



# Welcome and Objectives of the day

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# What is BEACON?

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## Battery Eco-system Accelerator Of Norway

A network of battery stakeholders aiming to:

- **Create synergies by connecting different parts of the value chain**
- **A forum to identify research and development needs of the industry**
- **Provide stronger links for Norwegian stakeholders to European initiatives**
- **Provide Norwegian stakeholders with a common voice to ensure this industry is prioritised and its growth facilitated**
- **Create a sustainable battery industry with global impact**

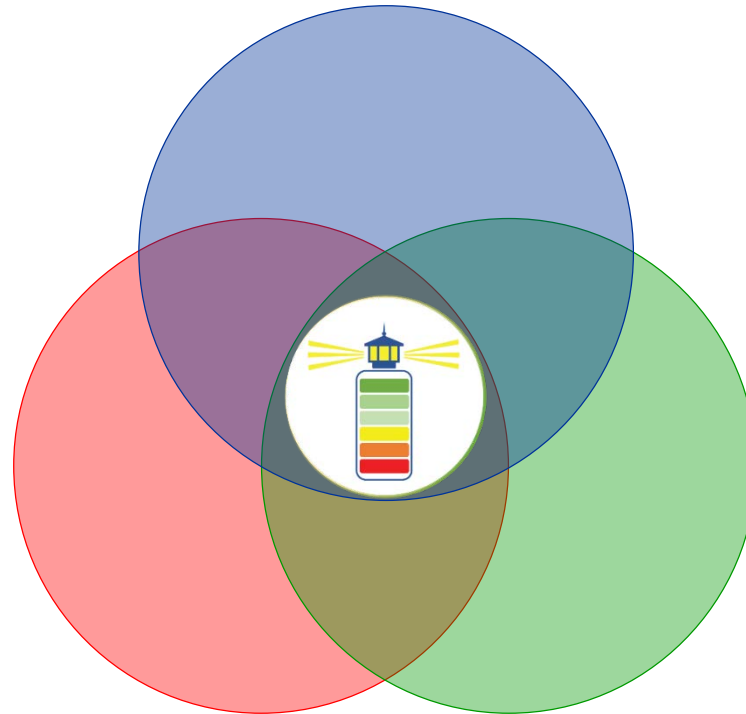
# Why batteries in Norway?

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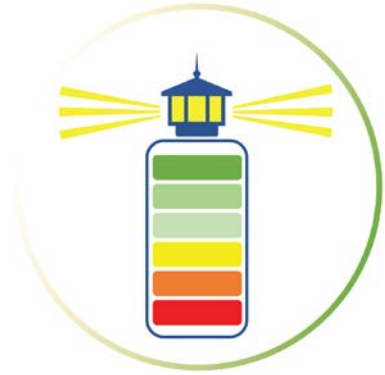


Norway needs new industry

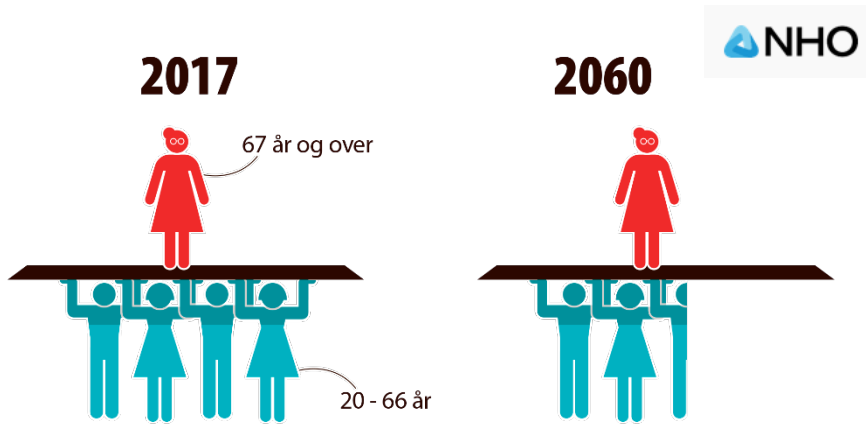
Global demand for batteries is growing



Norway: rich in resources, skilled labor and clean energy



# Why BEACON is being established?



Nyhetsgrafikk.no

- Norway is ready for new industry
- Northvolt demonstrates giga scale projects can be done
- Strong support from European authorities, including EIB



**In the next 10 yrs, the EU will invest 200 M€ in to Battery R&I**

Batteriproduksjon i Innlandet - en mulighetsstudie



Eidsiva

BELLONA





📷 Vis bildetekst

#### MARITIME BATTERIER

### Corvus skal doble salg av batterier til skip i år

Norsk-canadiske Corvus solgte maritime batterier for 310 millioner kroner. I 2019 er budsjettet på over 600 millioner kroner.



📷 Vis bildetekst

#### MARITIME BATTERIER

### Salg og installasjon av maritime batterier doblet seg fra 2017 til 2018

Det er bare begynnelsen, ifølge bransjen.



📷 Vis bildetekst

#### SIEMENS BATTERIFABRIKK I TRONDHEIM

### I dag åpnes Siemens' batterifabrikk i Trondheim

Den har imidlertid produsert batterier til fem ferger allerede.

👤 TORE STENSVOLD 👤 EIRIK HELLAND URKE 👤 MATHIAS KLINGENBERG **MARITIM** 28. JAN. 2019 - 12:04



#### PILOT PRODUCTION OF BATTERY CELLS AND SUPERCAPACITORS

13.05.2019

BEYONDER has received 4.9 million kroner in support from Innovation Norway's environmental technology programme. Together with the Chinese partner and battery manufacturer United Green Technology the total amount for the project has reached 19.8 million kroner.

News UPDATE  
13.05.2019

#### BELLONA

FAGOMRÅDER

PUBLIKASJONER

PROSJEKTER

KONTAKT

OM BELLONA

Bellona.no > Nyheter > Industri > Industrielle løsninger > Nærmere norsk batterirevolusjon

Industrielle løsninger

#### Nærmere norsk batterirevolusjon

Selskapet BEBA er etablert for å starte batteriindustri i Norge. Nå er det kommet spennende resultater fra satsingen på ny batteriteknologi fra Graphene Batteries. Målet er å bygge opp norsk battericelleproduksjon.

Publisert den 18. april, 2018 av **Bellona**

**BEBA og Graphene Batteries har nå oppnådd svært spennende resultater for et litium-svovel-batteri (LiS-batteri). Et velfungerende LiS-batteri har svært mange bruksområder og et enormt markedsmessig potensiale.**



#### Fagområder

- Avfall og gjenvinning
- Bygg
- CO2-fangst og -lagring
- Energi
- Havbruk
- Industri
- Internasjonalt
- Klima
- Magasinet
- Miljøgifter
- Miljøpatruljen
- Olje og gass
- Sahara Forest Project
- Samferdsel
- Skøpferd



📷 Vis bildetekst

#### BATTERIFABRIKK

### Vil bygge gigafabrikk for batterier i Mo i Rana

Europas andre gigantiske batterifabrikk skal bruke nordiske materialer og egenprodusert strøm.

👤 ODD RICHARD VALMOT **INDUSTRI** 3. APRIL 2019 - 11:39



# Who is BEACON for?



- All stakeholders in the Battery Eco-system
  - All parts of the innovation value chain
- In order to have sufficient impact; diversity and collaboration is key



# How will BEACON operate?

- Open organisation
- Affordable and accessible to small startups
- Governing structure to be defined
  - Feedback welcome
  - Have used a core group as an advisory group in the startup phase



## Pillar 1:

Advanced materials and cell design:

Raw materials  
Recycling/ urban mining  
Cell production

## Pillar 2:

Module design and battery system

Integration – transport  
Integration – stationary

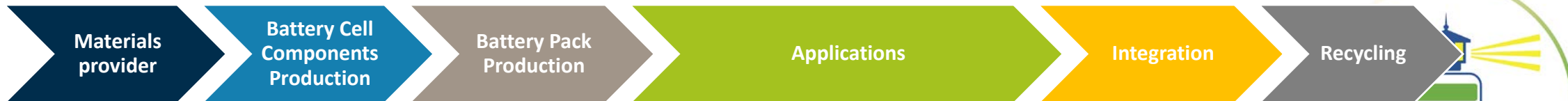
## Pillar 3:

Charging and infrastructure

Solutions  
Smartgrids  
IT systems  
Management and control systems



# Norwegian stakeholders



Elkem	Freyr	Siemens	<u>Maritime</u>	<u>Stationary Storage</u>	<u>Charging Infra</u>	Batteriretur
Glencore	Beyonder	Corvus	Wartsila	Equinor	ABB	NorSirk
Hydro	Graphene Batteries	Grenland Energy	Yara	Trønderenergi	DNV GL	Hydro
Du Pont (FMC)	Vili Vé Group	ZEG Power	Vard Electro	NTE	Loyds	
Borregaard		ZEM Marine	Schive	Statkraft	<u>Safety and Testing</u>	
Dynatec		Hans-Schive	Fiskerstrand Verft	Statnett	FFI	
Cealtec			Selfa	Pixii AS	<u>Other</u>	
Beyonder			<u>Air Travel &amp; Drones</u>	Eltek	Bellona	
Baldur			Avinor	Hafslund	ZERO	
Cerpotech			Airbus	<u>Transport</u>	AGA	
Joma			Rolls Royce	ASKO	TOI	
Cenate			Blueye	Unibuss		
			IMARI	Jernbarned.		



## Cross-Cutting Research

NTNU	IFE	UiO	FFI	USN	TØI	U of Agder	SINTEF
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## Associations

EBA	MBF	EMIRI	NFFBS	Elbåtforeningen	Elbilforeningen	Cleantech
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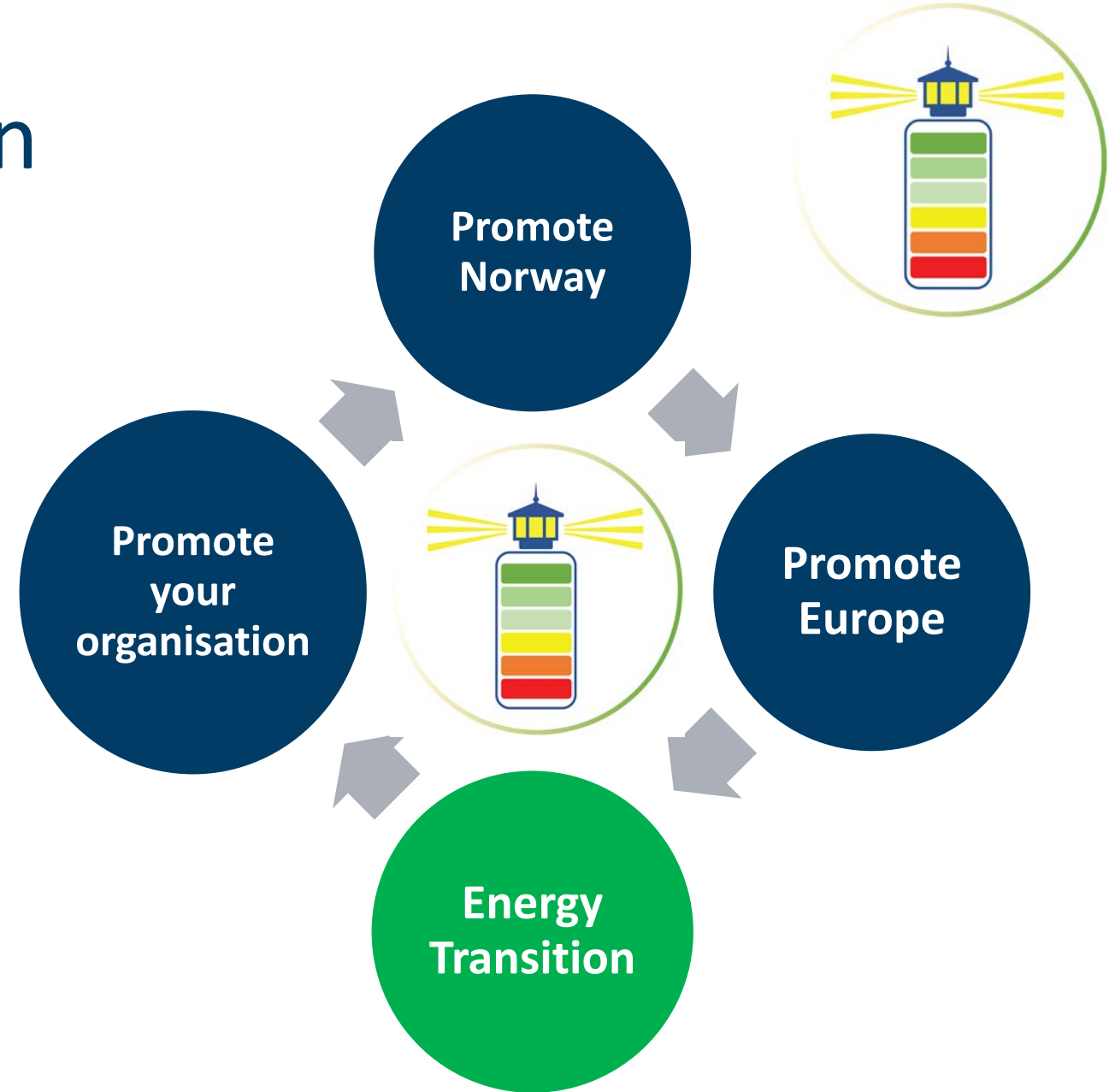
## Financial Institutions

RCN	ENOVA	Innovation Norway	DNB
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# Become world leaders in battery technology...

- Through collaboration stakeholders are stronger, more knowledgeable and have more influence.
- Together we can accelerate innovation and develop our home market
- We have raw materials, process competence, a renewable energy system, high level of education.





# Today, we want to

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- **Inform you:** European situation overview & the EBA
- **Inspire you:** Funding and financing opportunities for R&I including Battery 2030+, RCN and InnoEnergy
- **Motivate you:** Norwegian situation overview & showcase of stakeholders
- **Challenge you:** Spark discussion - how to grow the Norwegian battery industry
- **Listen to you:** To hear how BEACON can help your company grow
- **Support you:** Set the foundation for the BEACON network

# WELCOME TO BEACON

