6 July 2013. No incentive system is currently available in Italy for photovoltaic plants that have yet to start operations and are not registered under the Fifth Conto Energia.
Other Incentives	Italian legislation provides that electricity produced from renewable energy sources has priority access to the grid system, and the transmission grid operator has to give dispatch priority accordingly. Italian legislation grants the option to sell the electricity produced under the mandatory purchase regime (*ritiro dedicato*), rather than on the market to producers of electricity from: ■ Intermittent renewable sources of energy (including, therefore, electricity from solar and wind plants); or ■ Other sources (in this case for up to a nominal power of 10 MW). Under the mandatory purchase regime, the GSE must draw and purchase all the energy produced by a plant, net of any energy used for in-plant consumption, paying to the producer the "hourly zone price", which is derived from the prices registered in open trading on the electricity exchange. According to a recent law approved by the Italian Parliament, producers of electricity at renewable energy plants with a capacity of up to 1 MW can no longer choose to sell energy to the GSE at the pre-defined minimum guaranteed prices. Under the net metering service (*scambio sul posto*), producers/users at small power plants (up to 200 kW) may either from time to time consume the electricity generated or feed any electricity generated, and not immediately consumed, into the grid. VAT at a reduced rate of 10% is provided for the acquisition and construction of renewable plants and subsidies – and benefits are available in connection with the sale or purchase of the land on which renewable plants are installed.
Additional Comments	This continuously evolving, complex legal framework is causing uncertainty in the market, and the Government's willingness to introduce measures aimed at reducing the impact of the incentives on Italy's public accounts is not encouraging new investment in the sector. Probably the most relevant of the measures recently introduced by the Italian Parliament provides renewables generators-save for those operating plants admitted to benefit from the previous incentive system for wind plants and those benefitting from the RES Decree system – with the option to defer receipt of the overall incentives over a period of time by seven years longer than the standard, thus receiving an annual incentive lower than the one originally set forth. However, such producers would incur negative consequences (i.e. losing the right to enjoy other incentive mechanisms for a 10-year period upon expiry of the FITs originally granted to their renewable energy plants). So far, the most successful technologies in the renewable energy sector have been those related to the PV sector (with an overall installed capacity of more than 18,000 MW), mainly due to the (once) generous FITs granted to producers and the relatively limited construction costs of PV plants (compared to those regarding hydroelectric or wind plants). The unavailability of new FITs for PV plants and the recent approach of the Government towards incentive systems have, however, inevitably led to a decrease in the interest of investors for the development of new PV projects. In spite of the above, opportunities for investors still exist, mainly because the plants that are already operating and receiving incentives are good prospects for acquisition by both new operators that wish to access the market and existing operators who wish to consolidate their market position.

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Japan

National Renewables Targets?	The renewable energy targets for Japan are 10% by 2020 and 20% or more by 2030.
Main Renewable Sources	Solar, wind, geothermal, water and biomass.
Green Certificates?	Yes. There are green certificates available in Japan although they are practically and commercially superseded by the Japanese FIT (as explained below).
Feed-in Tariff (FIT)?	Yes. The Renewable Energy Act introduced a FIT in Japan as from 1 July 2012. The Japanese FIT applies to electricity generated from solar, wind, geothermal, mid/small size hydro power, and biomass. The operator of a renewable power plant is entitled to sell all of the electricity generated from that plant to a utility company during a fixed period at a fixed price which is determined by the Ministry of Economy, Trade and Industry of Japan (METI) in respect of each fiscal year in Japan (i.e. 1 April to 31 March). The sale prices (and period for which the price is fixed) for those plants accredited in the fiscal years 2012, 2013 and 2014 are as follows: ■ Solar (10 kW or more): JPY 40.00 per kWh (exclusive of tax) in the fiscal year 2012, JPY 36.00 per kWh (exclusive of tax) in the fiscal year 2013 and JPY 32.00 per kWh (exclusive of tax) in the fiscal year 2014 for 20 years; ■ Onshore Wind (20 kW or more): JPY 22.00 per kWh (exclusive of tax) in the fiscal years 2012, 2013 and 2014 for 20 years; ■ Offshore Wind: JPY 36.00 per kWh (exclusive of tax) in the fiscal years 2014 for 20 years; and ■ Geothermal (15,000 kW or more): JPY 26.00 per kWh (exclusive of tax) in the fiscal years 2012, 2013 and 2014 for 15 years. The sale price for each fiscal year is published by METI in February or March each year (hence the sale price for those plants accredited in the fiscal year 2015 (i.e. April 2015 to March 2016) will be published by METI in February or March 2015, Further, due to the downward trend of sale prices for solar, new market players tend to purchase existing solar power plants accredited in the fiscal years 2012 and 2013, rather than developing brand-new solar power plants in the fiscal year 2014. However, on 14 February 2014, METI introduced a new policy under which METI is entitled to revoke existing METI approvals unless the project operator can prove that (i) the relevant project sites have been procured and (ii) the specification details of the solar power plant equipment have been determined. As such, investors intending to purchase any accredited projects in the secondary market will need to be aware of the potential revocation risk and ensure that the relevant project is able to satisfy the criteria in a timely manner by conducting thorough due diligence. The relevant purchasing utility company is obliged to enter into a grid connection agreement and an electricity sale agreement with the operator unless the utility company has a justifiable reason which is set out in the Renewable Energy Act (such as the amount of electricity generated exceeds the available transmission and distribution capacity of the utility company). In order to benefit from the Japanese FIT, the operator must have: ■ Obtained approval from METI for the construction of the power plant; and ■ Applied to a utility for permanent approval of a grid-connection before the plant commences the generation of electricity. It typically takes a few months to obtain such approvals.
Other Incentives	N/A
Additional Comments	Terms of the grid connection and electricity sale are now being standardised. In September 2012, METI published a recommended template agreement (METI Agreement) and its guidance note with respect to grid connection and electricity sale. The METI Agreement contains favourable provisions for project developers and those finance providers compared to the template agreements published by utilities (Utilities' Forms). For example, under the Utilities' Forms, the utilities retain a right to change the electricity purchase price and such agreement is renewed yearly unless the utilities object to it. By contrast, the METI Agreement is designed to maintain the fixed sale price for 20 years as determined in accordance with the Renewable Energy Act. In addition, the METI Agreement clearly stipulates the utility's consent on creation of security interests over claims against utilities. Nowadays the METI Agreement is more frequently used than the Utilities' Forms. In terms of the future sale prices determined by METI, it is expected that the sale prices applying to solar projects will be gradually lowered in the coming few years given the rapid increase in new solar project developments in the fiscal years 2012/13 and 2013/14. However, the sale prices applying to other types of renewable energies (e.g. wind or geothermal) are expected to be maintained for the coming few years since the growth in wind or geothermal projects has not been as strong as for solar projects.

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Korea

National Renewables Targets?	The renewable energy targets for Korea are 4.3% by 2015, and 10% by 2022.
Main Renewable Sources	Solar thermal, Solar Photovoltaic (PV), Wind, Bioenergy, Hydro, Geothermal, Marine and Waste.
Green Certificates?	Yes-Renewable Energy Certificates (RECs) are issued, as part of the Renewable Portfolio Standard (RPS) programme which was introduced in 2012. The RECs require generation companies to comply with the RPS requirement in accordance with section 5 of Article 12 of the Act on the Promotion of Development, Use, and Dissemination of New and Renewable Energy. Only eligible renewable energy facilities are allowed to trade RECs. In order for generation companies to qualify, they must apply for certification to the Korean New and Renewable Energy Centre (KNRE). The issuance of the certificates is determined on a weighted basis, based on electricity generated from renewable sources for electricity distributors (REC = MWh x weighted points). Licensed electricity distributors are KEPCO (Korea Electric Power Corporation) and Korea Power Exchange. The RECs are weighted as follows: ■ Photovoltaic Energy: four weighted points (0.7,1.0,1.2,1.5)-the allocation of points takes into account whether the facility uses existing buildings or structures, the location of the land on which the facility is located and whether capacity exceeds 30 KW; and ■ Other energy sources: five weighted points (0.25, 0.5, 1.0, 1.5, 2.0)-for example, the lowest point of 0.25 is assigned to IGCC or offshore gas, whereas the highest point is assigned to offshore wind, tidal power without dams and fuel cells. Application for REC issuance must be made within 90 days after the end of a month during which the generator supplied electricity generated from renewable energy. The fee for issuing a REC is KRW 50 per REC. RECs are valid for three years from the issuance date. As from 2012, FITs have recently been replaced by the RPS programme. Under the RPS programme, power generation companies with more than 500 MW capacity are required to generate a certain amount of their total power supply from renewable sources (2% in 2012, subject to yearly increase, up to 10% by 2022). 14 power generation companies currently receive subsidies under this programme. Total power generated under this programme for 2013 was 9,210,381 MWh (reflecting a 41% increase from 2012). The solar power target for 2013 was 723,000 MWh, reflecting a 270% increase from the prior year. Solar facilities are subject to a different regime under section 4.3 of Article 18 of enforcement ordinance of the Act on the Promotion of Development, Use, and Dissemination of New and Renewable Energy. The RPS programme carves out a provision for solar energy in order to encourage the usage of PV (photovoltaic) technology for a period of five years, from 2012 until 2016. The obligatory solar provision requires power generation companies to supply a certain amount of energy from PV facilities. The obligatory supply rate increases from 276 GWh in 2012 to 1,971 GWh in 2016. Furthermore, a generation company that has a facility with a capacity of 5 GW or more is required to purchase not less than 50% of the target amount of solar energy from power generators other than small power generation companies (with capacities of 5 GW or less).
Feed-in Tariff (FIT)?	Following the introduction of the RPS programme, the Korean FIT scheme now only applies to existing recipients. The standard prices for new and renewable energy (NRE) were initially formulated in 2002: wind farms with a capacity of over 10 kW have a standard price of 107.29 KRW/kWh, which is reduced annually by 2%, and solar PV has a standard price of 484.52KRW/kWh for installations under 30 kW, and 462.69KRW/kWh for installations over 30 kW, with changes to the price announced every year. After the FIT scheme was announced, PV installed capacity increased dramatically from 200 kW in 2004 to 498 MW in 2011. Before the RPS scheme was introduced, FITs guaranteed 15 years of support for all NRE electricity facilities.
Other Incentives	The government supports a loan and tax incentive program which provides long-term, low-interest loan terms with a five-year grace period and 10-year repayment period. It is intended for customers and power generation companies of the NRE scheme. Installation loans are provided for customers that install NRE systems, and operation loans are provided for power generation companies with NRE facilities. Loans can be made for up to 90% of the total cost and up to 50% for large corporations. As an additional incentive, customers and generation companies under the NRE scheme can deduct up to 10% of the total cost of system installation from their income tax/corporate income tax. The 14 publicly-owned and privately-owned power generation companies who have obligations under the RPS programme failed to meet their obligations in 2012 and 2013. As a result of this failure, the companies paid fines of KRW 25.4 billion in 2012 and KRW 41.7 billion in 2013. The obligatory supply amount of NRE for 2014 is 11,578,809 MWh, which is a 25% increase compared to 2013. In addition, the price of RECs will also increase at least 50% or more for 2014 (compared with 2013).
Additional Comments	*Government Subsidy programs* A home subsidy program was introduced in 2004 to facilitate installing NRE facilities in residential areas such as private houses, multi-family houses and public rental houses. The program supports a certain portion of the total installation cost of the facilities and focuses on a variety of resources such as PV, solar thermal, geothermal, and small wind. Moreover, there is a building subsidy program and regional deployment subsidy program to accelerate NRE deployment of the NRE facility users by providing financial support in the form of subsidies covering up to 80% of installation costs.

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Morocco

National Renewables Targets?	The renewable energy targets for Morocco are: ■ Total solar capacity of 2000 MW by 2020, which will increase the role of solar energy in total electricity capacity by 14% under the "Moroccan Project of Solar Energy". ■ Total capacity 2000 MW by 2020, which will increase the share of wind power in the national energy balance to 14% under the "Moroccan Integrated Wind Energy Project".
Main Renewable Sources	Wind and Solar.
Green Certificates?	No.
Feed-in Tariff (FIT)?	No.
Other Incentives	There are no specific financial incentives. Historically, the *Office National de l'Electricité et de l'Eau Potable* (ONEE), which is the state-owned utility in charge of the production, transport and distribution of electricity in Morocco, had a monopoly over access to the electricity market. Law 13-09 in relation to renewable energy now permits electricity from renewable sources to be produced, sold and exported by private operators to public and private consumers, subject to a preliminary statement/authorisation regime, depending on the capacity of the installation. As a result, private generators now have the potential to enter this market, where they have the ability to negotiate the price with their customers. This law also provides for the right for any power producer to be connected to the medium, high and very high voltage national electricity grid. Wind farms and solar plant projects above 2 MW must be developed on designated areas determined by the local government entity.
Additional Comments	Law 13-09 provides that each operator can freely negotiate the repurchase of the surplus electricity not sold to private consumers with ONEE. Law 13-09 does not, however, provide for a guaranteed repurchase of surplus electricity by ONEE. However, as Law 13-09 intends to promote the private production and sale of electricity from renewable sources, the proportion of electricity sold to private consumers must remain substantial compared to the surplus sold to ONEE. The Moroccan Minister of Energy and Mining announced in late 2013 that a new independent regulator will be set up to supervise the energy sector, maintain competition between operators in the gas and electricity sectors and define the tariffs and conditions to be imposed upon users of the national electricity grid and interconnection facilities. Law 13-09 has enabled the development of the Tarfaya Project, a major (300 MW) wind farm project which commenced operations in 2013. This has helped increase the share of renewable energy in overall electricity production from 8% in 2012 to 13.4% in 2013. Law 47-09 on energy efficiency, dated 29 September 2011, sets clear objectives and lays the foundation for future Moroccan thermal regulation (RTBM). The aims of Law 47-09 are to: ■ Increase the efficiency of energy resource consumption; ■ Reduce energy costs on the national economy; and ■ Contribute to sustainable development. Law 47-09 requires energy audits for companies and institutions in the production, transmission and distribution of energy, as well as the performance of an energy impact study for new construction and urban projects.

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The Netherlands

National Renewables Targets?	The renewable energy target for the Netherlands is 16% by 2023 (further to the *Energieakkoord* of September 2013).
Main Renewable Sources	Biomass, geothermal, solar, onshore and offshore wind.
Green Certificates?	Yes. Suppliers of electricity also have an obligation to provide generation details to their customers. These details consist of, for example, the percentage of renewable energy they supply.
Feed-in Tariff (FIT)?	No, although subsidies are granted (discussed below).
Other Incentives	In 2014, the Dutch cabinet has maintained its SDE+ (Subsidy for Renewable Energy+) mechanism. Since January 2013, the Renewable Energy Storage Act (*Wet opslag duurzame energie*) entered into force, on the basis of which the SDE+ subsidies are funded. Furthermore, the SDE+ 2014 was published on 12 February 2014. Further to the energy agreement (*Energieakkoord*, see below under 'additional comments'), the Cabinet has aimed to increase the efficiency and effectiveness of the SDE+. The SDE+ 2014 focuses on the achievement of the renewable energy target mentioned above. Since 2013, subsidies will no longer be granted in five, but in six phases, to increase cost effectiveness. Each phase has its own subsidy cap (per kWh for electricity, Nm3 for green gas and GJ for renewable heat), such that the first phase will have the lowest caps and the last phase the highest. However, a total cap for all phases will apply and subsidies are granted on a first-come-first-served basis. This implies that, for instance, if the total cap is reached during phase 2, then phases 3, 4, 5 and 6 will not be applied during the calendar year and further applications will not be allowed. In this manner, the Dutch Cabinet wants to prioritise 'cheap technologies'. Once a project has been granted a subsidy, it will continue to receive it at the same level on an annual basis for 15 years (12 years for biomass). The total budget for subsidies granted in 2014 is €3.5 billion. The final technologies for which the SDE+ 2014 applies are the following: ■ Onshore and offshore wind; ■ Green gas hubs, e.g. landfill gas; ■ Renewable heat; ■ Biomass; ■ Geothermal energy, e.g. cogeneration; ■ Gasification; ■ Solar PV; and ■ Sewage treatment. Basic (maximum) compensation for phase 6 in the SDE+ 2014 is set at €0.15 per kWh, €1.03 per Nm3 for green gas and €41.67 per GJ for renewable heat. A "free category" for more expensive technologies is established and will be decided on a case-by-case basis. The free category includes offshore wind, biomass gasification, osmosis and "free energy" technologies.
Additional Comments	The Dutch Cabinet introduced "Green Deals" in 2011. The principle of Green Deals is that the national government is willing to enter into arrangements with private parties, with the aim to facilitate initiatives in respect of sustainability. Such facilitation does not involve making financial contributions, but making use of other tools available to government, such as the creation (or removal) of regulations. So far these Green Deals have been very successful: more than 160 Green Deals have been concluded. A number of parties, including Government industry bodies, trade unions and nature/environmental organisations, reached an energy agreement for renewable growth in September 2013 (*Energieakkoord voor duurzame groei*). Over 40 parties discussed how to offer incentives to save energy and to increase the portion of renewable energy four-fold in the Netherlands. The manner in which this growth will be realised is defined in this agreement; not only in broad outlines, but also in detailed policy measures. There is widespread support to realise the agreed 16% target for 2023 contained in the agreement. The expected proportion of renewable energy in the energy mix is 5.2% in 2014 and 5.7% in 2015. It is expected that the amount of renewable energy will grow more rapidly in the next few years.

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Poland

National Renewables Targets?	Poland currently has in force annual renewable energy targets for the period up to 2021 (increasing on a linear basis from 12% in 2013 to reach the level of 20% of electricity from renewable energy sources (RES) of overall electricity sold to final off-takers in 2021).
Main Renewable Sources	Hydroelectricity (mostly old generation units), and onshore wind and biomass, rapid development of which contributes most to the overall progress in meeting the targets.
Green Certificates?	Yes. Enterprises which generate or trade in electricity and sell to a final off-taker as well as, in certain circumstances, the so-called "industrial off-takers", final off-takers and brokerage houses trading with energy at the commodity exchange, are required to acquire certificates (or pay compensation). They must then present a certain number of them on an annual basis, to the energy regulatory authority. The required number is calculated as a proportion of the amount of renewable energy generated calculated by reference to sales to end users or, in the case of an industrial off-taker, by reference to the volumes of electricity bought for its own needs). Green Certificates are issued by the Polish energy regulatory authority to renewable energy generators to confirm that they have produced a certain amount of renewable energy over a certain period of time. They are issued on the application of a given energy generator and on the basis of data provided by the operators of the grid transmission or distribution system to which the given renewable energy generator is physically connected. Currently, the support scheme applies to all technologies, regardless of their efficiency and costs. However, please see our comments below regarding planned changes to the support scheme. Obliged entities which fail to present certificates or pay compensation are subject to a financial penalty imposed by the energy regulatory authority.
Feed-in Tariff (FIT)?	No.
Other Incentives	The operator of the electricity system is obliged to ensure that electricity generated from renewable energy sources has priority of transmission. The so-called "suppliers of last resort" (i.e. trading companies with the biggest number of off-takers on a given territory) are obliged to purchase electricity generated from renewable energy sources which is offered to them. The obligatory purchases are made at the average price on the competitive market for the preceding calendar year determined yearly by the energy regulatory authority. The energy regulatory authority is obliged to announce the average price by 31 March of the following year. Any entity not meeting its obligation to purchase electricity from renewable energy sources is subject to a financial penalty. Electricity generated from renewable technologies is exempt from excise duty.
Additional Comments	In April 2014, the Council of Ministers approved the final governmental draft of the Bill on Renewable Energy Sources. The main purpose of the draft Bill is to decrease the costs and improve the effectiveness of the existing support scheme for energy from renewable sources. The draft Bill is aimed at moving the subsidiary of renewable energy generation through Green Certificates to an auction system based on guaranteed FITs (for small installations) and FIPs (for medium and large installations) granted to energy generators offering renewable energy at the lowest price. For existing installations, however, (those existing at the time the new regulations come into force), the draft Bill provides that the system of funding based on Green Certificates and an obligation to purchase electricity generated from renewable energy sources will be kept in place. The Bill also proposes a fixed 15-year support period for renewable sources, as well as other important changes to the existing regulations applicable to renewable sources. Exceptions are made, however, for existing hydroelectric power plants and some co-incineration plants, for which the support is to be limited significantly. In the case of hydroelectric power plants, support in the form of the obligation to purchase energy and Green Certificates will be available only to installations with a total installed electrical energy capacity of up to 5 MW. In turn, in the case of co-incineration plants, limitations are proposed regarding the volume of energy for which Green Certificates will be issued, and introduction of corrective coefficients for certificates of origin issued for energy from RES generated in those installations. Also, not all hydroelectric power plants and co-incineration plants will be covered by the new auction-based support scheme. The Bill on RES is now to be processed (and probably further amended) by the Parliament before being enacted. The new law is expected to come into force during the second half of 2014 at the earliest, except for the regulations implementing the new rules governing the RES support system. These will come into force only 12 months after the European Commission has granted the State aid approval for the relevant support measures in the new law.

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Romania

National Renewables Targets?	The renewable energy target for Romania is 24% by 2020.
Main Renewable Sources	Hydro energy, onshore wind, solar photovoltaic (PV), biomass.
Green Certificates?	Yes. Electricity suppliers are obliged to acquire a minimum number of Green Certificates based on the quantity of electricity supplied to consumers each year. The regulatory authority establishes the quota of Green Certificates to be acquired by electricity suppliers. In 2013, this was set at 0.224 Green Certificates/MWh. Suppliers that do not meet this mandatory quota are bound to pay a fine for each Green Certificate that is not delivered. This fine is increased annually (€119.30 per Green Certificate in 2014). For 2014, the value of a Green Certificate was set between €29.28 and €59.65. The values are indexed every year. Producers of electricity from renewable sources receive a different number of Green Certificates per MWh of electricity generated, depending on the type of renewable source. Thus, the number of Green Certificates per MWh is between 0.5 and 3 for certain types of micro hydro power plants (which have an installed power of up to 10 MW); 2 until 2017 and 1 from 2018 for wind power plants; 2 for biomass; and up to 6 for solar energy. The receipt of a portion of the Green Certificates given to certain renewable electricity producers will be deferred until 31 March 2017 or 1 January 2018, depending on the relevant technology, as follows: ■ Receipt of one Green Certificate per MWh will be deferred for wind projects and new hydro projects below 10 MW; and ■ Receipt of two Green Certificates per MWh will be deferred for PV projects. The deferred Green Certificates will be granted gradually starting from 1 April 2017, for PV projects and for new hydro projects below 10 MW and from 1 January 2018, for wind projects, with 31 December 2020 as a long-stop date for granting all deferred Green Certificates. No Green Certificates will be granted for energy produced through PV panels placed on agricultural land. Producers and suppliers of electricity from renewable sources can only trade Green Certificates on an internal centralised market, which is organised and operated by OPCOM. For renewable power plants having an installed capacity exceeding 125 MW, the aid will have to be notified individually to the European Commission, in order to be accredited as a renewable project and hence receive Green Certificates. In addition, following an overcompensation analysis performed by the regulatory authority, the promotion system has been revised starting from January 2014. The reduced quotas of Green Certificates, applicable from 1 January 2014 for projects accredited after 1 January 2014, are as follows: ■ 2.3 Green Certificates for each MWh (instead of 3 Green Certificates), for new micro hydro power plants, having an installed power of maximum 10 MW; ■ 1.5 Green Certificates until 2017 and 1.25 Green Certificates from 2018 for each MWh (instead of 2 and 1 Green Certificates, respectively), for wind power plants; and ■ 3 Green Certificates for each MWh (instead of 6 Green Certificates), for PV power plants. Other technologies (e.g. biomass, geothermal, etc) have not been affected by this revision. Also, the reduction should not affect existing projects which, as of 1 January 2014, are already accredited to receive Green Certificates. Such projects should continue to receive the number of Green Certificates as established prior to the reduction.
Feed-in Tariff (FIT)?	Only for projects having an installed power of maximum 1 MW. However, the secondary legislation regarding the FIT has not yet been implemented and, consequently, this is not yet applicable.
Other Incentives	The default suppliers are obliged to purchase electricity produced from renewable sources in plants with an installed capacity of maximum 1 MW and biomass co-generation plants with an installed capacity of maximum 2 MW at regulated prices, but, as mentioned above, this is not yet applicable, due to the lack of the secondary legislation. Producers of electricity from renewable sources have priority access to the transport/distribution network, subject to the safety of the National Energy System.
Additional Comments	According to the Energy Department from the Ministry of Economy, the national renewables target of 24% has already been achieved. Initially, fixed incremental targets were provided until 2020. However, recent amendments provide that, for the period 2014-2020, ANRE (the national regulator) will monitor on an annual basis the fulfilment of such targets and will propose to the Government an actual target for the relevant year. After 2020, the targets will be approved through Government Decision and cannot be lower than the 2020 figure. The consequence of this provision is that, depending on ANRE analysis in a given year, mandatory quotas imposed to meet the targets might actually be lower than the total electricity produced from renewable sources. If that were the case, the aggregated purchase obligations of the electricity traders would not cover all the Green Certificates on the market at that moment. Since Green Certificates are valid for only 12 months since their issuance, there is a risk that RES producers may have difficulties in selling them. Only limited wind energy capacity can currently be connected to the grid due to imbalance risks and poor grid infrastructure. The permitting procedure overseen by local authorities can be lengthy and bureaucratic. Power purchase agreements and Green Certificates Purchase Agreements can only be concluded on the centralised electricity market. The accreditation of electricity production units for application of the Green Certificate promotion system will be limited to the total annual level of installed capacity in electricity production units from renewable sources, as such is determined in the updated National Renewable Energy Action Plan. If the energy regulatory authority determines that such levels have been reached, it will cease accreditation of renewable producers. As at the beginning of 2014, the total installed capacity of renewable projects benefiting from the renewable scheme is approximately 4,300 MW (of which approximately 3,750 MW is from wind and photovoltaic power plants), and ANRE estimates that by the end of 2014, such capacity will be increased to approximately 6,000 MW.

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Slovakia

National Renewables Targets?	The renewable energy targets for Slovakia are 14% by 2020, and 20% by 2030. The 2005 baseline is 6.7%.
Main Renewable Sources	Solar photovoltaic (PV), hydro, wind, geothermal, biomass, biogas and biomethane (including gas emissions from metallurgical production as of 1 January 2014), hydrothermal, aerothermal.
Green certificates?	No, although a 'green bonus' is available (discussed below).
Feed-in Tariff (FIT)?	A fixed FIT payable by electricity distribution system operators (DSO) is available to renewable electricity generators. Once a generator obtains the FIT applicable in the year of commissioning of its plant, it is entitled to receive such FIT for 15 years from the date the facility was put into operation. The amount of the FIT depends on the source of renewable energy used. FIT rates have been continuously decreased ever since the end of 2010, when the following support was available to PV plant operators: ■ €430.72/MWh up to 100 kW PV; and ■ €425.12/MWh above 100 kW PV and up to 10 MWh. As of 1 January 2011, support for newly accredited PV plants was reduced to (i) €387.65/MWh up to 100 kW PV; (ii) €382.61/MWh above 100 kW PV. As from 1 July 2011, the support (which was further reduced to €259.17/MWh) was limited to PV plants with an output of less than 100 kW, located on the roofs or facades of buildings. For the period between 1 January 2012 and 30 June 2012, the FIT rate was €194.54/MWh for PV plants. The FIT rate was further decreased to €119.11/MWh from 1 July 2012 until 31 December 2013. The current FIT rate (as of 1 January 2014) amounts to €98.94/MWh for PV plants with an output of less than 30 kW. The Slovak regulator has recently announced draft proposals that envisage cutting the FIT rate for PV plants to €88.89/MW from January 2015. While no special tax has been introduced yet, discussions were held in 2013 within the Slovak Ministry of Finance regarding taxation of PV energy. However, none of these discussions resulted in a bill being submitted into legislative proceedings. The FIT available for plants commissioned before 1 February 2011 can only be reduced by a maximum of 10% in 2012 as compared to the FIT available to them in 2011. As of 1 February 2011, this rule no longer applies to new wind and PV plants, i.e. the FIT may be reduced for subsequent years without limitation.
Other Incentives	*Green bonus* Although the green bonus is not formally established under Slovak law, a generator of renewable electricity can opt for a "green bonus" (instead of, or along with, the FIT) if it consumes all or the majority of the electricity produced. The green bonus is slightly lower than the FIT. Priority to connect and supply: generators of electricity from renewable sources have a priority right to connect their facilities to the electricity distribution or transmission grid, and a priority right to distribute and supply electricity to the grid. In practice, this means that if a generator opts for the FIT only, it will be able to sell all of the electricity it generates to the DSO for the price set by the relevant FIT. Indexation: the FIT is indexed by a formula reflecting core inflation (i.e. price level increase based on a trimmed consumer basket) as announced by the Slovak Statistics Office. Please note that use of the indexation is at the discretion of the regulatory body.
Additional Comments	The current FIT scheme has been particularly successful in relation to PV plants. The relatively high FIT, together with falling technology prices, caused a boom in the PV sector in 2010. As a result, the total installed capacity of PV plants in the Slovak Republic increased from 31 MW in 1 January 2010 to approximately 492 MW in November 2011. This boom caused concerns about (i) electricity prices for end customers, and (ii) the stability and safety of the entire electricity grid. As a result, the above-mentioned reduction of PV support was introduced. On the other hand, there are no comparable significant restrictions relating to other renewable energy sources.

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Spain

National Renewables Targets?	The renewable energy target for Spain is 20% by 2020.
Main Renewable Sources	Wind, solar photovoltaic, hydroelectric, thermosolar, biomass.
Green Certificates?	No.
Feed-in Tariff (FIT)?	The remuneration regime for renewable energy installation is currently undergoing an extensive reform. Previously, Spanish legislation envisaged two regimes applicable to the production of electric energy: the ordinary regime, for conventional power plants; and the special regime, for power plants with capacity under 50 MW using renewable energy sources. Under the special regime, plants were entitled, upon compliance with certain requirements, to certain financial incentives, which consisted of either (1) a FIT, or (2) the sale of the energy produced into the market at the wholesale market (or "pool") price supplemented by a premium (i.e. a FIP). From July 2013, the special regime was repealed. New regulations allow for renewable energy installations to receive special remuneration in addition to the pool price upon sale of the energy. This additional remuneration will cover the investment and operating costs that an efficient, well-managed company is unable to recover on the market. It will not exceed the minimum level necessary to cover the costs that: ■ Allow the installations to compete on equal terms with the rest of the technologies on the market; and ■ Make it possible to obtain a "reasonable profitability" in relation to the standard installation applicable in each case. In this regard, the reasonable profitability will be set as a projected profitability which will be based, before tax, on the average yield of Spanish 10-year sovereign bonds on the secondary market, applying the appropriate differential. The above notwithstanding, for those existing installations that, on 14 July 2013, were entitled to a premium-based remuneration, this reasonable profitability will be based, before tax, on the average yield of Spanish 10-year sovereign bonds on the secondary market for the ten years prior to that date, plus 300 basis points, i.e. 7%. The remuneration will only be applicable during the regulatory life of each installation, and will be revised every six years. However, the precise details for the new remuneration scheme are still to be determined in a Royal Decree and a Ministerial Order that have still not been passed by the Spanish Government. The new remuneration scheme, to be approved by the Government, will be effective from 14 July 2013. Thus, the former regulations will apply on a transitional basis until the approval of the new remuneration scheme. Remuneration received in this manner by renewable energy installations under the transitional regime will be considered settlement on account and, subsequently, once the regulatory provisions necessary to apply the new remuneration regime have been approved, it will be adjusted correspondingly in line with the credit rights or payment obligations resulting from the application of this new methodology, effective as of 14 July 2013.
Other Incentives	For non-mainland installations (i.e. those located in the Canary and Balearic Islands, Ceuta and Melilla), the remuneration can also include an incentive for investment and completion within a given period where their installation entails a significant reduction in costs.
Additional Comments	As noted above, the renewable energy sector is in the process of an ongoing and far-reaching reform, which started in July 2013. Royal Decree-Law 9/2013, dated 12 July, on the adoption of urgent measures to guarantee the financial stability of the electricity system and Law 24/2013, dated 26 December, on the Electric Sector, have ended the "special regime" noted above and established a new remuneration system in the above-mentioned terms. However, the precise parameters of the remuneration scheme are still pending Government approval. The Draft Royal Decree and Ministerial Order were supposed to have been approved in March 2014. Until these two regulations are approved, the former regime applies on a transitional basis, and the remunerations received by the installations in the period between 14 July 2013 and the date of approval of the new remuneration will be settled. Despite the Ministry of Industry, Energy and Tourism's prediction in the November 2011 Renewable Energy Plan that the 2020 renewables target would be exceeded, it now seems likely that Spain will fail to meet that target, given the current regulatory environment. This point has been raised by the European Commission in relation to a report dated April 2013, in which an external consultant indicated that, by 2020, Spain would only achieve between 12.6% and 17.1% of its energy from renewable sources, depending on different scenarios.

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Thailand

National Renewables Targets?	The renewable target for Thailand is 25% by 2021 (i.e. solar of 3,000 MW, wind of 1,800 MW, hydro of 324 MW, energy from waste of 400 MW, biomass of 4,800 MW and biogas of 3,600 MW).
Main Renewable Sources	Solar photovoltaic (PV), biomass, biogas, wind, small hydro power and municipal solid waste.
Green Certificates?	No.
Feed-in Tariff (FIT)?	Yes. FITs have been introduced for three types of renewable energy: solar rooftop PV, community solar PV farms and biogas produced from napier grass. Under the solar rooftop PV scheme, which was introduced in 2013, the Metropolitan Electricity Authority and the Provincial Electricity Authority will buy power generated for 25 years in accordance with the following FITs: ■ Residential properties with no more than 10 kW installed capacity: 6.96 baht/kWh; ■ Small business properties with between 10-250 kW installed capacity: 6.55 baht/kWh; and ■ Medium-large business properties or factories with over 250-1,000 kW installed capacity: 6.16 baht/kWh. For community solar PV farms, the FITs are set as follows: ■ Years 1-3: 9.75 baht/kWh; ■ Years 4-10: 6.50 baht/kWh; and ■ Years 11-25: 4.50 baht/kWh. For the energy produced from napier grass, the FIT is currently 4.50 baht/kWh for 20 years. The Energy Policy and Planning Office (EPPO) is planning to increase the FIT for napier grass energy from 4.50 baht/kWh to 4.90 baht/kWh to reflect the high cost.
Other Incentives	The Ministry of Industry is currently amending factory licensing regulations in order to allow solar rooftop PV with up to 20 kW capacity to be installed without the factory licence. The Thailand Board of Investment provides additional incentives such as exemption or reduction of import duties on machinery and raw materials and corporate income tax, and permission for foreign workers and ownership of land.
Additional Comments	EPPO is considering turning all Adders (which are extra purchase prices applied on top of the regular prices of electricity based on the source of the renewable energy), into FITs, which are a more accurate reflection of the costs of production. It will also divide the tariffs into four rates according to the sizes of the facilities-the tariffs for smaller producers will be higher than for the larger producers. There was an increase in the use of alternative energy from 9.9% of Thailand's energy use in 2012 to 10.9% in 2013, the largest proportion of which was electricity and heat generated from biomass. In 2012, electricity generated from alternative energy was 2,633 MW, whereas in 2013 Thailand saw 3,503 MW of alternative energy electricity production, which came mostly from biomass, followed by solar energy. Thailand was one of the first Asian countries to promote a switch to renewable energy by implementing policy incentives. Its particular strength of a sunny climate together with the FITs provided makes Thailand a very attractive location for solar energy investors.

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Turkey

National Renewables Targets?	The renewable energy target for Turkey is 20% by 2023 (under the Electricity Energy Market and Supply Safety Strategy Paper adopted in 2009 which prioritises the increase of electricity generation from local resources).
Main Renewable Sources	Hydro, wind, solar photovoltaic, geothermal and biomass.
Green Certificates?	No. However, a "renewable energy resource certificate" can be issued by the regulatory authority upon request of the generation licence holder in order to identify and monitor the resource in terms of sale and purchase of electricity energy in domestic and international markets and emissions trading, and to benefit from the renewable energy support mechanism (as explained below). A generation licence based on a renewable energy resource can also be used as the renewable energy resource certificate. Renewable energy resource certificates can help generators seeking to benefit from various incentives to prove the source of the electricity. A legal framework which would provide for tradeable Green Certificates is expected to be enacted; however, no firm timetable for implementation has been published.
Feed-in Tariff (FIT)?	Electricity suppliers are required by the FIT established under the Renewable Energy Law to purchase a certain amount of electricity from renewable energy generators who have signed up to the renewable energy support mechanism (RES Mechanism). To be eligible to benefit from the RES Mechanism in a given year, generators must: (i) hold a renewable energy resource certificate; (ii) have commenced/will commence their operations within the period from 18 May 2005 to 31 December 2020; and (iii) apply to the regulatory authority by the end of October of the previous year. However, generators who benefit cannot sell electricity outside the RES Mechanism in that year. The generators can only benefit from this purchase guarantee and the FITs for ten years from the relevant facility's commercial operation date. There is also a domestic equipment incentive which allows the generators to benefit from higher FITs for five years following the relevant facility's commercial operation date. The FITs payable are as follows: ■ Hydro: 0.073 US$/kWh (commercial incentive), with a maximum additional incentive of 0.023 US$/kWh for domestic equipment; ■ Wind: 0.073 US$/kWh (commercial incentive), with a maximum additional incentive of 0.037 US$/kWh for domestic equipment; ■ Geothermal: 0.105 US$/kWh (commercial incentive), with a maximum additional incentive of 0.027 US$/kWh for domestic equipment; ■ Biomass: 0.133 US$/kWh (commercial incentive), with a maximum additional incentive of 0.056 US$/kWh for domestic equipment; ■ Solar energy (photovoltaic): 0.133 US$/kWh (commercial incentive), with a maximum additional incentive of 0.067 US$/kWh for domestic equipment; and ■ Solar energy (condensed): 0.133 US$/kWh (commercial incentive), with a maximum additional incentive of 0.092 US$/kWh for domestic equipment.
Other Incentives	Other incentives include: ■ Priority in connecting to the national grid; ■ Discounts in applicable licence application fees and exemption from annual licence fees for eight years following the commencement of commercial operations; ■ Facilitation in use of state-owned lands (including in protected regions such as national parks) and discounts or exemptions from payment of applicable charges; ■ Incentives that may be granted by the Council of Ministers for investments in renewable generation facilities, procurement of domestically-manufactured electro-mechanical systems to be used in renewable generation facilities, research and development and manufacturing investments on solar batteries and concentrated collectors, and investments in research and development facilities for generation of electricity or fuel by utilising biomass resources; and ■ Generation of electricity for own use without a generation licence by, among others, renewable energy generation facilities with an installed capacity of up to 1 MW (which can be increased by the Council of Ministers) and ability to sell the excess electricity to authorised supply companies via the FITs.
Additional Comments	The share of renewables in the electricity generation mix is steadily increasing. Currently, hydro is the leading renewable resource; however, wind and solar are also expected to have a considerable market share. An important set-back for increasing the available wind and solar capacity is the limitation of the grid infrastructure, and network expansions are necessary to integrate more wind and solar resources into the market. In addition, the FITs are relatively modest, compared to the merchant market price for wind and hydro resources in particular. However, for solar, geothermal and biomass the average market price for 2012 was lower than the FITs (excluding the domestic equipment incentive).

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United Arab Emirates

National Renewables Targets?	The renewable energy targets for UAE are 7% (1500 MW) by 2020 for Abu Dhabi, and 5% (1000 MW) by 2030 for Dubai. There is also a 30% clean energy commitment by 2030 for Abu Dhabi.
Main Renewable Sources	Mainly solar and wind and, to a lesser extent, geothermal and waste-to-energy.
Green Certificates?	No.
Feed-in Tariff (FIT)?	No. However, Abu Dhabi and Dubai are studying FIT schemes.
Other Incentives	*Green Payment*: A one-time subsidy can be granted on a discretionary basis by the Abu Dhabi Government for each renewable energy project. Many believe that, rather than setting a long-term FIT that would need adjustment over time because of the changing cost of renewable and conventional energy, the UAE Government could tailor a subsidy to each project at the time of installation. For example, the Abu Dhabi Ministry of Finance will compensate the Abu Dhabi Water and Electricity Company for the difference between the average domestic power generation cost and the generation cost for the Shams 1 project (see below).
Additional Comments	There are currently a number of barriers to the development of renewable energy projects in the UAE: ■ The UAE has no regulatory regimes akin to the United Kingdom's Climate Change Programme (i.e. imposition of a Climate Change Levy (or similar) on energy delivered to non-domestic users) and has not introduced a FIT, investment tax credits or renewable portfolio standards. However, an energy policy is being developed which would establish subsidies for renewable energy; ■ Subsidized fossil fuel prices in the UAE put renewable projects at an economic disadvantage compared with fossil fuel-driven plants; ■ Given the cost advantages of gas-generated power and the UAE Government's willingness to subsidise it, UAE renewable electricity ventures are a comparatively costly investment; and ■ There have also been problems in negotiating carbon dioxide pricing. Despite the above challenges, the UAE is pursuing a number of flagship projects (in addition to carbon capture and storage projects): ■ Shams 1: This is one of the largest concentrated solar power plants in the Middle East and is valued at US$700 million. CSP generates electricity from the heat of the sun rather than sunlight. Shams 1 will avoid approximately 175,000 tonnes of carbon dioxide per year. ■ Masdar City Solar PV Plant: This US$50.3 million solar photovoltaic (PV) plant has a capacity of 10 MW. The PV plant produces around 17,500 MWh of clean electricity annually and offsets 15,000 tonnes of carbon emissions per year. ■ Masdar geothermal energy facility: This US$11 billion project is used to power Masdar city's 5 MW air conditioning system. ■ Noor 1: This US$740 million project has a planned capacity of 100 MW. ■ Sir Bani Yas: This 30 MW onshore wind farm, valued at US$80 million, is a joint initiative between Masdar and the Tourism Development and Investment Company. ■ Mohamed bin Rashid Al Maktoum Solar Park: This 1000 MW solar power park is funded by the Supreme Council of Energy and managed and operated by Dubai Electricity and Water Authority. ■ Rooftop Solar Program: Masdar and ADDC will initiate the set-up of a Solar Roof Program ("SRP"), which aims to encourage residents and owners of commercial buildings and government buildings (collectively "Investors") to install solar PV panels on their roofs to generate green electricity. The SRP is a government-sponsored financial incentive program designed to make the use of solar PV on rooftops more affordable to consumers. The SRP is based on a financial incentive scheme consisting of: (i) a rebate payment of approximately 35-40% payable to Investors at the time of installation, and (ii) a premium FIT paid per kWh produced and fed into the grid over 20 years (approx US$0.25-0.28 per kWh).

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United Kingdom

National Renewables Targets?	The renewable energy target for the UK is 15% by 2020.
Main Renewable Sources	Offshore wind, onshore wind, biomass, energy from waste, hydro, landfill gas, solar.
Green Certificates?	Yes. The Renewables Obligation was introduced in 2002. Electricity suppliers are required to purchase Renewables Obligation Certificates (ROCs) from generators of qualifying renewable electricity and present them to the regulator or, if they have insufficient ROCs to present, pay money into a "buyout" fund. The buyout price is currently £43.30 per ROC for the period 1 April 2014 to 31 March 2015. ROCs are currently awarded to newly accredited projects on a banded basis as follows (although these awards will reduce in future): ■ Offshore wind: 1.9 ROCs/MWh (for new turbines after 1 April 2010); ■ Onshore wind: 0.9 ROC/MWh; ■ Dedicated biomass: 1.5 ROCs/MWh; ■ Dedicated biomass with combined heat and power: 2 ROCs/MWh; ■ Hydro: 0.7 ROC/MWh; ■ Closed landfill gas: 0.2 ROC/MWh; ■ Landfill gas heat recovery: 0.1 ROC/MWh; ■ Ground-mounted solar photovoltaic(PV): 1.3 ROCs/MWh; and ■ Building-mounted PV: 1.5 ROCs/MWh. Money paid into the buyout fund is distributed on a pro-rata basis to suppliers who have presented ROCs to the regulator. The current obligation for the period ending on 31 March 2014 is 0.244 ROCs per MWh. This means that suppliers must purchase 0.244 ROCs per MWh of electricity supplied (or make equivalent payments to the buyout fund).
Feed-in Tariff (FIT)?	Yes-the FIT was introduced in April 2010. The FIT applies to small-scale low-carbon electricity generation (5 MW and below, although this limit is likely to increase to 10 MW). The FIT guarantees relevant generators a payment from an electricity supplier for the electricity generated and used, and a payment for the surplus electricity exported to the grid. The export tariff is currently 4.77p/kWh, while the generation tariff depends on the size of the generating station and the technology deployed. Rates from 1 April 2014 (or from 1 January 2014 for PV installations) have been set at: ■ Anaerobic digestion: 9.49p/kWh to 12.46p/kWh; ■ Hydro: 3.32p/kWh to 21.12p/kWh; ■ PV: 6.61p/kWh to 14.38p/kWh (moving to between 6.38p/kWh and 14.38p/kWh from July 2014); and ■ Wind: 3.41p/kWh to 17.78p/kWh.
Other Incentives	The Climate Change Levy (currently £5.41/MWh), a tax on the non-domestic supply of certain energy products, is payable by industry, commerce, agriculture and the public sector. However, every MWh of renewably generated electricity consumed is awarded one Renewable Levy Exemption Certificate which makes that energy exempt from the Climate Change Levy. A carbon price floor was introduced on 1 April 2013. It is achieved through the Climate Change Levy (and other fuel tax regimes). Generation of electricity using gas, LPG, coal and certain other solid fossil fuels is subject to separate rates of Climate Change Levy from that date. In November 2011, the Renewable Heat Incentive (RHI) was launched. It provides financial support to non-domestic renewable heat generators. The purpose of the RHI is to encourage the installation of renewable heat sources by ensuring commercial viability compared with fossil fuel alternatives. The supported technologies include solar, biomass, water/ground source heat pumps, geothermal, biogas combustion, CHP and biomethane injection.
Additional Comments	As part of the Government's programme of Electricity Market Reform, the Renewables Obligation will be replaced by a "Feed-in Tariff with Contracts for Difference" (FiT CfD). The Government's intention is that FiT CfDs will replace the Renewables Obligation from 31 March 2017 for new projects. Existing projects will have the option between 31 March 2014 and 31 March 2017 to remain with the Renewables Obligation or to proceed under FiT CfDs (although, based on recent proposals, the Renewables Obligation may be closed from 1 April 2015 to new PV Capacity above 5 MW). Renewable generators will be able to obtain 15-year contracts guaranteeing them specified electricity prices (e.g. for projects commissioned in 2014/2015: £155/MWh for offshore wind, £120/MWh for large-scale solar PV, £105-125/MWh for biomass). Renewable generation was 15.5% of total electricity generation in the 2nd quarter of 2013, which, if maintained, would exceed the UK's target for 2020. Particular increases in capacity have been seen in biomass conversions, and onshore and offshore wind.

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Ukraine

National Renewables Targets?	The renewable energy target for Ukraine is 12.6% total installed capacity by 2030.
Main Renewable Sources	Wind, hydro, solar, biogas and biomass.
Green Certificates?	No.
Feed-in Tariff (FIT)?	The Ukrainian FIT scheme for renewable energy has been functioning in its current form since 2009. The FIT (also known as the green tariff) is a special tariff for the purchase of electricity generated in Ukraine from renewable energy sources by the state. The state is obliged by law to purchase all electricity that the renewable energy producer wishes to sell to it at the applicable FIT rate. The FIT rates are assigned by the National Commission for the Regulation of Energy ("NERC") for each energy generation facility of an energy producer. These are set by NERC in Ukranian hryvnia based on a statutory formula and are adjusted on a monthly basis to ensure that the applicable FIT rates do not fall below the statutorily-established minimum rates linked to the euro. The statutorily-established minimum FIT rates are (approx. €/KWh, exclusive of VAT): ■ Wind power plants: • €0.1131, for wind turbines with an individual capacity of more than 2 MW; • €0.0754, for wind turbines with an individual capacity of 0.6-2 MW; and • €0.0646, for wind turbines with an individual capacity of less than 0.6 MW. ■ Solar plants: • €0.3393 for ground-mounted facilities; • €0.3490 for facilities assembled on a roof or facade with a total capacity of more than 100 kW;and • €0.3587 for facilities assembled on a roof or a facade with a total capacity of more than 100 kW. ■ Hydro power plants: • €0.1163 for small hydro power plants; • €0.1551 for mini-hydro power plants; and • €0.1839 for micro-hydro power plants. ■ Biomass and biogas plants: €0.1239. In order to qualify for a FIT, a renewable energy project, where construction commenced after 1 January 2012, needs to comply with the local content requirement (LCR). This is the requirement that a certain proportion of the raw materials, equipment, works and services used in setting up the project must be of Ukrainian origin. As of 1 January 2014, the LCR needs to constitute 30% and this will be increased up to 50% on 1 July 2014 (for wind, solar and biomass projects) and 1 January 2015 (for biogas projects). Once an energy producer has had it confirmed that a FIT rate will apply in respect of a certain energy facility, that rate cannot be reduced until 1 January 2030. For the newly-commissioned energy projects only, FIT rates will gradually decrease from the current rates by 10% (from 1 January 2015), by 20% (from 1 January 2020), and by 30% (from 1 January 2025).
Other Incentives	The key regulatory incentives applicable to renewable energy producers are: ■ The guaranteed off-take of the electricity by the state-authorised entity; ■ The linking of the minimum FIT rates to the euro; ■ "Grandfathering provisions" to ensure that FIT rates, once assigned, are not reduced until 1 January 2030; and ■ Tax benefits, including a qualified exemption from corporate profit tax until 1 January 2021, VAT exemptions on the imports of certain equipment for an indefinite period of time, and application of a 75% reduction in land taxes.
Additional Comments	Ukraine joined the Energy Community in February 2011 and undertook to ensure that, by 2020, 11% of Ukraine's electricity supply will come from renewable sources. On 4 February 2014, the Ukrainian government adopted the Energy Strategy for Ukraine for the period until 2030 which estimated that, by 2030, 12.6% of the overall installed capacity will be attributable to renewable energy projects. Following the change of government in 2014, it is unclear whether the current FIT scheme will be reviewed.

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