



**LG Chem, Ltd.**  
**Green Bond Annual Reporting**

April 2020

## 1. Inaugural Issuance of Green Bonds

- On April 8<sup>th</sup>, 2019, LG Chem, Ltd. (“LG Chem” or the “Company”) priced its US\$1.0bn and €500mm dual currency inaugural global green bonds across three tranches
  - 5.5-year US Dollar Tranche: US\$500mm
  - 10-year US Dollar Tranche: US\$500mm
  - 4-year Euro Tranche: €500mm
- The transaction marks LG Chem’s successful debut issuance to the international bond market, and proceeds would be allocated to Green Eligible Categories in accordance with LG Chem’s Green Financing Framework
- Eligible Project Categories**
  - Low Carbon Transportation
  - Energy Efficiency
  - Sustainable Water and Wastewater Management
  - Green Building

<b>Issuer</b>	LG Chem, Ltd. (“LG Chem”)		
<b>Structure</b>	Senior unsecured		
<b>Format</b>	144A / Reg S		
<b>Currency</b>	<b>US Dollar</b>		<b>Euro</b>
<b>Issue Size</b>	US\$500mm	US\$500mm	€500mm
<b>Tenor and Structure</b>	5.5-year	10-year	4-year
<b>Issue Date</b>	Apr 15, 2019	Apr 15, 2019	Apr 15, 2019
<b>Maturity Date</b>	Oct 15, 2024	Apr 15, 2029	Apr 15, 2023
<b>Coupon</b>	3.250%	3.625%	0.500%
<b>Use of Proceeds</b>	<b>Net proceeds will be allocated to Green Eligible Categories in accordance with LG Chem, Ltd.’s Green Financing Framework</b>		
<b>Governing Law</b>	New York Law		

## 2. Management of Proceeds

- The proceeds of Green Bonds were initially deposited in LG Chem’ Treasury Portfolio. An amount equivalent to the proceeds had been allocated for financing and/or refinancing of existing or new eligible projects. LG Chem’s treasury team will continue to track the proceeds through its internal accounting system
- Prior to full allocation of the proceeds, all or a portion of the proceeds would be held in accordance with LG Chem’s general liquidity management policies. The unallocated can be invested in cash, cash equivalents, investment grade securities or other marketable securities and short-term instruments or other capital management activities
- The proceeds shall be swapped or hedged into different currencies subject to the Company’s needs

### 3. Allocation of Proceeds

- Gross Proceeds of Green Bonds: US\$1,565,200,000
- Amount of funds spent on eligible Green Projects: US\$1,631,508,913

#### Allocation Details

Eligible Project Categories	Country	Entity	US Dollar Currency (US\$)	Euro Currency (€)	Total (US\$ equiv.)
Low Carbon Transportation	Poland	LG Chem Wroclaw Energy sp. z o.o. ("LGCWA")	93,482,213	893,689,579	1,103,708,913
	U.S.	LG Chem Michigan Inc. ("LGCMI")	130,000,000	-	130,000,000
	China	Nanjing LG Chem New Energy Battery Co.,Ltd. ("LGCNB")	397,800,000	-	397,800,000
<b>Total</b>			<b>621,282,213</b>	<b>893,689,579</b>	<b>1,631,508,913</b>

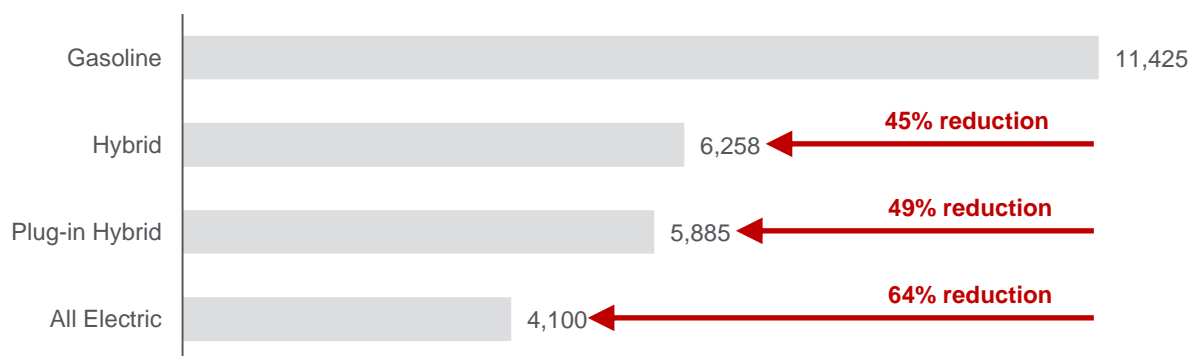
Note: Based on EUR/USD exchange rate of 1.1304 on Issue Date (Apr 15, 2019)

### 4. Impact Case Study

- Vehicle emissions can be divided into two general categories: air pollutants and greenhouse gases. Both categories of emissions can be evaluated on a direct basis and a well-to-wheel basis. Well-to-wheel emissions include all emissions related to fuel production, processing, distribution and use
  - Gasoline: Emissions are produced while extracting petroleum from the earth, refining it, distributing the fuel to stations, and burning it in vehicles
  - Electricity: Most electric power plants produce emissions, and there are additional emissions associated with the extraction, processing, and distribution of the primary energy sources they use for electricity production
- **Conventional gasoline vehicles with an internal combustion engine ("ICE"):** Produce direct emissions through the tailpipe, as well as through evaporation from the vehicle's fuel system and during the fueling process
- **Plug-in Hybrids:** Zero tailpipe emissions when in all-electric mode, but can produce evaporative emissions. When using the ICE, Plug-in Hybrids also produce tailpipe emissions, but typically lower than those of gasoline vehicles
- **Electric Vehicles:** Zero direct emissions

#### Annual CO<sub>2</sub> Emissions per Vehicle (Well-to-Wheel Emissions)

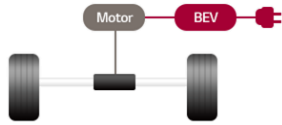
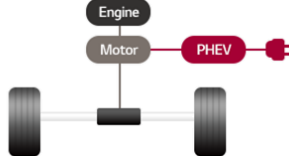


(Pound of CO<sub>2</sub>)



Source: U.S. Department of Energy – Alternative Fuels Data Center.

## 4. Impact Case Study (Cont'd)

- Please see below for more detailed characteristics of each vehicle type and batteries LG Chem provides, along with actual models currently in the market

Type	Electric Vehicles (EV)	Plug-in Hybrid Vehicles (PHEV)
<b>Vehicle Characteristics</b>	<ul style="list-style-type: none"> <li>• Use pure electric energy of the battery for driving – zero-emission vehicle</li> </ul>	<ul style="list-style-type: none"> <li>• Has the characteristics of EV and internal combustion engine vehicle – capable of driving short distances using electricity and long distances using the engine</li> </ul>
<b>Battery Characteristics</b>	<ul style="list-style-type: none"> <li>• Secure long-distance driving through high energy density</li> <li>• Increase user convenience through fast charging and providing long lifespan</li> <li>• Provide optimal space usability through the high degree of freedom in design</li> </ul>	<ul style="list-style-type: none"> <li>• Increase driving distance by securing high energy density</li> <li>• Has excellent EV mode driving performance through high output</li> </ul>
<b>Operation Mechanics</b>		
<b>Model</b>	<p><b>Audi e-tron</b></p> 	<p><b>Volvo XC60 T8 Polestar Engineered</b></p> 
<b>CO<sub>2</sub> Emissions</b>	<ul style="list-style-type: none"> <li>• 0 g/km</li> </ul>	<ul style="list-style-type: none"> <li>• 57 – 70 g/km</li> </ul>

Note: Volvo's CO<sub>2</sub> emissions level based on WLTP (Worldwide Harmonized Light Vehicles Test Procedure). WLTP has replaced NEDC (The New European Drive Cycle) as from September 1, 2018. WLTP is a much more realistic test procedure for fuel consumption and CO<sub>2</sub> emissions. Due to more realistic test conditions and by taking car specific configurations into account, WLTP will show higher figures than NEDC and better reflect everyday normal driving.

Source: LG Chem website, Website of automakers (Audi, Volvo)