

## 4Wind1Wave

## Pilot

	€ 1 12 kr	Euro	Norwegian kr
Investment(4Wind1Wave)		1,50E+08 € 150,0 million	1,80E+09 kr 1,8 mrd.
Repayment period		25 year	
Interest rate		6 %	
Repayment each year		6,00E+06 € 6,0 million	
Interest each year		4,50E+06 € 4,5 million	
CAPEX		1,05E+07 € 10,5 million	
OPEX		0,01 € pr. kWh	0,12 kr/kWh
Power		4,00E+07 W	40 MW
Hour in a year		8760 heures	
Capacity factor		50 %	
Energy in a year		1,75E+08 kWh	175 GWh
LCOE		0,07 €/kWh	0,84 kr/kWh

### Calculation if this technology was used to build 500 MW at Utsira North, and the auction was won with € 0,11/kWh.

Auction(PPA)	0,11 €/kWh	1,32 kr/kWh
Subsidies of kr 35 billion guaranty the price	2,92E+09 € 2,92 billion	3,50E+10 kr 35,0 mrd.
Power	5,00E+08 W	500,0 MW
Numbers of 4Wind1Wave	13	
Energy each year	2,19E+09 kWh	
Profit each kWh	0,04 €/kWh	
Profit each year	87750000,0 € 88 million	
Investment	1,88E+09 € 1,88 billion	2,25E+10 kr 22,5 mrd.
Profit in %	4,7 %	

### Sweden use el-certificate

Calculation if el-certificates are used for 4Wind1Wave in Norway.

Total energyproduction each year	1,50E+14 Wh	1,50E+11 kWh
Certificat fee	0,01 €/kWh	0,12 kr/kWh
Income from certificates each year	1,50E+09 €	
El-certificate each kWh new energy	0,03 €/kWh	0,36 kr/kWh
Support time of el-certificates	15 years	
Total kWh to be supported	5,00E+10 kWh	
kWh to be supported each year	3,33E+09 kWh	
Capacity factor 4Wind1Wave	50 %	

Hours in a year	8760 h	
Power to be supported each year	761035 kW	0,761 GW
Power each 4Wind1Wave	40 MW	40000 kW
Number of 4Wind1Wave each year	19	
PPA	0,040 €/kWh	0,48 kr/kWh
30 GW finished	2064	

Menon Economics have analyzed the job marked if 30 GW makes a float wind industry in Norway, and predicts 30000 jobs.

NVE have analyzed the energy marked with 30 GW new renewable energy, and predicts an energy price at Nord Pool in Norway of € 0,04/kWh.

With a capacity of 10 4Wind1Wave each year Norway is finished building 30 GW by: 2064

Income from energy in Norway by 2064, when 30 GW is finished?		
Energy price in Norway	0,05 €/kWh	0,6 kr/kWh
Energy price in EU(average Nord Pool)	0,1 €/kWh	1,2 kr/kWh
Energy in Norway(total)	2,80E+14 Wh	280 TWh
		2,80E+11 kWh
Energy used in Norway by 2064	2,00E+14 Wh	200 TWh
		2,00E+11 kWh
Everage export each year	8,00E+13 Wh	80 TWh
		8,00E+10 kWh
Income from electricity in Norway	1,00E+10 €	1,20E+11 kr
	10,0 billion	120,0 mrd.
Income to Norway from export	8,00E+09 €	9,60E+10 kr
	8,0 billion	96,0 mrd.
Total income from energy in 2064	18,0 billion €	216,0 mrd. kr

How will 30000 jobs in an float wind industry effect the capital expenditure in Norway?		
Taxes and fees from wages in Norway	60 %	
Average wages in Norway	50000 €	600000 kr
Capital expenditure building 10 4Wind1Wave	2,85E+09 €	3,42E+10 kr
each year.	2,9 billion	34,2 mrd.
Jobs in a float wind industry	3,00E+04 jobs	
	1500000000,	
Wages total in a float wind industry	0 €	
	1,5 billion	18 mrd.
Income from taxes and fees	900000000 €	
	0,9 billion €	10,8 mrd. kr
Capital expenditure in float wind	1,95E+09 €	
each year from government.	2,0 billion €	23,4 mrd.