EUROPEAN PARLIAMENT

1999 *2004*

Session document

FINAL
A5-0138/2003

29 April 2003

***I
REPORT

on the proposal for a directive of the European Parliament and of the Council on the promotion of cogeneration based on a useful heat demand in the internal energy market
(COM(2002) 415 – C5-0366/2002 – 2002/0185(COD))

Committee on Industry, External Trade, Research and Energy

Rapporteur: Norbert Glante

CODE1AM

Symbols for procedures

*	Consultation procedure *majority of the votes cast*
**I	Cooperation procedure (first reading) *majority of the votes cast*
**II	Cooperation procedure (second reading) *majority of the votes cast, to approve the common position* *majority of Parliament's component Members, to reject or amend the common position*
***	Assent procedure *majority of Parliament's component Members except in cases covered by Articles 105, 107, 161 and 300 of the EC Treaty and Article 7 of the EU Treaty*
***I	Codecision procedure (first reading) *majority of the votes cast*
***II	Codecision procedure (second reading) *majority of the votes cast, to approve the common position* *majority of Parliament's component Members, to reject or amend the common position*
***III	Codecision procedure (third reading) *majority of the votes cast, to approve the joint text*

(The type of procedure depends on the legal basis proposed by the Commission)

Amendments to a legislative text

In amendments by Parliament, amended text is highlighted in ***bold italics***. Highlighting in *normal italics* is an indication for the relevant departments showing parts of the legislative text for which a correction is proposed, to assist preparation of the final text (for instance, obvious errors or omissions in a given language version). These suggested corrections are subject to the agreement of the departments concerned.

CONTENTS

Page

PROCEDURAL PAGE 4

DRAFT LEGISLATIVE RESOLUTION.....5

EXPLANATORY STATEMENT 66

OPINION OF THE COMMITTEE ON THE ENVIRONMENT, PUBLIC HEALTH AND CONSUMER POLICY 70

PROCEDURAL PAGE

By letter of 22 July 2002 the Commission submitted to Parliament, pursuant to Article 251(2) and Article 175(1) of the EC Treaty, the proposal for a directive of the European Parliament and of the Council on the promotion of cogeneration based on a useful heat demand in the internal energy market (COM(2002) 415 – 2002/0185 (COD)).

At the sitting of 2 September 2002 the President of Parliament announced that he had referred this proposal to the Committee on Industry, External Trade, Research and Energy as the committee responsible and the Committee on the Environment, Public Health and Consumer Policy for its opinion (C5-0366/2002).

The Committee on Industry, External Trade, Research and Energy had appointed Norbert Glante rapporteur at its meeting of 27 August 2002.

The committee considered the Commission proposal and draft report at its meetings of 8 October, 25 November and 3 December 2002, and 27 January, 25 March and 23 April 2003.

At the last meeting it adopted the draft legislative resolution by 32 votes to 11.

The following were present for the vote: Peter Michael Mombaur, vice-chairman; Norbert Glante, rapporteur; Gordon J. Adam (for Gary Titley), Per-Arne Arvidsson (for Marjo Matikainen-Kallström), Danielle Auroi (for Nuala Ahern), Luis Berenguer Fuster, Guido Bodrato, David Robert Bowe (for Massimo Carraro), Hiltrud Breyer (for Yves Piétrasanta), Philip Bushill-Matthews (for Werner Langen pursuant to Rule 153(2)), Giles Bryan Chichester, Nicholas Clegg, Harlem Désir, Carlo Fatuzzo (for Paolo Pastorelli), Concepció Ferrer, Francesco Fiori (for Umberto Scapagnini), Colette Flesch, Cristina García-Orcoyen Tormo (for Sir Robert Atkins), Neena Gill (for Olga Zrihen Zaari), Alfred Gomolka (for Konrad K. Schwaiger), Michel Hansenne, Bashir Khanbhai, Wilfried Kuckelkorn (for Mechtild Rothe pursuant to Rule 153(2)), Bernd Lange (for Erika Mann), Rolf Linkohr, Caroline Lucas, Eryl Margaret McNally, Elizabeth Montfort, Angelika Niebler, Seán Ó Neachtain, Reino Paasilinna, John Purvis, Godelieve Quisthoudt-Rowohl, Bernhard Rapkay (for Carlos Westendorp y Cabeza), Imelda Mary Read, Christian Foldberg Rovsing, Paul Rübig, Jacques Santer (for W.G. van Velzen), Esko Olavi Seppänen, Ole Sørensen (for Elly Plooij-van Gorsel pursuant to Rule 153(2)), Roseline Vachetta, Jaime Valdivielso de Cué and Alejo Vidal-Quadras Roca.

The opinion of the Committee on the Environment, Public Health and Consumer Policy is attached.

The report was tabled on 29 April 2003.

DRAFT LEGISLATIVE RESOLUTION

European Parliament legislative resolution on the proposal for a directive of the European Parliament and of the Council on the promotion of cogeneration based on a useful heat demand in the internal energy market (COM(2002) 415 – C5-0366/2002 – 2002/0185(COD))

(Codecision procedure: first reading)

The European Parliament,

– having regard to the Commission proposal to the European Parliament and the Council (COM(2002) 415[1]),

– having regard to Article 251(2) and Article 175(1) of the EC Treaty, pursuant to which the Commission submitted the proposal to Parliament (C5-0366/2002),

– having regard to Rule 67 of its Rules of Procedure,

– having regard to the report of the Committee on Industry, External Trade, Research and Energy and the opinion of the Committee on the Environment, Public Health and Consumer Policy (A5-0138/2003),

1. Approves the Commission proposal as amended;

2. Asks for the matter to be referred to it again, should the Commission intend to amend its proposal substantially or replace it with another text;

3. Instructs its President to forward its position to the Council and Commission.

Text proposed by the Commission	Amendments by Parliament
Amendment 1 Recital 1	
(1) The potential for use of cogeneration as a measure to save energy is underused in the Community at present. Promotion of ***high-efficiency*** cogeneration ***based on a useful heat demand*** is a Community priority given the potential benefits of cogeneration with regard to saving primary energy and reducing emissions, in particular of greenhouse gases. In addition, efficient use of energy by cogeneration can also contribute positively to the security of	(1) The potential for use of cogeneration as a measure to save energy is underused in the Community at present. Promotion of cogeneration is a Community priority given the potential benefits of cogeneration with regard to saving primary energy and reducing emissions, in particular of greenhouse gases. In addition, efficient use of energy by cogeneration can also contribute positively to the security of energy supply and to the competitive

[1] OJ C 291 E, 26.11.2002, p. 182.

energy supply and to the competitive situation of the European Union and its Member States. It is therefore necessary to take measures to ensure that the potential is better exploited within the framework of the internal energy market.	situation of the European Union and its Member States. It is therefore necessary to take measures to ensure that the potential is better exploited within the framework of the internal energy market.

Justification

The harmonised definition of 'cogeneration' set out in the Directive makes the reference to useful heat demand as the basis for promotion unnecessary. The setting of an efficiency level of 80%, as referred to in Recital 9a (new) and Article 5, in order for a process to qualify as cogeneration, is sufficient at the current state of technology to designate the combined generation of power and heat as high-quality or efficient.

The decisive factor in evaluating the cogeneration process and granting it support should, precisely with a view to the level of efficiency to be achieved, be the useful heat generated directly by the installation. That the heat produced must be used correctly is implied in the definition and does not need to be guaranteed by a special definition.

Amendment 2
Recital 2

(2) Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity provides for an important step in the completion of the internal market in electricity. At its meeting in Lisbon on 23 and 24 March 2000, the European Council called for rapid work to be undertaken to complete the internal market in both electricity and gas and to speed up liberalisation in these sectors with a view to achieving a fully operational internal market. In response, the Commission adopted on 13 March 2001 a package of measures on completing the internal energy market, including a proposal for a Directive amending Directives 96/92/EC and 98/30/EC concerning common rules for the internal market in electricity and natural gas.	(2) Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market in electricity provides for an important step in the completion of the internal market in electricity. At its meeting in Lisbon on 23 and 24 March 2000, the European Council called for rapid work to be undertaken to complete the internal market in both electricity and gas and to speed up liberalisation in these sectors with a view to achieving a fully operational internal market. In response, the Commission adopted on 13 March 2001 a package of measures on completing the internal energy market, including a proposal for a Directive amending Directives 96/92/EC and 98/30/EC concerning common rules for the internal market in electricity and natural gas. ***In this context the development of cogeneration helps open up the European energy market, currently dominated by a small number of operators, by allowing a degree of competition into the***

sector.

Justification

Self-explanatory.

Amendment 3
Recital 3

(3) The Green Paper[1] on security of energy supply points out that the European Union is extremely dependent on its external energy supplies currently accounting for 50% of requirements and projected to rise to 70% by 2030 if current trends persists. Import dependency and rising import ratios ***may lead to concern about*** the risk of interruption to or difficulties in supply. However, it would be simplistic and wrong to conceive security of supply as merely a question of reducing import dependency and boosting domestic production. Security of supply calls for a wide range of policy initiatives aimed at, inter alia, diversification of sources and technologies and improved international relations. The Green Paper emphasised furthermore that security of energy supply is essential for a future sustainable development. The Green Paper concludes that the adoption of new measures to reduce energy demand is essential both in terms of reducing the import dependence and in order to limit greenhouse gas emissions.	(3) The Green Paper[1] on security of energy supply points out that the European Union is extremely dependent on its external energy supplies currently accounting for 50% of requirements and projected to rise to 70% by 2030 if current trends persists. Import dependency and rising import ratios ***heightens*** the risk of interruption to or difficulties in supply. However, it would be simplistic and wrong to conceive security of supply as merely a question of reducing import dependency and boosting domestic production. Security of supply calls for a wide range of policy initiatives aimed at, inter alia, diversification of sources and technologies and improved international relations. The Green Paper emphasised furthermore that security of energy supply is essential for a future sustainable development. The Green Paper concludes that the adoption of new measures to reduce energy demand is essential both in terms of reducing the import dependence and in order to limit greenhouse gas emissions. ***In its resolution on the Green Paper[2], the European Parliament calls for incentives for the creation of efficient energy production plants, including cogeneration plants.***
[1] COM(2000) 769	[1] COM(2000) 769 ***[2] Resolution of 15 November 2001, OJ C 140 E, 13.6.2002, p. 382.***

Justification

The reference to the European Parliament resolution on the Green Paper highlights Parliament's desire to promote cogeneration as a means of achieving primary energy savings.

Amendment 4
Recital 5

(5) The increased ***correct*** use of cogeneration constitutes an important part of the package of measures needed to comply with the Kyoto Protocol to the United Nations Framework Convention on Climate Change, and of any policy package to met further commitments. The Commission in its Communication on the implementation of the first phase of the European Climate Change Programme[1] identified promotion of cogeneration as one of the measures needed to reduce the greenhouse gas emissions from the energy sector and announced its intention to present a proposal for a Directive on the promotion of cogeneration in 2002.	(5) The increased use of cogeneration constitutes an important part of the package of measures needed to comply with the Kyoto Protocol to the United Nations Framework Convention on Climate Change, and of any policy package to met further commitments. The Commission in its Communication on the implementation of the first phase of the European Climate Change Programme[1] identified promotion of cogeneration as one of the measures needed to reduce the greenhouse gas emissions from the energy sector and announced its intention to present a proposal for a Directive on the promotion of cogeneration in 2002.
[1] COM(2000) 580	[1] COM(2000) 580

Justification

There is no reason for the negative choice of words here. Such a wording unjustifiably implies that the use of cogeneration in the past has predominantly been incorrect.

Amendment 5
Recital 5 a (new)

	(5a) In its resolution of 25 September 2002[1] on the Commission communication on the implementation of the first phase of the European Climate Change Programme[2], Parliament welcomes the idea of submitting a proposal to strengthen Community measures to promote the use of combined heat and power (CHP), calls for the immediate

submission of an ambitious proposal containing binding objectives and for an internationally recognised definition of CHP. Parliament also calls for prompt adoption of the Directive on the promotion of CHP.

---

[1] P5-TAPROV(2002) 0439
[2] COM(2001) 580

Justification

This report on the implementation of the first stage of the ECCP already makes clear Parliament's demands concerning a Commission proposal on the promotion of cogeneration.

Amendment 6
Recital 6

(6) The increased ***correct*** use of cogeneration is a priority as outlined in the Communication "A Community strategy to promote combined heat and power (CHP) and to dismantle barriers to its development"[1].	(6) The increased use of cogeneration ***geared towards making primary energy savings*** is a priority as outlined in the Communication "A Community strategy to promote combined heat and power (CHP) and to dismantle barriers to its development"[1]. ***In this Communication, a doubling of the share of total gross power production in the Community represented by cogeneration, from 9% to 18%, is regarded as realistic.***
This was endorsed by the Council in its resolution of 18 December 1997 on a Community strategy to promote combined heat and power[2,] and by the European Parliament in its resolution of 23 April 1998 on the Community strategy to promote combined heat and power[3].	This was endorsed by the Council in its resolution of 18 December 1997 on a Community strategy to promote combined heat and power[2,] and by the European Parliament in its resolution of 23 April 1998 on the Community strategy to promote combined heat and power[3].
[1] COM(97) 514 [2] OJ C 4, 8.1.1998, p. 1 [3] A4-0145/98	[1] COM(97) 514 [2] OJ C 4, 8.1.1998, p. 1 [3] A4-0145/98

Justification

The explicit reference to primary energy savings serves to clarify the main objective of the

directive.

See justification relating to Amendment 5.

It is important to show that the aim of increasing the share of cogeneration in the Community is not new but was set as long ago as 1997 in the 'Community strategy to promote combined heat and power (CHP) and to dismantle barriers to its development'.

Amendment 7
Recital 6 a (new)

(6a) The European Climate Change Programme stated the necessity for a Directive on cogeneration to complement and strengthen existing measures to promote CHP in line with the Community target of doubling the share of CHP in EU electricity generation from 9% in 1994 to 18% by 2010.

Justification

The requests from the European Climate Change Programme should be referred to.

Amendment 8
Recital 6 b (new)

(6b) Because insufficient progress has been made in increasing the share of cogeneration in the Community so far, the target date should be postponed to 2012.

Justification

The objectives set in various decisions should be given to support the establishment of mandatory targets for the promotion of cogeneration in Europe.

Amendment 9
Recital 7 a (new)

(7a) The Sixth Environmental Action Programme of the European Community of 22 July 2002 (Decision 1600/2002 of the European Parliament and the Council), which sets out the Community's

strategic approach to environmental protection, regards climate change as one of the key priorities. The priority areas for action on tackling climate change include the reduction of greenhouse gas emissions, which is to be achieved, among other measures, by introducing incentives to increase combined heat and power and implement measures aiming at doubling the overall share of combined heat and power in the Community as a whole to 18% of total gross electricity generation.

Justification

The reference to the Environment Action Programme adopted in July 2002 completes the list of reference documents already mentioned which already stress the importance of boosting the share of cogeneration as an environmental policy instrument.

Amendment 10
Recital 8 a

(8a) In the Directive on the energy performance of buildings[1] the Member States are called on to ensure that for new buildings with a total surface area of over 1000 m², the technical, environmental and economic feasibility of installing alternative systems, such as CHP, is assessed before the building permit is granted.

COM(2001) 226, Common Position (C5-0268/2002)

Justification

This Directive shows that cogeneration also plays a role in energy efficiency.

Amendment 11
Recital 9

(9) High efficiency cogeneration is in this directive defined by the energy savings	***Deleted***

obtained by combined production in stead of separate production of heat and electricity. For existing plants energy savings of more than 5%, and for new plants energy savings of more than 10% qualify for the term 'high efficiency cogeneration'. To maximise the energy savings and to avoid that energy savings are lost through incorrect operation of the cogeneration plants the greatest attention must be paid to the functioning conditions of these plants, mainly to ensure that the heat production is being properly used.

Justification

An additional qualification of cogeneration as highly efficient only becomes crucial in connection with the introduction of a financial system to promote cogeneration. That is not the purpose of this Directive, but of another Directive, to be proposed by the Commission. Furthermore, there is no need for any special stress on ensuring that cogeneration plants are correctly operated. Guaranteeing that the heat produced is correctly used is irrelevant, since the definition of the cogeneration process in this directive implies the correct use of the heat.

Amendment 12
Recital 11

(11) To ensure that only cogeneration that provides benefits in terms of primary energy savings is promoted, it is necessary to develop additional criteria to determine and ***quantify*** the energy efficiency of the cogeneration production identified under the basic definition. ***To avoid distortions of the internal energy market, national efficiency reference values used to define high-efficiency cogeneration should be adopted on the basis of a common methodology.***	(11) To ensure that only cogeneration that provides benefits in terms of primary energy savings is promoted, it is necessary to develop additional criteria to determine and ***assess*** the energy efficiency of the cogeneration production identified under the basic definition.

Justification

In this context, 'determine' and 'quantify' are synonymous, when in fact the idea here is to assess the quality of cogeneration in terms of primary energy savings.

Amendment 13
Recital 11 a (new)

(11a) The calculation method for energy from cogeneration must be sufficiently precise, easy to follow, harmonised at European level and adjustable to take account of technical progress, and must avoid unnecessary administrative effort and distortions on the internal energy market.

Justification

Only a common calculation method meeting these criteria will permit, at the initial stage, precise reporting by the Member States on their cogeneration potential, and at the second stage will be suitable as the basis for a European support system.

Amendment 14
Recital 12

(12) The definitions of cogeneration and of high-efficiency cogeneration used in this Directive do not prejudge the use of different definitions in national legislation, for purposes other than those set out in this Directive. It is appropriate to borrow the definitions contained in Directive 96/92/EC of the European Parliament and of the Council of 19 December 1996 concerning common rules for the internal market of electricity[1] and in Directive 2001/77/EC of the European Parliament and of the Council of 27 September 2001 on the promotion of electricity produced from renewable energy sources in the internal electricity market[2].	***Deleted***

[1] OJ L 27, 30.1.1997, p. 20
[2] OJ L 283, 27.10.2001, p. 33

Justification

The purpose of this Directive is to create framework conditions for the promotion of combined heat and power in the internal market in energy. In order to achieve this, the fundamental requirement is a harmonised definition of cogeneration throughout Europe. There is consequently no point here in allowing the possibility of using other definitions of cogeneration.

Amendment 15
Recital 16

(16) Public support schemes for promoting cogeneration should focus on support for cogeneration based on a useful heat demand and avoid encouragement of increased heat demand in order to avoid increase of fuel consumption and CO_2 emissions. Member States should take steps to prevent public financial support for electricity from cogeneration from being used to subsidise heat production, thereby creating incentives for being less careful about the proper use of the heat output. Without prejudice to the Community Guidelines on State aid for environmental protection, direct support for production should in principle be focused on the share of cogenerated electricity produced <u>either</u> in installations with a capacity below a threshold value that should be set at 50 MW(e) or lower <u>or</u> in larger installations but then only the amount of electricity produced by the capacity below such a threshold value.	***Deleted***

Justification

There is no need to stress an economic heat demand, since under the definition used in this Directive, cogeneration is only deemed to be present when the heat produced is actually used for heating purposes, water heating or steam for industrial processes. Consequently if this definition is properly used in accordance with the Directive there is no danger that State aid for electricity from cogeneration will be misused and heat consumption unnecessarily increased.

The reason given by the Commission for imposing a capacity ceiling of 50 MW (e) does not

stand up to scrutiny. Moreover, in the light of the objective of the Directive, it must be assumed that the promotion of cogeneration should be guided by considerations of energy and environmental efficiency rather than by demand. If it is the objective of the Directive to increase the share of cogeneration throughout Europe, such a threshold is not useful. In any case the threshold seems to have been chosen arbitrarily by the Commission.

Amendment 16
Recital 17

(17) Member States operate different mechanisms of support for cogeneration at the national level, including investment aid, tax exemptions or reductions, green certificates and direct price support schemes.	(17) Member States operate different mechanisms of support for cogeneration at the national level, including investment aid, tax exemptions or reductions, green certificates and direct price support schemes.
	The Member States shall be required to make use of the opportunities for tax relief on cogeneration proposed in the Commission's proposal for a Directive restructuring the Community framework for the taxation of energy products[1] .
The Commission intends to monitor the situation and report on experiences gained with the application of national support schemes.	The Commission intends to monitor the situation and report on experiences gained with the application of national support schemes.
	[1] COM(97) 30

Justification

Cogeneration is an environmentally friendly technology which should be promoted by tax relief.

Amendment 17
Recital 20 a (new)

	(20a) In collecting statistics Member States are encouraged to analyse and monitor the amount of cogenerated electricity produced and consumed by the producer himself. Member States should be aware that even if such production is

not visible, in the sense that it is sold or transmitted through the grid, it should be considered and counted as cogeneration. To establish a full overview of cogenerated production this type of production must be taken into account.

Justification

Cogenerated electricity produced and consumed by the producer could be regarded as hidden production if it is not counted and taken into consideration.

Amendment 18
Recital 21

(21) The overall efficiency and sustainability of cogeneration is dependent on the many factors such as technology used, fuel types, load curves, the size, and also on the properties of the heat. Use of heat as high pressure steam for industrial processes provides limits of the electrical efficiency of the cogeneration installation because of the high temperature level for the heat (above140°C). Use of heat for central heating purposes, demanding a lower temperature level (from 40°C to 140°C) than the industrial use, allows a higher electrical efficiency of the cogeneration installation. Use of heat for agricultural heating, such as warming of greenhouses and aquaculture pools, provides an even lower level of temperature (below 40°C) and improves thereby the possibilities to increase the electrical efficiency. This Directive reflects these considerations by introducing three classes of cogeneration in order to ensure that evaluation of electrical efficiency of different cogeneration installations take the different heat temperature levels into consideration.	***Deleted***

Justification

The distinction between industrial, heating and agricultural cogeneration is possible, but is irrelevant for the definition and calculation of electricity from cogeneration and is therefore not absolutely necessary. In order to keep the administrative effort for the Member States as low as possible, this compulsory distinction should be dropped. If Member States wish to take these figures into account, there is no objection to this.

Amendment 19
Recital 22

(22) In accordance with the principles of subsidiarity and proportionality as set out in Article 5 of the Treaty, general principles providing a framework for the promotion of cogeneration in the internal energy market should be set at Community level, but the detailed implementation should be left to Member States, thus allowing each Member State to choose the regime, which corresponds best to its particular situation. This Directive confines itself to the minimum required in order to achieve those objectives and does not go beyond what is necessary for that purpose.	(22) In accordance with the principles of subsidiarity and proportionality as set out in Article 5 of the Treaty, general principles providing a framework for the promotion of cogeneration in the internal energy market ***and measures for increasing the share of cogeneration in the Community's total power production*** should be set at Community level, but the detailed implementation should be left to Member States, thus allowing each Member State to choose the regime, which corresponds best to its particular situation. This Directive confines itself to the minimum required in order to achieve those objectives and does not go beyond what is necessary for that purpose.

Justification

The purpose of this support is to increase the share of cogeneration in Europe. This primary aim should also be mentioned here.

Amendment 20
Article 1

The purpose of this Directive is to create a framework for ***promotion of cogeneration*** based on useful heat ***demand*** in the ***internal energy market***. Implementation of this Directive shall take into account the specific national circumstances especially concerning climatic and economic	The purpose of this Directive is to create a framework for ***increasing primary energy savings in power production*** based on ***the*** useful heat ***generated directly by the installation, and measures to promote and develop cogeneration, thereby increasing the share of cogeneration*** in the

conditions.	***Community's total gross power production***. Implementation of this Directive shall take into account the specific national circumstances especially concerning climatic and economic conditions.

Justification

The determining factor for the calculation and promotion of cogeneration should, precisely in view of the efficiency to be achieved, be the useful heat produced directly by the plant. That the heat produced should be used correctly is implied in the definition and does not need to be guaranteed by including the term 'demand' in the definition.

It must be made clear that the purpose of the Directive is to increase the proportion of cogeneration in Europe, so as to increase primary energy savings in power production. This primary aim must additionally be referred to here.

Amendment 21
Article 3, point a

(a) "cogeneration" shall mean the ***generation in one process of thermal*** energy ***and electrical and/or*** mechanical energy***. For practical reasons and based on the fact, that the use of the*** heat ***output for different purposes requires different temperature levels of the heat, and that these differences influence efficiencies of the*** cogeneration***,*** cogeneration **shall be** ***divided into three classes: "industrial*** cogeneration***", "***heating ***cogeneration" and "agricultural cogeneration";***	(a) "cogeneration" shall mean the ***transformation of input*** *energy* ***simultaneously into*** mechanical ***or electrical*** energy ***and usable heat in a technical installation. "Simultaneously" shall mean that the energy content of a process medium (gas or steam) within a thermodynamic process is used both for power and for*** heat ***production (***cogeneration ***process). Usable heat from*** cogeneration shall be ***deemed to be present only when the heat is used outside the*** cogeneration ***unit for district*** heating***, water heating, cooling or as industrial heat.***

Justification

The rapporteur has retained the definition of cogeneration proposed by him. This amendment merely addresses a lack of precision in the wording of the amendments of 12 November 2002, which has become apparent following discussions with industry representatives.

With a view to avoiding misunderstandings and not possibly excluding from the definition certain installations for different types of production, it is deemed necessary to use the term 'unit' in place of the term 'plant'. It is the 'unit' which constitutes the basic element in

connection with the cogeneration process, under the definitions given in the Directive. The amendment also addresses translation errors in relation to the use of the terms 'plant', 'installation' and 'unit'.

Amendment 22
Article 3, points b, c and d

(b) "industrial cogeneration" shall mean the generation in one process of electrical and/or mechanical energy and thermal energy useful for industrial production generally with heat temperatures of 140°C or higher;	***Deleted***
(c) "heating cogeneration" shall mean the generation in one process of electrical and/or mechanical energy and thermal energy useful for heating purposes in district heating systems or directly in buildings generally with heat temperatures between 40°C and 140°C;	
(d) "agricultural cogeneration" shall mean the generation in one process of electrical and/or mechanical energy and thermal energy useful for agricultural heating of greenhouses, aquaculture plants and similar applications generally with heat temperatures between 15°C and 40°C;	

Justification

The distinction between industrial, heating and agricultural cogeneration is possible, but is irrelevant for the definition and calculation of electricity from cogeneration and is therefore not absolutely necessary. In order to keep the administrative effort for the Member States as low as possible, this compulsory distinction should be dropped. If Member States wish to take these figures into account, there is no objection to this.

Amendment 23
Article 3, point d a (new)

	(da) "micro-cogeneration" shall mean cogeneration of energy output lower than 50 kW_e;

Justification

Industry in Europe, Japan and the US believes that micro-CHP (up to 50 kW_e) represents a totally new market for cogeneration. If properly promoted, it could flow into the residential and commercial sectors. The Directive, however, does not recognise the special nature of micro-cogeneration and does not introduce specific provisions for it. In order to do so, one needs first a clear definition of what micro-cogeneration means. The amendment provides the reader with such a definition.

Amendment 24
Article 3, point e

(e) "useful heat" is heat produced in a cogeneration process to satisfy an economically justified demand***, on the basis of the efficiency criteria laid down in Annex III, point c. 2***; useful heat could via a secondary process be used to generate useful cooling;	(e) "useful heat" is heat produced in a cogeneration process to satisfy an economically justified demand; useful heat could via a secondary process be used to generate useful cooling;

Justification

Requires no separate justification.

Amendment 25
Article 3, point f

(f) "electricity from cogeneration" ***shall mean*** electricity generated ***in accordance with the methodology laid down in Annex II and in a process*** linked to production of ***useful*** heat***;***	(f) ***"net*** electricity from cogeneration" ***($A_{Bne-CHP}$) is the net*** electricity generated ***during a reporting period directly*** linked to ***the*** production of ***net*** heat ***from cogeneration in a cogeneration unit;***

Justification

See justification (first paragraph) relating to the amendment to Article 3(a).

Amendment 26
Article 3, point g

(g) "district heating" shall mean a system supplying commercially heat in the form of hot water or steam to users via a distribution network;	***Deleted***

Justification

See justification relating to the amendment to Article 3(h).

Amendment 27
Article 3, point h

(h) "district cooling" shall mean a system supplying chilled water or hot water or steam to chillers via a distribution network;	***Deleted***

Justification

It is not necessary to define district cooling. This is covered by the definitions in points (a) and (g).

Amendment 28
Article 3, point k

(k) “heat efficiency” shall mean annual useful heat output ***divided by*** the fuel ***input*** used for heat produced in a cogeneration process ***and for gross electricity production. In the case of cogeneration with district heating useful heat output is measured at the point of outlet to the heat distribution network decreased by a realistic estimation of losses in the distribution network. In the case of other cogeneration applications useful heat output is measured at the point of use***;	(k) “heat efficiency” shall mean ***the quotient of*** annual useful heat output ***and*** the fuel ***consumption*** used for heat ***and electricity*** produced in a cogeneration process;

Justification

This amendment ensures the requisite degree of consistency with the other amendments (particularly with regard to the annexes).

Amendment 29
Article 3, point l

(l) "electrical efficiency" shall mean annual electricity production measured at	***Deleted***

the point of outlet of the main generators divided by the fuel input used for heat produced in a cogeneration process and gross electricity production;

Justification

The definition of "electrical efficiency" is no longer necessary for an understanding of the Directive and the calculation method in Annexes II and III.

Amendment 30
Article 3, point n

(n) "efficiency" shall mean efficiency calculated on the basis of Net Calorific Values of fuels (lower calorific value) ***which means that*** the ***latent heat of vaporisation of*** moisture ***is not included***;	(n) "efficiency" shall mean efficiency calculated on the basis of Net Calorific Values of fuels (lower calorific value)***, including*** the ***actual*** moisture ***content. If the energy source is an industrial process or industrial chemical recovery process, the lower calorific value used shall be the quantity of energy remaining for energy production after the requirements of the industrial process or of chemical recovery have been met***;

Justification

In some industries, such as chemical pulping of wood, a substantial part of the raw materials (pulpwood) used is recovered in the form of energy in chemical recovery boilers. The recovery of the chemicals requires part of the energy, which means that not all of the fuel energy is used to produce heat and electricity.

Amendment 31
Article 3, point p

(p) "efficiency reference value for separate production" shall mean efficiency of the alternative separate productions of heat and electricity that the cogeneration process is assumed to displace.	***Deleted***

Justification

The newly proposed calculation method in Annex III of the Directive makes the determination of national efficiency references superfluous, and they no longer need to be defined. The use

of efficiency reference values also entails the risk of distorting competition on the single energy market.

Amendment 32
Article 3, point q

(q) "Power to Heat Ratio" ***shall mean the relation of electrical energy to useful thermal energy;***	***(q)*** "Power to Heat Ratio" ***of a cogeneration plant is the quotient of the net electricity production from cogeneration and the net heat production from cogeneration. A distinction needs to be drawn between capacity-related power to heat ratio(σ) over a measuring period and work-related power to heat ratio(σ_A) over a reporting period.***

Justification

[The first part of this amendment affects only the German text, and refers to differing German terms for "power to heat ratio"] In addition, there is a need for a more precise definition distinguishing between capacity-related and work-related power to heat ratio in order to apply the calculation method in Annex III sufficiently precisely. The power to heat ratio is, after all, the most important measurement, apart from efficiency, in determining the quality of the cogeneration process.

Amendment 33
Article 3, point r

(r) "cogeneration unit" shall mean a unit ***mainly intended for cogeneration processes*** as defined under point a); ***when a cogeneration unit generates only electrical energy or only thermal energy it is still to be defined as a cogeneration unit, but its output shall not be considered cogeneration for the purpose of this Directive;***	(r) "cogeneration unit" shall mean a unit ***within a cogeneration installation, in which the process of cogeneration*** as defined under point a) ***partly or solely takes place***;

Justification

'Unit' denotes a smaller block within an installation or power station in which the cogeneration process takes place. This term must be seen in connection with the definitions for the new calculation method in Annex III.

Amendment 34
Article 3 point r a (new)

(ra) "micro-cogeneration unit" shall mean CHP units with a capacity lower than or equal to 50 kW_e and with an overall efficiency of at least 80% guaranteed/ certified by the producer of the CHP unit.

Most micro-CHP systems currently in development range in size from 1 to 50 kW_e. However, provision should also be made in this category for larger systems, as it is probable that systems (up to 200 kW_e) based on the same principle (standardised, serially produced and subject to type approval) will be needed (particularly in warmer regions) and will provide a valuable contribution to the requirement to reduce energy and emissions;

Justification

This amendment is consistent with the rapporteur's proposed amendment to Article 3. From the report 'Entwürfe für neue Änderungsanträge', Norbert Glante, 11.2.2002, which states that micro-CHP has a special position among CHP units. Micro-CHP units are an important part of decentralised energy supply, becoming increasingly important in view of security of supply. Especially for regions in fringe territories or islands, but also for small users for whom other installations would demand bigger investment, cogeneration is becoming increasingly important. According to some experts the European market volume for micro-CHP will grow strongly during the years ahead. The potential to save energy by using this technology cannot be ignored and should be promoted by specific measures i.e. facilitating the administrative burdens by a certification by the producer. Therefore it is necessary to introduce the definition of micro-CHP into the Directive.

In addition, this wording makes allowances for the development of larger systems (up to 200 kW_e) based on the same principle (standardised, serially produced and subject to type approval) to be included in the micro-CHP category. These larger units are expected to operate at higher efficiency and could provide cooling as well as heat and power.

Amendment 35
Article 3, point s

(s) "cogeneration installation" shall mean an installation ***made up of one or more***	(s) "cogeneration installation" shall mean an installation ***intended principally for***

cogeneration units. A cogeneration installation may ***include equipment where it is possible to generate*** only electrical energy or only thermal energy. The output from such ***equipment*** shall not be considered cogeneration for the purpose of this Directive;	***cogeneration processes within the meaning of point (a) above.*** A cogeneration installation may ***have segments in which*** only electrical energy or only thermal energy ***are generated***. The output from such ***segments*** shall not be considered cogeneration for the purpose of this Directive;

Justification

"Installation" is the designation for any major plant or heating station which may be made up of several units. This distinction between "installation" and "unit" only becomes clear, in fact, through this new wording of the definition. This designation should be seen in connection with the definitions for the new calculation method in Annex III.

Amendment 36
Article 4, paragraph 1

1. Member States shall no later than ***two years*** after the entry into force of this Directive ensure that the origin of electricity produced in cogeneration units can be guaranteed as such within the meaning of this Directive according to objective, transparent and non-discriminatory criteria laid down by each Member State. Member States shall ensure that this guarantee of origin of the electricity is issued to this effect in response to a request.	1. Member States shall no later than ***one year*** after the entry into force of this Directive ensure that the origin of electricity produced in cogeneration units can be guaranteed as such within the meaning of this Directive according to objective, transparent and non-discriminatory criteria laid down by each Member State. Member States shall ensure that this guarantee of origin of the electricity is issued to this effect in response to a request.

Justification

One year after the entry into force of the Directive may be regarded as sufficient to provide a guarantee of origin. It is also important that Parliament should send a clear signal regarding an ambitious timetable for achieving the objective of promoting cogeneration and increasing its share of the energy market in Europe.

Amendment 37
Article 4, paragraph 2

2. Member States shall designate no later	2. Member States shall designate no later

than ***one year*** after the entry into force of this Directive one or more competent bodies, independent of generation and distribution activities, to supervise the issue of the guarantee of origin referred in paragraph 1 Member States or the competent bodies shall put in place appropriate mechanisms to ensure that the guarantee of origin are both accurate and reliable and they shall outline in the report referred to in Article 6(3) the measures taken to ensure the reliability of the certificate system.	than ***six months*** after the entry into force of this Directive one or more competent bodies, independent of generation and distribution activities, to supervise the issue of the guarantee of origin referred in paragraph 1 Member States or the competent bodies shall put in place appropriate mechanisms to ensure that the guarantee of origin are both accurate and reliable and they shall outline in the report referred to in Article 6(3) the measures taken to ensure the reliability of the certificate system.

Justification

Six months should be enough to appoint a body to issue the guarantee of origin, since this does not require any adjustments to national legislation. Moreover, in most Member States existing structures can be used. The shortening of the appointment period will make it possible for the body to be operational sooner and thus ensure the speedy issue of a guarantee of origin for electricity from cogeneration.

Amendment 38
Article 4, paragraph 3, last sentence (new)

	The third and fourth above indents do not apply to efficient micro-cogeneration units.

Justification

Efficient micro-CHP has been defined in terms of "certified overall efficiency of 80%". In that sense, there is no reason anymore to compare micro-CHP with reference values for the separate production of electricity and heat (third indent). According to the fourth indent, "each producer of electricity" has to demonstrate that the electricity that it sells is produced from cogeneration. This provision cannot work for micro-CHP, where each household would be responsible for making such a demonstration.

Amendment 39
Article 4 a (new)

	Article 4a
	Aid rules
	1. Member States shall ensure that support <u>for cogeneration takes place only</u>

on the basis of the calculation method in Annex III, in the light of opportunities available for reducing energy demand through other economically feasible measures like energy efficiency measures.

2. Without prejudice to Articles 87 and 88 of the Treaty, the Commission shall evaluate the application of support mechanisms used in Member States according to which a producer of cogeneration receives, on the basis of regulations issued by public authorities, direct or indirect support, which could have the effect of restricting trade.

The Commission shall consider whether those mechanisms contribute to the pursuit of the objectives set out in Articles 6 and 174(1) of the Treaty.

3. The Commission shall in the report referred to in Article 10 present a well-documented analysis on experience gained with the application and coexistence of the different support mechanisms referred to in paragraph 2. The report shall assess the success, including cost-effectiveness, of the support systems in promoting the use of high-efficiency cogeneration in conformity with the national potentials referred to in Article 6. The report shall further review to what extent the support schemes have contributed to the creation of stable conditions for investments in cogeneration.

(Old Article 7, brought forward, with modifications)

Justification

Article 7 is brought forward to make the Directive more easily understandable and readable. Moving this article ensures that the articles which seek to promote cogeneration through measures in the Member States appear together and not isolated at different points in the Directive.

The modifications are underlined in the text. The calculation method in Annex III guarantees that only efficient cogeneration is deemed to be cogeneration. If the definition and the calculation method are correctly used, it becomes superfluous to employ useful heat demand

as a criterion for support, since only a process in which useful heat and electricity are produced simultaneously qualifies for the definition of cogeneration. If the heat were not used, then its production would not count as cogeneration and the electricity would not qualify for support.

Amendment 40
Article 4 b (new)

(Article 8, brought forward in its entirety as Article 4b (new). See also amendments to Article 8.)

Justification

Article 8 is brought forward in order to make the Directive more easily understandable and readable.

Amendment 41
Article 5, paragraph -1 (new)

-1. This article does not apply to efficient micro-cogeneration, which is regarded as an efficient process.

Justification

Efficient micro-CHP is to be defined in terms of "certified overall efficiency of 80%". In that sense, the efficiency criteria have been defined for micro-CHP and the current Article 5 concerning "efficiency criteria" therefore does not apply to micro-CHP installations.

Amendment 42
Article 5

Efficiency criteria	Efficiency ***performance*** criteria
1. ***Member States*** shall ***no*** later than two years ***after*** the entry into force of ***this*** Directive ***ensure that the efficiency of*** cogeneration ***production, defined in terms of achievement of primary energy savings can be determined in accordance with Annex III.***	1. ***In order to determine the energy savings and the reductions in CO_2 levels resulting from a cogeneration process as defined in this Directive, the Commission*** shall***, not*** later than two years ***following*** the entry into force of ***the*** Directive***, and after consulting associations representing the*** cogeneration ***sector, the Member States, the European Parliament and the Council, present an in-***

	depth analysis with regard to establishing general principles for comparing cogeneration with harmonised reference values for the separate production of heat and electricity.
	The report referred to in the first paragraph should be based on a fully documented analysis, taking account of:
	a) operating data under realistic conditions,
	b) climatic differences in the Member States,
	c) the different technologies in the Member States,
	d) differentiation between existing and new installations,
	e) access to fuels, the distribution of energy resources and the development of the energy mix,
	f) security of supply and environmental aspects.
2. For the purpose of determining the efficiency of cogeneration, Member States shall not later than two years after the entry into force of this Directive ***adopt:***	***2. On the basis of this analysis, the Commission shall*** not later than two years after the entry into force of this Directive ***publish, in accordance with the procedure in Article 12a (new) (2), harmonised reference values for determining primary energy savings by cogeneration.***
(a) efficiency reference values for separate production of heat and electricity ***to be used for the calculation of primary energy savings from cogeneration in accordance with the methodology set out in Annex III.***	- ***The*** reference values for separate production of electricity ***and of separate production of heat shall be the same in all EU countries.***
(b) principles for defining the national efficiency reference values ***for separate production of heat and electricity based on a well-documented analysis of the most realistic references in each Member State***	- ***These*** reference values ***shall be set by fuel type.***
	- The reference values shall be set for a specific cogeneration unit in the year of installation of the cogeneration unit and of the separate units of the same age.

	- Once a set of reference values is set for a specific cogeneration unit these reference values are valid for a period of 10 years and after that for a new period of ten years the recalibrated reference values (in accordance with Article 5) shall be based on the final year of this 10-year period.
3. Member States shall review the national efficiency reference values for separate production of heat and electricity every 5 years to take account of technological developments and changes in the distribution on energy sources. Where changes in the national efficiency reference values for separate production are made, the new reference values shall be published and shall be notified to the Commission.	
4. The Commission shall evaluate the criteria for determining the efficiency of cogeneration adopted by the Member States pursuant to (paragraph 2). After having consulted the Member States, the Commission shall in the report referred to in Article 10 (1), consider the scope for a harmonised methodology that Member States could follow in order to determine the efficiency of cogeneration production.	

Justification

Energy savings and a reduction in CO_2 levels are the two most important objectives to be met by promoting cogeneration. A comparison between cogeneration and separate production is a good way of establishing whether these two goals have been achieved. A comparison of this kind must, however, be carried out in accordance with certain principles so as to prevent distortion of competition within the internal market for energy and to avoid inaccuracies. An analysis with regard to the establishment of harmonised reference values and due attention to the points listed in a) to f) are the necessary precondition for using such a comparison as an efficiency criterion with regard to the achievement of the above goals. For that reason, the Commission should examine, in cooperation with the professional associations concerned, the principles that should underlie a comparison of this kind and submit these principles to Parliament and the Council for their opinions. Thereafter the Commission has a further year to set the harmonised reference values in the context of a comitology procedure, adhering to the criteria set out under point 2 of this compromise amendment.

This amendment represents a compromise to the extent that it brings together the subsequent amendments of various Members.

Amendment 143
Article 5 a (new)

Article 5a

Targets and timetable

1. The EU and each individual Member State shall achieve a cogeneration electricity output of at least 18% of the respective EU and national total electricity output by 2012.

2. Each Member State which has already achieved a cogeneration electricity output higher than 18% of its 1997 national total electricity output shall not reduce its cogeneration share by 2012.

Justification

The purpose of the Directive must be to provide a framework for growth of cogeneration together with an uptake of energy efficiency measures that should reduce CO_2 and other greenhouse gas emissions. The Commission in its Communication "A Community strategy to promote combined heat and power (CHP) and to dismantle barriers to its development" had set already in 1997 the objective of doubling the share of the Community's total gross electricity generation produced by cogeneration from 9% in 1994 to 18% by 2010. This was endorsed by the Council in its resolution of 18 December 1997 on a Community strategy to promote combined heat and power, and by the European Parliament in its resolution of 23 April 1998 on the Community strategy to promote combined heat and power.

The European Climate Change Programme (ECCP) proposed the necessity for a Directive on cogeneration to complement and strengthen existing measures to promote CHP in line with the Community target of doubling the share of CHP in EU electricity generation from 9% in 1994 to 18% by 2010. In its June 2001 report, the ECCP stated that a Directive on cogeneration could potentially lead to savings, by 2010, of at least 65 million tonnes of CO_2 a year, which is roughly the equivalent of the entire emissions of Austria.

However, the long lead times for new installations to become operational may make it difficult to achieve this target in full on the projected timescale, that is why we are suggesting achieving this target in 2012 instead of 2010, which will still give a good contribution to meeting the Kyoto Protocol target in the first commitment period (2008-2012).

Those Member States that have not yet used their cogeneration potential must contribute at least to the same objective as the EU as a whole.

Those Member States - namely Austria, Denmark, Finland and The Netherlands - that have well developed cogeneration in the past must take all the necessary policies and measures to

at least maintain its original cogeneration capacities between now and 2012. This provision will maintain the cogeneration capacity in countries where the liberalisation of the EU energy market might affect it negatively.

Amendment 44
Article 6, paragraph 1

1. Member States shall establish an analysis of the national potential for high-efficiency cogeneration.	1. Member States shall establish an analysis of the national potential for high-efficiency cogeneration***, including efficient micro-cogeneration, considering achieving the maximum energy and CO_2 savings possible from cogeneration in each Member State.***

Justification

The amendment clarifies on the one hand that micro-CHP should not be forgotten when Member States are evaluating their national cogeneration potential and, on the other hand, that energy and CO_2 savings are also part of the cogeneration directive objectives.

Amendment 45
Article 6, paragraph 2

2. The analysis shall comply with the criteria ***listed in Annex IV***. It shall be based on well-documented scientific data	2. The analysis shall comply with the criteria ***below***. It shall be based on well-documented scientific data***.***
	In assessing national potentials for cogeneration, the analysis shall consider:
	- the type of fuels that are likely to be used to realise the cogeneration potentials, including specific considerations on the potential for increasing the use of renewable energy sources in the national heat markets via cogeneration;
	- the type of cogeneration technologies as set out in Annex I that are likely to be used to realise the national potential;
	- the type of separate production of heat and electricity that high-efficiency cogeneration is likely to substitute;
	- a division of the potential into modernisation of existing capacity and

	construction of new capacity.
and shall distinguish between applications of cogeneration in at least the following categories:	***The analysis may for statistical purposes*** distinguish between applications of cogeneration in at least the following categories:
- industrial cogeneration - heating cogeneration - agricultural cogeneration	- industrial cogeneration - heating cogeneration - agricultural cogeneration***.***

Justification

The layout of the Directive will be clearer if the criteria for the analysis of national potentials are listed directly in Article 6. This will make it possible to avoid numerous repetitions of parts of this article and the whole of Annex IV, which unnecessarily increased the length of the Directive.

The criteria listed here are taken from the list of criteria in Annex IV of the Commission proposal and require no further explanation. Annex IV may then be deleted.

The distinction between cogeneration in industry, for heating purposes and in agriculture, while possible, has no influence on the definition and calculation of cogenerated power, and is therefore not essential. Such a distinction is justified only on statistical grounds. In order to keep the administrative workload for the Member States as small as possible, this distinction should not be made compulsory. However, there can be no objection should Member States wish to take such figures into consideration for statistical reasons.

Amendment 46
Article 6, paragraph 2 a (new)

	2a. The analysis shall include appropriate mechanisms to assess the cost effectiveness of increasing the share of high-efficiency cogeneration in the national energy mix. The analysis of cost effectiveness shall also take into account national commitments accepted in the context of the climate change commitments accepted by the Community pursuant to the Kyoto Protocol to the United Nations Framework Convention on Climate Change.

Justification

The criteria listed here are taken from the list of criteria in Annex IV of the Commission

proposal and require no further explanation.

Amendment 47
Article 6, paragraph 4, first subparagraph

4. Member States shall for the first time not later than ***two years*** after the entry into force of this Directive and thereafter every ***three*** years evaluate progress towards increasing the share of ***high-efficiency*** cogeneration. Member States shall also evaluate measures taken to promote ***high-efficiency*** cogeneration and indicate to what extent the measures are consistent with national climate change commitments.	4. Member States shall for the first time not later than ***18 months*** after the entry into force of this Directive and thereafter every ***two*** years evaluate progress towards increasing the share of cogeneration. Member States shall also evaluate measures taken to promote cogeneration and indicate to what extent the measures are consistent with national climate change commitments.

Justification

In its report on the implementation of the first stage of the European Climate Change Programme (ECCP), the European Parliament has already called for an ambitious proposal on promoting cogeneration, and for such a proposal to be implemented as soon as possible. This proposal does not meet either of these demands. The proposed timetable must be tightened, and this can be done without any reduction in the quality of the reporting.

Amendment 48
Article 6, paragraph 4, second subparagraph (new)

	The analysis of the national cogeneration potential shall specify the potentials in relation to the timeframes 2010, 2015 and 2020 and include appropriate cost estimates for each of the timeframes.

Justification

This demand comes from Annex IV of the Commission proposal and requires no further justification.

Amendment 49
Article 6 a (new)

Article 6a

Treatment of reports

On the basis of the reported potentials, the Member States shall take appropriate measures to enable them to fully exploit 20% of their national potentials by 2010.

The Commission shall monitor the extent to which the Member States are progressing in the realisation of their national potential, and shall analyse any problems which arise. The Commission shall publish, no later than four years after the entry into force of this Directive, and at three-yearly intervals thereafter, its conclusions in the report pursuant to Article 10.

If the Commission notes that the measures taken do not result in progress towards the stated objective, it shall propose effective measures to the European Parliament and the Council.

Justification

Increasing in the share of cogeneration in Europe is one of the Community's declared objectives which has been expressed in several legal instruments. The objective of 18% in 2010 no longer seems attainable at the present rate of progress. Since only clear and binding objectives will lead to the share of cogeneration actually being increased, and since no sufficiently reliable data on potentials in the Member States are currently available, selecting a particular proportion of the observed potentials is the only possible way of setting binding objectives. If the Member States do not manage by their own motivation to achieve the stated objective, it must be regarded as appropriate for the Commission to decide on the implementation of the Community objective at Community level.

Amendment 50
Article 7, paragraph 3 a (new)

3a. The Member States shall ensure that support for cogeneration is provided in a non-discriminatory way, i.e. irrespective of operators and of the use of the electricity,

mechanical energy or heat generated in the cogeneration installation.

Justification

For reasons of competition, it is necessary to ensure that support is provided in a non-discriminatory way.

Amendment 51
Article 7 a (new)

Article 7a

Two years after the entry into force of the Directive, the Commission shall submit a new proposal for a Directive on the promotion of electricity from cogeneration installations.

This proposal must take account of climatic differences between the Member States, so that all improvements in efficiency result in eligibility for support.

Justification

The Directive is first and foremost concerned with the establishment of a uniform definition of electricity from cogeneration. At a second stage, support arrangements will need to be established. The Commission should therefore submit a new proposal on the promotion of electricity from cogeneration within two years of entry into force of this Directive.

As the climatic conditions in the individual Member States, and therefore requirements, differ, efficiency improvements should in general result in eligibility for support.

Amendment 52
Article 8, paragraph 3

3. Member States may require transmission system operators and distribution system operators to bear, in full or in part, the costs referred to in paragraph 2.	3. Member States may require transmission system operators and distribution system operators to bear, in full or in part, the costs referred to in paragraph 2, ***in particular for micro-cogeneration units, where system operators should bear any such costs in full.***

Justification

It is essential for the commercial success of superior new technologies in the micro-cogeneration category (such as fuel cells, Stirling engines, etc) that the ease of their installation is comparative to the existing boiler technology they aim to replace. Furthermore, it is wholly impractical to expect small customers – the majority of whom are individual residential householders – to bear the costs of technical adaptations necessary to the grid (such as grid reinforcements), particularly so since, at these micro-power levels, grid modifications will become necessary only when large numbers of units in the hundreds (or several hundreds) and above are put into place, allowing costs to be amortised. It is also the case that individual residential customers will lack the expertise to dispute the level of charge local T&D system operators may attempt to levy.

Amendment 53
Article 8, paragraph 5

5. Member States shall ensure that the charging of transmission and distribution fees does not discriminate against electricity from cogeneration. Where appropriate, Member States shall put in place a legal framework or require transmission system operators and distribution system operators to ensure that fees charged for the transmission and distribution of electricity from installations using cogeneration reflect realisable cost benefits resulting from the installation's connection to the network. Such cost benefits may arise from the direct use of the low-voltage grid.	*(Does not affect English version.)*

Justification

(Does not affect English version.)

Amendment 54
Article 8, paragraph 8

8. Member States shall particularly facilitate access to the grid system of electricity produced from cogeneration units using renewable energy sources and installations with a capacity less than 1 MW_e, ***as set out in Annex III, a).***	8. Member States shall particularly facilitate access to the grid system of electricity produced from cogeneration units using renewable energy sources and installations with a capacity *of* less than 1 MW_e. ***In particular, by requiring transmission & distribution system operators to connect***

sub-1 MW_e systems to the electric grid without imposing unrealistic connection fees or other impediments. Costs and administrative burdens should be reduced to an absolute minimum for these units and fair compensation should paid for excess electricity sold to the grid.

Member States shall ensure that access to grid system of electricity produced from cogeneration units of less than 50 kW_e using renewable energy sources and micro-cogeneration units shall be free of charge. The selling of electricity from these units to the grid shall be fixed at a minimum price equivalent to the household electricity purchase value.

Justification

Grid connection issues and problems with the sale of excess electricity have proved a barrier for innovative small-scale cogeneration systems and bureaucracy can be a significant disincentive to potential users. The administrative burden on small-scale systems must be lightened to permit the introduction of environmentally superior cogeneration technologies.

This amendment addresses these issues for small-scale cogeneration units with a capacity of less than 1 MW_e. It should be noted that units of between 50 kW_e and 1 MW could provide cooling as well as heat and power (trigeneration), needed particularly in warmer regions. Such systems are particularly applicable to establishments like hospitals and other facilities with critical loads such as computer/data-processing centres that require high-quality uninterruptible power, heating and cooling.

In addition, in the case of micro-generation units (sub-50 kW_e) there exists no apparent reason why serially produced units for which the manufacturer has obtained type certification approval should not be treated by regulations in exactly the same way as, for example, existing boiler technology. It is impractical to expect small customers, such as individual householders and small businesses, to bear the cost of connection to the grid.

Amendment 55
Article 9, paragraph 1, point a

(a) encouraging the design of cogeneration installations to match ***economically justified*** demands for heat ***output and avoiding production of more*** heat ***than useful heat.***	(a) encouraging the design of cogeneration installations to match demands for ***useful*** heat ***resulting in fuel savings compared with the separate production of*** heat ***and electricity;***

Justification

An overt reference to fuel savings compared with separate production brings the desired aim more clearly into focus.

Amendment 56
Article 9, paragraph 3 a (new)

3a. Member States and their respective planning authorities at a regional and local level should incorporate within their planning guidelines a requirement to:

(a) consider the scope to develop district heating networks to utilise the useful heat production of new and existing cogeneration units;

(b) evaluate the technical and economic viability of cogeneration and cogeneration linked to district heating.

All planning proposals considered by the planning authorities must:

- demonstrate that an economic and technical analysis has been undertaken,

- present a rationale for any decision over whether or not cogeneration will be included in the scope of the proposal, and the extent to which cogeneration will be used to meet the useful heat demand.

Justification

In order to maximise the potential for the utilisation of [high-efficiency] cogeneration, it is vital that planning authorities, industry and public and private sector developers understand the opportunities that are available to exploit the technology in meeting useful heat demand. The Directive should therefore provide statutory backing to include consideration of the opportunities for high-efficiency cogeneration in the planning framework. This statutory backing is essential in providing accurate assessments of national potentials for high-efficiency cogeneration, as required under Article 6.

Amendment 57
Article 10, paragraph 1, introductory phrase

1. Member States shall, not later than ***two years*** after the entry into force of this Directive, publish a report with the following content:	1. Member States shall, not later than ***18 months*** after the entry into force of this Directive, publish a report with the following content:

Justification

In its report on the implementation of the first stage of the European Climate Change Programme (ECCP), the European Parliament has already called for an ambitious proposal on promoting cogeneration, and for such a proposal to be implemented as soon as possible. This proposal does not meet either of these demands. The proposed timetable must be tightened, and this can be done without any reduction in the quality of the reporting.

Amendment 58
Article 10, paragraph 1, points a and b

(a) efficiency reference values for separate production of heat and electricity referred to in Article 5 (2);	***Deleted***
(b) principles for defining the national efficiency reference values for separate production of heat and electricity referred to in Article 5 (2);	

Justification

Under the definition of cogeneration set out in this Directive, based on the calculation method in Annex III, the level of efficiency is not defined in terms of primary energy savings: in this Directive an efficiency level of 80% is set as an efficiency criterion. This makes it unnecessary to determine national reference values for efficiency levels, thus considerably reducing the administrative effort needed by the Member States in drawing up their reports as compared with the Commission proposal.

Amendment 59
Article 10, paragraph 1, point d

(d) analysis of barriers, which may prevent the realisation of the national potential for ***high efficiency*** cogeneration referred to in Article 6(3);	(d) analysis of barriers which may prevent the realisation of the national potential for cogeneration referred to in Article 6(3);

Justification

See justification relating to the amendment to Article 5.

Amendment 60
Article 10, paragraph 2

2. Member States shall not later than ***two years*** after the entry into force of this Directive and *hereafter* every three years publish a report on progress towards increasing the share of high efficiency cogeneration referred to in Article 6(4)*;*	2. Member States shall not later than ***18 months*** after the entry into force of this Directive and *thereafter* every three years publish a report on progress towards increasing the share of high efficiency cogeneration referred to in Article 6(4).

Justification

In its report on the implementation of the first stage of the European Climate Change Programme (ECCP), the European Parliament has already called for an ambitious proposal on promoting cogeneration, and for such a proposal to be implemented as soon as possible. This proposal does not meet either of these demands. The proposed timetable must be tightened, and this can be done without any reduction in the quality of the reporting.

Amendment 61
Article 11, paragraph 1

On the basis of the ***reports submitted pursuant to Article 8(7) and Article 10 (1) and (3)***, the Commission shall review the application of this Directive and submit to the European Parliament and to the Council not later than four years after the entry into force of this Directive and thereafter every six years, a progress report on the implementation of this Directive.	On the basis of the ***above provisions***, the Commission shall review the application of this Directive and submit to the European Parliament and to the Council not later than four years after the entry into force of this Directive and thereafter every six years, a progress report on the implementation of this Directive.

Justification

See justification relating to the amendment to Article 5.

Amendment 62
Article 11, paragraph 1, points a and b

(a) consider the scope for further harmonisation of the criteria to determine the efficiency of cogeneration.	***Deleted***
(b) consider progress towards realising national potentials for high-efficiency cogeneration referred to in Article 6.	

Justification

The Commission does not have to report about the progress to come to harmonised reference values as this will have been done from the beginning onwards.

Bringing the words used in line with the new definition.

Amendment 63
Article 12 a (new)

	Article 12a
	Committee
	1. The Commission shall be supported by a committee known as the 'Cogeneration Committee', comprising representatives of the Member States and chaired by representatives of the Commission.
	2. In applying this paragraph, the regulatory procedure pursuant to Article 5 of Decision 1999/468/EC, with particular reference to Articles 7 and 8 thereof, shall be used.
	3. The committee shall adopt its own Rules of Procedure.

Justification

Necessary addition to the amendment relating to Article 5.

This article proposes the comitology procedure for determining the harmonised calculation method. This is to ensure that such a method is determined within a reasonable period.

Amendment 64
Annex I, point c

(c) Steam extraction condensing turbine	(c) ***Non-nuclear*** steam extraction condensing turbine

Justification

Self-explanatory.

Amendment 65
Annex I, point j a (new)

	(ja) Trigeneration cycles including refrigeration production for industrial or air-conditioning purposes

Justification

Trigeneration is understood as the simultaneous production of electrical, heating and cooling energy. This highly developed type of technology ought to be mentioned in order to include refrigeration production systems not necessarily covered by the other technologies cited.

Amendment 66
Annex I, point k

k) Any other type of technology or combination thereof falling under the definitions laid down in Article 3.	k) Any other type of ***non-nuclear*** technology or combination thereof falling under the definitions laid down in Article 3.

Justification

Self-explanatory.

Amendment 67
Annex II

Definition of electricity from cogeneration	Definition of electricity from cogeneration
Values used for calculation of electricity from cogeneration shall be determined on the basis of the expected or actual operation of the unit under realistic conditions.	Values used for calculation of electricity from cogeneration shall be determined on the basis of the expected or actual operation of the unit under realistic conditions.
a) Electricity production from cogeneration shall be considered equal to total annual	

electricity production of the unit.	
**** in cogeneration units of type b), d), e), f), g), and h) referred to in Annex I, with an annual overall efficiency higher or equal to 75%, and***	
**** in cogeneration units of type a) and c) referred to in Annex I with an annual overall efficiency higher or equal to 85%.***	
b) Calculations shall be made in order to separate electricity from cogeneration and electricity not produced in a cogeneration process. ***In cogeneration units with an annual overall efficiency below 75% (cogeneration units of type b), d), e), f), g), and h) referred to in Annex I) or with an annual overall efficiency below 85% (cogeneration units of type a) and c) referred to in Annex I)***	Electricity from cogeneration and electricity not produced in a cogeneration process ***shall be calculated separately.***
The following formula shall be used:	The following formula shall be used:
$E_{CHP} = Q_{net} \cdot C$	$A_{Bne\text{-}CHP} = Q_{Bne\text{-}CHP} \cdot \sigma_A$
where	where
E_{CHP} is the ***amount of*** electricity from cogeneration	$A_{Bne\text{-}CHP}$ is the ***net*** electricity from cogeneration
C is the power to heat ratio	σ_A is the ***work-related*** power to heat ratio
Q_{net} is the net heat production from a cogeneration process (defined as total heat production minus any heat produced in separate boilers).	$Q_{Bne\text{-}CHP}$ is the net heat production from a cogeneration process (defined as total heat production minus any heat produced ***separately, e.g.*** in separate boilers, ***peak boilers, combined heat and power stations or as live steam extraction***).
If the actual power to heat ratio of a cogeneration ***unit is not known***, the following default values may be used ***for units of type a), b), c), d), and e) referred to in Annex I provided that the calculated cogeneration electricity is less or equal to total electricity production of the unit:***	***To determine whether electricity counts as electricity from*** cogeneration ***for statistical purposes***, the following default values may be used***, where the actual power to heat ratio is not known or has not been obtained using the precise calculation method in this Annex:***

Type of the unit	Default power to heat *capacity* ratio, *C*	
	District heating	Industrial
Combined cycle gas turbine with heat recovery	0,95	0,75
Steam backpressure turbine	0,45	0,30
Steam condensing extraction turbine	0,45	0,30
Gas turbine with heat recovery	0,55	0,40
Internal combustion engine	0,75	0,60

Subject to prior notification to the Commission, Member States may use other default values for power to heat ratios than the ones provided in this Annex. Such alternative default values shall be published by Member States.

If Member States introduce default values for power to heat ratios for units of type f), g), h), i), j) and k) referred to in Annex I, such default values shall be published and shall be notified to the Commission.

c) Subject to prior approval by the Commission, Member States may use other methods than the one provided for in paragraph b) of this annex to subtract possible electricity production not produced in a cogeneration process from the reported figures.

Type of the unit	Default power to heat ratio, σ	
	District heating	Industrial
Combined cycle gas turbine with heat recovery	0,95	0,75
Steam backpressure turbine	0,45	0,30
Steam condensing extraction turbine	0,45	0,30
Gas turbine with heat recovery	0,55	0,40
Internal combustion engine	0,75	0,60

Subject to prior notification to the Commission, Member States may use other default values for power to heat ratios than the ones provided in this Annex. Such alternative default values shall be published by Member States.

To determine whether electricity counts as electricity from cogeneration for other purposes requiring a more precise calculation, in order to guarantee the quality requirements for the cogeneration process, e.g. the issuing of certificates of origin pursuant to Article 4 of this Directive and support for cogeneration technology, the calculation method set out in this Annex for calculating the work-related power to heat ratios and the net electricity from cogeneration shall be applied.

Justification

According to experts, the 80% efficiency threshold proposed by the rapporteur reflects the current state of technology. In his report of 13 November 2002 the rapporteur had recommended this 80% efficiency threshold as a simplification of the 75% and 85%, respectively, proposed by the Commission. Since it appeared to be impossible to reach agreement on the level of this threshold, above which electricity production from cogeneration is to be placed on the same footing as annual total electricity production, and below which cogeneration electricity and electricity not produced by cogeneration

(condensing electricity) are to be calculated separately, the compromise proposal is made here to delete the threshold completely. This means that each installation, irrespective of its efficiency, must calculate the proportion of electricity from cogeneration using the formula set out in this Annex. Exemptions are conceivable for micro-cogeneration installations.

Amendment 68
Annex II, point c a (new)

ca) If a share of the energy content of the fuel input to the cogeneration process is recovered in chemicals and recycled this share can be subtracted from the fuel input before calculating the overall efficiency used in points a) and b).

Justification

In chemical pulping a significant amount of the used raw material (pulp wood) is recovered as energy in the chemicals recovery boiler. The regeneration of the process chemicals needs some of this energy and therefore not all fuel input is used to produce heat and power.

Amendment 69
Annex II, point d a (new)

da) The method of calculation set out in point b) of this Annex for separating electricity from cogeneration and electricity not produced in a cogeneration process in cogeneration units with an annual overall efficiency below 80% shall be evaluated by a CEN (European Committee for Standardization) workshop with support from the European Commission; if necessary, the workshop shall establish, in good time prior to the adoption of this directive, a new harmonised method of calculation, confirming, supplementing or replacing the method set out in point b) of this Annex.

Justification

The setting up of a CEN workshop will allow all parties concerned to be involved in

evaluating the method of calculation proposed by the Commission in Annex II, point b) and if necessary supplementing or replacing it with a new harmonised method. This process must not, however, lead to any delay in the legislative procedure for the adoption of the proposed Directive and must be conducted with support from the Commission.

Amendment 70
Annex II a (new)

ANNEX IIa

Calculation method for determining electricity from cogeneration

The calculation method for determining whether electricity counts as electricity from cogeneration is geared to a threshold utilisation ratio of at least 80%.

1. Quantifying electricity from cogeneration

The basic methodology for determining the work-related power-to-heat ratio and net electricity from cogeneration shall be as follows:

- continuous recording of:

net electricity generated (A_{Bne}),

net heat generated (Q_{Bne}), and

fuel heat (W_{Br}),

- distinguishing of the cogeneration process from heat generated separately:

$W = W_{Br} - W_{Th}$ ***and***

$Q_{Bne\text{-}CHP} = Q_{Bne} - Q_{Bne\text{-}th}$

- determination of the fuel utilisation ratio:

$\zeta = (A_{Bne} + Q_{Bne\text{-}CHP}) / W;$

Fractions which are not attributable to the cogeneration process must be removed from the operating variables referred to above.

- Where the fuel utilisation ratio is greater than or equal to the cogeneration potential utilisation ratio:

$\zeta_{CHP}^{*} = 0{,}80$

$\zeta \geq \zeta_{CHP}^{*}$

$\zeta \geq 0{,}80$

$A_{Bne\text{-}CHP} = A_{Bne}$

- Where the fuel utilisation ratio is less than the cogeneration potential utilisation ratio:

$\zeta < \zeta_{CHP}$

$\zeta < 0{,}80$

$\longrightarrow A_{Bne\,-CHP} < A_{Bne}$

the work-related power-to-heat ratio ($\sigma_{A)}$ must be determined via the energy balance.

- In installations without specific losses of electricity:

$$A_{Bne\text{-}CHP} = \frac{(\zeta - \zeta_{el})}{0.80 - \zeta} \cdot A_{Bne}$$

$$\zeta_{el} = \frac{A_{Bne}}{W}$$

$$\sigma_A = \frac{A_{Bne\text{-}CHP}}{Q_{Bne\text{-}CHP}}$$

- In installations with specific losses of electricity:

$$A_{Bne\text{-}CHP} = W \cdot \zeta_{el\text{-}Cond} \frac{(\zeta - \zeta_{el\text{-}Cond})}{(0{,}80 - \zeta_{el\text{-}Cond})} - (W \cdot \zeta_{el\text{-}Cond} - A_{Bne})$$

$$\sigma_A = \frac{A_{Bne\text{-}CHP}}{Q_{Bne\text{-}CHP}}$$

Determining $\zeta_{el\text{-}Cond}$:

$\zeta_{el\text{-}Cond}$ can be determined with sufficient accuracy on the basis of individual parameters for the respective installation for a reporting period, using the approximation process set out below:

Firstly, a part-load curve is produced, if possible covering the entire load range available in operation (e.g. 40, 60, 80 and 100% of the fuel heat capacity). The data required for this curve (at least four points between the minimum and maximum technical loads) should either be:

- taken from acceptance measurements,

- determined on the basis of direct tests or operating records, or

- calculated on the basis of heat balance calculations.

For each of these methods the following variables should be assumed for the external ambient conditions: outside temperature 10ºC, humidity 60%, air pressure 1013 millibar, river or sea water temperature 10ºC. Deviations may be made in justified cases.

Based on ideal conditions (historical acceptance measurements or thermodynamic calculations), efficiency values obtained may be exaggerated. In such cases, individual condensing efficiencies should be reduced by up to 0.5% where justified (e.g. due to effects of ageing, soiling of heating surfaces).

Where the points of the part-load curve are indicated, an appropriate regression function (usually a second-degree polynomial function) should be established for those points. Where values are missing, they may be extrapolated with the help of the regression function. Constants should be stated to at least five decimal places.

An average fuel heat load ratio (m) is first calculated from the fuel heat in the reporting period (W), the operating period (t_B) of the cogeneration installation (<= reporting period) and the rated fuel heat output (P_{Br}):

$$m = \frac{W}{P_{Br} * t_B}$$

Via the regression function, a part-load efficiency is allocated to this average fuel heat load ratio. This part-load efficiency approximately corresponds to the utilisation ratio of condensing electricity generation ($\zeta_{el\text{-}Cond}$) obtained in the absence of simultaneous heat extraction.

2. Definitions

The following definitions are those needed in order to apply the calculation rule to determine electricity from cogeneration.

2.1 Heat (Q)

Net heat generated (Q_{Bne})

The net heat generated is the useful heat, measured in a reporting period, supplied by a heat generation installation (heating or cogeneration) via a heat carrier (e.g. water or steam) to a network or a production process. It comprises the enthalpy of the flow line less the enthalpy of the return flow and the backfeed medium (usually additional water).

Net heat from cogeneration ($Q_{Bne\text{-}CHP}$)

The net heat from cogeneration is the net heat measured in a reporting period generated by a cogeneration unit and used outside the unit for purposes of district heating, water heating, cooling or as industrial heat, less any heat units from separate production ($_{QBne\text{-}th}$)

Heat generated separately ($Q_{Bne\text{-}th}$)

Heat is generated separately in heating stations, peak and reserve boilers or by live steam extraction from the steam generator of a power station installation prior to use of energy in a steam turbine. In the case of heat production based on oil or coal, the efficiency reference value may be lowered to 85%. The use of combustion gas condensation heat also counts as heat generated separately if the combustion gas has not already generated electricity as in the case of the gas turbine, combined cycle and internal combustion engine processes.

Waste heat (Q_{Ab})

Waste heat is heat which is generated as a by-product of the energy conversion process and released to the environment without being put to use.

Devices for the diversion of waste heat are facilities/equipment such as:

- waste heat condensers

- coolers for lubricating oil and cooling water

- compression air coolers

- flues.

Heat for intrinsic consumption ($Q_{EigB-W)}$.

The heat for the plant's intrinsic consumption must be defined analogously to its consumption of electricity for operation.

2.2 Electricity

Gross electricity generated (A_{Bbr})

The gross electricity generated by a generating unit is the generated electrical work measured at the generator terminals during a reporting period.

Net electricity generated (A_{Bne})

The net electricity generated by an electricity generation installation is the

gross electricity generated less intrinsic consumption (in a reporting period).

Intrinsic consumption of electricity for operation (A_{EigB-S})

Intrinsic consumption of electricity for operation is the electrical work which is consumed in the cogeneration plant for its own operation (including consumption in subsidiary and auxiliary installations directly linked to operation such as feeder water production and treatment, feeder water pumps, condensate pumps, fresh air supply, fuel supply and flue gas purification, block transformers (if present), etc.).

Intrinsic consumption during shutdown outside operating hours is not taken into account in the calculation of intrinsic consumption for operation. The same applies to additional intrinsic consumption for other equipment and installations at the site (e.g. district heating circulation pumps, flue gas cleaning products and slag reprocessing).

Net electricity from cogeneration ($A_{Bne-CHP}$) is the net electricity generated during a reporting period directly linked to the production of net heat from cogeneration in a cogeneration installation. As far as no waste heat is released or the potential utilisation ratio for cogeneration is achieved, the entire net electricity from the cogeneration installation is considered net electricity from cogeneration.

Net condensing electricity generated ($A_{Bne-Cond}$)

The net condensing electricity is the proportion of net electricity generated in a reporting period when the work medium in a steam turbine plant is cooled to the ambient temperature and the full potential enthalpy gradient is thus used to generate electricity. Electricity generated by gas turbines, block heat and power stations driven by

internal combustion engines and fuel cells without the heat generated being used is "separate generation of electricity" and to be considered generation of condensing electricity.

2.3 Fuel heat

Fuel heat (W_{Br})

The energy input for generation of electricity and heat consists of fuel heat (W_{Br}) and can be calculated from the total quantity of fuel supplied to the thermodynamic process of the generation installation (including the proportion for start-up and shut-down as well as for auxiliary boilers) multiplied by the lower calorific value (H_u). Energy released in an exothermic chemical reaction must be equated with fuel heat. If intrinsic consumption for operation is not generated in the installation itself, an appropriate fuel equivalent must be stated instead.

Cogeneration fuel heat (W_{CHP})

Cogeneration fuel heat is the proportion of fuel heat in a cogeneration installation to be attributed to combined net electricity from cogeneration and heat from cogeneration.

Net condenser fuel heat (W_{Cond})

Condenser fuel heat is the proportion of fuel heat which is used in a cogeneration installation for the proportion of net electricity separately generated.

Net fuel heat for separate heat generation (W_{th}) is used for separate generation of heat in heating plants and peak and reserve boilers or is to be attributed to live steam extracted from steam generators.

Adjusted net fuel heat (W)

The adjusted net fuel heat W is defined as $W = W_{CHP} + W_{Cond}$ and emerges from the fuel balance for $W = W_{Br} - W_{th}$. It is required to determine the proportions of

cogeneration electricity and cogeneration fuel in the processes.

2.4 Ratios

The ratios elucidated below are classified as capacity-related and work-related.

A capacity-related figure is determined in a measurement period during as steady an operating mode as possible (transient value, usually stated as the nominal operating point).

A work-related figure is determined for a reporting period (e.g. quarter hour, hour, day, month, year or heating period). The reporting period covers all the operating modes occurring, including start-up, shutdown, stand-by and part-load operating times.

Efficiency (η)

The efficiency of a process is the quotient of the sum of the useful energy supplied and the energy input during as steady an operating state of the installation as possible in a measurement period.

Utilisation ratio (ζ)

The utilisation ratio of a process is the quotient of the sum of the useful energy supplied and the energy input in a reporting period. The utilisation ratio is used irrespective of the product generated, particularly for:

- condensing electricity generation ($\zeta_{el\text{-}Cond}$)

- generation of electricity in cogeneration installations without electricity loss (ζ_{el})

- simultaneous generation of cogeneration electricity and cogeneration heat in the cogeneration process (ζ_{CHP}) and

- combined generation of electricity and heat in CHP stations (ζ)

In addition to the CHP utilisation ratio (ζ_{CHP}), the utilisation ratio of condensing

electricity generation ($\zeta_{el\text{-}Cond}$) is particularly important as a basic and comparative process for cogeneration in installations with electricity loss.

Potential utilisation ratio (ζ_{CHP}*)

The potential utilisation ratio of a process states which part of the fuel heat input of the process can be converted into usable energy. As less than 100% of the fuel heat input can be used, due to unavoidable conversion and flue gas losses, a scaling variable is specified by introducing the minimum potential utilisation ratio achieved by a qualified cogeneration process. This variable is necessary particularly for cogeneration installations with electricity loss.

Work-related power-to-heat ratio (σ_A)

The work-related power-to-heat ratio of a CHP installation is the quotient of net electricity from cogeneration during a reporting period and net heat from cogeneration during the same reporting period. Typical reporting periods are a month or year, but also e.g. a heating period.

The amount of the power-to-heat ratio is specific to the installation and crucially dependent on the heat products and the process layout of the CHP installation.

Typical ranges of work-related power-to-heat ratios for various existing types of installation are:

WI-P:	***0.2 – 0.3***
BP, EBP, EC, UEC (industry):	***0.3 – 0.5***
BP, EBP, EC, UEC (district heating):	***0.4 – 0.6***
GT-WHB:	***0.4 – 0.7***
BHPS:	***0.5 – 0.9***
Gas and steam:	***0.7 – 1.2***

Justification

The substance of the amendment is not new. The rapporteur is seeking to reduce the very detailed proposal for a new Annex II set out in his draft report of 13 November 2002 (Amendment 56) to the minimum technical information necessary (1. quantification and 2. definitions) for the purpose of precisely calculating electricity from cogeneration on the basis of the PROTERMO method, and at the same time to make the text more comprehensible for readers. Annex IIa (new) sets out the basic methodology for determining the variables in the PROTERMO formula (power-to-heat ratio and net electricity from cogeneration), which are not defined sufficiently precisely in the Commission proposal.

Amendment 71
ANNEX III

Methodology for determining the efficiency of cogeneration ***production***	Methodology for determining the efficiency of ***the*** cogeneration ***process***
Values used for calculation of efficiency of cogeneration production and primary energy savings shall be determined on the basis of the expected or actual operation of the unit under realistic conditions.	Values used for calculation of efficiency of cogeneration production and primary energy savings shall be determined on the basis of the expected or actual operation of the unit under realistic conditions.
a) High-efficiency cogeneration	a) High-efficiency cogeneration
For the purpose of this Directive high-efficiency cogeneration production shall fulfil the following criteria:	For the purpose of this Directive high-efficiency cogeneration production shall fulfil the following criteria:
- production from new cogeneration units shall provide primary energy savings of at least 10% compared with the references for separate production of heat and power;	- production from new cogeneration units shall provide primary energy savings of at least 10% compared with the references for separate production of heat and power;
- production from existing cogeneration units shall provide primary energy savings of at least 5% compared with the references for separate production of heat and power;	- production from existing cogeneration units shall provide primary energy savings of at least 5% compared with the references for separate production of heat and power;
- production from cogeneration units using renewable energy sources and from cogeneration installations with an installed capacity below 1 MW*e* providing primary energy savings in the range 0-5% may qualify as high-efficiency cogeneration;	- production from cogeneration units using renewable energy sources and from cogeneration installations with an installed capacity below 1 MW_e***, and micro-cogeneration units,*** providing primary energy savings in the range 0-5% may qualify as high-efficiency cogeneration;
- Member States may introduce principles whereby production from cogeneration units below the thresholds referred to in	- Member States may introduce principles whereby production from cogeneration units below the thresholds referred to in

this Annex may be considered to be partially fulfilling the efficiency criteria. If such principles are applied, appropriate methodologies for determining the reduced efficiency of such production, calculated in proportion to the reduced primary energy savings, shall be developed by the Member State and shall be notified to the Commission. In such cases, the reduced efficiency of the cogeneration production shall be clearly displayed on the certificate of origin.

b) Calculation of primary energy savings

The amount of primary energy savings provided by cogeneration production defined in accordance with Annex II to this Directive shall be calculated on the basis of the following formula:

Where:

this Annex may be considered to be partially fulfilling the efficiency criteria. If such principles are applied, appropriate methodologies for determining the reduced efficiency of such production, calculated in proportion to the reduced primary energy savings, shall be developed by the Member State and shall be notified to the Commission. In such cases, the reduced efficiency of the cogeneration production shall be clearly displayed on the certificate of origin.

b) Calculation of primary energy savings

The amount of primary energy savings provided by cogeneration production defined in accordance with Annex II to this Directive shall be calculated on the basis of the following formula:

$$PES = \left(1 - \frac{Ref\,E\eta}{EEE} \right) x\ 100\%$$

$$EEE = \frac{E_{CHP}}{F - \frac{H_{CHP}}{Ref\,H\eta}}$$

Where:

$$PES = \left(1 - \frac{1}{\frac{CHP\ H\eta}{Ref\ H\eta} + \frac{CHP\ E\eta}{Ref\ E\eta}} \right) x\ 10$$

	F is fuel consumed by the cogeneration plant working in CHP mode
	E_{CHP} is electric power produced by the cogeneration plant working in CHP mode
	H_{CHP} is useful heat produced by the cogeneration plant working in CHP mode
PES is primary energy savings	PES is primary energy savings
CHP Hη is the heat efficiency of the cogeneration production	CHP Hη is the heat efficiency of the cogeneration production
Ref Hη is the heat efficiency of the reference for separate heat production	Ref Hη is the heat efficiency of the reference for separate heat production
CHP Eη is the electrical efficiency of the cogeneration production	CHP Eη is the electrical efficiency of the cogeneration production
Ref Eηis the electrical efficiency of the reference for separate electricity production	Ref Eηis the electrical efficiency of the reference for separate electricity production
Subject to prior notification to the Commission, Member States may use other formula leading to the same results to calculate the primary energy savings from cogeneration. In the cases where alternative formulas are used, such formula shall be published by the Member State.	Subject to prior notification to the Commission, Member States may use other formula leading to the same results to calculate the primary energy savings from cogeneration. In the cases where alternative formulas are used, such formula shall be published by the Member State.
	In the case of cogeneration units connected to the electricity distribution system, the reference values provided in the above table may be lowered by 5-10% to take account of avoided network losses.
c) Efficiency reference values ***for separate production of heat and electricity***	c) Efficiency reference values
The principles for defining the references for separate production of heat and electricity referred to in Article 5(2) and in the formula set out in paragraph b) of this Annex shall establish the operating efficiency of the separate heat and electricity production that cogeneration is assumed to displace.	***The Commission shall publish pursuant to Article 5 (efficiency performance criteria), no later than one year after the entry into force of this directive, a report containing the analysis with regard to harmonised reference values. Following the publication, in the Official Journal of the European Union, of the harmonised reference values, no later than 2 years after the entry into force of the directive, these shall be applied without delay by the***

Member States in accordance with this annex.

To define the efficiency reference values, the following principles shall be applied:

To define the efficiency reference values ***for the transitional period up until the publication of harmonised reference values in the Official Journal of the European Union***, the following principles shall be applied:

1) For new cogeneration units as defined in Article 3, the comparison with new separate electricity production shall be based on the principle that similar fuel categories are compared. The following indicative efficiency reference values for new separate electricity production may be used:

1) For new cogeneration units as defined in Article 3, the comparison with new separate electricity production shall be based on the principle that similar fuel categories are compared. The following indicative efficiency reference values for new separate electricity production may be used:

Indicative efficiency reference values for new separate electricity production

Fuel category	***Operating efficiency***
Natural gas	***55%***
Coal	***42%***
Oil	***42%***
Renewables and waste	***22-35%***

Fuel category	***Operating efficiency***
Natural gas	***55%***
Coal	***42%***
Oil	***42%***
Renewables and waste	***22-35%***

In the case of cogeneration units connected at the electricity distribution system, the reference values provided in the above table may be lowered with 5-10% to take account of avoided network losses.

2) For new cogeneration units as defined in Article 3, the indicative efficiency reference value of new separate heat production shall be an operating efficiency of 90%.

2) For new cogeneration units as defined in Article 3, the indicative efficiency reference value of new separate heat production shall be an operating efficiency of 90%.

In the case of heat production based on oil or coal, the efficiency reference value ***may*** be lowered to 85%. In the case of heat production based on renewable energy sources or waste, the efficiency reference value ***may*** be lowered to 80%. In the case of high temperature steam used for industrial processes, the reference values for separate heat production ***may*** be lowered to 80%.

In the case of heat production based on oil or coal, the efficiency reference value ***shall*** be lowered to 85%. In the case of heat production based on renewable energy sources or waste, the efficiency reference value ***shall*** be lowered to 80%. In the case of high temperature steam used for industrial processes, the reference values for separate heat production ***shall*** be lowered to 80%.

3) For existing cogeneration units as defined in Article 3, the efficiency reference value for separate electricity production shall be based on the average operating efficiency of the national fossil-fuelled electricity production. Where appropriate, possible cross-border trade in electricity having an impact on the reference values may be taken into account.	3) For existing cogeneration units as defined in Article 3, the efficiency reference value for separate electricity production shall be based on the average operating efficiency of the national fossil-fuelled electricity production. Where appropriate, possible cross-border trade in electricity having an impact on the reference values may be taken into account.
4) For existing cogeneration units as defined in Article 3 the efficiency reference value for separate heat production shall be based on the average operating efficiency of the national heat production mix.	4) For existing cogeneration units as defined in Article 3 the efficiency reference value for separate heat production shall be based on the average operating efficiency of the national heat production mix.
5) Subject to prior notification to the Commission, Member States may include additional aspects in the national criteria for determining the efficiency of cogeneration.	5) Subject to prior notification to the Commission, Member States may include additional aspects in the national criteria for determining the efficiency of cogeneration.

Under point b Parliament's amendment first inserts the formula and then the indication 'Where'

Justification

This amendment is in the nature of a compromise. Proof of primary energy savings is stipulated as a quality criterion for power from cogeneration as defined in Annex II. At the same time, the Commission is called upon to submit harmonised reference values to permit the comparison of cogeneration and separate production, since national reference values would lead to drastic distortions on the single market in energy.

Your rapporteur's original amendment, focusing on the calculation of the share of cogeneration in a cogeneration unit's total power production, which entailed the deletion of Annex III, is withdrawn and the need to prove energy savings for the share of the unit's power production identified as power from cogeneration is acknowledged. The Commission proposal is now modified only in respect of the harmonisation of the reference values. This ensures that the high efficiency of the cogeneration processes is proved by energy savings. Your rapporteur cannot, however, consent to the text's concentrating one-sidedly on proof of energy savings.

Amendment 72
Annex III, point c, subparagraph 5 a (new)

5a) Member States may adopt reference values that recognise the displacement of fossil fuel consumption in cogeneration plants that utilise:

- waste heat, including condensate from energy production processes

- waste fuels, including those from industrial processes

- alternative fuels, including bio-fuels.

Justification

The Directive should establish proper incentives for the utilisation of waste sources of energy. Without these incentives, these energy sources will be disposed of by alternative means and/or additional conventional fossil fuels will be used in the cogeneration process, resulting in a greater level of primary energy consumption and carbon emissions than would otherwise be achieved.

Amendment 73
Annex IV

a) The analysis of the national potential for high-efficiency cogeneration shall identify suitable heating and/or cooling demands and ***shall distinguish between application of*** cogeneration ***in at least the following main categories***:	a) The analysis of the national potential for high-efficiency cogeneration shall identify suitable heating and/or cooling demands and***, where*** cogeneration ***is used,*** shall ***consider*** the following:
– Industrial cogeneration	
– Heating cogeneration	
– Agricultural cogeneration	
b) For each of the three categories referred to under a), the analysis shall consider:	
– The type of fuels that are likely to be used to realise the cogeneration potentials, including specific considerations on the potential for increasing the use of renewable energy sources in the national heat markets via cogeneration.	– The type of fuels that are likely to be used to realise the cogeneration potentials, including specific considerations on the potential for increasing the use of renewable energy sources in the national heat markets via cogeneration.
– The type of cogeneration technologies as listed in Annex I that are likely to be used to realise the national potential.	– The type of cogeneration technologies as listed in Annex I that are likely to be used to realise the national potential.
– The type of separate production of heat	– The type of separate production of heat

and electricity that high-efficiency cogeneration is likely to substitute.	and electricity that high-efficiency cogeneration is likely to substitute.
– A division of the potential into modernisation of existing capacity and construction of new capacity.	– A division of the potential into modernisation of existing capacity and construction of new capacity.
c) The analysis shall include appropriate mechanisms to assess the cost effectiveness – in terms of primary energy savings – of increasing the share of high-efficiency cogeneration in the national energy mix. The analysis of cost effectiveness shall also take into account national commitments accepted in the context of the climate change commitments accepted by the Community pursuant to the Kyoto Protocol to the United Nations Framework Convention on Climate Change.	***b)*** The analysis shall include appropriate mechanisms to assess the cost effectiveness – in terms of primary energy savings – of increasing the share of high-efficiency cogeneration in the national energy mix. The analysis of cost effectiveness shall also take into account national commitments accepted in the context of the climate change commitments accepted by the Community pursuant to the Kyoto Protocol to the United Nations Framework Convention on Climate Change.
d) The analysis of the national cogeneration potential shall specify the potentials in relation to the timeframes 2010, 2015 and 2020 and include appropriate cost estimates for each of the timeframes.	***c)*** The analysis of the national cogeneration potential shall specify the potentials in relation to the timeframes 2010, 2015 and 2020 and include appropriate cost estimates for each of the timeframes.

Justification

Distinguishing between industrial, heating and agricultural cogeneration may be desirable for statistical purposes but in general entails excessive administrative costs.

Amendment 74
Annex IV a (new)

	ANNEX IVa
	Criteria for defining support schemes for high-efficiency systems
	Member States shall take account of the following considerations in drawing up support schemes:
	1) Cogeneration plants render two types of service, namely a) electricity production and supply services, and b) energy efficiency services contributing to primary energy savings and environmental quality programmes.

a) Electricity production and supply services, including security of supply, transport and distribution for the customer, and benefits from the reduction in losses on transport and distribution networks

All of these services must have a similar return to those of any other electricity production and distribution system operating at the same voltage level. The support schemes must be designed to guard against distortions of competition on electricity markets.

b) Contribution to primary energy savings and environmental quality programmes

Support schemes must be designed such that they:

- are equivalent and non-discriminatory with respect to other production systems and be based on actual savings of fossil fuel and CO2 emissions,

- promote and foster greater efficiency and energy savings throughout the service life of the installation, not merely at the moment of certification,

- are proportionate to the real savings or benefits derived from each cogeneration plant, on the basis of the measurement of verifiable parameters,

- incorporate the provisions of the emissions trading directive in due course.

2) In order to promote investment in new cogeneration plants a fully legitimate framework is required to provide security to investors for a sufficiently lengthy period (i.e. to enable them to recover their investment).

3) The defined framework must make provision for future adjustments to take account of technological developments, fuel-price trends and potential changes on electricity markets.

4) The economic support schemes must be defined to take account of the same

measurable parameters that quantify and monitor primary energy savings in order to ensure that such savings are encouraged.

Justification

If the Directive is to be transposed properly, the principles underpinning the support schemes need to be laid down, without prejudice to adjustments to take account of the specific circumstances of each Member State and future Community legislation in this area.

Primary energy savings will not be achieved unless the relationship between the directly measured physical quantities and the assigned economic value is properly established. Such a relationship will result in fairer effective competition in the internal energy market.

On the other hand, the achievement of the aim of the Directive will not be facilitated by defining legal and economic frameworks with variable or uncertain timeframes and parameters that are not directly related to measuring primary energy savings.

The level of primary energy savings (PES) as an indicator is useful in this regard, as well as being non-discriminatory (i.e. it can be used for direct comparisons with other technologies) and easy for other players in the system to follow.

EXPLANATORY STATEMENT

Introduction

Cogeneration (or Combined Heat and Power - CHP) is a process whereby input energy is transformed simultaneously into mechanical and electrical energy. The heat produced in cogeneration must be used outside the plant for purposes such as district heating, water heating, refrigeration or as industrial heat. Thanks to the efficient use of fuel, cogeneration offers the advantage over separate generation that energy is saved and CO2 emissions may be avoided. Thus cogeneration is an environmentally friendly instrument which can bring Europe closer to its great objectives of reduced CO2 emissions, energy efficiency and security of energy supply.

Beginning with the "Community strategy to promote combined heat and power (CHP) and to dismantle barriers to its development", adopted in 1997 [1], in which the need to promote cogeneration to reduce greenhouse gas emissions was stressed and a timetable to double the share of cogeneration in total gross electricity production from 9% to 18% in 2010 was regarded as realistic, the European Parliament and the Commission have since referred in a wide range of instruments to the major importance of cogeneration as an instrument of environmental policy:

- Green Paper - Towards a European strategy for the security of energy supply[2];
- European Parliament resolution on the Green Paper[3],
- Communication from the Commission on the implementation of the first phase of the European Climate Change Programme,[4]
- Sixth Environmental Action Programme, [5]
- Directive concerning integrated pollution prevention and control (IPPC),[6]
- Directive on the limitation of emissions of certain pollutants into the air from large combustion plants,[7]
- Directive on the incineration of waste,[8]
- Directive on the energy performance of buildings[9].

This long list highlights the European institutions' clear commitment to cogeneration.

The Commission proposal for a directive with which we are concerned here – on the promotion of cogeneration in the internal market in energy – has long been eagerly awaited both by the European institutions and by industry. Its publication is therefore in principle to be welcomed. However, the proposals lack of ambition and its failure to mention the institutions' earlier objectives and demands must be regarded as disappointing.

---

[1] COM(1997) 514.
[2] COM(2000) 769.
[3] Resolution of 15 November 2001, OJ C 140, 13.06.2002, p. 382
[4] COM(2001) 580.
[5] European Parliament and Council Decision no. 1600/2002.
[6] OJ L 257, 10.10.1996, p. 26.
[7] OJ L 309, 27.11.2001, p. 1.
[8] OJ L 332, 28.12.2000, p. 91.
[9] Common position: C5-0268/2002, COM(2001) 226.

The Commission proposal

The Commission proposes framework conditions for granting support to cogeneration in the internal market in energy, placing repeated stress on useful heat demand. One of the framework conditions is a uniform definition in the EU of cogeneration, a guarantee of origin for electricity from cogeneration, particular rules governing support and regulations on access to the network. The Member States are also required to submit to the Commission reports on their national potentials for cogeneration, to be drawn up in accordance with specific criteria. A method for calculating electricity from cogeneration and a procedure for determining the level of efficiency of cogeneration are also proposed. For this purpose the Commission selects a complex two-stage approach.

In its proposal the Commission fails to set an ambitious timetable for increasing the share of cogeneration in Europe. No concrete objectives are set. It also remains unclear what has to happen after the reporting stage in order to bring this Community objective closer.

Your rapporteur's proposal

Your rapporteur emphatically welcomes the support criteria proposed by the Commission, the certificate of origin, the access to the electricity grid and the call on Member States to submit to the Commission effective reports on their national potentials. The need for a uniform definition of 'cogeneration' for Europe and, along with that, a uniform calculation method for electricity from cogeneration, also meets with your rapporteur's undivided support.

The abovementioned shortcomings in the Commission proposal and the definition chosen call, in your rapporteur's view, for a number of amendments.

1. Definition

While the Commission stresses the promotion of 'high-efficiency cogeneration' based on 'economically justified demand', your rapporteur adopts a different approach. One reason for this is that, in comparison with the separate generation of electricity and heat, every cogeneration process with an efficiency level of over 80% leads to substantial energy savings. The need to stress 'economically justified demand' in nearly every article of the directive is also questionable. In your rapporteur's view, an unambiguous definition of cogeneration, leading by definition only to heat actually used and to the electricity generated in its production, is clearer and more precise.

2. Calculation method

The same applies to the calculation method for electricity from cogeneration. The Commission has opted for a two-stage approach, the first stage to verify whether the electricity in question is electricity from cogeneration, the second to verify whether the electricity will lead to substantial energy savings in comparison to the separate production of power and heat. To this end, efficiency reference values are used. This approach has a **number of shortcomings**. Accordingly your rapporteur has set out in a new recital the criteria which a calculation method with Europe-wide validity should fulfil: sufficient

precision, comprehensibility, avoidance of unnecessary administrative effort and avoidance of distortions of competition on the internal market. The Commission proposal does not meet these criteria. For one thing the **formulae it gives for calculating electricity from cogeneration are not precise**, since the variables it states are not sufficiently well defined. Secondly, the Commission proposes using national efficiency reference values to provide proof of primary energy savings. On an internal energy market this would lead to massive distortions of competition. A cogeneration plant which is deemed to be energy-saving and thus deserving of aid in Poland, for example, could be regarded as not deserving of aid in the Netherlands, since the comparison used is always with national reference values.

For this purpose your rapporteur **proposes a new, more precise definition and a new calculation method**, which is based on convergent opinions from experts in the field obtained following numerous conversations with political and economic actors. The advantage of the calculation method proposed by your rapporteur is that it gives sufficiently precise instructions for those applying the directive on how to calculate whether electricity counts as being electricity from cogeneration.

The approach used in Annex II is taken up again and made more precise in Annex IIa (new). The calculation method proposed there is a way of guaranteeing error-free calculation of electricity from cogeneration. National efficiency reference values are no longer needed. The Commission is also called upon to present harmonised reference values for comparative purposes not later than two years after the directive enters into force.

3. Timetable

A further shortcoming in the Commission proposal is the timetable for the implementation of the directive and the achievement of the first results. In your rapporteur's opinion, a tightening of the timetable is not only possible and can be expected of the Member States, but is also urgently necessary. Since the drafting of a Community strategy in 1997, the proportion of cogeneration in Europe has risen only minimally, in spite of the stated aim of doubling it. The implementation of this objective is more important today than ever, since climate change has now taken control of humanity and not the other way around.

4. Specific objectives

For exactly the same reason the lack of objectives is regrettable. Your rapporteur makes a proposal to this end which would require the Member States to increase the national proportion to an extent of which they are, in his view, entirely capable: the creation of appropriate measures enabling the Member States to fully exploit 20% of their national potentials by 2010. This would amount to a clear commitment on the part of the Member States to cogeneration in Europe.

Concluding remarks

The numerous amendments made by your rapporteur are necessary in order to make the proposal for a directive into a consistent legislative text, which is more logically structured without neglecting precision. Technical data and definitions which are not necessary for an understanding of the directive are relegated to the annexes. Repetitions of provisions from the

Commission proposal are deleted.

7 February 2003

OPINION OF THE COMMITTEE ON THE ENVIRONMENT, PUBLIC HEALTH AND CONSUMER POLICY

for the Committee on Industry, External Trade, Research and Energy

on the proposal for a Council directive on the promotion of cogeneration based on a useful heat demand in the internal energy market
(COM(2002) 415 – C5-0366/2002 – 2002/0185(COD))

Draftsperson: Cristina García-Orcoyen Tormo

PROCEDURE

The Committee on the Environment, Public Health and Consumer Policy appointed Cristina García-Orcoyen Tormo draftsperson at its meeting of 4 November 2002.

It considered the draft opinion at its meetings of 10 December 2002 and 28 January 2003.

At the latter meeting it adopted the following amendments by 35 votes to 0, with 1 abstention.

The following were present for the vote: Caroline F. Jackson, chairman; Anneli Hulthén and Mauro Nobilia vice-chairmen; Cristina García-Orcoyen Tormo, draftsperson; María del Pilar Ayuso González, Hans Blokland, David Robert Bowe, John Bowis, Dorette Corbey, Chris Davies, Avril Doyle, Karl-Heinz Florenz, Laura González Álvarez, Robert Goodwill, Françoise Grossetête, Cristina Gutiérrez Cortines, Jutta D. Haug (for Anne Ferreira), Marie Anne Isler Béguin, Eija-Riitta Anneli Korhola, Bernd Lange, Minerva Melpomeni Malliori, Patricia McKenna, Emilia Franziska Müller, Rosemarie Müller, Riitta Myller, Marit Paulsen, Dagmar Roth-Behrendt, Giacomo Santini (for Giuseppe Nisticò), Karin Scheele, Inger Schörling, Renate Sommer (for Peter Liese), María Sornosa Martínez, Nicole Thomas-Mauro, Kathleen Van Brempt, Peder Wachtmeister, Phillip Whitehead.

SHORT JUSTIFICATION

The draftsperson and the committee welcomed the Commission proposal for a directive on the promotion of cogeneration as a concrete step towards an increased correct use of cogeneration in order to comply with the Kyoto protocol to the United Nations Framework Convention on Climate Change and in order to reduce the dependence of the European Union on external energy supplies. Cogeneration is a highly efficient technique to provide electricity and heat for the European energy market.

The Commission proposal has been based on the recommendations in the Commission's Green Paper "Towards a European strategy for Energy Supply" (COM (2002) 769). The draftsperson fully supported the main objective of the proposal, i.e. the reduction of CO_2 emissions through a limitation of the use of fossil fuels for production of heat and electricity. She also shared the view that the best way to reach this objective is the setting up of a common and transparent framework for the production of cogeneration, namely through common definitions and a system to guarantee the origin of electricity from cogeneration.

The Commission proposal insists that a process of producing electricity and heat only qualifies as "cogeneration" if the production meets a justified demand both for electricity and heat. Whereas electricity can easily be transported via transmission and distribution networks, the heat must be produced synchronically with the demand for useful heat. An important cornerstone for the development of new cogeneration capacity is to identify suitable useful heat demands for further exploitation in cogeneration processes. Similarly the existing cogeneration processes must carefully be maintained and follow the demand for useful heat.

In 1997 the Commission launched a strategy to promote combined heat and power generation and to dismantle barriers to its development. An important driver in the strategy was the introduction of an indicative global target for the whole EU, namely the doubling of the share of electricity from cogeneration from 9% to 18% of the total produced electricity in 2010. In view of the large variations in conditions for cogeneration in Member States the Commission decided nonetheless not to insert this global target in the proposal. Besides, an increase of the share of cogenerated electricity should not be regarded as a final target in itself but as a stepping-stone to meet the overall target of reducing CO_2 emissions.

Amendments proposed by the draftsperson

As the draftsperson supported in principle the Commission proposal she presented only a small number of amendments, two of which have been endorsed by the committee: first of all, the introduction of a system of guarantee of origin. This seems to be a reasonable step in line with other initiatives like promotion of electricity from renewables. If in the future the guarantee of origin for electricity from renewables will be developed into a system of green certificates, the guarantee of origin for electricity from cogeneration could similarly be developed and combined with green certificates.

Secondly, the committee supported the proposal to encourage Member States to analyse and monitor the amount of cogenerated electricity produced and consumed by the producer himself. The objective is to avoid that this amount of electricity is considered a hidden

production.

The draftsperson furthermore felt that the Commission proposal should be more ambitious and therefore proposed to add an obligation of Member States to adopt and publish a national target and action plan to realise the identified potential. The committee adopted an amendment obliging Member States to establish targets for cogeneration in 2012, 2015 and 2020, within one year after the entry into force of the directive.

Contrary to the committee, the draftsperson endorsed the three categories of cogeneration (industrial, heating and agricultural cogeneration) and felt that the different purposes for which heat output is used should be reflected in Member States' analysis of the potential for high efficiency cogeneration. She suggested that while heat output at a low level of temperature could be used for agricultural purposes, heat with temperatures around or below the ambient temperature of the production site should not be regarded as cogeneration, in order to avoid misuse of the cogeneration concept. The committee abolished the distinction between industrial, heating and agricultural cogeneration entirely.

The proposal at this stage does not include any harmonisation of Member States support programmes. This is well argued through references to subsidiarity and to differences in conditions for cogeneration. However, the threshold for direct support, set in Recitals 16 at 50 MW(e) seemed according to the draftsperson too rigid. She feared that introducing a general limit value could lead to economic suboptimisation and that there was no justification of a general EU limit of a specific value of 50 MW(e). The message to Member States should be that economic support should be given to the smaller installations because they are less competitive due to the lack of internalisation of externalities, specific barriers and obstacles, or the energy market being unable to tackle long term considerations.

The draftsperson was also of the opinion that it is important to avoid support programmes that lead to economic suboptimisations. If a Member State introduces a size limit for economic support it is important to avoid a "cliff-edge-effect", i.e. an installation with a size just above such a limit should not loose all support, but have the same amount of support as the installation with a size just at the limit value. Although the committee did not adopt the amendment put forward by its draftsperson, it was nonetheless in favour of deleting the threshold of 50 MW (e).

AMENDMENTS

The Committee on the Environment, Public Health and Consumer Policy calls on the Committee on Industry, External Trade, Research and Energy, as the committee responsible, to incorporate the following amendments in its report:

Text proposed by the Commission[1]	Amendments by Parliament

Amendment 1
Recital 5 a (new)

	(5a) In its resolution of 25 September 2002[1] on the Commission communication on the implementation of the first phase of the European Climate Change Programme, the European Parliament welcomes the idea of submitting a proposal to strengthen Community measures to promote the use of combined heat and power (CHP). It calls for an ambitious proposal containing binding objectives and an internationally recognised definition of CHP. The European Parliament also calls for the prompt adoption of a directive on the promotion of CHP.
	[1] P5-TAPROV(2002) 0439

Justification

This report on the first phase of the ECCP clearly sets out the European Parliament's most important requirements of a Commission proposal on the promotion of CHP.

Amendment 2
Recital 6, third sentence (new)

	The Communication establishes the objective to double the share of the total gross electricity generation of the Community produced by cogeneration from 9% in 1994 to 18% by 2010.

[1] OJ C291 26.11.2002, p. 182.

Justification

The amendment provides more background on the potential of CHP and explains the necessity to establish mandatory targets for the promotion of cogeneration in Europe.

Amendment 3
Recital 6 a (new)

(6a) The European Climate Change Programme stated the necessity for a Directive on cogeneration to complement and strengthen existing measures to promote CHP in line with the Community target of doubling the share of CHP in EU electricity generation from 9% in 1994 to 18% by 2010.

Justification

The requests from the European Climate Change Programme should be referred to.

Amendment 4
Recital 7 a (new)

(7a) The Sixth Community Environment Action Programme of 22 July 2002 (EP and Council Decision No 1600/2002), which sets out the Community's strategic approach to environmental protection, regards measures to combat climate change as one of the key priorities. One of the priority areas for action on tackling climate change is the reduction of greenhouse gases. One of the methods of achieving that objective is to create incentives to increase the use of CHP.

Justification

The reference to the Environment Action Programme adopted in July 2002 completes the list of reference documents putting forward the idea of increasing the share of CHP as an instrument of environment policy.

Amendment 5
Recital 6 b (new)

(6b) Because insufficient progress has been made in increasing the share of cogeneration in the Community so far, the target date should be postponed to 2012.

Justification

The objectives set in various decisions should be given to support the establishment of mandatory targets for the promotion of cogeneration in Europe.

Amendment 6
Recital 7, sentences 3 and 4 (new)

In the same resolution, the European Parliament reiterates its earlier opinion that annual reductions in final energy intensity of 2.5% ought to be achievable, provided a strong political will exists; it calls, therefore, on the European Council to link the knowledge-based economy and energy efficiency by integrating energy efficiency in the Lisbon process, through the adoption of a target for an annual reduction in final energy intensity of 2.5%.

Justification

Promotion of cogeneration is an integral part of a larger framework to improve energy efficiency. It is therefore essential to recall that energy efficiency is an objective in itself that is too often set aside by the Commission and the Council.

Amendment 7
Recital 8 a (new)

(8a) The Directive on the energy performance of buildings[1] requires Member States to ensure that, for new buildings of more than 1000 m^{2,} the technical, environmental and economic feasibility of

installing alternative systems such as CHP is assessed before building commences.

[1] COM(2001)226

Justification

This Directive shows that CHP also has a bearing on energy efficiency.

Amendment 8
Recital 13, second sentence (new)

In a medium or long-term perspective, such a system of guarantee of origin could be developed into a certification system to be combined with green certificates.

Justification

An additional incentive to reduce CO_2 would be a 'green' certification system, complementing greenhouse gas emission trading.

Amendment 9
Recital 16

(16) Public support schemes for promoting cogeneration should focus on support for cogeneration based on a useful heat demand and avoid encouragement of increased heat demand in order to avoid increase of fuel consumption and CO_2 emissions. Member States should take steps to prevent public financial support for electricity from cogeneration from being used to subsidise heat production, thereby creating incentives for being less careful about the proper use of the heat output. ***Without prejudice to the Community Guidelines on State aid for environmental protection, direct support for production should in principle be focused on the share of cogenerated electricity produced <u>either</u> in installations with a capacity below a threshold value that should be set at 50 MW(e) or lower <u>or</u> in larger installations but then only the***	(16) Public support schemes for promoting cogeneration should focus on support for cogeneration based on a useful heat demand and avoid encouragement of increased heat demand in order to avoid increase of fuel consumption and CO_2 emissions. Member States should take steps to prevent public financial support for electricity from cogeneration from being used to subsidise heat production, thereby creating incentives for being less careful about the proper use of the heat output.

amount of electricity produced by the capacity below such a threshold value.

Justification

Member States should be free to decide which installations should receive more or less support.

Amendment 10
Recital 20 a (new)

(20a) In collecting statistics Member States are encouraged to analyse and monitor the amount of cogenerated electricity produced and consumed by the producer himself. Member States should be aware that even if such a production is not visible in the sense that it is sold or transmitted through the grid, it should be considered and counted as cogeneration. To establish a full overview of cogenerated production this type of production must be taken into account.

Justification

Cogenerated electricity produced and consumed by the producer could be regarded as a hidden production if it is not counted and taken into consideration.

Amendment 11
Recital 21

(21) The overall efficiency and sustainability of cogeneration is dependent on the many factors such as technology used, fuel types, load curves, the size, and also on the properties of the heat. Use of heat as high pressure steam for industrial processes provides limits of the electrical efficiency of the cogeneration installation because of the high temperature level for the heat (above140°C). Use of heat for central heating purposes, demanding a lower temperature level (from 40°C to 140°C) than the industrial use, allows a higher electrical efficiency of the

Deleted

cogeneration installation. Use of heat for agricultural heating, such as warming of greenhouses and aquaculture pools, provides an even lower level of temperature (below 40°C) and improves thereby the possibilities to increase the electrical efficiency. This Directive reflects these considerations by introducing three classes of cogeneration in order to ensure that evaluation of electrical efficiency of different cogeneration installations take the different heat temperature levels into consideration.

Justification

Distinguishing between industrial, heating and agricultural cogeneration may be desirable for statistical purposes but in general entails excessive administrative costs.

Amendment 12
Article 3, point a

(a) "cogeneration" shall mean the generation in one process of thermal energy and electrical and/or mechanical energy. ***For practical reasons and based on the fact, that the use of the heat output for different purposes requires different temperature levels of the heat, and that these differences influence efficiencies of the cogeneration, cogeneration shall be divided into three classes: "industrial cogeneration", "heating cogeneration" and "agricultural cogeneration";***	(a) "cogeneration" shall mean the generation in one process of thermal energy and electrical and/or mechanical energy.

Justification

Distinguishing between industrial, heating and agricultural cogeneration may be desirable for statistical purposes but in general entails excessive administrative costs.

Amendment 13
Article 3, point d

(d) "agricultural cogeneration" shall mean	***Deleted***

the generation in one process of electrical and/or mechanical energy and thermal energy useful for agricultural heating of greenhouses, aquaculture plants and similar applications generally with heat temperatures between 15°C and 40°C;

Justification

This category opens up the possibility of defining a condensing power plant as a cogeneration plant. Heat temperatures as low as 15° C can hardly be described as "useful heat"; on the contrary, there is a risk that they justify national support schemes for wasteful condensing production.

Amendment 14
Article 3, point d a (new)

(da) "micro-cogeneration" shall mean cogeneration of energy lower than 50 kW.

Justification

Industry in Europe, Japan and the US believes that micro-CHP (up to 50 kW) represents a totally new market for cogeneration. If properly promoted, it could flow into the residential and commercial sectors. The Directive, however, does not recognise the special nature of micro-cogeneration and does not introduce specific provisions for it. In order to do so, one needs first a clear definition of what micro-cogeneration means. The amendment provides such a definition.

Amendment 15
Article 3, point d b (new)

(db) "efficient micro-cogeneration" shall mean micro-cogeneration with a certified overall efficiency of at least 80%;

Justification

The amendment provides a clear definition between efficient and non-efficient micro-cogeneration.

Amendment 16
Article 3, point m a (new)

(ma) "certified overall efficiency" shall mean the overall efficiency measured at maximum power point of the micro-cogeneration unit at temperature of 40°C flow and 30°C return temperature.

Justification

Micro-CHP appliances will be installed like household boilers. Serially produce micro-CHP systems are intended to be used in a boiler replacement capacity, and should be regulated to allow for plug-and-play operation. Specific measurement, in particular the heat output, during the whole year as proposed by the Commission in the current definition of "overall efficiency" is not currently economically feasible for these systems. Overall efficiency for micro-CHP will therefore be assessed once under a standardised certification approval.

Amendment 17
Article 4, paragraph 3, sentence 2 a (new)

The third and fourth indents do not apply to efficient micro-cogeneration.

Justification

Efficient micro-CHP is to be defined as "certified overall efficiency of 80%". In that sense, there is no reason any more to compare micro-CHP with reference values for separate production of electricity and heat (third indent). According to the fourth indent, "each producer of electricity" has to demonstrate that the sold electricity is produced from cogeneration. This provision cannot work for micro-CHP where each household would be responsible to make such a demonstration.

Amendment 18
Article 5, paragraph 1

1. ***A cogeneration process with an efficiency level of at least 80% shall be regarded as a high-efficiency process.***

1. Member States shall no later than ***two years*** after the entry into force of this Directive ensure that the efficiency of

Member States shall no later than ***one year*** after the entry into force of this Directive ensure that the efficiency of cogeneration

cogeneration production, ***defined in terms of achievement of primary energy savings*** can be determined ***in accordance with*** Annex ***III.***	production can be determined ***on the basis of the calculation method set out in*** Annex ***II.***

Justification

Under the definition of cogeneration set out in this Directive, based on the calculation method in Annex III, the level of efficiency is not defined in terms of primary energy savings. On the contrary, in this directive an efficiency level of 80% is set as an efficiency criterion.

Amendment 19
Article 5, paragraphs 2-4

2. For the purpose of determining the efficiency of cogeneration, Member States shall not later than two years after the entry into force of this Directive adopt:	***Deleted***
(a) efficiency reference values for separate production of heat and electricity to be used for the calculation of primary energy savings from cogeneration in accordance with the methodology set out in Annex III.	
(b) principles for defining the national efficiency reference values for separate production of heat and electricity based on a well-documented analysis of the most realistic references in each Member State.	
3. Member States shall review the national efficiency reference values for separate production of heat and electricity every 5 years to take account of technological developments and changes in the distribution on energy sources. Where changes in the national efficiency reference values for separate production are made, the new reference values shall be published and shall be notified to the Commission.	***Deleted***
4. The Commission shall evaluate the criteria for determining the efficiency of cogeneration adopted by the Member States pursuant to (paragraph 2). After having consulted the Member States, the	***Deleted***

Commission shall in the report referred to in Article 10 (1), consider the scope for a harmonised methodology that Member States could follow in order to determine the efficiency of cogeneration production.

Justification

As an efficiency level of 80% is set as an efficiency criterion it is not necessary to determine national reference values for efficiency levels, thus considerably reducing the administrative effort needed by the Member States to draft their reports as compared with the Commission proposal.

Amendment 20
Article 5, paragraph -1 (new)

-1. This article does not apply to efficient micro-cogeneration, which is regarded as an efficient process.

Justification

Efficient micro-CHP is to be defined in terms of "certified overall efficiency of 80%". In that sense, the efficiency criteria have been defined for micro-CHP and therefore, the current Article 5 concerning "efficiency criteria" does not apply to the micro-CHP installations.

Amendment 21
Article 5 a (new)

Article 5a

Targets and timetable

1. The EU shall achieve a cogeneration electricity output of at least 18% of the total electricity output by 2012.

2. Each Member State that has already achieved a cogeneration electricity output higher than 18% of its national total electricity output in 1997 shall not reduce its cogeneration share by 2012.

Justification

The purpose of the Directive must be to provide a framework for growth of cogeneration

together with an uptake of energy efficiency measures that should reduce CO2 and other greenhouse gases emissions. The Commission in its Communication "A Community strategy to promote combined heat and power (CHP) and to dismantle barriers to its development" had set already in 1997 the objective to double the share the total gross electricity generation of the Community produced by cogeneration from 9% in 1994 to 18% by 2010. This was endorsed by the Council in its resolution of 18 December 1997 on a Community strategy to promote combined heat and power, and by the European Parliament in its resolution of 23 April 1998 on the Community strategy to promote combined heat and power.

The European Climate Change Programme (ECCP) proposed the necessity for a Directive on cogeneration to complement and strengthen existing measures to promote CHP in line with the Community target of doubling the share of CHP in EU electricity generation from 9% in 1994 to 18% by 2010. In its June 2001 report, the ECCP stated that a Directive on cogeneration could potentially lead to savings by 2010 of at least 65 million tonnes of CO_2 a year, which is roughly the equivalent of the entire emissions of Austria.

However, the long lead times for new installations to become operational may make it difficult to fully achieve this target on the projected time scale, that is why we are suggesting to achieve this target in 2012 instead of 2010, which will still give a good contribution to meeting the Kyoto Protocol target in the first commitment period 2008-2012.

Those Member States that have not used yet their cogeneration potential must contribute at least to the same objective as the EU as a whole.

Those Member States - namely Austria, Denmark, Finland and The Netherlands - that have well-developed cogeneration in the past must take all the necessary policies and measures to at least maintain its original cogeneration capacities between now and 2012. This provision will maintain the cogeneration capacity in countries where the liberalisation of the EU energy market might affect it negatively.

Amendment 22
Article 6, title and paragraph 1

National potentials for ***high-efficiency*** cogeneration	National potentials for cogeneration
1. Member States shall establish an analysis of the national potential for ***high-efficiency*** cogeneration.	1. Member States shall establish an analysis of the national potential for cogeneration ***including micro-cogeneration, considering achieving the maximum energy and CO2 savings possible from cogeneration in each Member State.***

Justification

Distinguishing between industrial, heating and agricultural cogeneration may be desirable for statistical purposes but in general entails excessive administrative costs.
The amendment clarifies on the one hand that micro-CHP should not be forgotten when

Member States are evaluating their national cogeneration potential and, on the other hand, that energy and CO2 savings are also part of the cogeneration directive objectives.

Amendment 23
Article 6, paragraph 2

2. The analysis shall comply with the criteria listed in Annex IV. It shall be based on well-documented scientific data ***and shall distinguish between applications of cogeneration in at least the following categories:***	2. The analysis shall comply with the criteria listed in Annex IV. It shall be based on well-documented scientific data.
- industrial cogeneration	
- heating cogeneration	
- agricultural cogeneration	

Justification

Distinguishing between industrial, heating and agricultural cogeneration may be desirable for statistical purposes but in general entails excessive administrative costs.

Amendment 24
Article 6, paragraph 3 a (new)

	3a. Member States shall establish targets for cogeneration in 2012, 2015 and 2020, as a share of national electricity output within one year after the entry into force of this Directive. These targets shall be reported to the Commission.

Justification

Long-term vision on cogeneration and national cogeneration potentials are essential not only for the development of cogeneration but also in the context of security of supply and environment protection.

Amendment 25
Article 6, paragraph 5

5. On the basis of the reports referred to in paragraphs 1, 3 and 4, the Commission shall assess how much progress Member States have made towards realising their national	5. On the basis of the reports referred to in paragraphs 1, 3 and 4, the Commission shall assess how much progress Member States have made towards realising their national

potentials for high-efficiency cogeneration.	***targets and*** potentials for high-efficiency cogeneration. ***If progress or national targets do not comply with the EU target, the Commission shall, in consultation with Member States, revise national targets.***
The Commission shall publish its conclusions in the report referred to in Article 10, for the first time not later than ***four*** years after the entry into force of this Directive and thereafter every three years.	The Commission shall publish its conclusions in the report referred to in Article 10, for the first time not later than ***three*** years after the entry into force of this Directive and thereafter every three years.

Justification

This process is similar that the one agreed under the Directive for renewable for production of electricity.

Amendment 26
Article 6, paragraph 4

4. Member States shall for the first time not later than ***two years*** after the entry into force of this Directive and thereafter every three years evaluate progress towards increasing the share of high-efficiency cogeneration. Member States shall also evaluate measures taken to promote high-efficiency cogeneration and indicate to what extent the measures are consistent with national climate change commitments.	4. Member States shall for the first time not later than ***18 months*** after the entry into force of this Directive and thereafter every three years evaluate progress towards increasing the share of high-efficiency cogeneration. Member States shall also evaluate measures taken to promote high-efficiency cogeneration and indicate to what extent the measures are consistent with national climate change commitments.

Justification

Taking into account that most Member States are already evaluating measures to promote cogeneration, 18 months from entry into force of the directive is sufficient for such an evaluation.

Amendment 27
Article 8, paragraph 8

8. Member States shall ***particularly facilitate*** access to the grid system of electricity produced from cogeneration units using renewable energy sources and installations ***with a capacity less than***	8. Member States shall ***ensure that*** access to grid system of electricity produced from cogeneration units using renewable energy sources and ***efficient micro-cogeneration*** installations ***shall be free and be free of***

1MWe, as set out in Annex III, a).	***charge.***

Justification

Efficient micro-CHP will develop only if free access to the grid is allowed. Similarly, the de-facto monopolies on the European energy market have the ability to avoid fair-price conditions. In order to let the individual small producer to get fair price for the production of electricity, he/she should be paid at least at the same price than the cost of each kWh he/she has to pay for one kWh bought from the grid.

Amendment 28
Annex II, points a and b, introductory part

a) Electricity production from cogeneration shall be considered equal to total annual electricity production of the unit.	***In cogeneration units with an annual overall efficiency higher or equal to 80 % electricity production from cogeneration shall be considered equal to total annual electricity production of the unit.***
• in cogeneration units of type b), d), e), f), g), and h) referred to in Annex I, with an annual overall efficiency higher or equal to 75%, and	***In cogeneration units with an annual overall efficiency below 80% calculations shall be made in order to separate electricity from cogeneration and electricity not produced in a cogeneration process.***
• in cogeneration units of type a) and c) referred to in Annex I with an annual overall efficiency higher or equal to 85%.	
b) Calculations shall be made in order to separate electricity from cogeneration and electricity not produced in a cogeneration process. In cogeneration units with an annual overall efficiency below 75% (cogeneration units of type b), d), e), f), g), and h) referred to in Annex I) or with an annual overall efficiency below 85% (cogeneration units of type a) and c) referred to in Annex I)	
The following formula shall be used:	The following formula shall be used:

Justification

CHP electricity is, as rightly stated in the Commission's proposal, determined by the product of the power-to-heat ratio and useful CHP heat. Certification is thus intended to determine the two aforementioned variables with a sufficient degree of accuracy. Whilst useful CHP heat can be measured directly respectively calculated with a sufficient degree of accuracy,

additional variables are required to determine the power-to-heat ratio (work-related power-to-heat ratio).

As a result of a many years of international consultation, the "Euroheat & Power Manual" contains the necessary complementary definitions, calculation rules and procedures. It is oriented towards a potential utilisation ratio of 80% (c.f. under 1). Consequently additional comparisons are not needed (c.f. under 4) and the procedure becomes much simpler, respectively at all possible.

The use of standard values as proposed by the Commission should be acceptable for statistical purposes only. In view of issuing guarantees of origin, Annex II should refer to the Euroheat & Power Manual.

Amendment 29
Annex II, point b), subparagraph 1

If the actual power to heat ratio of a cogeneration unit is not known, the following default values may be used for units of type a), b), c), d), and e) referred to in Annex I provided that the calculated cogeneration electricity is less or equal to total electricity production of the unit:	***The calculations of the energy generated in CHP in view of issuing guarantees of origin complies to the requirements of the directive. For statistical purposes only, the following default values may be used if the actual power to heat ratio of a cogeneration unit is not known or not determined by means of a certification process:***

Justification

CHP electricity is, as rightly stated in the Commission's proposal, determined by the product of the power-to-heat ratio and useful CHP heat. Certification is thus intended to determine the two aforementioned variables with a sufficient degree of accuracy. Whilst useful CHP heat can be measured directly respectively calculated with a sufficient degree of accuracy, additional variables are required to determine the power-to-heat ratio (work-related power-to-heat ratio).

As a result of a many years of international consultation, the "Euroheat & Power Manual" contains the necessary complementary definitions, calculation rules and procedures. It is oriented towards a potential utilisation ratio of 80% (c.f. under 1). Consequently additional comparisons are not needed (c.f. under 4) and the procedure becomes much simpler, respectively at all possible.

The use of standard values as proposed by the Commission should be acceptable for statistical purposes only. In view of issuing guarantees of origin, annex II should refer to the Euroheat & Power Manual.

Amendment 30
Annex III

This annex deleted.

Justification

In Annex III the Commission proposes a methodology to determine "high-efficiency CHP" by means of comparison with reference values for separate production.

The definition of CHP on the basis of a potential utilisation ratio of 80% only catches CHP as product of a highly efficient combined process. No comparison with separate production is needed as efficiency criteria.

It is, in addition, extremely difficult to define a generally applicable and equitable comparison method. The fuel mix as well as the merit order, determined by the respective marginal costs, vary from country to country. On the other hand, fixing country-specific values entails the risk of competitive distortions. Furthermore, the question of security of supply and possible future technology shifts need to be carefully considered. A long and controversial debate on these issues in the context of the Directive unnecessarily delays its adoption.

Therefore, Annex III is not needed in the Directive and should be deleted.

Amendment 31
Annex IV

a) The analysis of the national potential for high-efficiency cogeneration shall identify suitable heating and/or cooling demands and ***shall distinguish between application of cogeneration in at least the following main categories***:	a) The analysis of the national potential for high-efficiency cogeneration shall identify suitable heating and/or cooling demands and***, where cogeneration is used,*** shall ***consider*** the following:
– Industrial cogeneration	
– Heating cogeneration	
– Agricultural cogeneration	
b) For each of the three categories referred to under a), the analysis shall consider:	
– The type of fuels that are likely to be used to realise the cogeneration potentials, including specific considerations on the potential for increasing the use of renewable energy sources in the national heat markets via cogeneration.	– The type of fuels that are likely to be used to realise the cogeneration potentials, including specific considerations on the potential for increasing the use of renewable energy sources in the national heat markets via cogeneration.
– The type of cogeneration technologies as listed in Annex I that are likely to be used to	– The type of cogeneration technologies as listed in Annex I that are likely to be used to

realise the national potential.	realise the national potential.
– The type of separate production of heat and electricity that high-efficiency cogeneration is likely to substitute.	– The type of separate production of heat and electricity that high-efficiency cogeneration is likely to substitute.
– A division of the potential into modernisation of existing capacity and construction of new capacity.	– A division of the potential into modernisation of existing capacity and construction of new capacity.
c) The analysis shall include appropriate mechanisms to assess the cost effectiveness – in terms of primary energy savings - of increasing the share of high-efficiency cogeneration in the national energy mix. The analysis of cost effectiveness shall also take into account national commitments accepted in the context of the climate change commitments accepted by the Community pursuant to the Kyoto Protocol to the United Nations Framework Convention on Climate Change.	***b)*** The analysis shall include appropriate mechanisms to assess the cost effectiveness – in terms of primary energy savings - of increasing the share of high-efficiency cogeneration in the national energy mix. The analysis of cost effectiveness shall also take into account national commitments accepted in the context of the climate change commitments accepted by the Community pursuant to the Kyoto Protocol to the United Nations Framework Convention on Climate Change.
d) The analysis of the national cogeneration potential shall specify the potentials in relation to the timeframes 2010, 2015 and 2020 and include appropriate cost estimates for each of the timeframes.	***c)*** The analysis of the national cogeneration potential shall specify the potentials in relation to the timeframes 2010, 2015 and 2020 and include appropriate cost estimates for each of the timeframes.

Justification

Distinguishing between industrial, heating and agricultural cogeneration may be desirable for statistical purposes but in general entails excessive administrative costs.