

S41-1 Scientific rationale of inevitability of Low Carbon Society

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In 2007, the IPCC reported that warming of climate system is unequivocal, worldwide natural system are being affected, and most importantly, observed recent temperature rise is very likely due to the increased anthropogenic GHG concentration. As long as GHG concentration increases, climate continues to change and possibility of abrupt irreversible change in climate system will become high. Considering that more than 6.5 billion people strive to survive under its locally inherent climate, continuing violation of climate may harm strongly human security. Only one way to avoid it is to stabilize GHG concentration in the safety level to ecosystem, agricultural production and economy. The suggested path to there is to reduce emission promptly from now toward 1/4 of present emission ultimately within 100-200 years, because positive feed-back in risen temperature causes reduction of GHG absorption capability of land and ocean ecosystem. This scientific illustration clearly indicates that Low Carbon Society is inevitable in the near future. The G8 Summit in 2008 suggested 50% reduction of world GHG emission from now. To realize this, developed countries may need to cut nearly 90%, and developing countries are required leapfrogging development to LCS, without following past high energy consuming development path.