

The National Energy and Climate Plan and the Recovery Plan: The Green Vision of Luxembourg

*«Wind Repowering, a Profitable and
Efficient Strategy for the Development
of Wind Energy in Luxembourg»*

February 1st, 2021





Soler (Société Luxembourgeoise des Energies Renouvelables)

Key facts

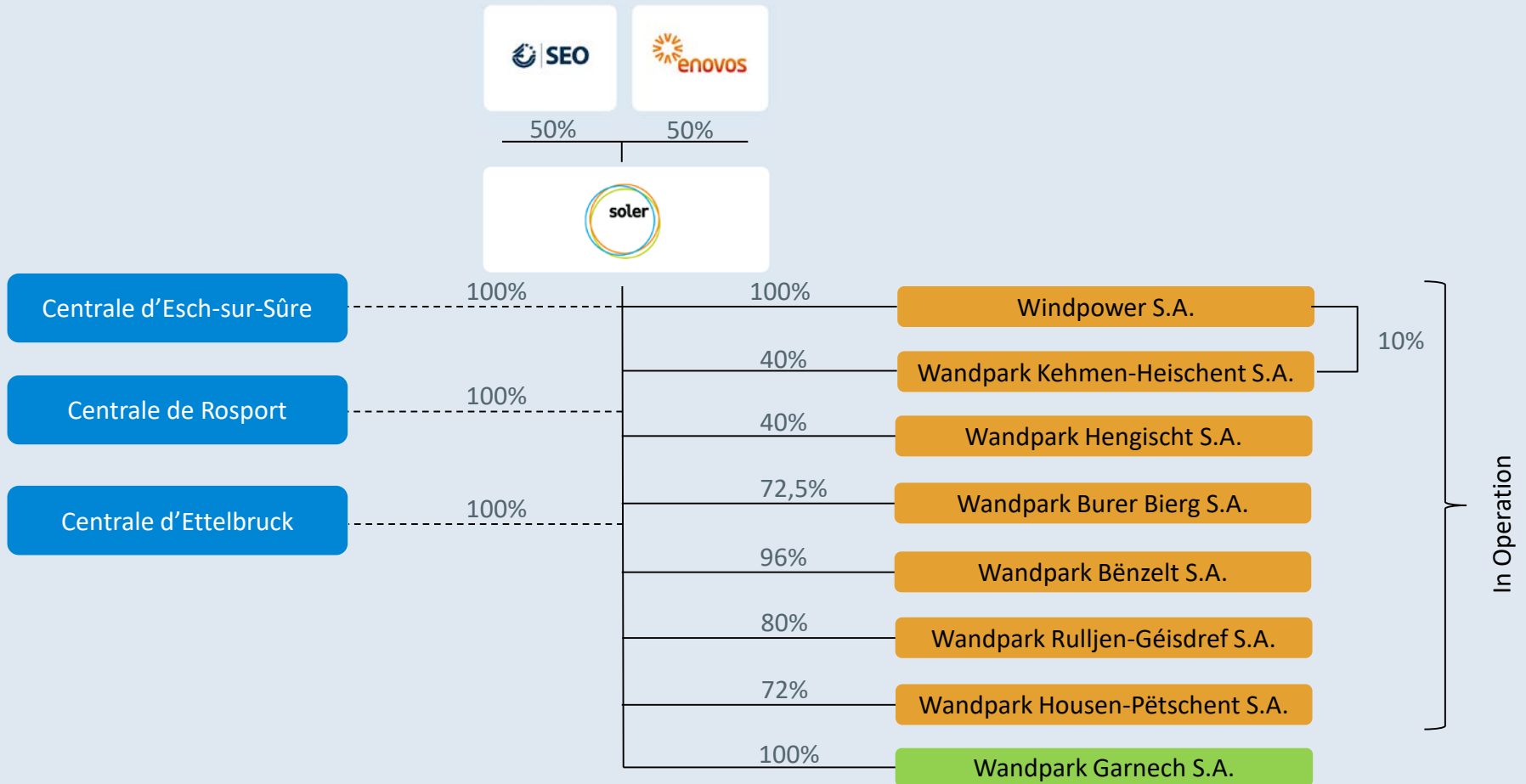
Actionnaires:

- 50% Société Electrique de l'Our (SEO) S.A.
- 50% Enovos Luxembourg S.A.

Historique et activités:

- founded on 27.06.2001
- since Q4-2011: decision to use SOLER to develop all kind of renewable energy supplies in Luxembourg

Soler Structure





Soler

Key facts

Activities

Operation:

- Run-Of-River power plant **Rosport, Esch-sur-Sûre** and **Ettelbruck**
- 7 Windfarms with 39 wind turbines

Yearly production of around:

- 211,5 GWh equivalent of 47.000 households, resp. 188.000 individuals

Construction:

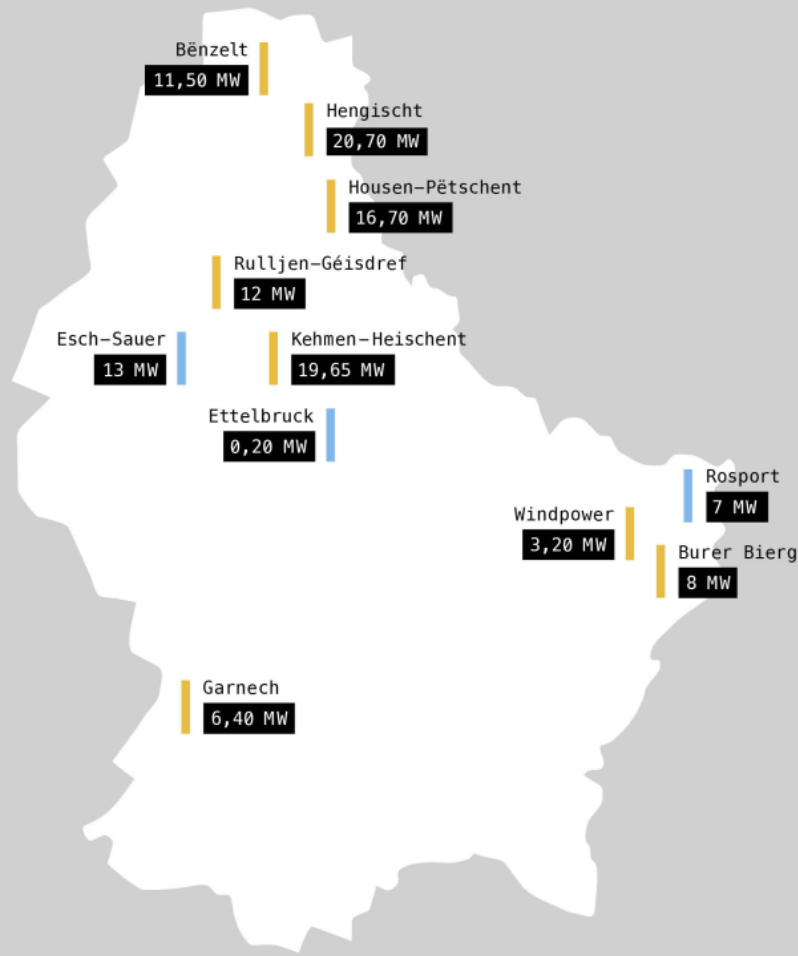
- 1 windfarm with 2 turbines and an installed power of 6,4 MW

Planification:

- 6 new wind farms with 21 turbines and an installed power of about 69 MW
- 2 repowerings of 10 turbines (18 MW) replaced by 5 new turbines (17,5 MW)

Activités

Énergie éolienne et hydroélectricité (existante)



Laufwasserkraftwerke



Centrales
au fil de l'eau

Total: 20,20 MW

Windparks

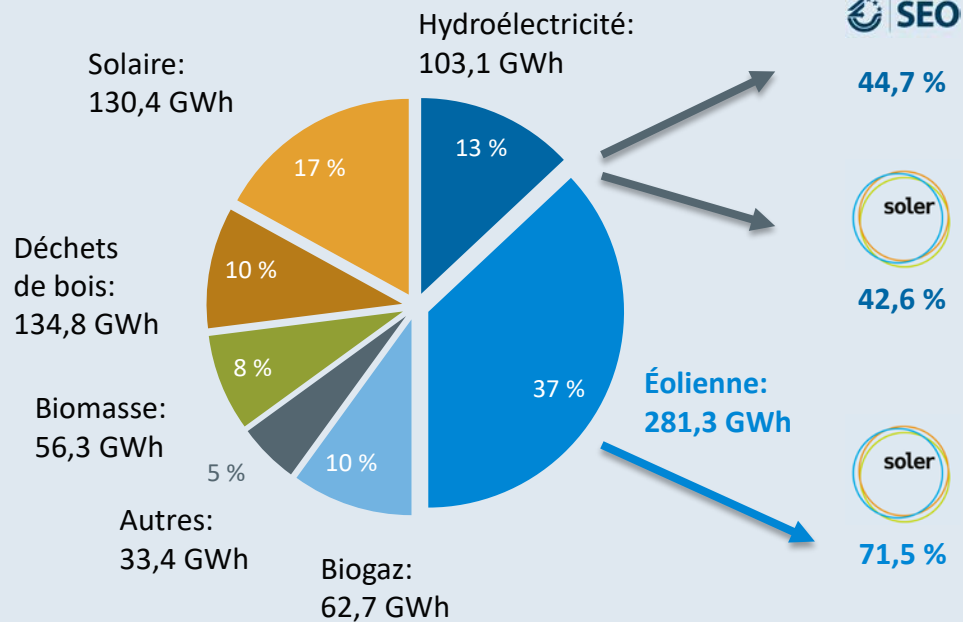


Parcs Eoliens

Total: 98,15 MW

National production of Renewables

Production in 2019 of RE 801,96 GWh



Part in national production

5,8 % 

30,5 % 

The national production of Renewable Energies in 2019

gives access to
178.213 households (4 pers.) / year
and saves about **521.274 t CO2** / year

* Chiffres 2019 de l'ILR (09/07/2020)

Repowerings in Luxembourg

- **2016:** WP Hengischt Phase 1
 - 3 turbines (Micon 600 kW) built in 1998
 - Replaced by 1 turbine (ENERCON E92 – 2,3 MW)
- **2016:** WP Hengischt Phase 2
 - 5 turbines (Micon 1000 kW) built in 1999
 - Replaced by 1 turbine (ENERCON E92 – 2,3 MW)
- **2020:** WINDPOWER
 - 4 turbines (Micon 500 kW) built in 1996
 - Replaced by 1 turbine (ENERCON E115 – 3,2 MW)

Further planned Repowerings

- 2021: WP Hengischt Phase 3
 - 3 turbines (ENERCON E66 – 1,8 MW) built in 2003
 - Replaced by 2 turbines (ENERCON E138 – 4,2 MW)
- 2021: WP Kehmen-Heischent Phase 1
 - 7 turbines (ENERCON E66 – 1,8 MW) built in 2004
 - Replaced by 3 turbines (ENERCON E138 – 4,2 MW)
- 2021: Wand-a-Waasser
 - 3 turbines (ENERCON E40 – 600 kW) built in 1998
 - Replaced by 1 turbine (ENERCON E138 – 4,2 MW)

Potential of Repowerings

Example: Windpower in Rosport-Mompach

- WINDPOWER, built in 1996 (first Wind farm in Luxembourg)
- 4 x MICON 500 kW
hub height: 46m
Rotor Diameter: 43,4m





Potential of Repowerings

Example: Windpower in Rosport-Mompach

- Repowering in 2020, after 2 years of planning
- New turbine ENERCON E115 (3,2 MW)
hub height: 149m
Rotor Diameter: 115m
- **Produces 3 times more energy than the 4 old turbines together**
- Only one turbine due to noise and shadow emissions (max 37dB(A) night)





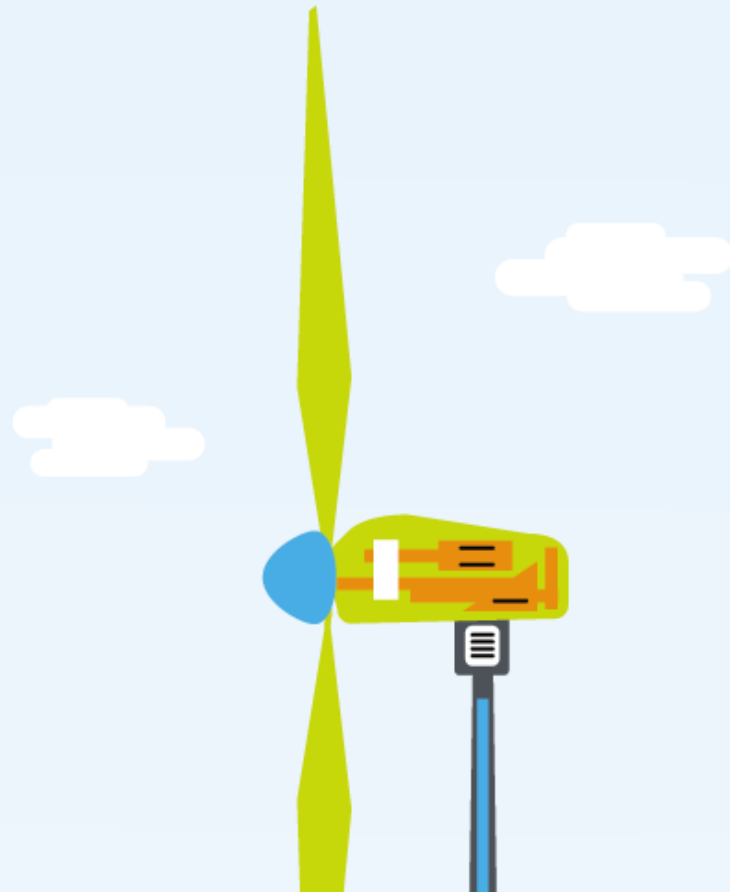
12 Wind Repowering, a Profitable and Efficient Strategy for the Development of Wind Energy in Luxembourg





Composite materials

% of weight



- 60-65 % concrete
- 30-35 % steel
- 2-3 % Composite material
- < 1 % E-components
- < 1 % copper
- < 1 % Aluminium
- ● < 1 % PVC
- < 1 % Liquides

Recycling

(1) Conception

Planification du chantier et analyse des ressources

Certification

Recyclé à 100 %



Récupération énergétique
(production de béton et pyrolyse)



(4) Récupération

Récupération des matières de manière écologique et conforme aux réglementations

Récupération des matières
(PVC et autres)



Fondement

(2) Gestion du démontage

Planning, autorisations et monitoring



(3) Morcellement

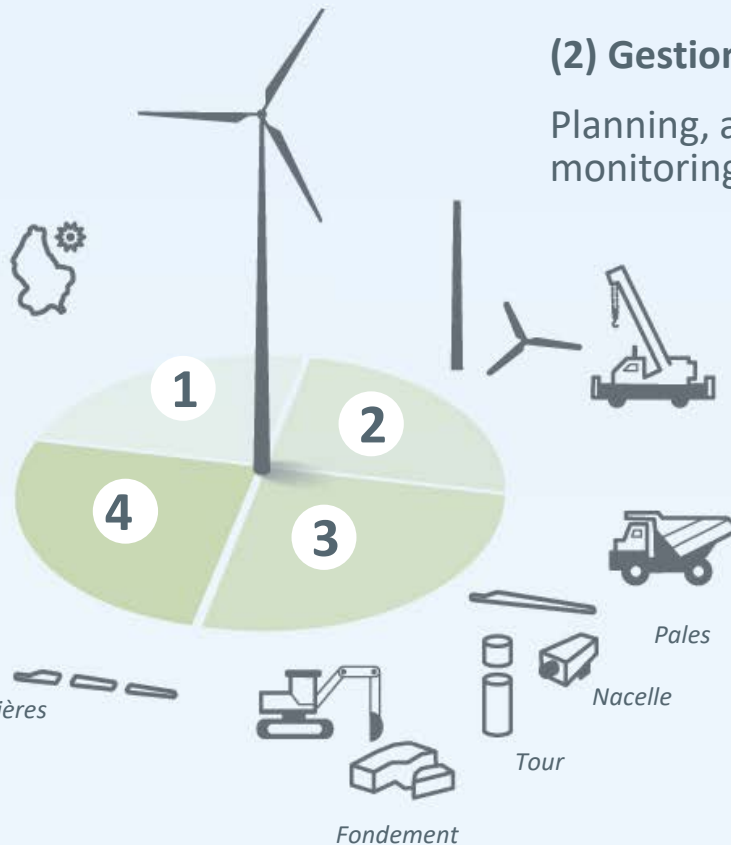
Morcellement sur place



Pales

Nacelle

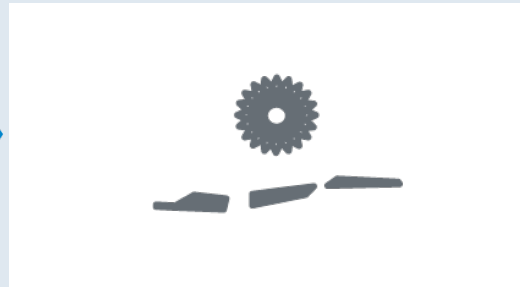
Tour



Recycling



Démontage des pales



Morcellement
pour le transport



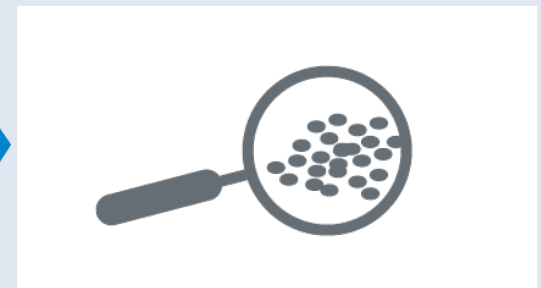
Broyage
des pièces composantes



Séparation des
matières métalliques



Utilisation énergétique
par incinération

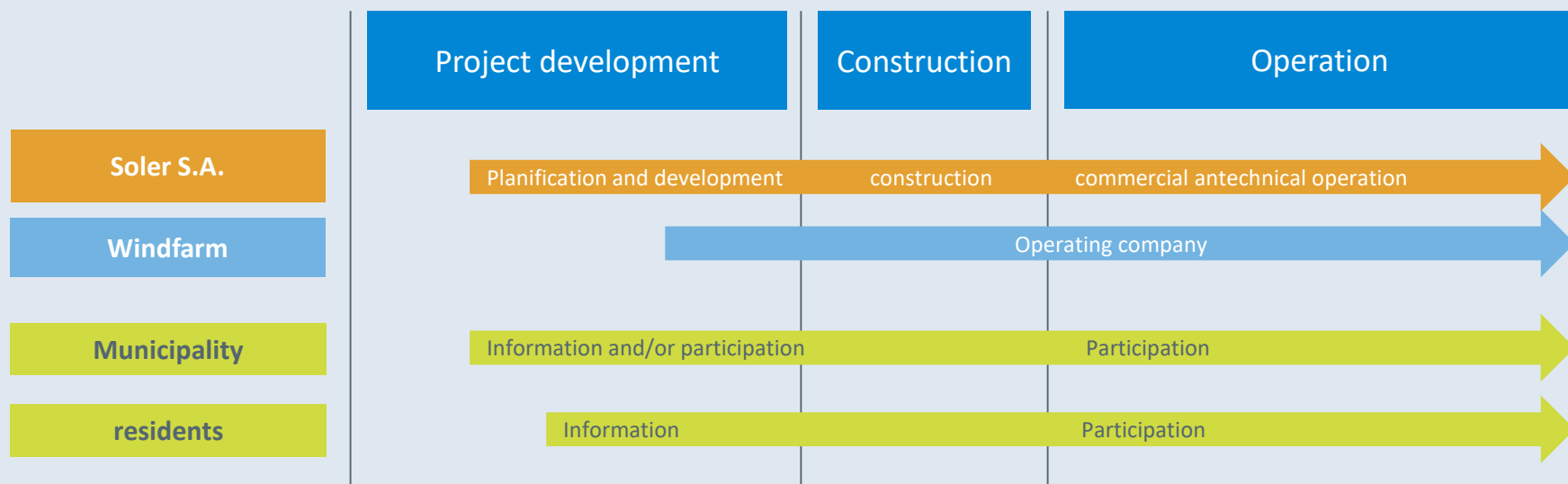


Utilisation des cendres
(remplacement pour sable)



Steps

Participation of residents



Thank You!

Contact :

info@soler.lu

www.soler.lu

