

我國能源政策實施政策環評之 成效分析：以離岸風電區塊 開發政策之政策環評為例*

陳穎峰**

摘要

EIA EIA
SEA
2016 SEA
SEA SEA
SEA 9 EIA
IAIA 6 SEA SEA EIA
SEA 6

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106-2410-H-034 -017

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109 7 16
110 3 5

109 12 27 110 3 26

壹、前言

¹ strategic environmental assessment strategic environmental impact assessment

SEA ²
environmental impact assessment EIA

2009 2002
EIA EIA

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EIA EIA

2013 EIA

EIA ⁴

¹ strategies concepts SEA

² environmental assessment João 2005: 4

³ ...

⁴ 2006
9

2012
14

2013 6 EIA
18-1 24 EIA
5

Firestone and Kempton, 2007

2007 EIA
2016
SEA 3
SEA 12
SEA 6
SEA EIA

⁵ 235

40 51 52 53 54 36 46 50
⁶ 2006 EIA SEA SEA
2017 SEA

貳、SEA 的特色和其在我國實施現況

EIA
EIA Social
Impact Assessment SIA
Cumulative Impact Assessment CIA
OECD, 2006: 31-33
EIA
Loayza, 2012: 9

一、SEA 的演進

SEA EIA
2005
EIA
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OECD, 2008: 7
SEA
EIA
EIA
João, 2005:

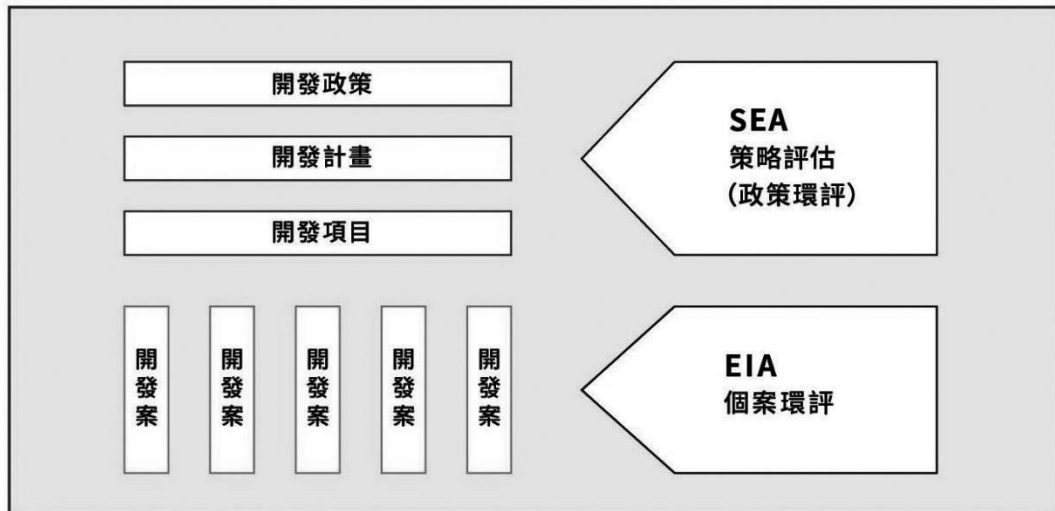
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SEA EIA

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1 SEA EIA

OECD 2006: 30

SEA

SEA

João, 2005:

8-12

SEA SEA

SEA CMP Continent Manager's

Partnership 20
 2013: 346-7 OECD World Bank Lawrence,
 SEA

Loayza, 2012: 16-17; OECD, 2008
 SEA

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Partidário, 2005: 661-2

EIA

SEA

EIA

EIA

Lobos and Partidario, 2014; Noble,

2009

二、SEA 的成效指標

Assessment IAIA International Association for Impact
 SEA

IAIA, 2002

1 IAIA SEA

sustainability-led	
focused	
integrative	
accountable	
participative	
iterative	

IAIA 2002

SEA

EIA

EIA
Aarhus Convention

EIA

SEA

SEA

EIA

SEA



2 SEA

João 2005: 11 Marshall Fischer 2005: 684

SEA

SEA

SEA

7

EIA

SEA

2013 99-100

三、我國 SEA 實施現況與侷限

SEA

SEA

EIA
SEA
EIA

SEA
SEA

EIA

14

2011

EIA

SEA

2017 72-80

(一) 風險評估：窄化的科學資訊造成制度隱匿風險

2015

2007

107-124 2015 2015

undone science EIA 2014 78-80
EIA
2011 638

8 2015 EIA 2015 2014
2011 2012

(二) 風險決策：偽裝成專家決策的官僚決策

2009 2013 2010

EIA 2019
54-57

EIA

2014 143

2018

(三) 風險管制：決策與管制的行政斷裂

EIA

EIA

9

EIA

EIA

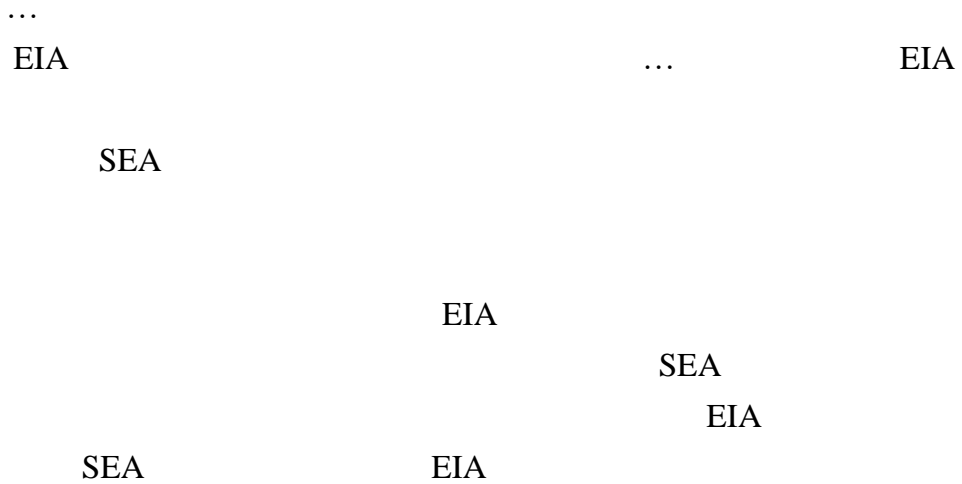
EIA

150

EIA

EIA

四、以 SEA 帶動治理能力提昇，也促成 EIA 改革



參、離岸風電之 SEA

SEA

一、SEA 對於能源轉型政策的重要性

SEA

Frantzeskaki et al., 2012

EIA

EIA

SEA

2017 45-7

二、離岸風電的 SEA 操作

SEA

EIA

SEA

SEA

Offshore Energy Strategic Environmental Assessment

SEA Spatial Plan for the German Exclusive
Economic Zone in the Baltic Sea SEA

2018 11-14

2017

SEA

EIA

2011/92/EU

Directive 2009/147/EC

Framework

11

2018

2001/42/EC

Habitats Directive

92/43/EEC

2017

Directive

Birds

Marine Strategy

EU, 2017;

SEA

10

三、我國離岸風機政策的 SEA

2025

3GW

2012

2015

2017

36

EIA

2019

SEA

0.5

1GW

SEA

10

肆、我國能源轉型的頭一遭：離岸風機 SEA

2016	SEA			
	3	7	2016	12
305				
				EIA

一、盤點法規與風險資料，劃定不宜發展離岸風電之區塊（包括「距離白海豚棲地一公里」）

2013	EIA			
	SEA			
2016a			14	
●		500	12	1
●		9		
		500		
2016			12	1
2016b				

二、建立海上施工和噪音管制的技術規範

●				
●		7	20	30
●			180	
●				
●		750		
●		1,500		6
●				
●		11	3	
●		500		

三、建立開發優先順序：「先遠後近」原則

2017	169			
			30	6
	SEA			
		50		
2016b	12-24			
			11	2016b

11				45
	SEA		36	19.35
	8.2			

四、催生本土海洋長期環境資料庫

SEA
12 SEA
2016a 32
EIA SEA

伍、離岸風電 SEA 成效分析

SEA EIA
IAIA SEA

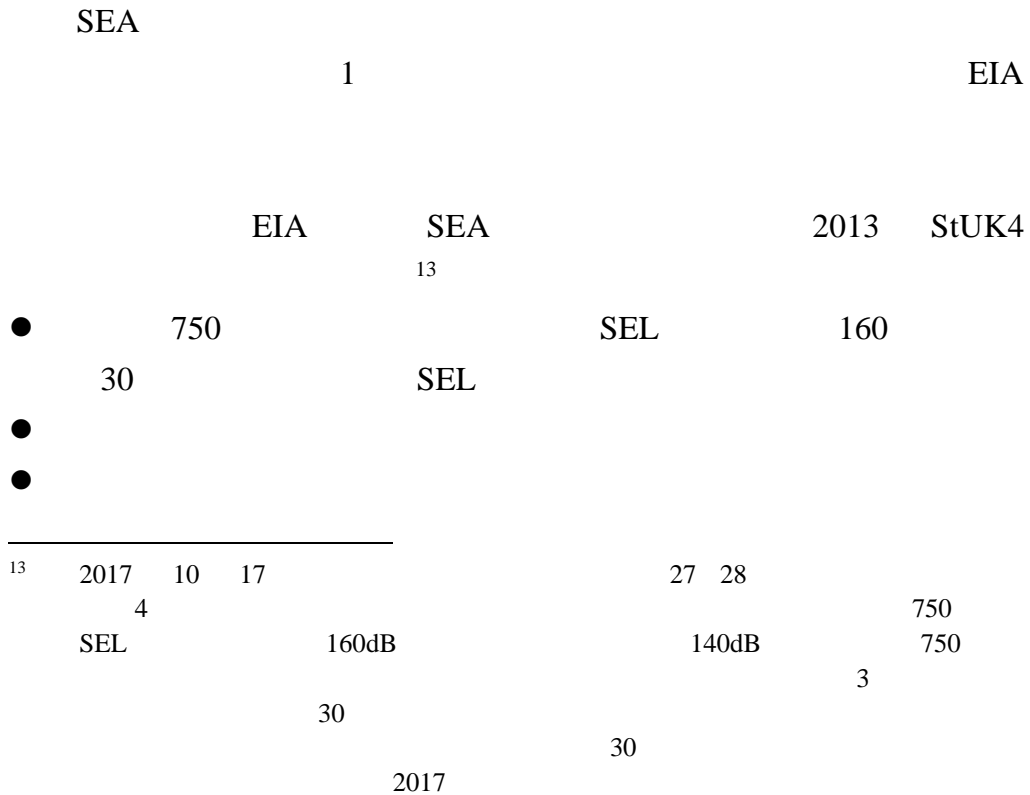
¹² SEA

StUK4 2013

一、永續導向：較侷限於後端管制，缺乏前端替代方案的嚴肅討論



二、聚焦力：選址與技術規範明確化確實提昇 EIA 審查品質與效率

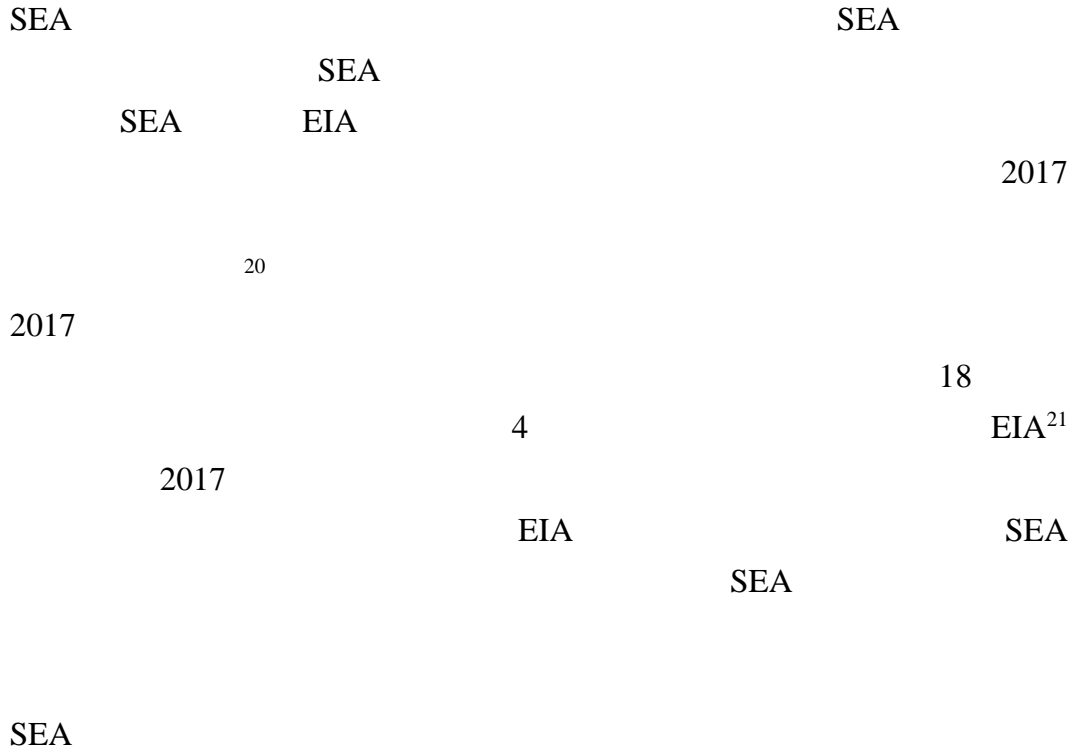


EIA 2 2 SEA 1
2 2 4.2 EIA 2012
SEA EIA
EIA
17 45 1800 EIA
2.5
30 750 160 8MW
2017 SEA
EIA
14 2017
EIA 10.07GW SEA
0.61GW 2017 SEA
2015 EIA
EIA 860
15 2015 2017
2 StUK4

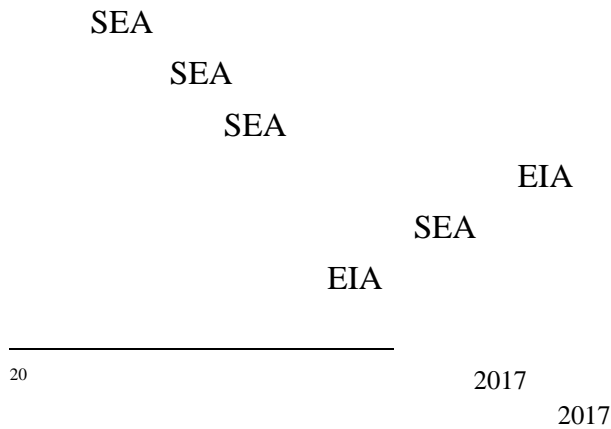
14 3 44% 4.2 2018
15 500
110

三、整合性：從「由淺而深」到「先遠後近」的政策扞格





四、可問責性：權責不明與執行落差仍未獲得解決



20

21

22 2018 2019 2

EIA 23 2019 2019a 1

SEA SEA SEA SEA

24 SEA

EIA

25 2019c SEA

EIA

22 2018 2 EIA 100MW

23 10 4 5

24 2016 41

25 2016 2019 30 150 2013 2016 2017 35

10 2016

EIA

2017 180-181

五、參與度：行政切割使民主參與窄化，影響決策品質

4

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SEA

SEA

EIA

EIA

SEA

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SEA

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2016a

2016a 13-20 2016b 9-11

EIA

2017b

70%
55% 30%
“one size fits all.”

26

27

2017

2020

2018

EIA

2020

6

2020

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8

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9

26

2017

2017b

27

2017 8

3%

15%

2017

60%

40%

SEA

EIA

EIA

EIA

EIA

28

2017

2017

EIA

EIA

EIA

29

EIA

28

29

SEA EIA

SEA

六、漸進學習：學習效果仍待長期觀察

SEA

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SEA

EIA

2016

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SEA

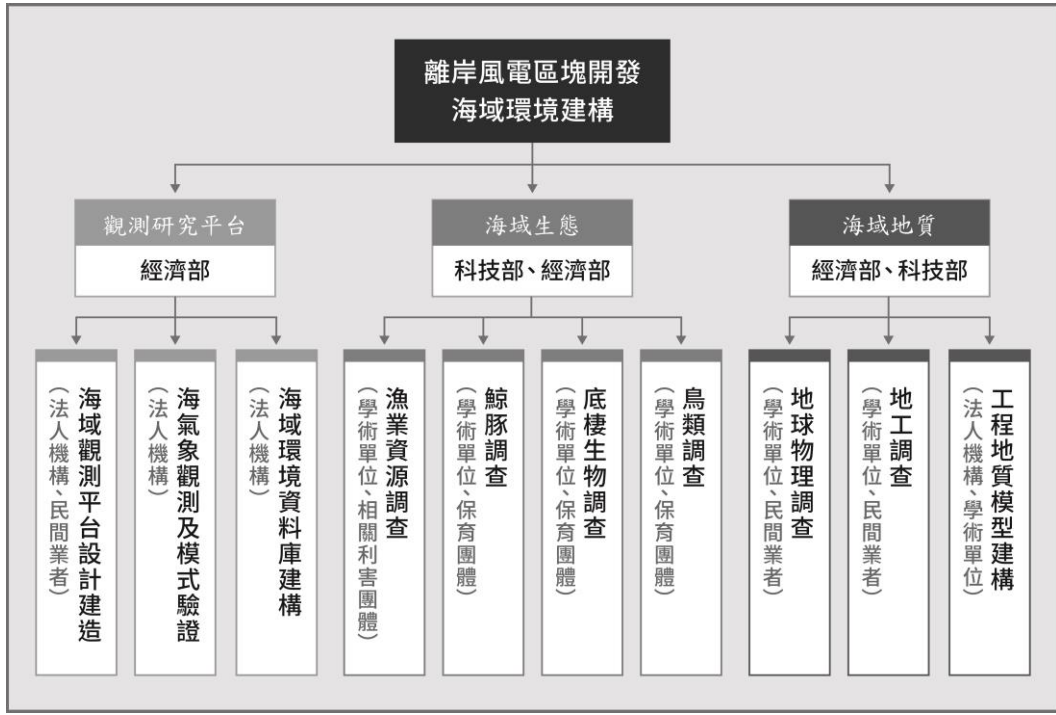
SEA

SEA

2017

2017c

2018



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2018 4

2018

Formosa 1

30

2019b

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SEA

2018

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31 2018 3

2019 2020

2018 2020 7

32

陸、國際經驗對我國 SEA 的啓示

SEA

EIA

Monteiro et al., 2018:

83-4

SEA

33

SEA

2017

Agency

WindSeeG

Federal Network
BMW, 2017: 11

SEA

SEA

SEA

SEA

SEA

2014 28-9

SEA

Lawrence, 2013: 348-9

SEA

Mizuno, 2014: 1017; Shibata, 2020

SEA

SEA

SEA

34

SEA

³⁴ 2018

SEA

EIA

SEA

2018

35

2016

SEA

2015

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Vagiona and Karapanagiotidou, 2019: 6-10

SEA

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SEA

EIA SEA

EIA

2017

Ottinger, 2013;

2014

84-88

2010

2016



SEA
SEA

36

³⁷ Meijer et al., 2017; The

Scottish Government, 2017;

2017



SEA

2014 33-4

SEA

SEA

EIA



36

SEA

SEA

SEA

post-adoption SEA Statements

The Scottish Government, 2017

37

Finspång Municipal Energy Plan

2016-2030

EIA

EIA

SEA
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柒、結論

SEA

EIA

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2 SEA

		SEA	
sustainability-led			
focused		EIA	
integrative		1. 2. SEA	
accountable		1. 2. SEA	
participative		1. 2.	
iterative		1. 2.	

EIA SEA SEA



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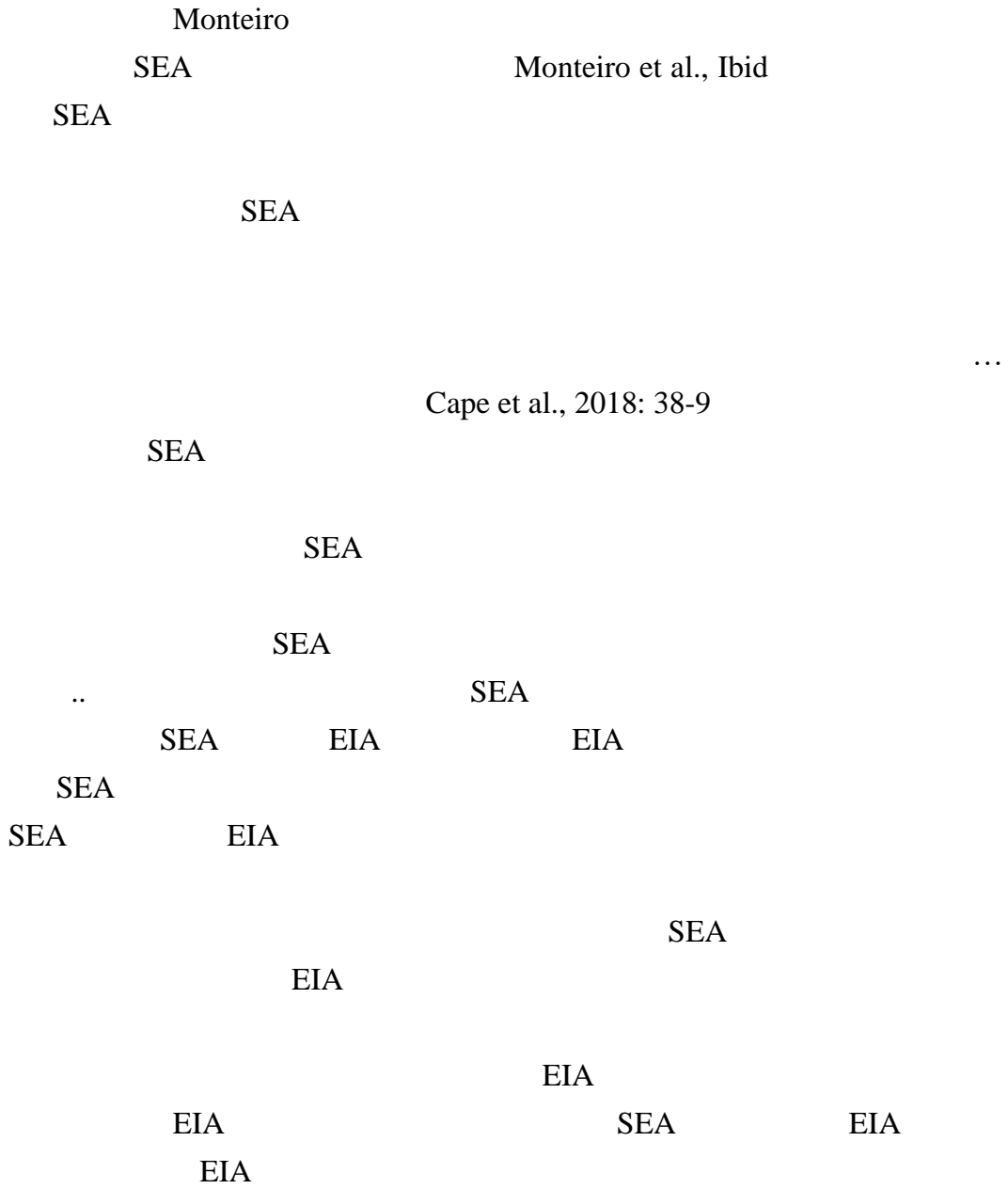
EIA

SEA

SEA

SEA

EIA



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news/view/id/369448 2017 9 19 <https://www.rti.org.tw/>
- 2017
2017a
<https://www.storm.mg/article/269131> 2017 5 20
- 2017b
<http://www.storm.mg/article/286841> 2017 6 25
- 2017c
<http://www.storm.mg/article/302760> 2017 7 22
- 2017d
<http://www.storm.mg/article/300222> 2017 7 17
- 2012
- 2010
35 61-117
- 2017
com/money/story/5648/2843136 2017 11 28 <https://money.udn.>
- 2017
169-185
- 2017
article/11249?issueID=668 2017 11 5 <https://castnet.nctu.edu.tw/castnet/>
- 2014
52 4 111-159
- 2018
<https://www.thenewslens.com/article/108028> 2018 11 12

2015									97-132
2019	https://e-info.org.tw/node/220805	2019	11	18					
2016	https://e-info.org.tw/node/118228	2016	9	8					
2007									
1996-2005									
2015									
2016									<i>THE WORKING PAPER OF RSPRC 2016</i>
2017									https://www.storm.mg/article/332067
2019	https://e-info.org.tw/node/217075	2019	3	20					
2020	https://e-info.org.tw/node/226272	2020	8	14					
2017									http://greenimpact.cc/zh-TW/article/qdvxq/%E4%B8%89%E5%88%86%E9%90%98%E5%B8%B6%E4%BD%A0%E7%9C%8B%E6%87%82%E9%9B%A2%E5%B2%B8%E9%A2%A8%E5%8A%9B%E7%99%BC%E9%9B%BB%E7%94%A2%E6%A5%AD%E7%9A%84%E7%92%B0%E8%A9%95%E5%9B%B0%E5%A2%83
2015									2017 11 9
129									67-78
2011									
		40	3	955-1027					
2019a	https://e-info.org.tw/node/216946	2019	3	14					
2019b	https://e-info.org.tw/node/220576	2019	10	8					
2019c									150
	https://e-info.org.tw/node/220014	2019	9	12					
2014									
		2	1	1-40					

2014
 14 107-168
 2013
 88 83-133
 2017
 24 49-90
 2019 19 1
 43-95
 2010
 35 1-28
 2017 <https://ec.ltn.com.tw/article/paper/1161423> 2017 12 19
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 25 1 39-71
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 18 2 1-54
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 14 1 91-113
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 41 2 605-664
 2017 2017
 2015
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 2012
 2009
 12 109-140
 2016a 500
<https://e-info.org.tw/node/117035> 2016 7 12
 2016b 1
<https://e-info.org.tw/node/202138> 2016 12
 28
 2017 2.8km
<https://e-info.org.tw/node/207574> 2017 9 27

- 2018
<https://e-info.org.tw/node/209927> 2018 2 12
- 2013
 12 2 133-178
- 2016a 306
[http://doc.epa.gov.tw/ifdewebbbs_epa/Download.ashx?Guid=a45f329d-d583-41d9-97fe-b42e246b8f63&type=1060112_306%E6%9C%83%E8%AD%B0%E7%B4%80%E9%8C%84\(%E7%99%BC%E6%96%87%E7%89%88\)r1.pdf](http://doc.epa.gov.tw/ifdewebbbs_epa/Download.ashx?Guid=a45f329d-d583-41d9-97fe-b42e246b8f63&type=1060112_306%E6%9C%83%E8%AD%B0%E7%B4%80%E9%8C%84(%E7%99%BC%E6%96%87%E7%89%88)r1.pdf) 2018 3 20
- 2016b
http://doc.epa.gov.tw/ifdewebbbs_epa/Download.ashx?Guid=4264a2b9-97fb-4334-9c3f-6956432522e0&type=%E6%9C%83%E8%AD%B0%E7%B4%80%E9%8C%84%E7%BC%88%E7%99%BC%E6%96%87%E7%89%88%EF%BC%89.pdf 2018
 3 20
- 2017
<https://enews.epa.gov.tw/Page/3B3C62C78849F32F/1fbe7823-f580-42cf-90f2-d9a4afea35>
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The Effectiveness Analysis of the SEA on Taiwan's Energy Policy: The SEA on Offshore Windfarm Cluster Development Policy

Ying-Feng Chen*

Abstract

To deal with the fragmentation of risk governance based on the environmental impact assessment (EIA), the strategic environmental assessment (SEA) has been widely adopted internationally, which helps laying out the inter-relationships of potential stakeholders and probes the flaws of current regulations in the early stage of policy making. This democratic device enables the evaluation of risks comprehensively and thus prioritization of values during policy-making process. Furthermore, the SEA also applies the concepts of cumulative impacts and prioritization of values to the higher level decision-making process through risk reviews. Due to the recurrent risk disputes accompanied with the promotion of energy transitions in Taiwan, the government adopted the SEA for the third-stage offshore wind farm development policy in 2016. It was the first time that the pre-cautionary SEA was employed on a specific energy policy in Taiwan.

After 9-months' examinations of opinions from various parties, the EIA committee concluded several guiding principles for subsequent EIA reviews and future policy

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formulation. This article applied 6 SEA effectiveness indicators proposed by the International Association for Impact Assessment (IAIA) based on the analysis of the process of the SEA and its impacts on succeeding EIAs. It suggests that this SEA had different attainments at distinct aspects. Among them, “focused” and “iterative” were demonstrated most fruitful, for the SEA helped concretize technology specifications and conservation norms, as well as holding government responsible for establishing long-term local marine databases. Nevertheless, in the aspects of “sustainability-led,” “integrative,” “accountable,” and “participative,” the concealment of risks in the SEA seemed to exist and hence further legal reforms may be needed to achieve more satisfactory results.

This study concludes, while the SEA in this case improved policy-planning and created prospects for learning, it was still constrained by the existing EIA institutional structure. Despite the severe lack of elements of democracy resulted in unsatisfactory outcomes, the evolution, however, showed similar patterns as the practices of international SEAs. Since the SEA and the EIA serve different goals, this article proposes several procedures conducted by international SEAs for future reforms. The SEA requires more comprehensive employment of institutionalized devices of democracy to operate beyond EIA, which merely focuses on scientific reviews, and to elevate the government’s capacity in governance and policy implementation during phases of preliminary planning, in-process evaluating, and pipe-end regulations.

Key Words: strategic environmental assessment, environmental impacts assessment, energy transition, offshore wind power, energy policy