

## เอกสารอ้างอิง

- กระทรวงพลังงาน. ชี้อเร่'อง [รายงานสถิติพลังงานปี 2561]. สืบค้นมาจาก <https://www.energy.go.th/th/annual-energy-statistics-report>
- กระทรวงพลังงาน ชี้อเร่'อง [สรุปข้อมูลรวมพลังงานทั้งประเทศไทย]. สืบค้นมาจาก <https://data.energy.go.th/factsheet/country/0/2021>
- Aberle, A.G.(2000). **Surface Passivation of Crystalline Silicon Solar Cells: A Review.** PROGRESS IN PHOTOVOLTAICS: RESEARCH AND APPLICATIONS. Prog. Photovolt: Res. Appl. 2000; 8: 473-487.
- Ahmad, S.M., Leong, C.S., Sopian, K., and Zaidi, S.H. (2018). **Role of firing temperature, sheetresistance, and contact area in contact formation on screen-printed metal contact of silicon solar cell.** Journal of Electronic Materials. 47(3): 2120 - 2134.
- Amongsurintawong, K., Fangsuwannarak, T., and Sopitpan, S. (2013). **Aluminum-induced crystallization of p+ silicon pinholes for the formation of rear passivation contact in solar cell.** Key Engineering Materials. 547: 31 - 40.
- Ali, K., et al. (2012). "Spin-On Doping (SOD) and Diffusion Temperature Effect on Re-Combinations/Ideality Factor for Solar Cell Applications." Chalcogenide Letters 9(11): 457-463.
- Antoniadis, H., Jiang, F., Shan, W., and Liu, Y. (2010). **All Screen Printed Mass Produced Silicon Ink Selective Emitter Solar Cells.** IEEE.
- Armel, D.P., Bouchaib, H., Laurent, B., Phillippe, T., and Cesar, K. (2014). **Sol-gel deposited phosphorus and boron doped thin silica films for diffused n+p and n+pp+ structures.** Physica Status Solidi. 11(11-12): 1654 - 1656.
- Balakrishnan, M., et al. (2013). **Comparison of the thermal properties of polycrystalline diamond and aluminium nitride substrates.** IECON 2013-39th Annual Conference of the IEEE Industrial Electronics Society, IEEE.
- Brinker, C. J., and Scherer, G. W. **Sol-Gel SCIENCE (The Physical and Chemistry of Sol-Gel).** Processing. ACADEMIC PRESS, INC. Printed in the United States of America.
- Buckley, A. M., and Greenblatt, M. J.(1994). **Sol-Gel Preparation of Silica Gels.** Journal of Chemical Education Ed. 1994, 71(7), 599.

- Cacciato, A., et al. (2013). "Investigating manufacturing options for industrial PERL-type Si solar cells." *Solar energy materials and solar cells* 113: 153-159.
- Choi, J., et al. (2013). **A Simulation Study on the Shallow Emitter Sheet Resistance for Selective Emitter Crystalline Silicon Solar Cell with Screen Printed Etched Back Process.** *Journal of Computational and Theoretical Nanoscience* Vol. 10, 1767-1771.
- Dastgheib-Shirazi, A., et al. (2008). **Selective Emitter for Industrial Solar Cell Production: A Wet Chemical Approach Using A Single Side Diffusion.** *Process.* 23rd European Photovoltaic Solar Energy Conference.
- Dullweber, T., et al. (2016). **Emitter Saturation current densities of 22fA/cm<sup>2</sup> applied to industrial PERC solar cells approaching 22% conversion efficiency.** *Prog. Photovolt: Res. Appl.* 2017; 25:509-514.
- Fangsuwannarak, T., and K. Khunchana (2013). "Optical Properties of Nano-Crystalline Silicon Films Prepared By Using Sol-Gel Spin Coating Process." *The Romanian Review Precision Mechanics*(43): 106.
- Fangsuwannarak, T., Phiwpha, N., Mangkornkaew, A., and Sopitpan, S. (2014). **Preparation of Different Phosphorus Concentration for N+ Selective Emitter Solar Cell by Spin on Doping.** GRAND RENEWABLE ENERGY 2014 Proceedings.
- Green M.A. (2010). **Solar cells: Operating Principles, Technology and System Application.** The University of New South Wales.
- Green M.A. (2015). **The passivated emitter and rear cell (PERC): From conception to mass production.** *Solar Energy Materials and Solar Cells.* 143: 190 – 197.
- Ikeda, Y., et al. (2016). "Investigation of rear localized back surface field formed from boron laser doping and screen-printed aluminum paste in high-efficiency solar cells." *Energy Procedia* 92: 404-411.
- Kim, D., et al. (2007). **Silicon solar cells with boron back surface field formed by using boric acid.** *Proc. 22nd Eur. PV Solar Energy Conf. Exhib.*
- Lee, J. Y., et al. (2004). "Boron back surface field using spin-on dopants by rapid thermal processing." *JOURNAL-KOREAN PHYSICAL SOCIETY* 44: 1581-1586.
- Lee, E., et al. (2012). "Exceeding 19% efficient 6 inch screen printed crystalline silicon solar cells with selective emitter." *Renewable energy* 42: 95-98.

- Kim, L., et al. (2014). **Laser etch back process to fabricate highly efficient selective emitter c-Si solar cells.** Solar Energy 109 (2014) 105-110.
- Mangkornkaew, A., and T. Fangsuwannarak (2017). **Characterization of patterns of Localized Doping Using Stamping technique for Selective n-Emitter Solar Cell Structure.** IOP Conference Series: Materials Science and Engineering, IOP Publishing.
- Pene, A. D., et al. (2014). "Sol-gel deposited phosphorus and boron doped thin silica films for diffused n+ p and n+ pp+ structures." physica status solidi (c) 11(11-12): 1654-1656.
- Scardera, G., et al. (2011). **Highly tunable single step selective emitter diffusion process using silicon ink technology.** 2011 37th IEEE Photovoltaic Specialists Conference, IEEE.
- Singh, G., et al. (2014). "Fabrication of c-Si solar cells using boric acid as a spin-on dopant for back surface field." RSC Advances 4(9): 4225-4229.
- Song, K., et al. (2012). "Selective emitter using a screen printed etch barrier in crystalline silicon solar cell." Nanoscale research letters 7(1): 410.
- Tang, Y., et al. (2012). "Preparation of n+ emitter on p-type silicon wafer using the spin-on doping method." Materials Science in Semiconductor Processing 15(4): 359-363.
- Tomizawa, Y., et al. (2015). "Laser doping of boron-doped Si paste for high-efficiency silicon solar cells." Japanese Journal of Applied Physics 54(8S1): 08KD06.
- Yoshinori, I., et al. (2016). **Investigation of rear localized back surface field formed from boron laser doping and screen-printed aluminum paste in high-efficiency solar cells.** Energy Procedia 92: 404-411.
- Zhao, J., et al. (2004). **Recent advances of high-efficiency single crystalline silicon solar cells in processing technologies and substrate materials.** Solar Energy Materials and Solar Cells. 82: 53 - 64.
- Zhong, S., et al. (2013). "Mass production of high efficiency selective emitter crystalline silicon solar cells employing phosphorus ink technology." Solar energy materials and solar cells 117: 483-488.
- Zeller, U., et al. (2019). **Comparison of magnetic field imaging (MFI) and magnetic field simulation of silicon solar cells.** AIP Conference Proceedings, AIP Publishing.

Zhuang, Y.F., et al. (2019). Application of SiO<sub>2</sub> passivation technique in mass production of silicon solar cells. Solar Energy Materials and Solar Cells. 193: 379 - 386.