Analytic Hierarchy Process (AHP) for a Nuclear Renewable Hybrid Energy System

The following questionnaire will take 10 to 20 minutes to complete. Thank you for your time and consideration.

The questionnaire below is one part of my research evaluating the potential benefits of applying the risk assessment technique of Analytic Hierarchy Process (AHP) to compare different industrial processes that might be incorporated into a nuclear renewable hybrid energy system. AHP requires a group of experts determining the relative values associated with each of the options being compared. The questionnaire requests your expert opinion on determining the values associated with thermally coupling a desalination plant, a synthetic fuels plant, and a hydrogen production plant to a nuclear power plant. The three industrial processes are compared based on safety, flexibility, and economic value.

This survey assumes that the process used for hydrogen production is high temperature steam electrolysis with thermal as well as electrical coupling to the nuclear power plant. The assumed form of desalination is thermal desalination through distillation directly using heat from the nuclear power plant. The assumed synthetic fuel process is a Fischer-Tropsch method using coal as the hydrocarbon source. Assume each of the processes consumes the same amount of heat from the nuclear power plant.

The questions below deal with the relative value of each of the industrial processes based on each of the characteristics taken into consideration in this study: safety, ability to fluctuate, and profitability. Ability to fluctuate describes how difficult it is to start and stop the industrial process, as well as the ability of the industrial process to ramp to allow more or less heat to be allocated to electricity production to match demand from the grid. For example, if the process can start and stop, but the initial batch of product is of lower quality, that would negatively affect the "ability to fluctuate" as compared to a process that could start and stop with no impact on the initial batch of product after restarting. An industrial process that could more or less instantaneously reach full capacity steady state operation would rank higher than an industrial process that would take a long time to reach full capacity steady state operation.

For AHP, the range of the scale is from 1 to 9, with 1 representing when the two options are thought of as equal for the given characteristic. As can be seen below with the safety comparison of desalination to hydrogen production, you will have three initial options. If you choose that the desalination and hydrogen production are equally safe, that will be recorded as a 1 in the AHP. If you choose, for example, that hydrogen production is safer than desalination, then you will be directed to a second question which determines your view of how much safer hydrogen production is than desalination.

As AHP focuses on collecting expert opinions, you have been selected because you have either published research or a report on nuclear renewable hybrid energy systems, cogeneration, or have worked with a nuclear cogeneration system. I would appreciate it if I could include your name as participating in the research, as can be seen in the first question below. Your answers will not be shared, only that you were part of the expert group taking this survey.

I recognize that characteristics such as regional accessibility of feedstocks for each of the industrial processes will have a major impact on which industrial process would be pursued in a nuclear renewable hybrid energy system. For the purposes of this research, please assume all regional characteristics are equal. The goal of this research is to ascertain whether AHP can generally be applied to determining the relative values of different potential industrial processes for a nuclear renewable hybrid energy system.

Thank you for your time and willingness to participate in this research. If you have any questions about the survey, please contact me at:

Emma Redfoot redf3263@vandals.uidaho.edu (406) 876-2026 Graduate Research Assistant University of Idaho

* Required

org of e	acceptable to include your name and the anization you work for as part of the group experts participating in this survey? (If so, ase enter your name and institution). *
	you think safety is more important than the ability of an industrial process to fluctuate? * * * * * * * * * * * * * * * * * * *
	Yes Skip to question 3.
	No Skip to question 4.
	They are of the same importance Skip to question 5.
Skip to d	question 5.
Safet	y more important than Ability to Fluctuate
	m 2 to 9, how would would you compare the importance of safety of an industrial process he ability of the industrial process to fluctuate?
Mar	rk only one oval.
	2, experience and judgement favor safety over the ability to fluctuate by a small margin
	3, experience and judgement moderately favor safety over the ability to fluctuate
	4, experience and judgement clearly favor safety over the ability to fluctuate
	5, experience and judgement strongly favor safety over the ability to fluctuate
	6, practice suggests moderate preference for safety over the ability to fluctuate
	7, safety is favored very strongly over the ability to fluctuate and has been shown in practice
	8, it is fairly clear that, in practice, safety is more important than the ability to fluctuate
	9, the evidence favoring safety over the ability to fluctuate is of the highest possible affirmation
Skip to d	question 5.
Abilit	y to Fluctuate more important than Safety
to t	m 2 to 9, how would would you compare the importance of safety of an industrial process he ability of the industrial process to fluctuate? *k only one oval.
	2, experience and judgement favor the ability to fluctuate over safety by a small margin
	3, experience and judgement moderately favor the ability to fluctuate over safety
	4, experience and judgement clearly favor the ability to fluctuate over safety 4. The ability is fluctuated and judgement clearly favor the ability to fluctuate over safety
	5, experience and judgement strongly favor the ability to fluctuate over safety
	6, practice suggests moderate preference for the ability to fluctuate over safety
	7, the ability to fluctuate is favored very strongly over safety and has been shown in practice
	8, it is fairly clear that, in practice, the ability to fluctuate is more important than safety
	9, the evidence favoring the ability to fluctuate over safety is of the highest possible affirmation

Skip to question 5.

Importance: Ability to Fluctuate vs Profitability

5. Do you think that the ability to fluctuate is more important than profitability of an industrial process? *
Mark only one oval.
Yes Skip to question 6.
No Skip to question 7.
They are of the same importance Skip to question 8.
Skip to question 8.
Ability to Fluctuate more important than Profitability
6. From 2 to 9, how would would you compare the importance of safety of an industrial process to the ability of the industrial process to fluctuate?
Mark only one oval.
2, experience and judgement favor the ability to fluctuate over profitability by a small margin
3, experience and judgement moderately favor the ability to fluctuate over profitability
4, experience and judgement clearly favor the ability to fluctuate over profitability
5, experience and judgement strongly favor the ability to fluctuate over profitability
6, practice suggests moderate preference for the ability to fluctuate over profitability
7, the ability to fluctuate is favored very strongly over profitability and has been shown in practice
8, it is fairly clear that, in practice, the ability to fluctuate is more important than profitability
9, the evidence favoring the ability to fluctuate over profitability is of the highest possible affirmation
Skip to question 8.
Profitability more important than Ability to Fluctuate
7. From 2 to 9, how would would you compare the importance of safety of an industrial process to the ability of the industrial process to fluctuate?
Mark only one oval.
2, experience and judgement favor profitability over the ability to fluctuate by a small margin
3, experience and judgement moderately favor profitability over the ability to fluctuate
4, experience and judgement clearly favor profitability over the ability to fluctuate
5, experience and judgement strongly favor profitability over the ability to fluctuate
6, practice suggests moderate preference for profitability over the ability to fluctuate
7, profitability is favored very strongly over the ability to fluctuate and has been shown in practice
8, it is fairly clear that, in practice, profitability is more important than the ability to fluctuate
9, the evidence favoring profitability over the ability to fluctuate is of the highest possible
affirmation

Skip to question 8.

Importance: Safety vs Profitability

-	u think only one	•	n the profitability of an industrial process? *
	Yes	Skip to question 9.	
	No	Skip to question 10.	
	They a	are of the same importance	Skip to question 11.
Skip to que	estion 11	1.	
Safety	more	e important than Pr	ofitability
to the		of the industrial process to f	are the importance of safety of an industrial process fluctuate?
	2, expe	erience and judgement favor s	afety over the profitability by a small margin
	3, expe	erience and judgement modera	ately favor safety over profitability
	4, expe	erience and judgement clearly	favor safety over profitability
	5, expe	erience and judgement strongly	y favor safety over the profitability
	6, prac	ctice suggests moderate prefer	ence for safety over profitability
	7, safe	ety is favored very strongly ove	r profitability and has been shown in practice
	8, it is	fairly clear that, in practice, sat	fety is more important than the profitability
	9, the	evidence favoring safety over p	profitability is of the highest possible affirmation
Skip to que	estion 11	1.	
Profita	bility	more important th	an Safety
to the		of the industrial process to f	are the importance of safety of an industrial process fluctuate?
	-		rofitability over safety by a small margin
	•		ately favor profitability over safety
		erience and judgement clearly	
	-	erience and judgement strongly	·
	-		ence for profitability over safety
	•		over safety and has been shown in practice
			ofitability is more important than safety
		•	over safety is of the highest possible affirmation
	J, 1110 (cylactice lavoling promability t	The salety is of the highest possible anii mation

Safety: Desalination vs Hydrogen Production

 How would you say the safety of desalination compare Mark only one oval. 	es to hydrogen production? *
Desalination is safer than hydrogen production	Skip to question 12.
Hydrogen production is safer than desalination	Skip to question 13.
Desalination and hydrogen production are equally	safe Skip to question 14.
Desalination safer than Hydrogen Prod	uction
12. From 2 to 9, how would you say the safety of desalinate Mark only one oval.	tion compares to hydrogen production?
2, experience and judgement favor desalination ov	er hydrogen production by a small margin
3, experience and judgement moderately favor des	salination over hydrogen production
4, experience and judgement clearly favor desalina	ation over hydrogen production
5, experience and judgement strongly favor desalir	nation over hydrogen production
6, practice suggests moderate preference for desa	lination over hydrogen production
7, desalination is favored very strongly over hydrog practice	gen production and has been shown in
8, it is fairly clear that, in practice, desalination is sa	afer than hydrogen production
9, the evidence favoring desalination over hydroge affirmation	n production is of the highest possible
Other:	
Skip to question 14. Hydrogen Production safer than Desali	
13. From 2 to 9, how would you say the safety of desalinate Mark only one oval.	tion compares to hydrogen production?
2, experience and judgement favor hydrogen produ	uction over desalination by a small margin
3, experience and judgement moderately favor hyd	lrogen production over desalination
4, experience and judgement clearly favor hydroge	n production over desalination
5, experience and judgement strongly favor hydrog	gen production over desalination
6, practice suggests moderate preference for hydro	ogen production over desalination
7, hydrogen production is favored very strongly over practice	er desalination and has been shown in
8, it is fairly clear that, in practice, hydrogen produc	ction is safer than desalination
9, the evidence favoring hydrogen production as sa possible affirmation	afer than desalination is of the highest
Other:	
Other.	

Safety: Desalination vs Synthetic Fuels

14. How would you say the safety of desalination compares to Mark only one oval.	o synthetic fuels production? *
Desalination is safer than synthetic fuels production	Skip to question 15.
Synthetic fuels production is safer than desalination	Skip to question 16.
Desalination and synthetic fuels production are equally	safe Skip to question 17.
Skip to question 17.	
Desalination safer than synthetic fuels pr	oduction
15. From 2 to 9, how would you say the safety of desalination production?	compares to synthetic fuels
Mark only one oval.	
2, experience and judgement favor desalination over s	ynthetic fuels production by a small
3, experience and judgement moderately favor desalin	ation over synthetic fuels production
4, experience and judgement clearly favor desalination	over synthetic fuels production
5, experience and judgement strongly favor desalination	on over synthetic fuels production
6, practice suggests moderate preference for desalinate	tion over synthetic fuels production
7, desalination is favored very strongly over synthetic f practice	uels production and has been shown in
8, it is fairly clear, that in practice desalination is safer t	han synthetic fuels production
9, the evidence favoring desalination as safer than syn	thetic fuels production is of the highest
Other:	
Skip to question 17.	
Synthetic Fuels Production safer than De	salination
16. From 2 to 9, how would you say the safety of desalination	
production? Mark only one oval.	
2, experience and judgement favor synthetic fuels proc margin	duction over desalination by a small
3, experience and judgement moderately favor synthet	
	ic fuels production over desalination
4, experience and judgement clearly favor synthetic fue	·
4, experience and judgement clearly favor synthetic fue 5, experience and judgement strongly favor synthetic fee	els production over desalination
	els production over desalination uels production over desalination
5, experience and judgement strongly favor synthetic for	els production over desalination uels production over desalination fuels production
5, experience and judgement strongly favor synthetic for 6, practice suggest moderate preference for synthetic for 7, synthetic fuels production is favored very strongly on	els production over desalination uels production over desalination fuels production ver desalination and has been shown in
5, experience and judgement strongly favor synthetic for 6, practice suggest moderate preference for synthetic for 7, synthetic fuels production is favored very strongly over practice	els production over desalination uels production over desalination fuels production ver desalination and has been shown in ction is safer than desalination

Skip to question 17.

Safety: Hydrogen Production vs Synthetic Fuels

17. How would you say the safety of hydrogen production compares production? *	to synthetic fuels
Mark only one oval.	
Hydrogen production is safer than synthetic fuels production	Skip to question 18.
Synthetic fuels production is safer than hydrogen production	Skip to question 19.
Hydrogen production and synthetic fuels production are equall	ly safe Skip to question 20.
Skip to question 20.	
Hydrogen Production safer than Synthetic Fue	els Production
18. From 2 to 9, how would you say the safety of hydrogen production fuels production?	on compares to synthetic
Mark only one oval.	
2, experience and judgement favor hydrogen production over margin	synthetic fuels by a small
3, experience and judgement moderately favor hydrogen prod production	uction over synthetic fuels
 4, experience and judgement clearly favor hydrogen production 	n over synthetic fuels
5, experience and judgement strongly favor hydrogen production	ion over the synthetic fuels
 6, practice suggests moderate preference for hydrogen production 	ction over synthetic fuels
7, hydrogen production is favored very strongly over synthetic shown in practice	fuels production and has been
8, it is fairly clear, that in practice hydrogen production is safer	than synthetic fuels production
9, the evidence favoring hydrogen production as safer than sy highest possible affirmation	nthetic fuels production is of the

Skip to question 20.

Synthetic Fuels Production safer than Hydrogen Production

19. From 2 to 9, how would you say the safety of hydrogen production co fuels production? Mark only one oval.	mpares to synthetic
2, experience and judgement favor synthetic fuel production over hy small margin	drogen production by a
3, experience and judgement moderately favor synthetic fuels production	uction over hydrogen
 4, experience and judgement clearly favor synthetic fuels production 	n over hydrogen
5, experience and judgement strongly favor synthetic fuels production	on over hydrogen
 6, practice suggest moderate preference for synthetic fuels production 	on over hydrogen
7, synthetic fuels production is favored very strongly over hydrogen shown in practice	production and has been
8, it is fairly clear that in practice synthetic fuels production is safer t	han hydrogen production
9, the evidence favoring synthetic fuels production as safer than hydhighest possible affirmation	drogen production is of the
Other:	
Skip to question 20.	
Ability to Fluctuate: Desalination vs Hydrogen Pro	oduction
20. How would you say the ability to fluctuate of desalination compares to	hydrogen production?
Mark only one oval.	
Desalination is more able to fluctuate than hydrogen production	Skip to question 21.
Hydrogen production is more able to fluctuate than desalination	Skip to question 22.
Desalination and hydrogen production are equally able to fluctuate	Skip to question 23.

Skip to question 23.

Desalination more able to fluctuate than hydrogen production

production? Mark only one oval. 2, experience and judgement favor desalination over hydrogen production by a small marg 3, experience and judgement moderately favor desalination over hydrogen production 4, experience and judgement clearly favor desalination over hydrogen production 5, experience and judgement strongly favor desalination over hydrogen production 6, practice suggests moderate preference for desalination over hydrogen production 7, desalination is favored very strongly over hydrogen production and has been shown in practice 8, it is fairly clear, that in practice desalination can fluctuate better than hydrogen production	
3, experience and judgement moderately favor desalination over hydrogen production 4, experience and judgement clearly favor desalination over hydrogen production 5, experience and judgement strongly favor desalination over hydrogen production 6, practice suggests moderate preference for desalination over hydrogen production 7, desalination is favored very strongly over hydrogen production and has been shown in practice	
4, experience and judgement clearly favor desalination over hydrogen production 5, experience and judgement strongly favor desalination over hydrogen production 6, practice suggests moderate preference for desalination over hydrogen production 7, desalination is favored very strongly over hydrogen production and has been shown in practice	
5, experience and judgement strongly favor desalination over hydrogen production 6, practice suggests moderate preference for desalination over hydrogen production 7, desalination is favored very strongly over hydrogen production and has been shown in practice	
6, practice suggests moderate preference for desalination over hydrogen production 7, desalination is favored very strongly over hydrogen production and has been shown in practice	
7, desalination is favored very strongly over hydrogen production and has been shown in practice	
practice	
·	
8. it is fairly clear, that in practice desalination can fluctuate better than hydrogen production	
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9, the evidence favoring desalination over hydrogen production is of the highest possible affirmation	
Other:	
Obia to avantina 00	
Skip to question 23.	
Hydrogen Production more able to fluctuate than Desalination	
22. From 2 to 9, how would you say the ability to fluctuate of desalination compares to hydroge	n
production? Mark only one oval.	
2, experience and judgement favor hydrogen production over desalination by a small marg	П
3, experience and judgement moderately favor hydrogen production over desalination	
4, experience and judgement clearly favor hydrogen production over desalination	
5, experience and judgement strongly favor hydrogen production over desalination	
6, practice suggests moderate preference for hydrogen production over desalination	
7, hydrogen production is favored very strongly over desalination and has been shown in practice	
8, it is fairly clear that in practice hydrogen production can fluctuate better than desalination	
9, the evidence favoring hydrogen production as better able to fluctuate than desalination is the highest possible affirmation	of
Other:	
Skip to question 23.	
Ability to Fluctuate: Desalination vs Synthetic Fuels Production	
23. How would you say the ability to fluctuate of desalination compares to synthetic fuels	
production? * Mark only one oval.	
Desalination is more able to fluctuate than synthetic fuels production Skip to question	24.
Synthetic fuels production is more able to fluctuate than desalination Skip to question	
Desalination and synthetic fuels production are equally able to fluctuate Skip to question 26.	

Skip to question 26.

Desalination more able to fluctuate than Synthetic Fuels Production

24. From 2 to 9, how would you say the ability to fluctuate of desalination compares to synthetic fuels production?	
Mark only one oval.	
2, experience and judgement favor desalination over synthetic fuels by a small margin	
3, experience and judgement moderately favor desalination over synthetic fuels production	
4, experience and judgement clearly favor desalination over synthetic fuels production	
5, experience and judgement strongly favor desalination over synthetic fuels production	
6, practice suggests moderate preference for desalination over synthetic fuels production	
7, desalination is favored very strongly over synthetic fuel production and has been shown in practice	l
8, it is fairly clear that, in practice, desalination is better able to fluctuate than synthetic fuels production	
9, the evidence favoring desalination as better able to fluctuate than synthetic fuels production is of the highest possible affirmation	'n
Other:	
North College David Africa and Alle (a florid at a florid	
Synthetic Fuels Production more able to fluctuate than Desalination	
Desalination 25. From 2 to 9, how would you say the ability to fluctuate of desalination compares to synthetic	
Desalination	
Desalination 25. From 2 to 9, how would you say the ability to fluctuate of desalination compares to synthetic fuels production?	
Desalination 25. From 2 to 9, how would you say the ability to fluctuate of desalination compares to synthetic fuels production? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small	
Desalination 25. From 2 to 9, how would you say the ability to fluctuate of desalination compares to synthetic fuels production? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small margin	
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Desalination 25. From 2 to 9, how would you say the ability to fluctuate of desalination compares to synthetic fuels production? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small margin 3, experience and judgement moderately favor synthetic fuels production over desalination 4, experience and judgement clearly favor synthetic fuels production over desalination 5, experience and judgement strongly favor synthetic fuels production over desalination	
25. From 2 to 9, how would you say the ability to fluctuate of desalination compares to synthetic fuels production? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small margin 3, experience and judgement moderately favor synthetic fuels production over desalination 4, experience and judgement clearly favor synthetic fuels production over desalination 5, experience and judgement strongly favor synthetic fuels production over desalination 6, practice suggests moderate preference for synthetic fuels production over desalination 7, synthetic fuels production is favored very strongly over desalination and has been shown	
25. From 2 to 9, how would you say the ability to fluctuate of desalination compares to synthetic fuels production? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small margin 3, experience and judgement moderately favor synthetic fuels production over desalination 4, experience and judgement clearly favor synthetic fuels production over desalination 5, experience and judgement strongly favor synthetic fuels production over desalination 6, practice suggests moderate preference for synthetic fuels production over desalination 7, synthetic fuels production is favored very strongly over desalination and has been shown practice 8, it is fairly clear that, in practice, synthetic fuels production is better able to fluctuate than	n
25. From 2 to 9, how would you say the ability to fluctuate of desalination compares to synthetic fuels production? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small margin 3, experience and judgement moderately favor synthetic fuels production over desalination 4, experience and judgement clearly favor synthetic fuels production over desalination 5, experience and judgement strongly favor synthetic fuels production over desalination 6, practice suggests moderate preference for synthetic fuels production over desalination 7, synthetic fuels production is favored very strongly over desalination and has been shown practice 8, it is fairly clear that, in practice, synthetic fuels production is better able to fluctuate than desalination 9, the evidence favoring synthetic fuels production as better able to fluctuate than desalination	n

Ability to Fluctuate: Hydrogen Production vs Synthetic Fuels Production

26. How would you say the ability to fluctuate of hydrogen production compares to sy fuels production? *	nthetic
Mark only one oval.	
Hydrogen production is more able to fluctuate than synthetic fuels production question 28.	Skip to
Synthetic fuels production is more able to fluctuate than hydrogen production question 27.	Skip to
Hydrogen production and synthetic fuels production are equally able to fluctuate question 29.	Skip to
Skip to question 29.	
Synthetic Fuels Production more able to fluctuate than Hy	/drogen
Production	
27. From 2 to 9, how would you say the ability to fluctuate of hydrogen production consynthetic fuels production?	mpares to
Mark only one oval.	
 2, experience and judgement favor synthetic fuels over hydrogen production by a margin 	small
3, experience and judgement moderately favor synthetic fuels production over hy production	drogen
 4, experience and judgement clearly favor synthetic fuels production over hydrog production 	en
5, experience and judgement strongly favor synthetic fuels production over hydro production	gen
 6, practice suggest moderate preference for synthetic fuels production over hydroproduction 	ogen
7, synthetic fuels production is favored very strongly over hydrogen production ar shown in practice	nd has been
8, it is fairly clear that, in practice, synthetic fuels production is better able to fluct hydrogen production	uate than
9, the evidence favoring synthetic fuels production as better able to fluctuate than production is of the highest possible affirmation	hydrogen
Other:	
Skin to question 20	

Skip to question 29.

Hydrogen Production more able to fluctuate than Synthetic Fuels Production

28. From 2 to 9, how would you say the ability to fluctuate of hydro synthetic fuels production? Mark only one oval.	gen production compares to
2, experience and judgement favor hydrogen production ove small margin	r synthetic fuels production by a
 3, experience and judgement moderately favor hydrogen pro production 	duction over the synthetic fuels
 4, experience and judgement clearly favor hydrogen production 	on over synthetic fuels
5, experience and judgement strongly favor the hydrogen proproduction	oduction over synthetic fuels
6, practice suggests moderate preference for hydrogen production	uction over synthetic fuels
7, hydrogen production is favored very strongly over syntheti shown in practice	c fuel production and has been
8, it is fairly clear that, in practice, hydrogen production fluctu production	ates better than synthetic fuels
9, the evidence favoring hydrogen production as better able to of the highest possible affirmation	to fluctuate than synthetic fuels is
Other:	
Skip to question 29.	
Profitability: Desalination vs Hydrogen Produ	ıction
29. How would you say the profitability of desalination compares to Mark only one oval.	hydrogen production? *
Desalination is more profitable than hydrogen production	Skip to question 31.
Hydrogen production is more profitable than desalination	Skip to question 30.
Desalination and hydrogen production are equally profitable	Skip to question 32.

Skip to question 32.

Hydrogen Production more profitable than Desalination

30. From 2 to 9, how would you say the profitability of desalination comproduction? Mark only one oval.	npares to hydrogen
2, experience and judgement favor hydrogen production over des	salination by a small margin
3, experience and judgement moderately favor hydrogen product	ion over desalination
4, experience and judgement clearly favor hydrogen production of	ver desalination
5, experience and judgement strongly favor desalination over hyd	lrogen production
6, practice suggest moderate preference for hydrogen production	over desalination
7, hydrogen production is favored very strongly over desalination practice	and has been shown in
8, it is fairly clear that in practice hydrogen production is more pro	fitable than desalination
9, the evidence favoring hydrogen production as more profitable highest possible affirmation	than desalination is of the
Other:	
31. From 2 to 9, how would you say the profitability of desalination comproduction? Mark only one oval. 2, experience and judgement favor desalination over hydrogen profitability of desalination comproduction?	roduction by a small margin
5, experience and judgement strongly favor desalination over hyd	•
6, practice suggests moderate preference for desalination over h	ydrogen production
7, desalination is favored very strongly over hydrogen production practice	and has been shown in
8, it is fairly clear, that in practice desalination is more profitable to	han hydrogen production
9, the evidence favoring desalination over hydrogen production is affirmation	of the highest possible
Other:	
Profitability: Desalination vs Synthetic Fuels Pro	oduction
32. How would you say the profitability of desalination compares to syn Mark only one oval.	nthetic fuels production? *
Desalination is more profitable than synthetic fuels production	Skip to question 33.
Synthetic fuels production is more profitable than desalination	Skip to question 34.

Skip to question 35.

Desalination more profitable than Synthetic Fuels Production

production? Mark only one oval.
2, experience and judgement favor desalination over synthetic fuels production by a small margin
3, experience and judgement moderately favor desalination over synthetic fuels production
4, experience and judgement clearly favor desalination over synthetic fuels production
5, experience and judgement strongly favor desalination over synthetic fuels production
6, practice suggests moderate preference for desalination over synthetic fuels production
7, desalination is favored very strongly over synthetic fuels production and has been shown in practice
8, it is fairly clear, that in practice desalination is more profitable than synthetic fuels production
9, the evidence favoring desalination as more profitable than synthetic fuels production is of the highest possible affirmation
Other:
ynthetic Fuels Production more profitable than Desalination
ynthetic Fuels Production more profitable than Desalination
ynthetic Fuels Production more profitable than Desalination From 2 to 9, how would you say the profitability of desalination compares to synthetic fuels?
 Inthetic Fuels Production more profitable than Desalination From 2 to 9, how would you say the profitability of desalination compares to synthetic fuels? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small
ynthetic Fuels Production more profitable than Desalination From 2 to 9, how would you say the profitability of desalination compares to synthetic fuels? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small margin
ynthetic Fuels Production more profitable than Desalination 1. From 2 to 9, how would you say the profitability of desalination compares to synthetic fuels? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small margin 3, experience and judgement moderately favor synthetic fuels production over desalination
ynthetic Fuels Production more profitable than Desalination 4. From 2 to 9, how would you say the profitability of desalination compares to synthetic fuels? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small margin 3, experience and judgement moderately favor synthetic fuels production over desalination 4, experience and judgement clearly favor synthetic fuels production over desalination
ynthetic Fuels Production more profitable than Desalination 4. From 2 to 9, how would you say the profitability of desalination compares to synthetic fuels? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small margin 3, experience and judgement moderately favor synthetic fuels production over desalination 4, experience and judgement clearly favor synthetic fuels production over desalination 5, experience and judgement strongly favor synthetic fuels production over desalination
ynthetic Fuels Production more profitable than Desalination 4. From 2 to 9, how would you say the profitability of desalination compares to synthetic fuels? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small margin 3, experience and judgement moderately favor synthetic fuels production over desalination 4, experience and judgement clearly favor synthetic fuels production over desalination 5, experience and judgement strongly favor synthetic fuels production over desalination 6, practice suggest moderate preference for synthetic fuels production 7, synthetic fuels production is favored very strongly over desalination and has been shown in
ynthetic Fuels Production more profitable than Desalination 4. From 2 to 9, how would you say the profitability of desalination compares to synthetic fuels? Mark only one oval. 2, experience and judgement favor synthetic fuels production over desalination by a small margin 3, experience and judgement moderately favor synthetic fuels production over desalination 4, experience and judgement clearly favor synthetic fuels production over desalination 5, experience and judgement strongly favor synthetic fuels production over desalination 6, practice suggest moderate preference for synthetic fuels production 7, synthetic fuels production is favored very strongly over desalination and has been shown in practice 8, it is fairly clear that, in practice, synthetic fuels production is more profitable than

Profitability: Hydrogen Production vs Synthetic Fuels

	nthetic fuels
only one oval.	
Hydrogen production is more profitable than synthetic fuels production	Skip to question
Synthetic fuels production is more profitable than hydrogen prodution	Skip to question 37
Hydrogen production and synthetic fuels production are equally profitable <i>rm</i> .	Stop filling out
etion 2 to 9, how would you say the profitability of hydrogen production cor	
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 experience and judgement favor hydrogen production over synthetic fue margin 	els production by a
3, experience and judgement moderately favor the hydrogen production or production	ver the synthetic
 experience and judgement clearly favor hydrogen production over synthetion 	netic fuels
5, experience and judgement strongly favor hydrogen production over synction	thetic fuels
6, practice suggests moderate preference for hydrogen production over syction	nthetic fuels
7, hydrogen production is favored very strongly over synthetic fuel product in in practice	tion and has been
8, it is fairly clear, that in practice hydrogen production is more profitable the	nan synthetic fuels
 the evidence favoring hydrogen production as more profitable than synt st possible affirmation 	hetic fuels is of the
	Synthetic fuels production is more profitable than hydrogen prodution Hydrogen production and synthetic fuels production are equally profitable form. gen Production more profitable than Synthetic ction 2 to 9, how would you say the profitability of hydrogen production contectic fuels production? only one oval. 2, experience and judgement favor hydrogen production over synthetic fuel margin 3, experience and judgement moderately favor the hydrogen production oproduction 4, experience and judgement clearly favor hydrogen production over synthetic fuel 5, experience and judgement strongly favor hydrogen production over synthetic fuel 6, practice suggests moderate preference for hydrogen production over synthetic fuel 7, hydrogen production is favored very strongly over synthetic fuel production in practice 8, it is fairly clear, that in practice hydrogen production is more profitable to

Stop filling out this form.

Synthetic Fuels Production more profitable than Hydrogen Production

37. From 2 to 9, how would you say the profitability of hydrogen production compares to synthetic fuels production?

Mark only one oval. 2, experience and judgement favor hydrogen production over synthetic fuels production by a small margin 3, experience and judgement moderately favor hydrogen production over synthetic fuels production 4, experience and judgement clearly favor hydrogen production over synthetic fuels production 5, experience and judgement strongly favor hydrogen production over synthetic fuels production 6, practice suggests moderate preference for hydrogen production over synthetic fuels production 7, hydrogen production is favored very strongly over synthetic fuel production and has been shown in practice 8, it is fairly clear, that in practice hydrogen production is more profitable than synthetic fuels production 9, the evidence favoring hydrogen production as more profitable than synthetic fuels is of the highest possible affirmation Other:

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