		German answers to the Avosetta questionnaire on renewable energy law (1/2 April 2011), prepared by Andrea Schmeichel and Gerd Winter
1	What is the share of renewable energies in overall final energy consumption in your country?	10.3% (2009) (8.9% of primary energy consumption)

From what sources is this renewable energy?

2009	Electricity	Heat	Transport Fuel
	94.600 GWh	119.760 GWh	33.763 GWh
Water	3.3%		
Wind	6.7% (of which 0.006% offshore)		
Solar photovoltaics Solarthermal	1.1% 1.1%	0.3% 0.3%	
Geothermal Deep Near surface	0.003%	0.32% 0.02% 0.3%	
Biomass, of which Biogenic solid fuels Biogenic liquid fuels Biogas Biogen. sect. of waste Biodiesel Vegetable oil Bioethanol	4.9% 2.0% 0.3% 1.9% 0.7%	8.0% 6.4% 0.3% 0.5% 0.8%	5.5% 4.2% 0.2% 1.1%
Sewage gas	0.2%	0.08%	
Landfill gas	0.1%	0.03%	
Share of final energy consumtion in each sector	16.4%	8.8%	5.5%

How will / should the proportion and com-

The potential of renewable energy in the electricity has been estimated at 700TWh/a, covering 121.1% of brut energy consumption, 810TWh/a for heating (59.6%) and 90TWh/a for transport fuels (14.7%). This adds up to 66.1% of the brut energy consumption in 2009. However, these estimates are based on technological and geographical feasibility and are not based on societal and

	position of renewable energy develop in your country?	economic reality. The Renewable Energy Act 2009 aims for a 30% share of renewable in the electricity consumption in 2020, gradually rising thereafter (s. 1 (2). The German Advisory Council on the Environment (SRU) has published a report in 2010 estimating 100% renewable electricity possible by 2050. The Renewable Energy Heating Act 2009 stipulates a 14% share of renewable heating and cooling in 2020. According to a 2008 guidance study for the Federal Ministry for the Environment, Nature Protection and Nuclear Safety, half of the demand for heating shall be met by renewable energy. The Biofuel Quota Act 2007, amending the Federal Immission Protection Act (s. 37a) foresees a biofuel quota of 6.25% from 2010-2015 based on the energy content, with different proportions to be fulfilled by biodiesel and petrol. However, the obligation was reduced by a 2009 amendment to a reduction of fossil fuels by 3% in 2015, 4.5% in 2017 and 7% in 2020 (s. 37a (3a). Thus, a new calculation method is introduced based on the potential of greenhouse gas emissions, allowing for more diverse sources of biofuels.
	Can the requirements of the Directive 2009/28/EC be met or exceeded?	Under the Renewable Energy Directive, Germany has to achieve a quota of 10% in the transport sector and 18% renewable energy overall. To my knowledge, no note has been made to the Commission that these targets may not be achieved. However, the biofuel quota – subject to different calculation methods – seems to fall short of the Directive's target. Otherwise, the targets seem well within reach, considering that the renewable energy share has constantly risen, from 3.2% of the final energy consumption in 1998, to 5.8% in 2005 to 10.3% in 2009. In its National Action Plan, the Federal government predicts a renewable energy consumption of 19.6% in 2020.
		(Source for statistics: Federal Ministry for the Environment, Nature Conservation and Nuclear Safety, Renewable Energy in Figures, online update, Dec 2010; English version June 2010)
2.	Describe the key	

	national legislation to promote renewable energies.	
	Subsidies and other financial support?	The Erneuerbare-Energien-Wärme-Gesetz (EEWärmeG, Renewable Energy (Heat) Act 2009) combines an obligation of use (1st pillar) with subsidies under the Market Incentive Program (Marktanzreizprogramm, MAP) of up to 500 million €/yr in order to encourage the use of renewable heat.(2nd pillar). Subsidies are available eg for thermal solar collectors, heat pumps and biomass ovens. For subsidies for renewable electricity generation and biofuel production see next and overnext boxes.
	Purchase guarantees? (example: feed-in tariffs?)	The Erneuerbare Energien Gesetz (EEG, Renewable Energy Act 2009) introduces feed-in tariffs and guaranteed grid access for electricity from renewable sources. The feed-in tariffs differ according to the energy source and size of the plant and undergo a yearly degression. They can be granted at the most for 21 years.
	Quota system? (example: "green certificates")	The Biokraftstoffquoten-Gesetz (Biofuel Quota Act 2007), as amended in 2009 stipulates biofuel quotas. These are not combined with tradeable certificates. The EEWärmeG stipulates an obligation of quota of renewable energy heat use for newbuilds. However, Länder may introduce obligations of use for existing buildings (s. 3 (2). The quota differs according to the energy source and technology used. However, the quota obligation can be replaced by energy efficiency measures such as the use of Combined Heat and Power (CHP).
	A special legal framework for the in-	There is no special law on the construction of facilities for renewable energy production. Rather, existing laws are in principle applicable although special provisions may deal with the proprieties of renewables. Hardly any privilege applies in comparison with other industrial installations reflecting the need to foster renewable energy generation.

	stallation of facilities for the production of renewable energy sources? (short description)	
	Sustainability requirements for biomass / biofuels production? (art. 17-19 of 2009/28/EC)	The sustainability requirements were litterally transposed by sublegal Regulations, i.e. for biofuels by the Biokraftstoff-Nachhaltigkeitsverordnung 2009 and for electricity by the Biomassestrom-Nachhaltigkeitsverordnung 2009. No such Regulation appears to have been adopted for biomass destined for heating purposes.
3	Describe mayor legal instruments, arguments, and court decisions concerning	Environmental side-effects of the promotion of renewable energy generation can be found in two directions: environmental damage in the domestic area (1), in foreign jurisdictions (2). (1) Environmental side effects in the domestic realm (focus windmills and biomass-production) Focus windmills - For the construction of a windmill a building permit is required. Apart from requirements concerning the functionality and stability of the installation environmental effects must be checked by EIA and land use planning require-

environmental protection issues of renewables.	ments . - An EIA is required for windfarms with mills above 50 m and a number of more than 20 (obligatory EIA) and 4 (EIA depending on circumstances). The BVerwG declared a practice illegal where wind parks had been erected in salami tactics, thus benefiting from the environmental assessment exemptions for small installations. - German planning law distinguishes between three zones where construction work can be situated: Within the realm of a zoning plan (Bebauungsplan), within the realm of already built upon areas (unbeplanter Innenbereich), and outside built upon areas and zoning plans (“external area”, Außenbereich). - Windfarms can and will in most cases be constructed within the realm of a zoning plan. Such plan will fix in some detail the position, height etc. of windmills. The plan must balance pro and con interests, including the interest in renewables and climate protection on the pro side (s. 1. n. 7 lit. f BauGB) and the interest in environmental protection on the con side (s. 1 n. 7 lit. a-e, g-h). It must respect (if the case is pertinent) any regulation of nature protection areas, the requirements of species protection, the requirements of special protection of valuable biotopes, and the so-called rule on encroachment on nature (requiring compensation measures if the encroachment is unavoidable and prioritary (“Eingriffsregelung”), etc. When the plan is drafted an EIA must be prepared. In the process of decision-making the public must be heard. Competent for the adoption for the plan is the Council of the local authority. - Individual windmills will often be constructed in the “external area” (Außenbereich). Even windfarms may be constructed there if the local Council – as is often the case - refused to adopt a zoning plan. Although, in principle, the Außenbereich shall be held free from any building (which is a very basic planning decision concerning land-use in Germany) some kinds of buildings are listed as exemptions (the so-called privileged projects). Traditionally these are buildings for agricultural and forestry and buildings not suited to be placed within settled areas due to their larger environmental risks (e.g. power plants). Due to this principle windmills were for a time only admitted in the Außenbereich if serving the energy needs of a farm. This was supported by the courts which said that a law would be needed to add a further function – production of renewables – to the traditional purpose of the Außenbereich to serve agriculture, forestry and dangerous installations. Reacting to the growth of the sector as serving the general energy needs the law was indeed amended to include wind energy installations into the list of privileged projects.

- If constructed in the Außenbereich a windmill – as any other privileged project – must nevertheless respect a number of criteria repsesenting environmental protection. They encompass zoning dispositions laid out by higher level land-use planning (if such plans concentrate windmills at certain places no individual windmill can be built outside these areas), nature protection areas must be respected according to the established protection goals and exemption rules (eg those contained in Art. 6 IV Directive 92/43/EC), the rules regulating encroachments on nature (see above) apply as well as any protection requirements for species and valuable biotopes. In addition, the general thresholds for noise pollution must be respected.

Focus biomass production

- Germany experiences a drastic development of intensification of agricultural production of biomass relevant crops, in particular maize. The biomass is then processed for (rather small scale) biogas production in installations which spring up in many villages and equally contribute to the change of agricultural landscapes. Although the general provisions on governing agriculture apply including the recent approaches towards extensification of agriculture – EU subsidy schemes reflecting nature services by farmers, good practice rules alerting farmers to nature protection concerns, sustainability criteria to be observed according to Directive 2009/28/EC Art. 17-19 etc. – the quota based demand pull and the subsidy based push for biogas is so strong that lacunae and discretionary margins in environmental protection rules will often be filled towards fostering renewables and not (other) environmental concerns.

(2) Environmental side effects in foreign jurisdictions

- The sustainability criteria laid down in Directive 2009/28/EC including also cross compliance as incorporated in German law (see above) also apply to biomass imported into the EU and by implication into Germany from third countries. The national Regulations on biofuel and bioelectricity reproduce the material standards but elaborate further the control system, relying heavily on certification and certification of certification systems. This is of particular relevance because in many third countries domestic legislation and supervision protecting the environment, and especially biodiversity, is seriously deficient. Of course, it is difficult to encroach on foreign domestic policies and law but defenders of environmental protection abroad widely support such a somewhat paternalistic approach. However, serious doubts exist if certification systems will actually implement the sustainability criteria or if they will be costly paper tigers comforting the bad conscience of “Northern” consumers. We as environmental lawyers

must also keep in mind effects on food security by biomass pull.

- Points of discussion could be the best shape of best supervisory systems as well as themaking binding of the sustainability criteria for any biomass import for energy use.

Some case law on internal conflicts between renewables and environmental effects

Most cases concern conflicts in the Außenbereich, where windfarms (as well as water power and biogas facilities) are privileged although having to respect environmental standards (see above). Landscape, biodiversity, noise and a general defensive attitude of local councils are the concerns most often discussed in court cases.

Landscape

A disfigurement of the landscape has not been considered sufficient to generally ban wind turbines (Bayr. VGH, 15 B 06.2356). It may however be given weight if disturbing the touristic destination of an island. Thus, the Higher Administrative Court of Lüneburg, 13 September 2010, Az 12 LA 18.9, ZUR 2010, 539 considered whether the Northsea island of Borkum would be adversely affected as a recreational resort by the construction of an offshore windpark. However, being located at a distance of 13 km the court rejected the island community's complaint.

Biodiversity

According to OVG Nordrhein-Westfalen (7 D 71/06.NE), the use of renewable energy may take precedence over environmental concerns, notably the protection of birds and bats, even where an EIA showed some risksenvironmental impact has been established. It was not considered necessary that planners undertake their own investigation, but may recur to third party information. The protection status of the area was based on a certain species living there, which does not imply that they are in the vicinity of the plant. A sufficient distance has been kept between the sensitive area and the windfarm. On the other hand, wind farms have also been refused even though as they were not situated in an actual or factual special protection area under the Directive on the conservation of wild birds. There was a public obligation to protect the concerned ecosystem. Birds (Milan) were nesting and feeding in the vicinity. (OVG Thüringen, 1 KO 1054/03). In another case the OVG Thüringen) approved the authorisation for a

		windfarm on the condition that an off-switch is installed that could substantially limit the death of birds (Milan) and bats (OVG Thüringen, 1 KO 372/06). Noise The BVerwG decided on a case where neighbours complained about noise pollution from a neighbouring wind turbine (BVerwG 4 C 2.07 of 29 August 2007). It ruled that the threshold values fixed by an administrative guideline for noise (TA Lärm) must be applied and are to be taken as binding "concretisation" of the material standards (normkonkretisierende Verwaltungsvorschrift). Interpreting the guideline the court further said that depending on local circumstances an extra lowering of the threshold must take place reflecting the impuls character of wind mill noise. "Defensive planning" by local councils The BVerwG decided a case concerning a general land use plan (Flächennutzungsplan) (BVerwG 4 CN 3.06 of 26 April 2007). In this plan the local council provided only a tiny area for windmills at the same time excluding any windmill construction at other sites within the commune's jurisdiction. Upon the complaint of a windmill developer the court first of all recognised standing. This is new because up until then no standing was accepted against general landuse plans because they were considered as having only inneradministrative effect. The court said that in a case like the present the effect was external because s. 35 III BauGB does make such plans binding for the issuance of construction authorisations in the Außenbereich. In substance the court accepted the developer's view that the plan did not sufficiently weigh the needs of providing sites for windfarms.
4.	Is there a national debate about the sense and nonsense of renewable energies, and if so,	The Rhine-Westphalian institute for business research (Rheinisch-westfälisches Institut für Wirtschaftsforschung) claimed in a 2010 report that the expansion of renewable energy was too costly and should thus be disregarded. The report has been proved as unfounded by the Federal Ministry for the Environment, Nature Protection and Nuclear Safety. A public debate on the costs of solar energy may have contributed to lowering the feed-in tariffs for photovoltaics. The German Advisory Council on the Environment (Sachverständigenrat für Umweltfragen – SRU) intensified the debate on the promotion of solar energy. In a recently published statement the SRU criticized the economic promotion of solar energy as excessive. Accord-ing to the SRU, the excessive promotion of solar energy could jeopardize the acceptance of the promotion of renewable energies in general. For more details see:

	has this lead to changes or corrections of the regulatory framework?	www.umweltrat.de/SharedDocs/Downloads/DE/02_Sondergutachten/2011_Sondergutachten_100Prozent_Erneuerbare.pdf?__blob=publicationFile Another debate concerns the incoherency and diversity of climate law instruments. It has been suggested to replace the bouquet of instruments by a universial emission trade. Critics stress that unlike the promotion of renewable energy, emission trading has so far not brought about the desired results and that the emission trade in its current form cannot replace heavy investment in renewables. (See for example Deutsches Institut für Wirtschaftsforschung 2009; Winter, JEL 1/2010; Wegener, ZUR 2009, 283; Epiney ZUR 2010, 236).
5.	How well do the public accept renewable energy proposals (eg new onshore and off- shore windfarms, biomass plants etc.)?	A 2005 to 2008 study at the Institute for Environmental Psychology for the Federal Ministry for the Environment, Nature Protection and Nuclear Safety on public acceptance concluded that 70% of the population were in favour of renewable energy, but differed according to the technology, with wind scoring lower than biomass or photovoltaics. However, the public reputation of biomass has recently suffered from environmental side effects and competition with food and feed. As renewable energy costs are, unlike external costs of fossil fuels, detailed on the bills, renewable energy is often perceived as a cost factor. Moreover, there is a certain feeling of NIMBY (Not in my backyard). The expansion of the electricity grid, catering for the needs of renewable electricity (smart grid) is often met with resistence, expanding planning times to several years.
6.	How does Strategic Environmental Assessment and Envi-	Strategic Environmental Impact Assessment is an integral part of the planning process for zoning plans (Bebauungsplan) and higher level land-use plans (Flächennutzungsplan, Regionaler Raumordnungsplan). In the EIA environmental effects originating from windfarms designated in the plan must be explored. If the site of the windfarm may have adverse effects on a Natura 2000 area the general rules for such areas (impact assessment, basic prohibtion of adverse effects, exemption regime) apply (s. 1 n. 7 b, s. 1a (4) BauGB).

	ronmental Assessment apply to renewables in your country? Have any particular le-gal/procedu ral issues emerged? How does Natura 2000 influ-ence the promotion of renew-ables?	
7.	Do the ex-isting or planned national legal in-struments promoting	The sustainability criteria were enacted parallel to the drafting of the Directive. Other necessary adaptations are not known. Court decisions or infringement procedures are not known.

renewables already comply with EU law or are important adaptations required? What is the status of adoption of the new pieces of legislation necessary to trans-pose into domestic law the new provi-sions of Directive 2009/28/EC? Were there al-ready court decisions or in-	

	fringement procedures taken by the Commission concerning this question?	
8.	Is there anything like a general framework act on climate change issues, and if so, what is its main content? If no, is such an act being considered?	To date, there is no general framework act. However, the issue is being debated. Among others, the think tank Ecologic published a report for WWF Germany on the matter in 2009. Some Länder have introduced Climate Protection Regulations, which do however not represent a comprehensive framework. For example the Hamburg Regulation is only concerned with heating and energy efficiency in buildings.