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- La transparencia como elemento de comunicación al consumidor –

DECLARACIÓN AMBIENTAL DE PRODUCTO PARQUE EÓLICO KILGALLIOCH

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El Basque Ecodesign Center es una entidad con sede en el País Vasco, constituida en un marco de **colaboración entre empresas del sector privado y el Gobierno Vasco**, cuyo objetivo es la conceptualización y **ejecución de proyectos innovadores de ecodiseño**.

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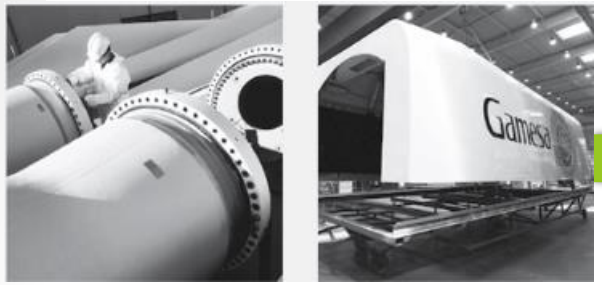

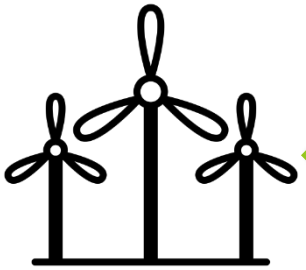

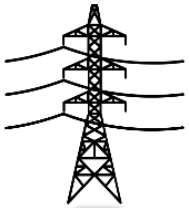

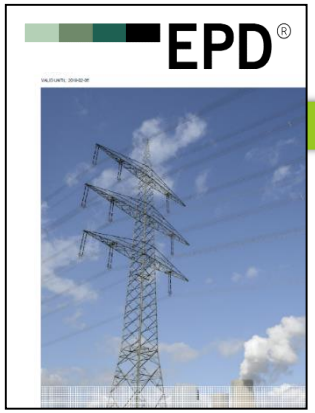

1 Kwh de electricidad

- ✓ PCR - CPC 171 – Electricity, steam, and hot/cold water generation & distribution
- ✓ Unidad funcional
  1 Kwh generado y distribuido

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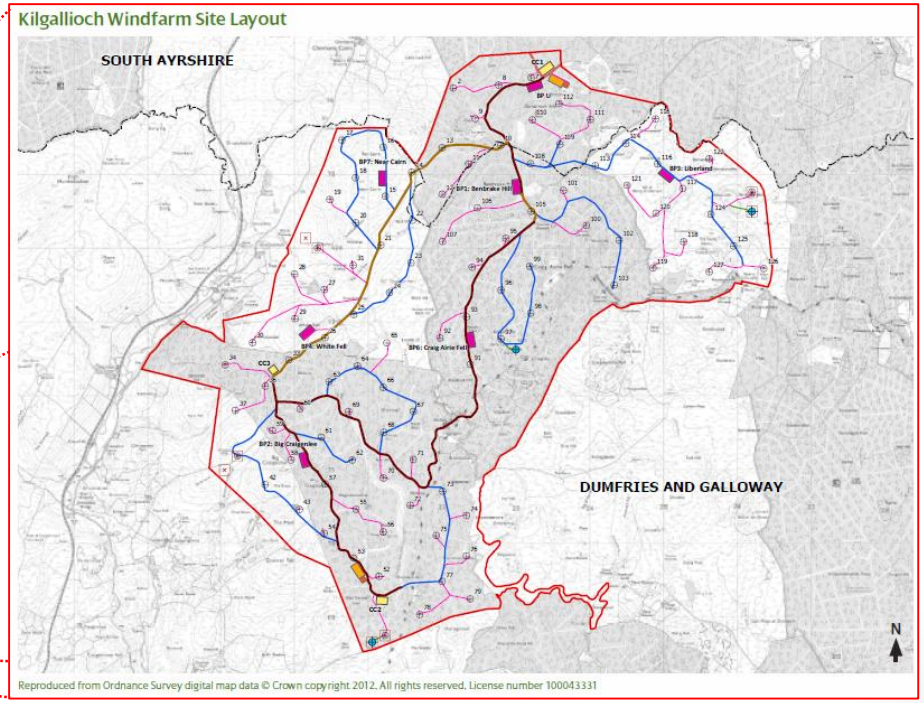
El parque eólico Kilgallioch

- 94 WTG Siemens Gamesa G114 2.5MW
- 2 WTG Siemens Gamesa G90 2.0 MW
- 239 MW
- 160.000 hogares
- 25 años explotación
- Construcción Q3 2015 – Q4 2016
- 6.400 ha. superfice total
- 68 ha. ocupados



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Alcance del proyecto – Recopilación inventario

RAW MATERIALS AND WTG MANUFACTURING

- Raw materials needed for the wind turbines and their components
- Manufacturing processes required to build the wind turbine components
- Assembly of components in Gamesa facilities

LOGISTICS

- Transport of materials and components between Gamesa and its suppliers
- Transport of the main components from Gamesa facilities until the Kilgallioch windfarm
- Transport of the substation assets from the providers until Kilgallioch
- Transport of other construction materials

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WIND FARM CONSTRUCTION AND COMMISIONING

- Raw materials used during the construction including foundations and internal wind farm wiring
- Machinery use for construction purposes and for WTG assemblies
- Residues generated during the wind farm construction and its management

KILGALLIOCH OPERATION & MAINTENANCE

- Energy generation at Kilgallioch wind farm during 25 years
- Wind farm internal electricity losses
- Planned preventive maintenance
- Expected corrective maintenance
- Operation residues management

END OF LIFE OF THE ASSETS

- Management of the different residues generated after decommissioning of the wind farm
- End of life treatments

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SCOTTISHPOWER RENEWABLES

+

SP ENERGY NETWORKS

LOSSES IN THE ELECTRICAL NETWORK

- Electrical losses from Kilgallioch electrical substation until Mark Hill electrical substation

ELECTRICAL NETWORK INFRASTRUCTURE

- Construction of the 14 Km underground line from Kilgallioch to Mark Hill
- Mark Hill substation expansion

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Análisis de Ciclo de Vida

- **Análisis de ciclo de vida**
  - ✓ ISO 14040:2006
  - ✓ ISO 14044:2006

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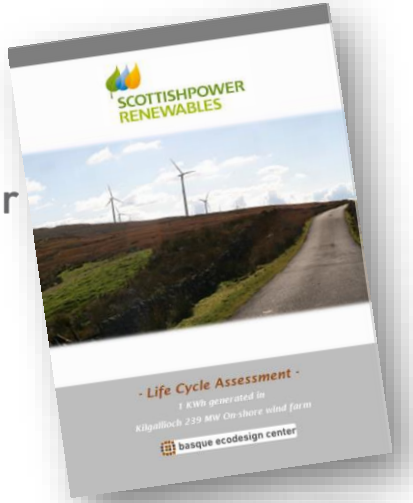
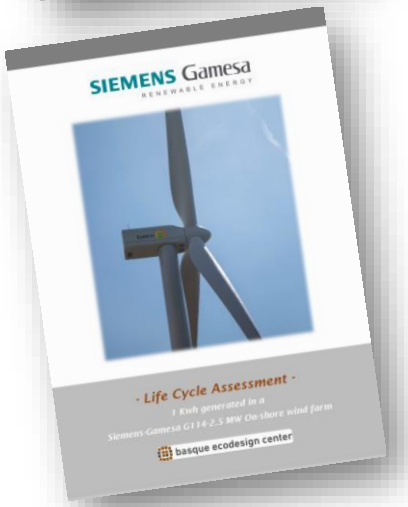
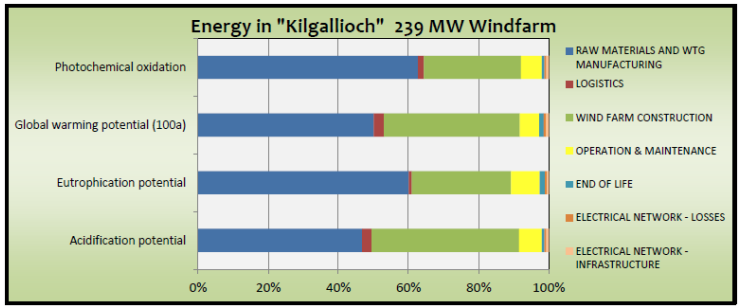
SimaPro

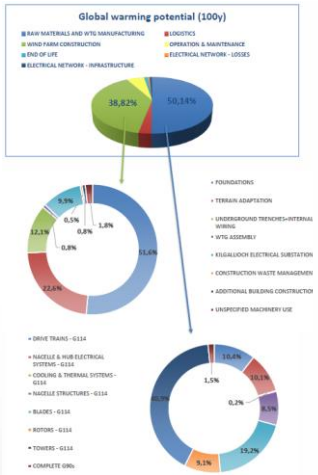




- **EVALUACIÓN IMPACTO AMBIENTAL**



- **IDENTIFICACIÓN ASPECTOS AMBIENTALES SIGNIFICATIVOS**



		IMPACT CATEGORY			
		GWP	AP	EP	POCP
RAW MATERIALS AND WTG MANUFACTURING	DRIVE TRAINS - G114	X			X
	NACELLE & HUB ELECTRICAL SYSTEMS - G114	X	X	X	X
	NACELLE STRUCTURES - G114				X
	BLADES - G114	X	X		X
	TOWERS - G114	X	X	X	X
WIND FARM CONSTRUCTION	FOUNDATIONS	X	X	X	X
	TERRAIN ADAPTATION	X	X		
	UNDERGROUND TRENCHES+INTERNAL WIRING		X	X	
	KILGALLIOCH ELECTRICAL SUBSTATION		X	X	X
OPERATION & MAINTENANCE	CORRECTIVE MAINTENANCE		X	X	X

- **RECOMENDACIONES MEJORA AMBIENTAL**

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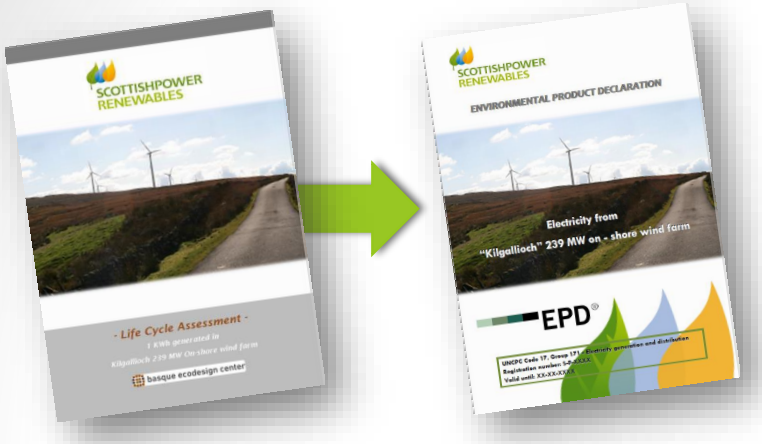
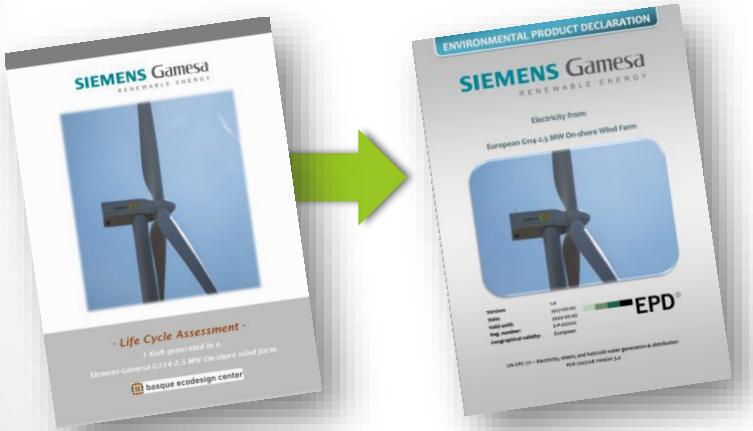
Declaraciones Ambientales de Producto





- **Declaración ambiental producto (EPD)**
  - ✓ ISO 14025:2010
  - ✓ PCR - CPC 171 – Electricity, steam, and hot/cold water generation & distribution
- **International EPD System** EPD®

Documento público → Verificado externamente → En base a unas PCR

Comunicación ambiental

- ✓ TRANSPARENTE
- ✓ VERAZ
- ✓ COMPARABLE

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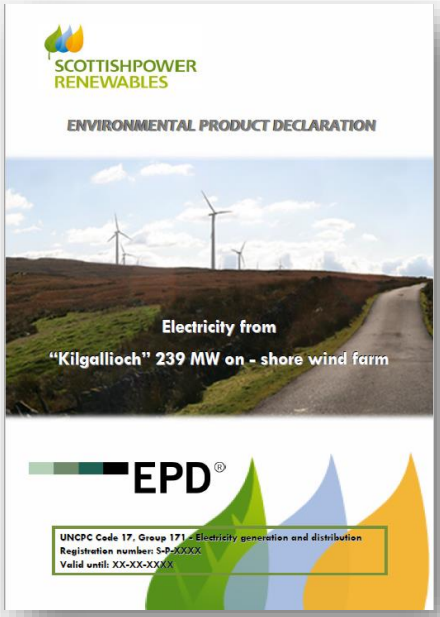

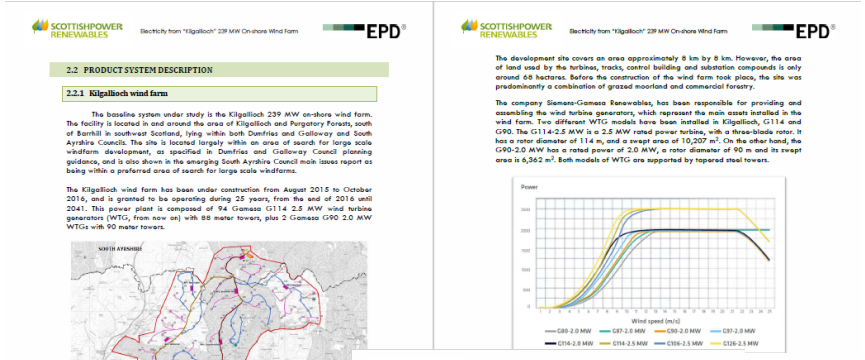

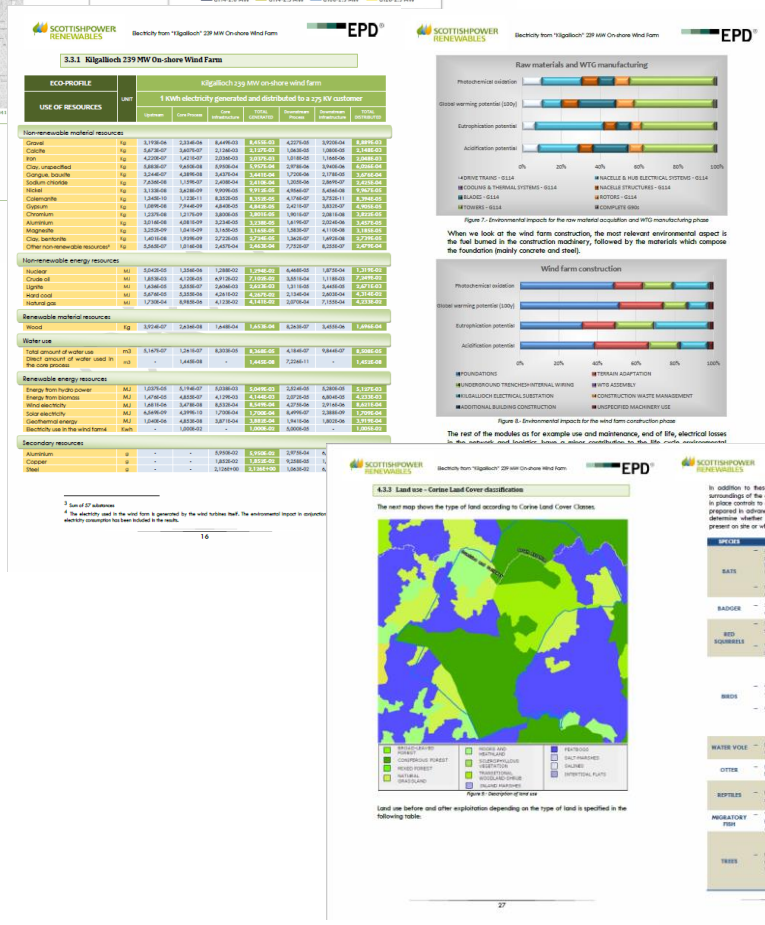

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