A comparison of new energy technology competitiveness index by countries

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Overview

The governments of vatious countries are expanding investment to energy technology development and strengthing target on supply expansion on renewable energy recently. Accordingly, they are keen on improving technology compettitveness and creating new grow engines of nations.

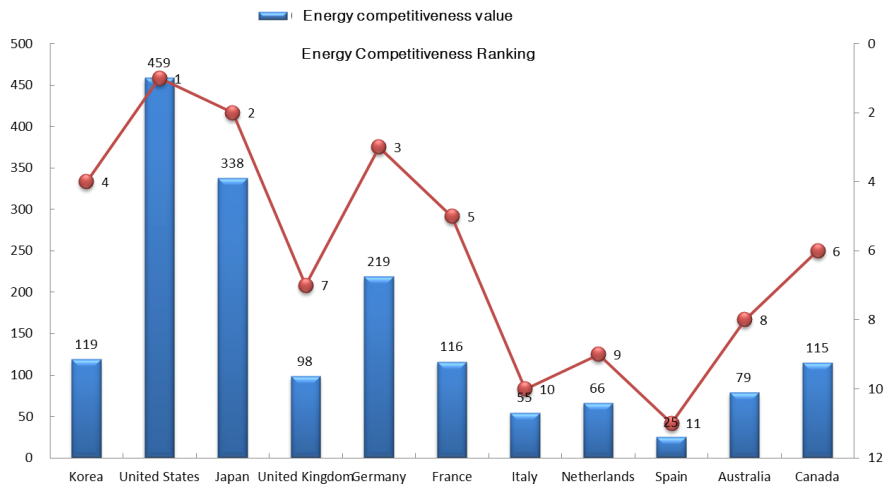
For sustainable development to splve climate change and recent energy issue, the needs for effectiveness of energy technology development and improvement of competitiveness are growing.

Methods

This study has developed energy technology competitiveness model and 23 competitiveness indexes to evaludate new technology competitiveness amony 11 countries, and also evaluated technology on photovoltaic, fuel cell, secondary batteries, CCS, bio-energy with devloped model. Data used in this study was collected from national statics, patent investigation and rxpert survey. Technology competitiveness impact among 11countries was analyzed with 4 taegets of evaluation such as technology importance, technology capability, innovative activity and technology development potential.

Results & Conclusions

The energy technology competitiveness index value has been calculated with hierarchical calassification level by 11 countries(Austrlia, Canada, France, Germany, Italy, Japan, Korea, Netherlands, Spain, United Kingdom, United States, etc). In case of energy competitiveness among countries, U.S., Japan and Germany are located in upper group with a sizeable lead, and England, Canada, France and Korea took 4th place formed a middle level group.



<fig.1> Energy technology competitiveness index by countries

United States has the highest competitiveness value in photovoltaic, CCS, secondary batteries, fuel cell and bio-energy field. Japan has the second competitiveness value in photovoltaic, CCS, secondary batteries and fuel cell field, and Germany has the second competitiveness value in bio-energy field.

Energy technology competitiveness of Korea belongs to 'Innovation group' that has low investment costs and high energy technology competitiveness. Korea have the advantage of patent competitiveness, but have a weakness of 'Activities' such as R&D result diffusion and 'Infra' such as technology capability and environment

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