

Corporate PPA's – what's in it?

Neas Energy
Sten Lillienau

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Neas Energy in brief

Neas Energy is an independent energy asset management company that provides physical and financial management of energy for customers with assets operating on liberal energy markets in Europe.

Neas Energy was established in 1998 in Aalborg, Denmark. Since 2016 it is a part of the British energy company Centrica

Neas Energy customer portfolio:

- More than 2 100 MW Power Plants & CHP Plants
- More than 6 500 MW Renewables (Wind, PV and Hydro)
- More than 2 TWh to Utilities & Supply companies

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Cases

Long experience of corporate agreements

The two latest:

Markbygden

The 650 MW wind installation Markbygden EET in Sweden

Park: GE, Green Investment Group Limited (GIG), part of Macquarie Group.

Consumer: Norsk Hydro 19 year contract

Överturingen

The 235 MW wind installation Överturingen in Sweden

Park: SCA Energy AB, Green Investment Group Limited (GIG), part of Macquarie Group.

Consumer: Norsk Hydro 29 year contract

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Power Purchase Agreement - PPA

Physical Management - Balancing/Delivery

Financial Management – Hedged/Secured price

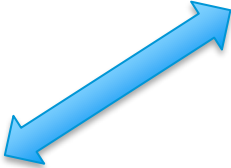
Power Purchase Agreement - PPA

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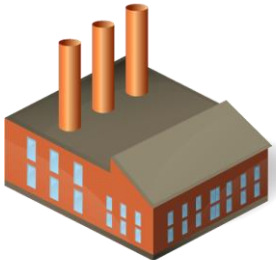
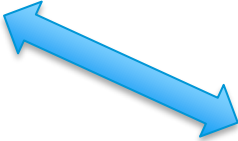


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Exchange

or

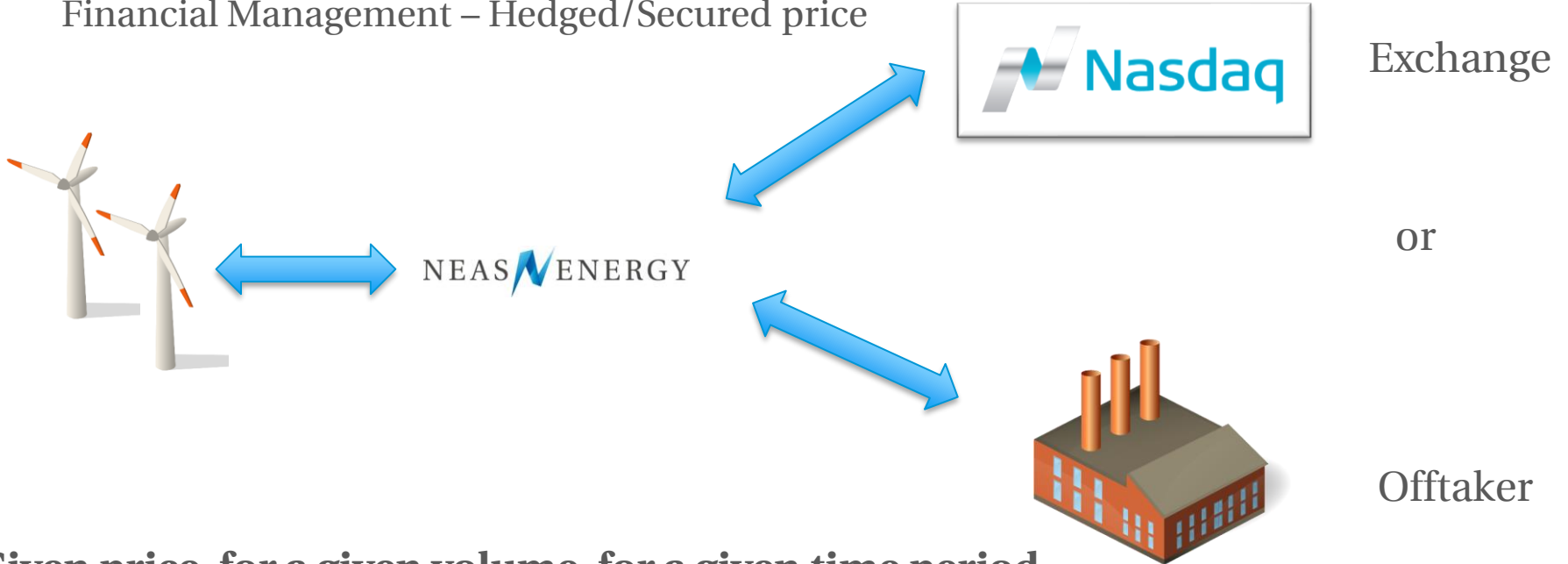


Offtaker

Power Purchase Agreement - PPA

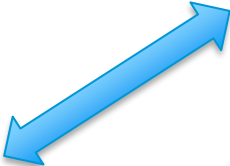
Physical Management - Balancing/Delivery

Financial Management – Hedged/Secured price



Given price, for a given volume, for a given time period

Market based PPA



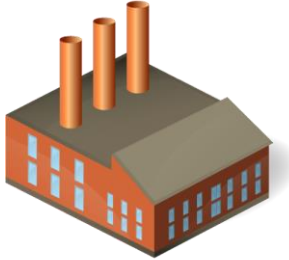
Exchange

	BID	ASK	LAST	+/-	%
ENOYR-18	25.31	25.49	25.24	0.02 ▲	0.08 ▲
ENOYR-19	22.75	22.99	22.91	0.11 ▲	0.48 ▲
ENOYR-20	22.81	23.04	22.99	0.14 ▲	0.61 ▲
ENOYR-21	24.36	24.45			0.00
ENOYR-22	25.66	26.24			0.00
ENOYR-23	25.95	29.05			0.00
ENOYR-24	26.70	29.80			0.00
ENOYR-25	27.15	30.25			0.00
ENOYR-26	27.55	30.65			0.00

Corporate PPA

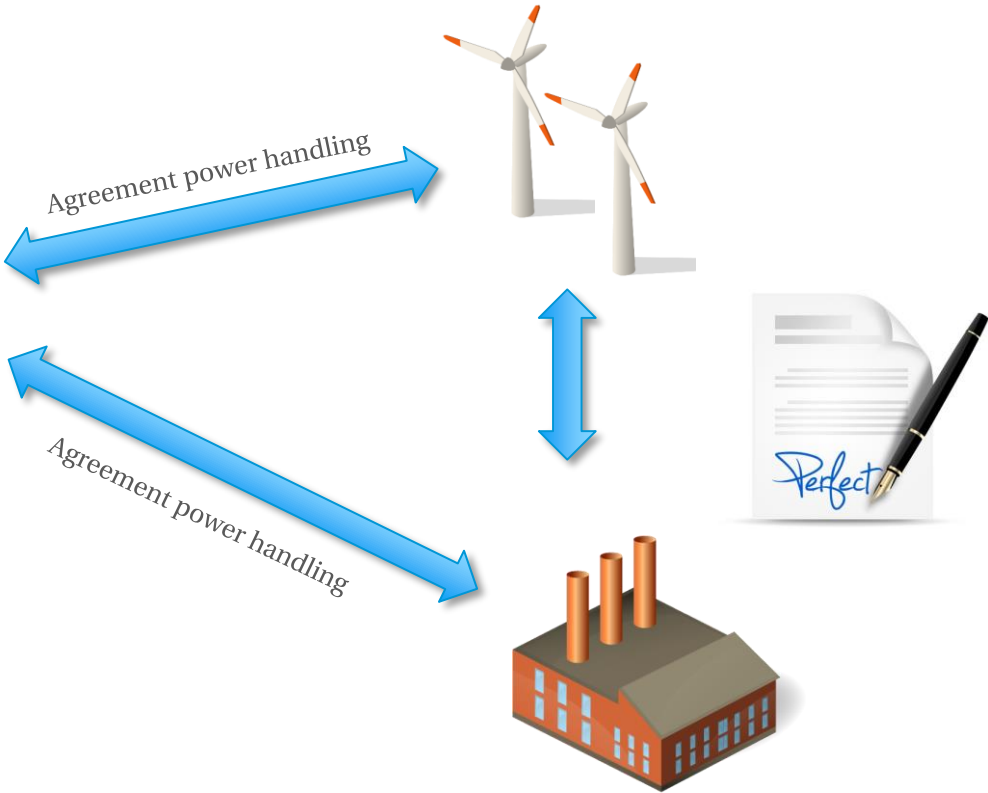
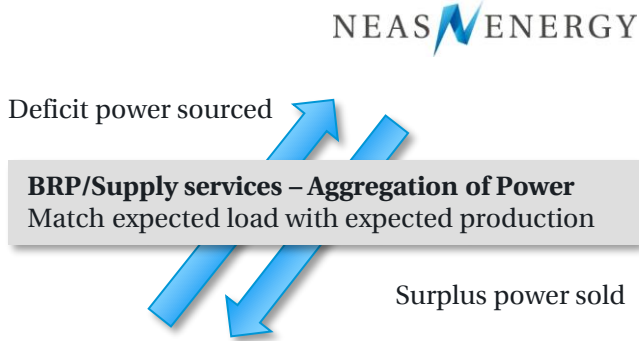


”Corporate PPA”



Offtaker

Corporate PPA



Corporate PPA's – what's in it?

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For the producer

The more secured cash flow over time – the better financing conditions (bankability) and secured investment

For the consumer

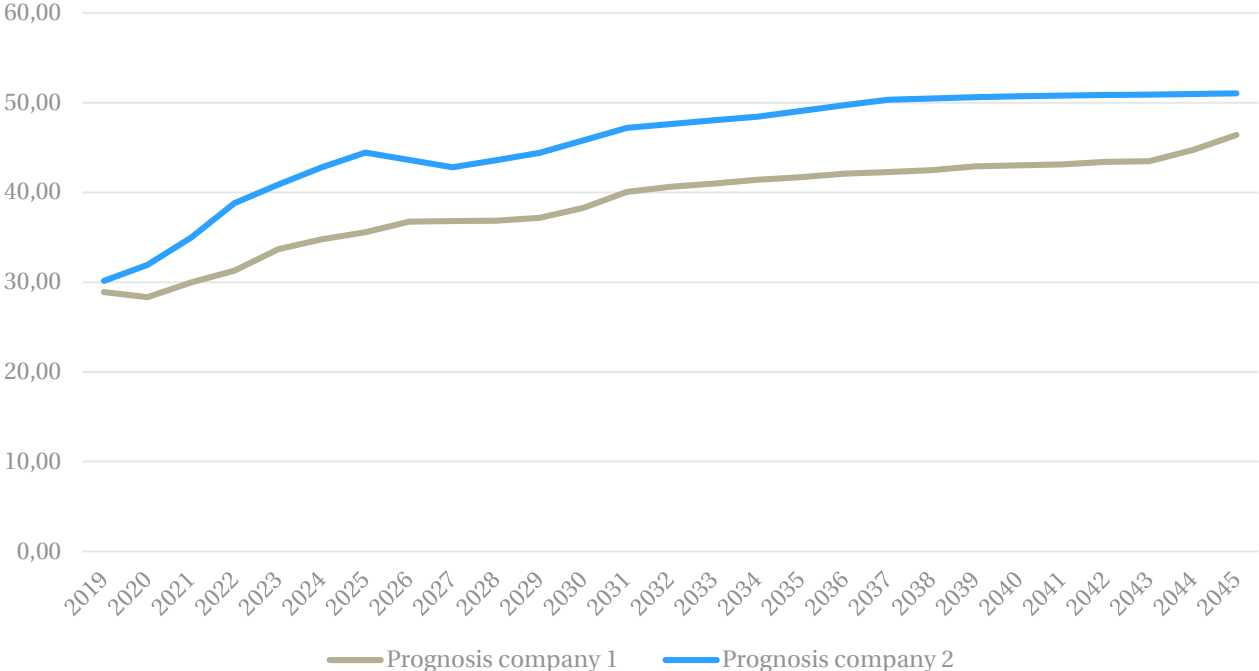
The benefit of renewable power

Defined/secured cost for power over time

And - a very good price.....

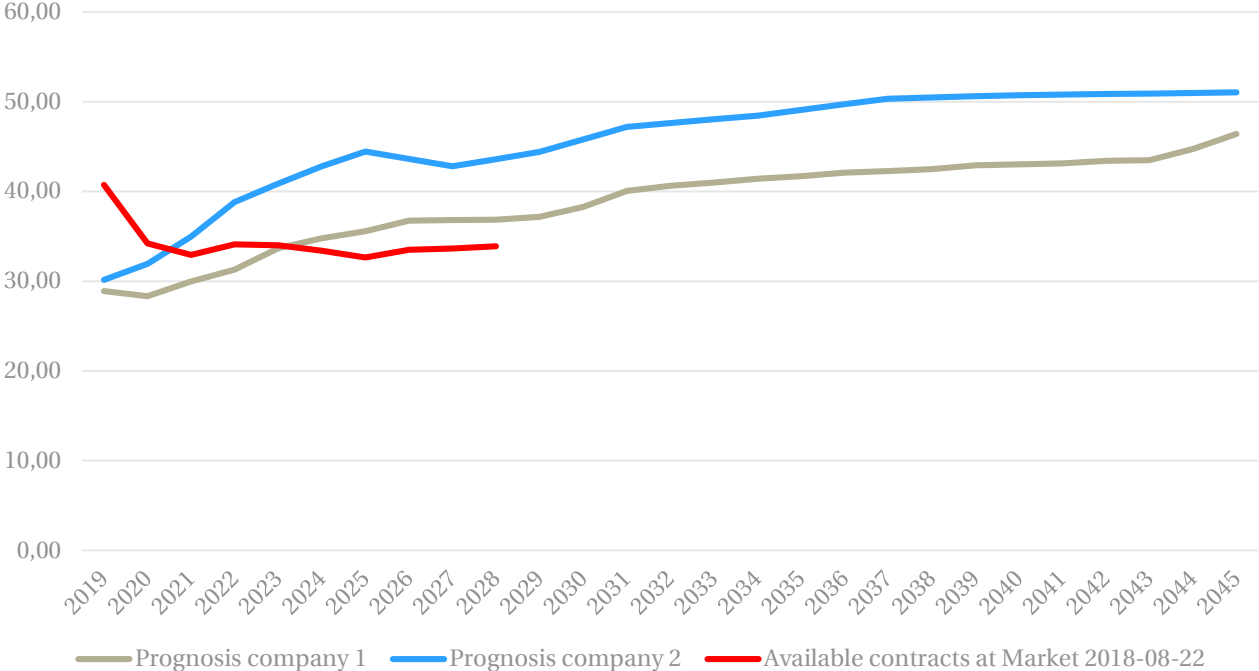
For the consumer

Prognosis contra market



For the consumer

Prognosis contra market



Three challenges with fixed volume

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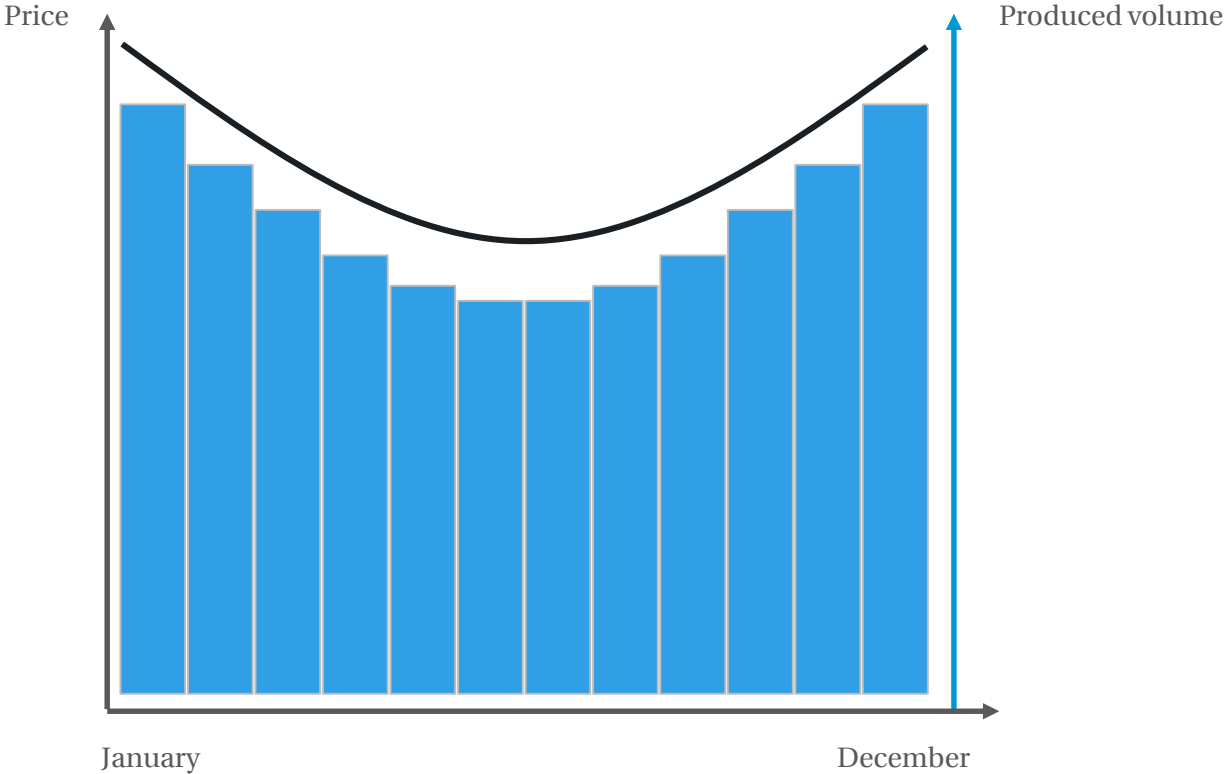
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Three components connected to hedged prices

- Seasonal profile compensation
- Volume risk
- Hourly profile risk

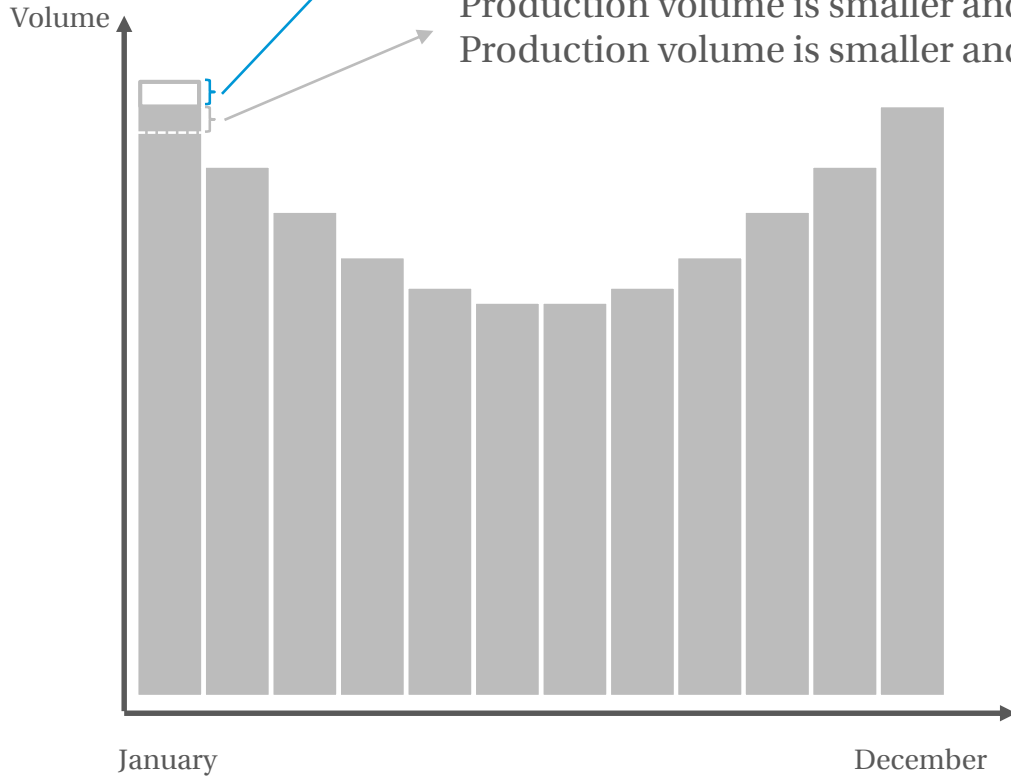
Seasonal profile compensation



Volume risk

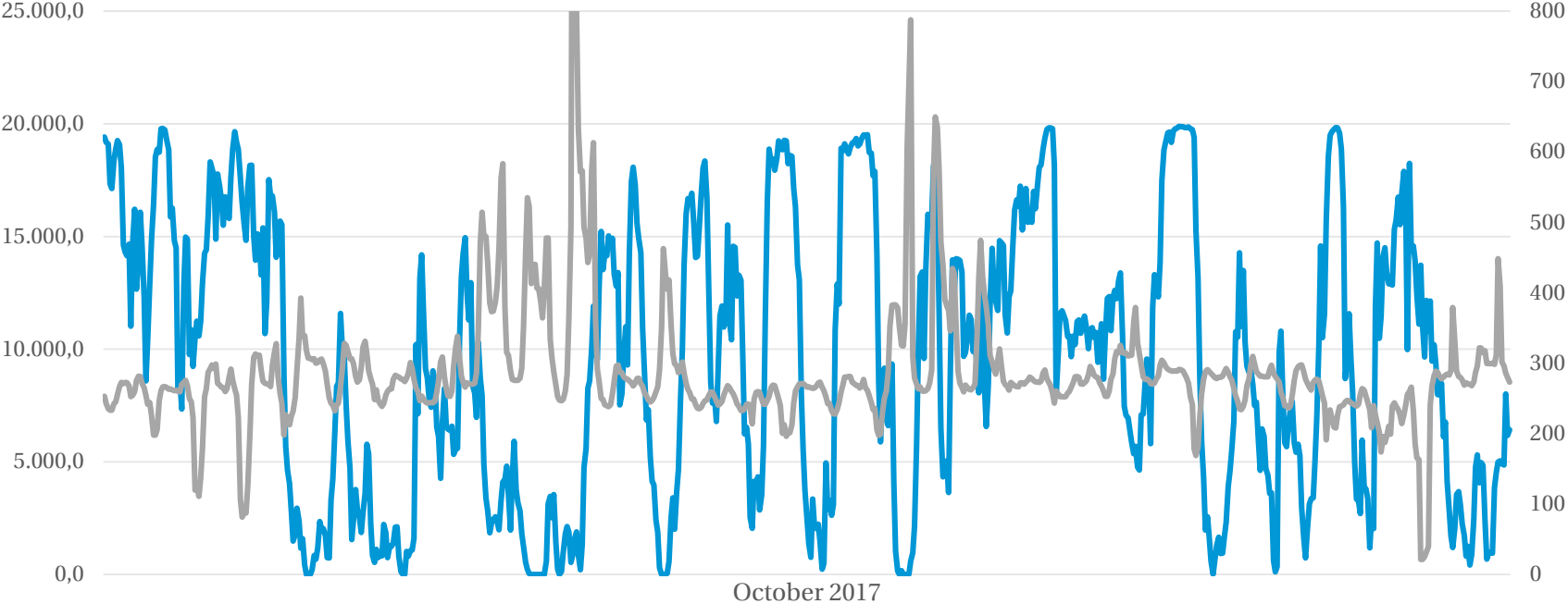
Production volume is larger and spot price is high – gives **advantage**
Production volume is larger and spot price is low – gives **disadvantage**

Production volume is smaller and spot price is high – gives **disadvantage**
Production volume is smaller and spot price is low – gives **advantage**



Hourly profile risk - Spot price contra wind production

High wind production gives low spot price and vice versa



— Product kWh — SE3 price (Avg. spot 286,22 and wind weight. 275,94)

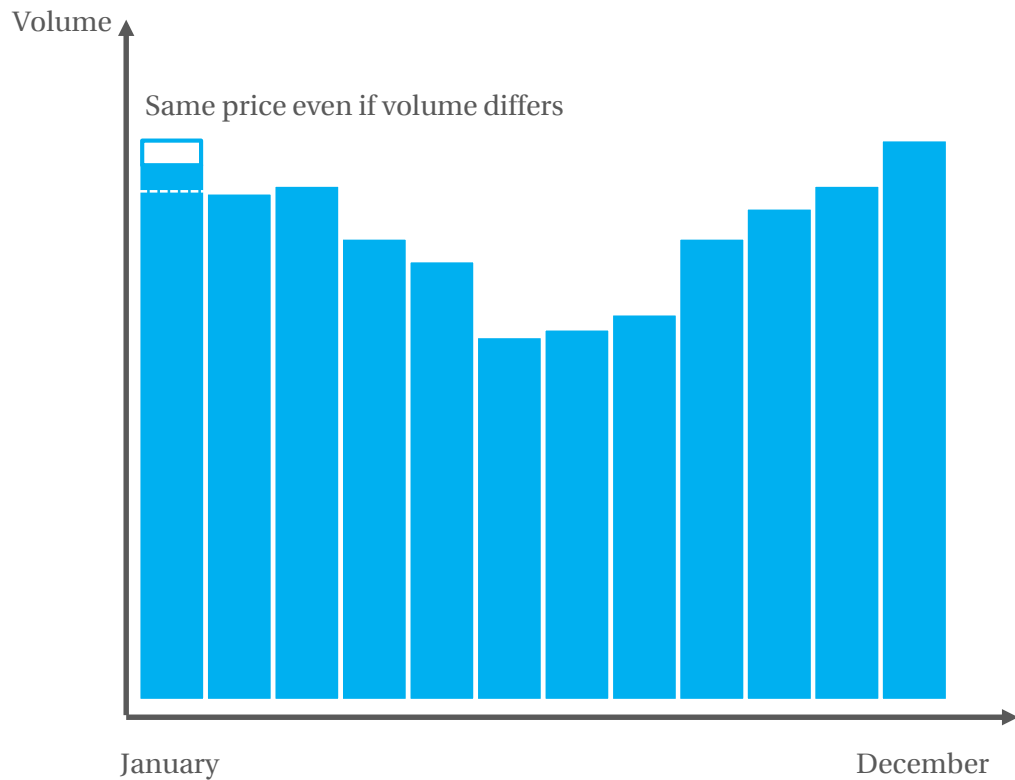
Possible structures

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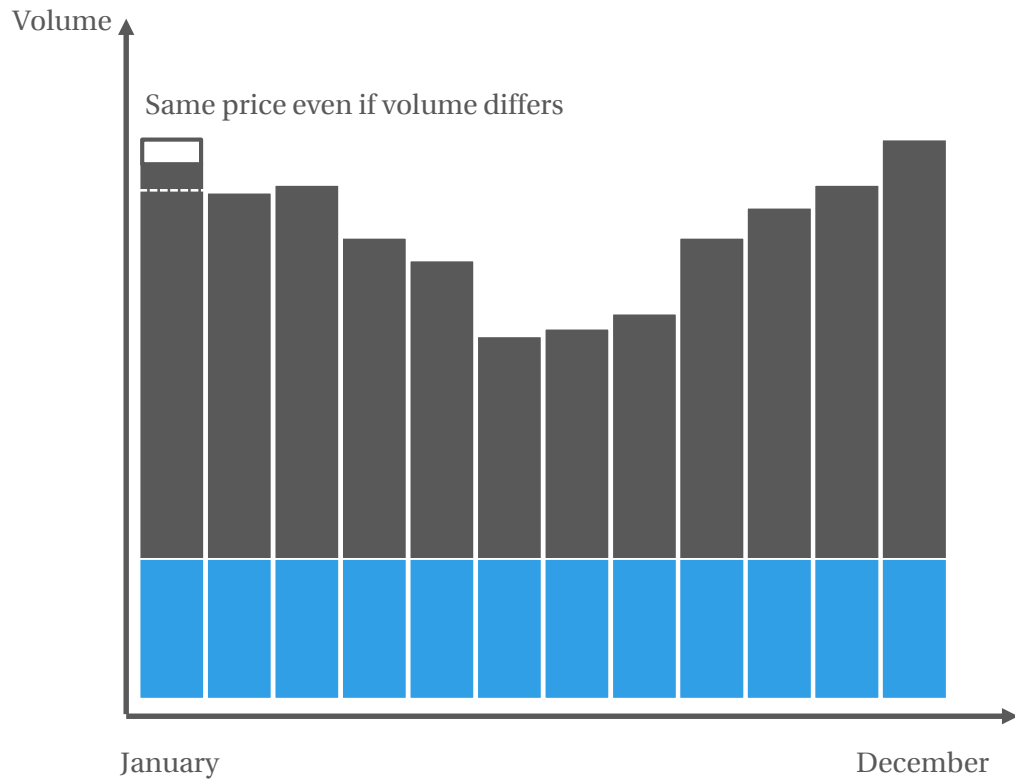
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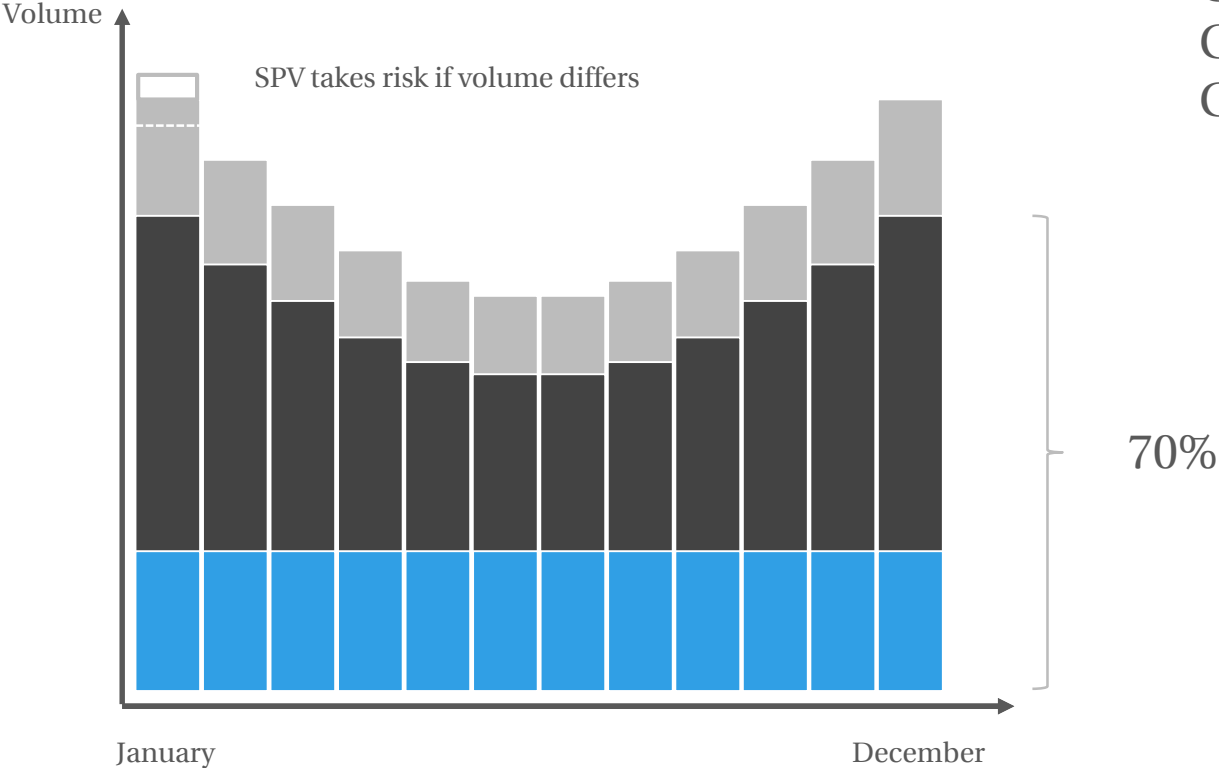
Volume & Profile risk included



Volume & Profile risk included

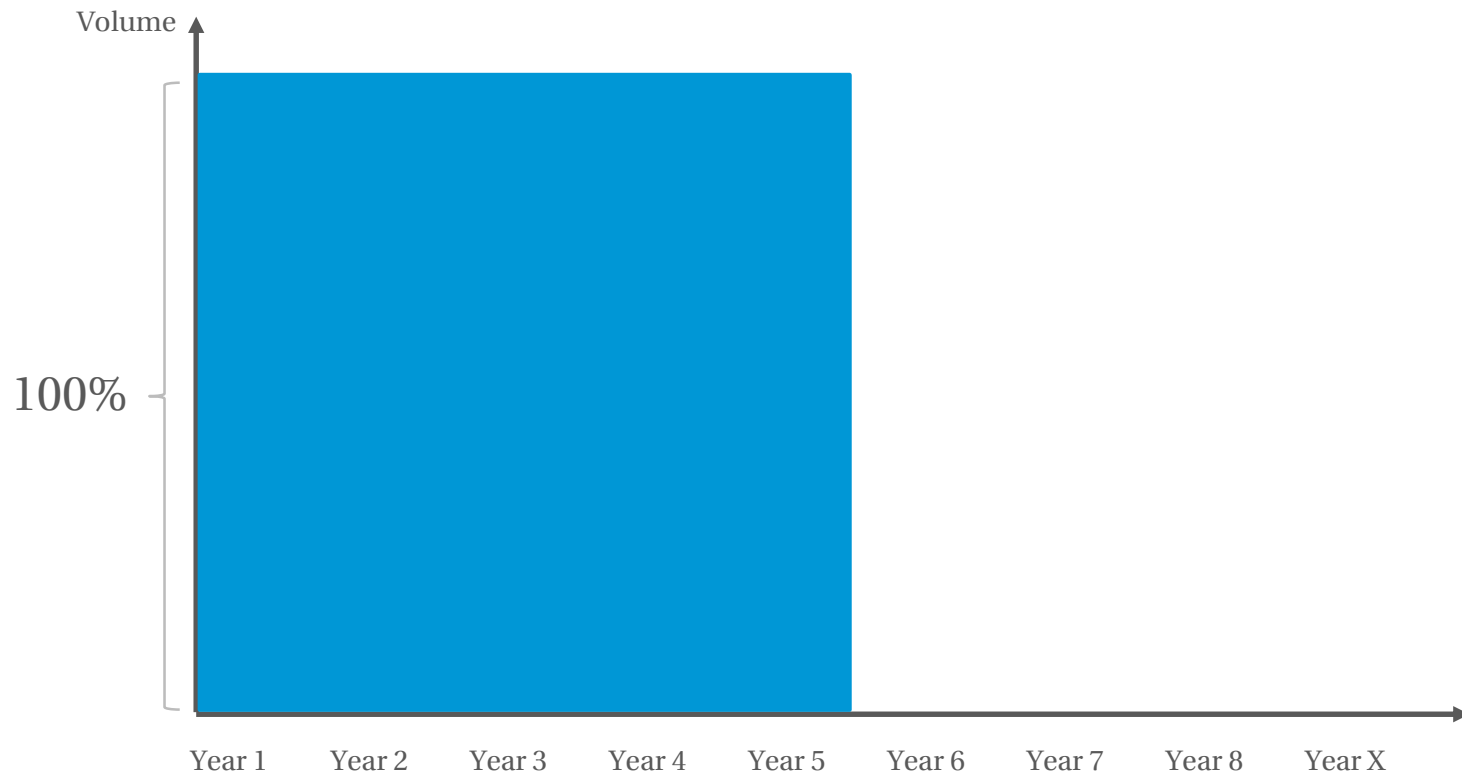


Without volume and hourly profile risk

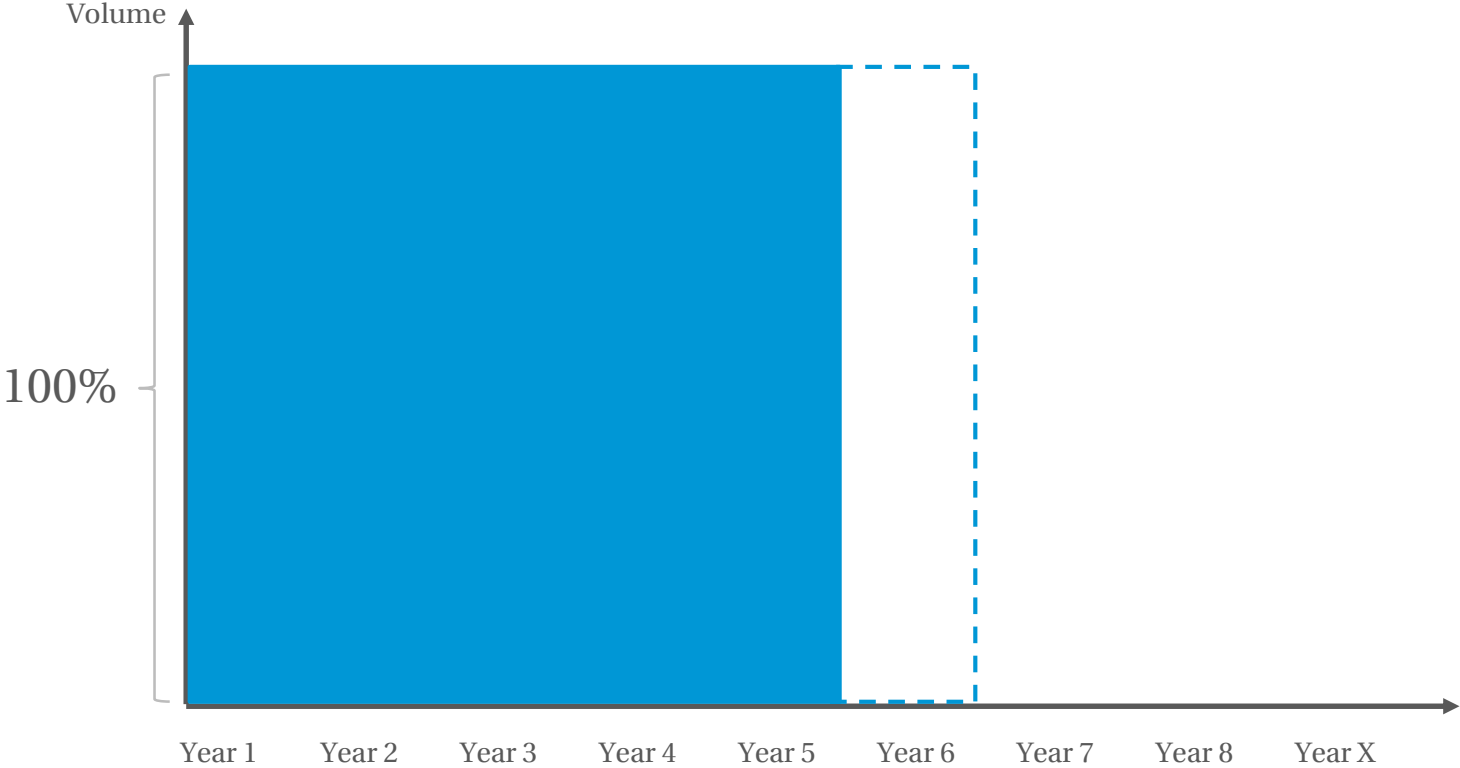


Given price
Given volume
Given time period

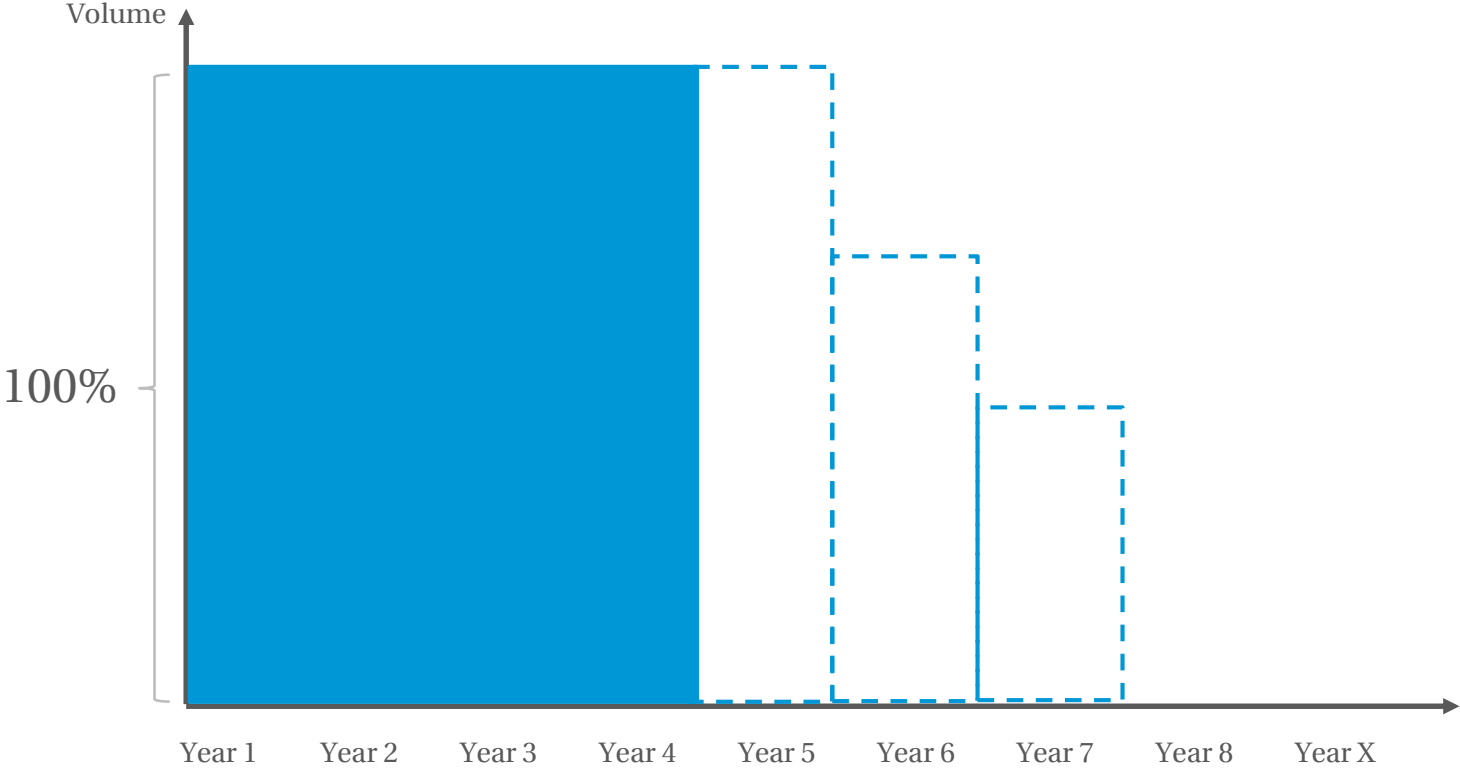
Different structures and strategies



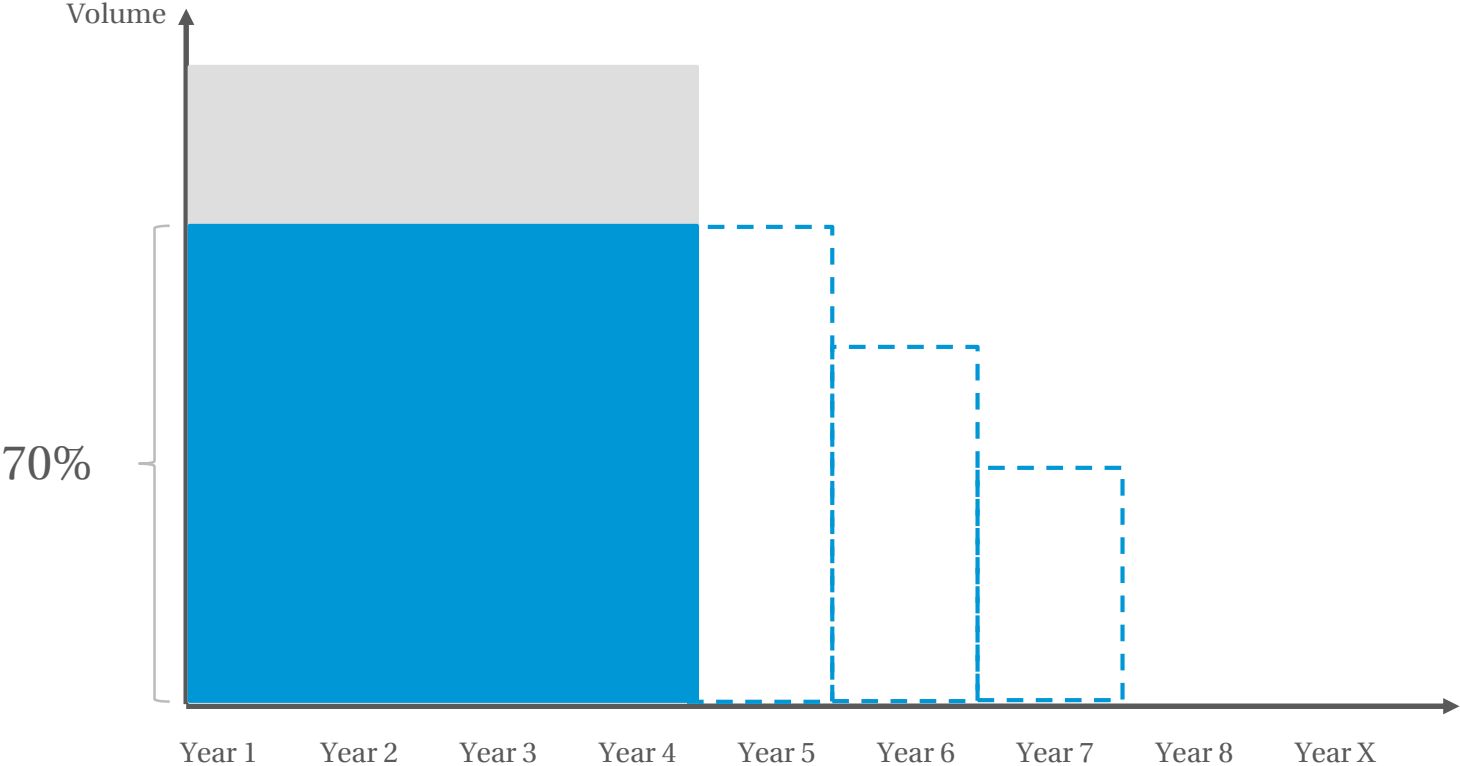
Different structures and strategies



Different structures and strategies



Different structures and strategies



Different structures and strategies

It all depends!!

Risk willingness

Need of secured cash flow

Type of investor

Bank financing

Etc.

Thank you for your attention

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