•	environment, that waste shall not be dumped.	made of its potential impacts on human health and the	poorly characterized that proper assessment cannot be	whether a waste may be dumped. If a waste is so	of alternatives and the basis for a decision as to	waste is an essential precondition for the consideration	At Change
	it, that was	potential i	acterized t	waste ma	ives and	essential p	to the to the transfer of the transfer to the to
	ste shall no	mpacts on	hat proper	y be dum	the basis	preconditio	o ntro tros
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	ped.	ealth and	ent canno	waste i	cision a	considera	to trotter
		l the	ot be	9 80	s o	tion	+

shall take into account: Characterization of the wastes and their constituents

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- .2 properties: physical, chemical, biochemical and .1 origin, total amount, form and average composition; .3 toxicity:
- .4 persistence: physical, chemical and biological and .5 accumulation and biotransformation in biological materials or sediments.

ACTION LIST

12 The Action List provides a screening mechanism for to the London Convention 1972 used in meeting the requirements of Annexes I and II acceptable for dumping. It constitutes a crucial part of determining whether a material is considered Contracting Parties with its application. It may also be will continuously review all aspects of it to assist Annex 2 to the 1996 Protocol and the Scientific Group

persistent and bioaccumulative substances from their potential effects on human health and the marine candidate wastes and their constituents on the basis of Action List to provide a mechanism for screening environment. In selecting substances for consideration Each Contracting Party shall develop a national toxic, 18 Each Contracting Party shall develop a national in an Action List, priority shall be given to toxic, candidate wastes and their constituents on the basis of Action List to provide a mechanism for screening persistent and environment. In selecting substances for consideration their potential effects on human health and the marine bio:accumulative substances mon

in an Action List, priority shall be given to

- of alternatives and the basis for a decision as to whether a waste may be dumped. If a waste is so made of its potential impacts on human health and the poorly characterised that proper assessment cannot be environment, that waste shall not be dumped. waste is an essential precondition for the consideration A detailed description and characterization of the
- 11 Characterization of the wastes and their constituents
- shall take into account:
- .2 properties: physical, chemical, biochemical and .1 origin, total amount, form and average composition; biological;
- 5 accumulation and biotransformation in biological .4 persistence: physical, chemical and biological; and ,3 toxicity;
- maternals or sediments.

ACTION LIST

- emissions. need language from legal group!

- 4.1 Proper characterization of the carbon dioxide injection dioxide stream volume and serve as a basis for a decision as to whether carbon dioxide stream may be safety and environmental impacts. Annex 2 should be applied as appropriate when considering the use of could have practical impacts environment, of its potential impacts on human health characterized that proper assessment cannot be made stream is essential. dumped alternatives, and in the reduction of the overall carbon Additionally, individual carbon stream transport and storage, as well as potential health, that stream shall not If the stream on carbon be dumped. 08 BI components and the dioxide poorly
- 4.2 Specific characterization of the carbon dioxide stream components, as well as the stream as a whole. physical, or biological interactions among stream shall take into account the potential for chemical, should include: The
- composition origin, total amount, form and average
- biologicali properties: physical, chemical, biochemical and
- toxicity
- persistence: physical, chemical and biological; and
- accumulation and/or biotransformation biological materials or marine sediments within

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ACTION LIST

discussion is needed to determine how to apply the Action further discussion.) in this section reflects the need for additional input and List approach to CO2 streams. The presence of brackets EDITORIAL NOTE: Policy/legal input and further

- 5.1The Action List provides a screening mechanism for considered acceptable for disposal into sub-seabed will continuously review all aspects of it to assist geological formations. It constitutes a crucial part of II to the London Convention 1972. be used in meeting the requirements of Annexes I and Contracting Parties with its application. It may also determining whether a carbon dioxide stream Annex 2 to the 1996 Protocol and the Scientific Group 18
- 15.2 The composition of the injection stream should be overwhelmingly carbon dioxide, consistent with the primary purpose of mitigating greenhouse gas
- 15.8 Each Contracting Party shall develop a national environment. In selecting substances for consideration in an Action List, priority shall be given to toxic, candidate wastes and their constituents on the basis of Action List to provide a mechanism for screening persistent and their potential effects on human health and the marine bio-accumulative substances HOT

- 4.1 往入される二酸化炭素流の特性の適切な把握は必須である。もし二酸化炭素流特性の把握が不十分であるため 容量を削減する際には、附属費2を適切に適用するものとし、二酸化炭素能が投棄させるがどうかを判断する基準と するものとする。 物質による、二酸化炭素の輸送や貯留を実施する上での影 に、ドトの経験及び破壊に対する潜在的な影響にもでん過 響が存在する。代替手段の検討、及び、二酸化炭素流の総 **肉な検討を行うことができないような場合には、 当該二級 元炭素流や投業した耳なのない。 めのに、鶏栗、安全、や**)
 大殿城への藩在乞野聯汀ガ水、個々の二般行成紫統葬成
- 4.2 二酸化炭素流の具体的特徴づけ (特有の特性把握) には 化学的、物理的、生物学的相互作用を考慮しなければなら ない。把握すべき特性には以下の事項を含むものとする。 二酸化炭素流金体としての特在に加え、その構成物質間の
- 起源、総量、形態及び平均的な組成

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物理的、化学的、生化学的、及び生物学的特質

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- .4 物理的、化学的及び生物学的持続性 .5 生物又はたい親物中における磐積及び生物学的な変 Ā

行動基準

(編集注:二酸化炭素流に対する行動基準の適用方法を決 なる饕餮の必要性を反映するものである。) 定するには、政策法的考察と更なる機論が必要である。この章におけるプラケットの存在は、追加的な考察とさら

- 5.1 行動基準は、二酸化炭紫流が海底下地質緊陥への処分を はロンドン条約附属費1及び10実施にも活用され得る 見真し、締約国の同リスト適用を支援する。また、同基準 はつ、草弁治グラーン虫やは、そのものみの国や銹鏡色に する。同基準は態定╋附属都2の最も重要な部分をなして **認められる殆らや気圧するれめの雰疸メガーズムを指棄**
- [6.2 注入流の組成は、温室効果ガス排出削減という、当初の 目的と一貫させるため、圧倒的に二酸化炭素であるべきで める。・ 疳包グラープなのの用語が必服]
- [6:3 各締約国は、人の鶴康及び海洋蝦夷に対する潜在的な影 評価するための数語を提供するために、国の行動基準を行 源からの華性及び特続性を有し、生体に整複する物質(例 択するに当たっては、人類の活動により影響を受ける発生 成しなければならない。回點難においた評価する物質を顕 響に基心いて、投棄が複判がさる廃棄物及びその構成物や カドミウム、 **始級ミログン、**

considerations. trigger mechanism for further waste prevention organohalogens). An Action List can also be used as a pesticides organosilicon compounds, beryllium, organohalogens, relevant, arsenic, ç chromium, their by-products petroleum mcket cyanides, fluorides and lead, hydrocarbons, and copper, other vanadium than and,

- 10 An Action List shall specify an upper level and may or on sensitive marine organisms representative of the so as to avoid acute or chronic effects on human health result in three possible categories of waster marine ecosystem. Application of an Action List will also specify a lower level. The upper level should be set
- .1 wastes which contain specified substances, or which management techniques or processes; acceptable for dumping through cause biological responses, exceeding the relevant level shall not be dumped, the use uniess made
- 3 wastes which contain specified substances, or which .2 wastes which contain specified substances, or which above the lower cause biological responses, below the upper level but environmental concern in relation to dumping; and cause biological responses, below the relevant lower assessment before their suitability for dumping can levels should be considered to level require more detailed be of little

DUMP-SITE SELECTION

- Il Information required to select a dump-site shall
- .1 physical, chemical and biological characteristics of .2 location of amenities, values and other uses of the the water column and the seabed.

sea in the area under consideration;

- .3 assessment of the constituent fluxes associated with in the marine environment, and dumping in relation to existing fluxes of substances
- 4 economic and operational feasibility

trigger mechanism organohalogens). An Action List can also be used as a organosilicon compounds, whenever organohalogens, pesticides or beryllium, relevant, arsenic, chromium, their petroleum for further waste prevention by-products nickel and cyanides, fluorides and lead, copper, hydrocarbons other than vanadium, and,

- 14 For an individual waste category, it may be possible to environmental quality standards, flux considerations concentration or other reference values. limits, biological responses,
- 16 An Action List shall specify an upper level and may marine ecosystem, Application of an Action List will or on sensitive marine organisms representative of the result in three possible categories of waste. so as to avoid acute or chronic effects on human health also specify a lower level. The upper level should be set
- ,1 wastes which contain specified substances, or which upper level shall not be cause biological responses, exceeding the relevant management techniques or processes; acceptable for dumping through dumped, the unless made use
- .2 wastes which contain specified substances, or which cause biological responses, below the relevant lower environmental concern in relation to dumping; and levels. should be considered 8 be of little
- .3 wastes which contain specified substances, or which be determined assessment before their suitability for dumping can above the lower cause biological responses, below the upper level but level require more detailed

DUMP-SITE SELECTION Site selection considerations

- 16 Proper selection of a dump-site at sea for the reception of waste is of paramount importance.
- 17 Information required to select a dump-site shall 6.2 Information required to select a site shall include: include:
- .1 physical, chemical and biological characteristics of the water-column and the sea bedi

.2 location of amenities, values and other uses of the

- .3 assessment of the constituent fluxes associated with in the marine environment; and dumping in relation to existing fluxes of substances sea in the area under consideration.
- 4 economic and operational feasibility

organosilicon compounds, cyanides, fluorides and trigger mechanism for further waste prevention organohalogens). An Action List can also be used as a pesticides or beryllium, whenever relevant, arsenic, considerations. organohalogens, chromium, their by products other petroleum nickel lead, copper, hydrocarbons and vanadium, than zinc,

- [5.4 For an individual waste category, it may be possible to define national action levels on the basis of environmental quality standards, flux considerations concentration or other reference values. limits, biological responses,
- [5.5 An Action List shall specify an upper level and may also specify a lower level. The upper level should be representative of the marine ecosystem should a leak occur. Application of an Action List will result in health or set so as to avoid acute or chronic effects on human three possible categories of carbon dioxide streams: 9 sensitive marine organisms
- be dumped, unless made acceptable for dumping through the use of management techniques or occurs, exceeding the relevant upper level shall not which may cause biological responses if a leak streams which contain specified substances,
- streams which contain specified substances, or which may cause biological responses if a leak occurs, below the relevant lower levels should be considered to be of little environmental concern in streams which contain specified substances, relation to dumping; and
- suitability for dumping can be determined, level require more detailed assessment before their occurs, below the upper level but above the lower which may cause biological streams which contain specified substances, responses if a leak ç
- Site selection considerations SITE SELECTION AND CHARACTERIZATION
- 6.1 Proper selection of a sub-seabed geological formation for the disposal of carbon dioxide streams from carbon paramount importance dioxide capture processes for sequestration is Ġ,
- . La geological assessment.
- .2 physical, chemical and biological characteristics of the water-column and the sea-bedi
- .3 location of amenities, values and other uses of the sea in the area under consideration,
- .4 assessment of the potential constituent fluxes of substances in the marine environment; and associated with disposal in relation to existing fluxes

- 扱くログンが含またないもの)を優先する。同基準は、は アスとして使用することがらざる。] ム、クロム、エッケル及びバナジウム、有機にい繋化合物 ロー層の網媒物の発生的工を被對はすることをほぞシス シアン化合物、その名物、及び関深利又はその関癌物で有 はなが、 適当な場合では、ひ繋、路、艦、囲密、ベリリウ
- [6,4 個別の廃棄物ごとに、集中限度、生物学的反応、環境の これ国の行動アベラや伝統するこれは国語のもる 質的水準、流さ分の被討及びその街の関係やの価値に描ん
- [5.5 行動基準では、上位の基準を明示しなければならず、ま ・受性の高い海洋生物に対する急性の又は慢性の影響を妨げるために設定されるべきである。行動基準を適用することによって、二酸化炭素流を三つの潜在的種類に分けることによって、二酸化炭素流を三つの潜在的種類に分けること 漏洩が発生した際、人の健康又は海洋生協系を代表する感 下位の基準を明示することもできる。上位の基準は、
- 生物学的反応を起こす二酸化炭素流は、処理技術又過程を通じ投棄が容認できるようになる場合を除き、投 楽してはならない。 関係する上位の基準を越えて特定の物質を含む又は
- 0 生物学的反応を起こす二酸化炭素流は、投棄に関して は鉄地に対する影点は少ないと地式るべからめる。 関係する下位の基準を下回り特定の物質を含む又は
-) 関係する上位の基準を下回るが下位の基準を越えて 年定の物質を含む又は生物学的反応を起こす二酸化炭 繋流は、投棄することが適切であるかを決定するに先 立ち、更なる詳細な検討が必要である。]
- 6 処分場所の選択及び特性把握 (処分楊所選択に当たっての検討事項)
- 6.1 二酸化炭素回収過程から発生する二酸化炭素消隔離処分 関へある。 のための海底下地質緊陥を適切に避択することは最も値
- 6.2 処分場所を選択するために必要な情報は次の専項を含
- 超解学的群庙
- .2 水域(海尾及びその下を除く)及び海尾の物理的、 学的及び生物学的特性
- .3 検討がちへいる水核ではためアメルアメー、 値値もる もの、及びその他の海洋利用の位置
- .4 海洋環境中で既に存在している(物質の)流量(fluxes 経済的及び運営上の実現可能性 と関連付けた処分に起因する潜在的成分の流彙の評価

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.I the nature of the seabed, including its topography,	includes:	undertaken to fill the gaps. Required information	obtained from the literature but field work should be	which the site is to be located. This information can be	oceanographic characteristics of the general area in	dump-site, it is essential that data be available on the	Waste Disposal Sites at Sea). Prior to selecting a	Studies No. 16 · Scientific Criteria for the Selection of	Environmental Protection (GESAMP Reports and	Experts on the Scientific Aspects of Marine	selection can be found in a report of the Joint Group of	to contraine for procedures to be followed in dump-site
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dumping activities affecting the area; biological composition and activity, and prior and geological characteristics,

,3 the chemical and biological nature of the water column, including pH, salinity, dissolved oxygen at surface and bottom, chemical and biochemical the physical nature of the water column, including storm days per year, suspended matter; and and wave characteristics, and the average number of storm wave induced bottom currents, general wind velocity of the surface and bottom drifts, velocities of orientation of the tidal ellipse, mean direction and with season and weather conditions, tidal period and thermocline/pycnocline and how it varies in depth temperature, depth, possible existence of

oxygen demand, nutrients and their various forms

and primary productivity.

6.3 The following are important considerations in selecting a sub-seabed geological formation for the disposal of carbon dioxide streams from carbon dioxide. capture processes; 6.3 以下の点は、二酸化炭素回収工程からの二酸化炭素流を

計事項である。

処分するための海底下地質果層の選択に際して、重要な検

.I storage capacity and injectivity of the geological

3 the surrounding geology; 2 storage integrity of the geological formation.

.4 potential migration and leakage pathways over time; and potential effects of leakage of CO2

.6 monitoring requirements

6.4 A significant amount of data will be needed to Most data will be integrated into geological models that will be used to simulate and predict the establish both the feasibility of a CO2 injection site performance of the site. and also to provide evidence of the integrity of the site.

6.5 Some of the important amenities, biological features specific location of the site are: and uses of the sea to be considered in determining the

19 Some of the important amenities, biological features and uses of the sea to be considered in determining the

specific location of the dump-site are:

.1 the shoreline and bathing beaches:
.2 areas of beauty or significant cultural or historical

importance;

such as sanctuaries

.3 areas of special scientific or biological importance, .1 the shoreline and bathing beaches;
.2 areas of beauty or significant cultural or historical

.3 areas of special scientific or biological importance .1 海岸級及び砂浜.2 景観地または著しく文化的または歴史的に重要な地域 ならない。

.1 地質界層の貯留容量と注入性

.2 地質界層の貯留の完全性 (密閉性?)

,3 周辺の地質

.4 二酸化炭素流の経年の移動及び漏洩の潜在的経路、及 び、脳辺による潜在宅影響

.6 監視要件(注:番号は原文の.6のマト)

6.4 二酸化炭素油入塩点の利用可能相と、さらにサイトの 代金油(密閉油)や監勘グけるためには、相当型のデータ 合みた、サイト在語のウミュアーションの予測に利用される。 が必要となる。ほとんどのアータは、地域的モアルへと統

6.5 特定の場所の位置を決定するに際しては、次の重要なアメニティー、生物学的特徴及び海の使用に考慮しなければ

保護区域のように特別な科学的または生物学的国販訊 のめる岩族

			. •			
Evaluation of potential impacts 22 An important consideration in determining the suitability of a waste for dumping at a specific site is the degree to which this results in increased exposures of organisms to substances that may cause adverse effects.	.1 the anticipated loading rates per day, week, month or year. 2 whether or not it is a dispersive site; and 3 the allowable reduction in water depth over the site because of mounding of material.	21 In order to assess the capacity of a site, especially for solid wastes, the following should be taken into consideration:		Site capacity	It should be large enough, unless it is an approved dispersion site, to have the bulk of the material remain either within the site limits or within a predicted area of impact after dumping: 2 it should be large enough to accommodate anticipated volumes of solid waste and/or liquid wastes to be diluted to near background levels before or upon reaching site boundaries: 3 it should be large enough in relation to anticipated volumes for dumping so that it would serve its function for many years; and 4 it should not be so large that monitoring would require undue expenditure of time and money.	.4 fishing areas: 5 spawning, nursery and recruitment areas; 6 migration routes; 7 seasonal and critical habitata; 8 shipping lanes; 9 military exclusion zones; and 10 engineering uses of the seafloor, including mining, undersea cables, desalination or energy conversion sites. Size of the dump-site 20 Size of the dump-site is an important consideration for the following reasons:
Evaluation of potential impacts 6.7 An important consideration in determining the suitability of a carbon dioxide stream for disposal at a specific site is the degree to which potential leakage from this sub-seabed geological formation may result in increased exposures of organisms to substances that may cause adverse effects.			formation: 2 the capacity should be large enough in relation to anticipated volumes for disposal so that it would serve its function for many years; and 3 the characteristics of the site should make monitoring feasible without undue expenditure of time and money.	Capacity of the sub-seabed geological formation 6.6 Capacity of the sub-seabed geological formation is an important consideration for the following reasons: 1. the capacity-should be large enough to have the total anticipated volume of the carbon dioxide total anticipated volume of the carbon dioxide.		4 fishing areas; 5 spawning, nursery and recruitment areas; 6 migration routes; 7 seasonal and critical habitate; 8 shipping lanes; 9 military exclusion zones; and 10 engineering uses of the seafloor, including mining, undersea cables, desalination or energy conversion sites.
潜在的影響の評価 6.7 特定の場所での二酸化炭素流の処分が適当か否かを決定 5.7 特定の場所での二酸化炭素流の処分が適当か否かを決定 する場合の重要な考慮事項は、発生しうる海底下地質果層 からの湯凌により、悪影響を引き起こす可能性のある物質への生物暴露の増加の程度である。			2 収容量は、長年にわたり機能を果たすように、処分される予定容量に対して十分な大きさであるべきである。 あ。 3 サイトの特性は、過度な時間及び費用を要やさない監視を可能にするものであること。	海底下地質界層の収容量は、以下の理由から重要な検討6.6 海底下地質界層の収容量は、以下の理由から重要な検討項目である。 1 収容量は、予定する二酸化炭染液の全容量が海底下地質界層に留まるだけ十分に大きくなければならない。		.4 漁場 .5 産卵、育成、加入水域 .6 回遊経路 .7 季節的及び重要な生息場 .7 季節的及び重要な生息場 .9 軍事演習地域 .1 0 鉱業、海底ケーブル、淡水化及びエネルギー転換所を含む海底の工業的使用