

# The Fifth Miller Workshop of Entrepreneurship & Innovation: Sustainable Entrepreneurship and Responsible Leadership

8:45-10:30 December 3<sup>rd</sup> , 2021 Zhejiang University

9:45-11:30 December 3<sup>rd</sup> , 2021 NUCB Business School

16:45-18:30 December 2<sup>nd</sup> , 2021 Stanford University

## **Sustainable Entrepreneurship and ESG Strategies in Japan**

**- Public Messages of TOYOTA CEO 2021-**

*A horizontal collaboration of multiple industries for Carbon Neutrality*

Tadao Onaka  
Adjunct Professor  
NUCB Business School

Toyoda Akio,  
CEO, TOYOTA Motors Corporation

In order to achieve Carbon Neutral goals, critical necessity is **the innovation collaboration of auto and energy industry.**

We should not overlook the reality of **the balance between national electricity supply and EV electricity consumption.**

(March 22<sup>nd</sup>, 2021, Toyota News)

Toyoda Akio,  
CEO, TOYOTA Motors Corporation

TOYOTA maintains

- (1) **Hydrogen Engine**
- (2) **Hybrid Vehicle**

In addition to

- (3) **EV(Electric Vehicle)**
- (4) **FCV (Fuel Cell Vehicle)**

development.

(NHK “EV Shift Shock” November 17<sup>th</sup>, 2021)



Hydrogen Engine

EV

Hybrid

FCV

# TOYOTA's Four Alternatives

(NHK "EV Shift Shock" Nov 17<sup>th</sup>, 2021)

Akio Toyoda as chairmen of Japan Auto Industry Association:

“The government of Japan is expected to assure the electricity supply to be sufficient for the demand of the number of EV cars it encourages to realize by 2030 and 2050.”

(Toyota News, March 11<sup>th</sup> , 2021)

# Electricity Energy Source % in 2019 and 2030

HIS Markit: <https://ihsmarkit.com/index.html>

IEA: <https://www.iea.org/>

J-Gov: [https://www.enecho.meti.go.jp/category/saving\\_and\\_new/saiene/renewable/](https://www.enecho.meti.go.jp/category/saving_and_new/saiene/renewable/)

	Japan		Euro		US		PRC	
Electricity Generation Mix	2019	2030	2019	2030	2019	2030	2019	2030
Renewable Energy	19%	22-24%	30%	60%	18%	35%	27%	40%
Fossil Fuel Energy	75%	56%	37%	23%	63%	49%	68%	—

(TOYOTA News, March 22<sup>nd</sup>, 2021)



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## Appendix

“Two Facts” generally not well recognized inside and outside Japan:  
(TOYOTA News, Mar.22<sup>nd</sup> and Jan. 8<sup>th</sup> , 2021)

- (1) If Hybrid vehicles are included in the classification of Electric Cars, the annual sales number of electric cars of Japan auto industry is the highest in the world as of 2019. (Note 1)
- (2) In the past 20 years, auto manufacturers in Japan have decreased CO2 during car driving by 22%. (Note 2) The corresponding decrease ratios are 5% in Germany and -1% in the USA.

Note 1: In 2019 statistics, 1.5 million electric cars including Hybrid Vehicle sold in Japan. China 1.3, The USA 0.79, Germany 0.26 and France 0.16 millions.

Note2: Due to the increase of fuel efficiency: from the JC 08 mode average 13.2km/liter in 2001 to 2.6 km/liter in 2018.

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<https://researchmap.jp/nucbaonaka/>

### **Recent Publication:**

Altruism & Creativity Revolution beyond COVID-19

[https://www.amazon.com/Altruism-Creativity-Revolution-beyond-COVID-19-ebook/dp/B098D4PKGv/ref=sr\\_1\\_1?](https://www.amazon.com/Altruism-Creativity-Revolution-beyond-COVID-19-ebook/dp/B098D4PKGv/ref=sr_1_1?)

### **Academic Qualification:**

BE Nuclear Power Engineering, University of Tokyo (1975)

MSIA Carnegie Mellon University, PA. USA (1983)

### **Lecture Courses at NUCBA Graduate School: Language:**

Leadership for Globalization: Japanese and English

Global Leadership: Japanese and English

Innovation of Learning Organization: Japanese

Organization Behavior & Leadership: Japanese and English

Strategy & Innovation: English

Business Ethics and Corporate Responsibility : English

### **Business Experiences:**

Mitsubishi Corporation (1975-91)

Nuclear Power Plant Construction (75-81)

Mitsubishi Motor Sales of America: Director, Distribution Planning (83-88)

Information Business Investment (88-91)

GE Medical Systems Asia: Manager, Information Systems (91-94)

Pricewaterhouse Coopers Consultant: Director, HRM Consulting (94-01)

Hewitt Associates Japan: CEO Managing Director (01-03)

Global Management Networks Co., Inc.: CEO Managing Director (04 -)

CoachSource LLP Executive Coach (04-)



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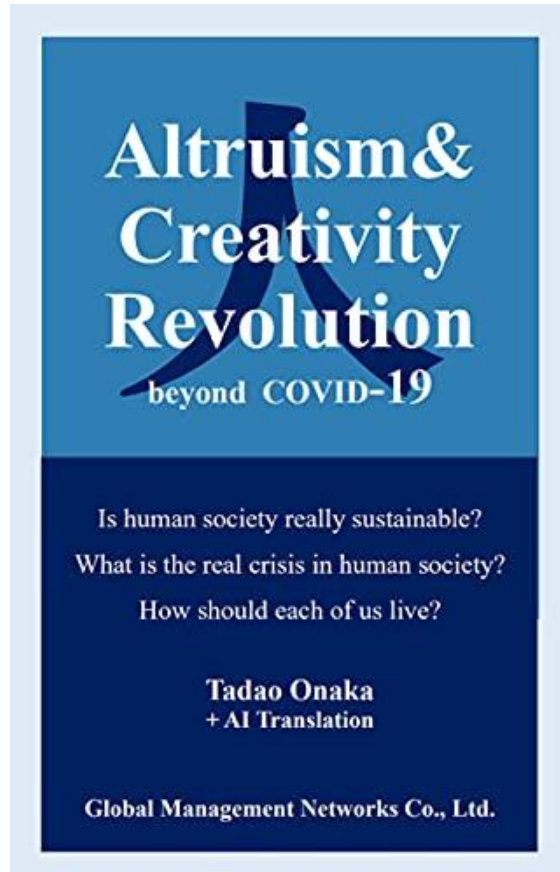




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Tadao Onaka's 2021 book @Amazon.com URL

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