The impact of planning and regulatory delays for major energy infrastructure

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VENUE
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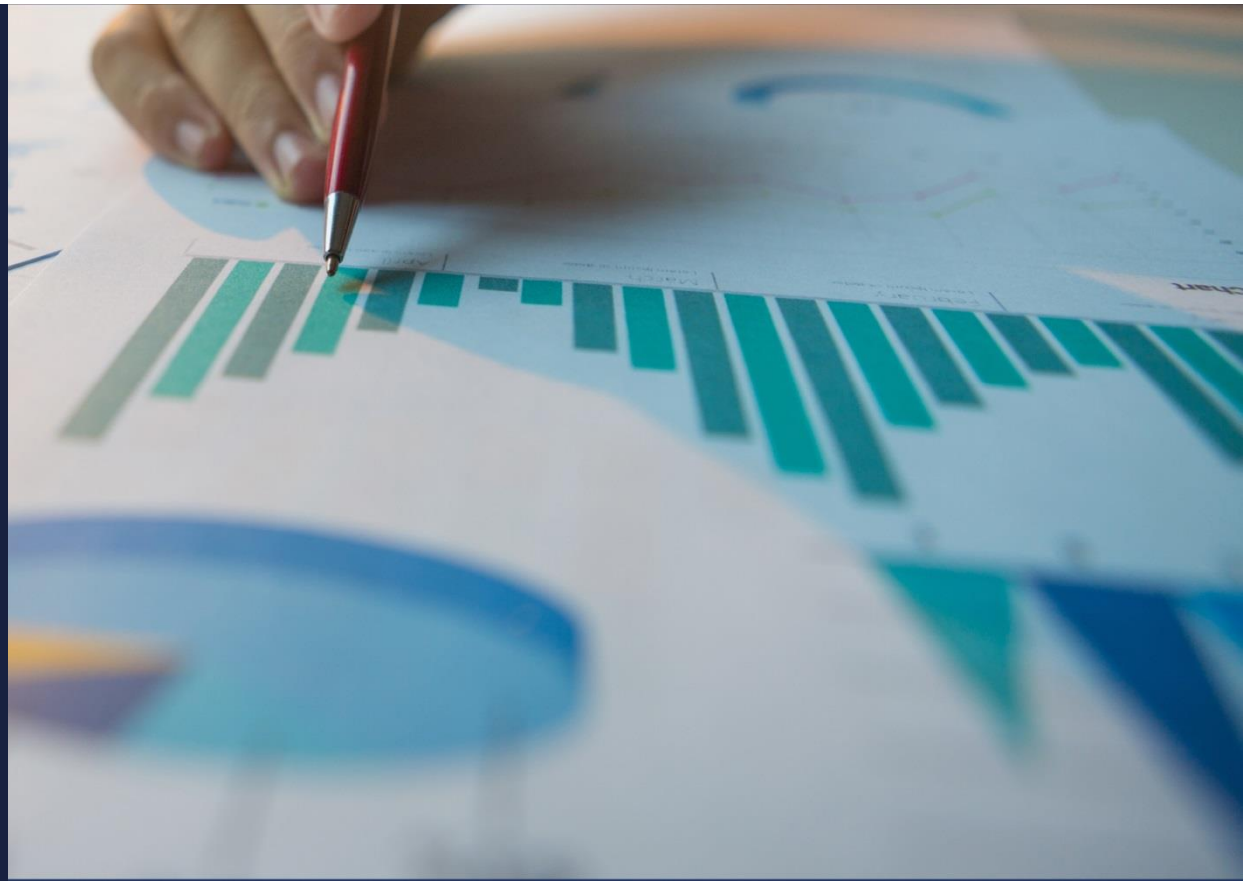

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- RES-E projects face several planning and regulatory hurdles:
  - Planning permission
  - Grid connection
  - Subsidy support
- Literature suggests delays impact on delivery
- Anecdotal evidence of delays in the Irish system

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Research questions:

- What impact do delays vs regulatory set up have on delivery timelines?

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- What impact do delays vs regulatory set up have on delivery timelines?
- What are the power system impacts of delays?

Planning and regulatory framework

Authorisation	Public Body	Authorisation cycle	Decision timeframe
Planning permission	Local authority/An Bord Pleanála	Continuous	18 weeks

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Foreshore licence/lease	Department of Housing, Local Government and Heritage	Continuous	18 weeks

Planning and regulatory framework

- Judicial review not considered
- Requests for further information included in planning permission timeframe

Planning and regulatory framework

- Consider impact of shortening times for decisions

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- Consider impact of shortening times for decisions
- Consider impact of increasing number of application gates per year

Assumptions

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- Assume lead time of 6 months for auction application
- Assume 12-15 months build time

Scenarios

	StatusQuo	ABP#1	ABP#2	GridOffer	Hybrid	RESS	Combined
ABP	37						
GridOff	1						
RESS	1						
Hybrid	No						

Scenarios

	StatusQuo	ABP#1	ABP#2	GridOffer	Hybrid	RESS	Combined
ABP	37	25					
GridOff	1	1					
RESS	1	1					
Hybrid	No	No					

Scenarios

	StatusQuo	ABP#1	ABP#2	GridOffer	Hybrid	RESS	Combined
ABP	37	25	18				
GridOff	1	1	1				
RESS	1	1	1				
Hybrid	No	No	No				

Scenarios

	StatusQuo	ABP#1	ABP#2	GridOffer	Hybrid	RESS	Combined
ABP	37	25	18	37			
GridOff	1	1	1	2			
RESS	1	1	1	1			
Hybrid	No	No	No	No			

Scenarios

	StatusQuo	ABP#1	ABP#2	GridOffer	Hybrid	RESS	Combined
ABP	37	25	18	37	37		
GridOff	1	1	1	2	n/a		
RESS	1	1	1	1	1		
Hybrid	No	No	No	No	Yes		

Scenarios

	StatusQuo	ABP#1	ABP#2	GridOffer	Hybrid	RESS	Combined
ABP	37	25	18	37	37	37	
GridOff	1	1	1	2	n/a	1	
RESS	1	1	1	1	1	2	
Hybrid	No	No	No	No	Yes	No	

Scenarios

	StatusQuo	ABP#1	ABP#2	GridOffer	Hybrid	RESS	Combined
ABP	37	25	18	37	37	37	18
GridOff	1	1	1	2	n/a	1	2
RESS	1	1	1	1	1	2	2
Hybrid	No	No	No	No	Yes	No	No

Scenarios

	StatusQuo	ABP#1	ABP#2	GridOffer	Hybrid	RESS	Combined
Y4	0	0	0	0	<1%	0	0
Y5							
Y6							
Y7							
Y8							

Scenarios

	StatusQuo	ABP#1	ABP#2	GridOffer	Hybrid	RESS	Combined
Y4	0	0	0	0	<1%	0	0
Y5	<1%	<1%	17%	<1%	75%	<1%	58%
Y6							
Y7							
Y8							

Scenarios

	StatusQuo	ABP#1	ABP#2	GridOffer	Hybrid	RESS	Combined
Y4	0	0	0	0	<1%	0	0
Y5	<1%	<1%	17%	<1%	75%	<1%	58%
Y6	50%	56%	75%	59%	100%	75%	100%
Y7							
Y8							

Scenarios

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Y4	0	0	0	0	<1%	0	0
Y5	<1%	<1%	17%	<1%	75%	<1%	58%
Y6	50%	56%	75%	59%	100%	75%	100%
Y7	92%	95%	100%	100%	100%	100%	100%
Y8							

Scenarios

	StatusQuo	ABP#1	ABP#2	GridOffer	Hybrid	RESS	Combined
Y4	0	0	0	0	<1%	0	0
Y5	<1%	<1%	17%	<1%	75%	<1%	58%
Y6	50%	56%	75%	59%	100%	75%	100%
Y7	92%	95%	100%	100%	100%	100%	100%
Y8	100%	100%	100%	100%	100%	100%	100%

Results

- ENGINE model: determines least-cost generation and transmission expansion
- Run for Status Quo and Combined scenarios
- Years 4-7 are relevant

Results

	Y4	Y5	Y6	Y7	Y8
System Cost	0.0	0.3	-3.2	-3.3	-0.6
CO2 emissions	0.0	-4.2	-3.4	-1.0	0.0
Marginal price	0.0	-9.9	-7.3	-0.6	0.0

Conclusion

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- Delays increase costs, emissions and prices in particular

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- Delays increase costs, emissions and prices in particular
- Increasing number of gates and reducing ABP timelines both impactful