

References

- 2001a. Renewable energy in India. Government of India. Mnes report.
- 2001b. Survey of renewable energy in India, New Delhi. TERI (Tata Energy Research Institute).
2015. UNICEF/WHO, Progress on Sanitation and Drinking Water – 2015 Update and MDG Assessment. WHO Library Cataloguing-in-Publication Data 2015.
- Alawadhi, E.M., 2015. The design, properties, and performance of concrete masonry blocks with phase change materials, in: Pacheco-Torgal, F., Lourenço, P.B., Labrincha, J.A., Kumar, S., Chindaprasirt, P. (Eds.), Eco-Efficient Masonry Bricks and Blocks. Woodhead Publishing, Oxford, pp. 231-248.
- Ansari, O., Asbik, M., Bah, A., Arbaoui, A., Khmou, A., 2013. Desalination of the brackish water using a passive solar still with a heat energy storage system. Desalination 324, 10-20.
- Arunkumar, T., Denkenberger, D., Ahsan, A., Jayaprakash, R., 2013. The augmentation of distillate yield by using concentrator coupled solar still with phase change material. Desalination 314, 189-192.
- Aybar, H.Ş., Egelioğlu, F., Atikol, U., 2005. An experimental study on an inclined solar water distillation system. Desalination 180(1), 285-289.
- Bajar, S., Singh, A., Kaushik, C.P., Kaushik, A., 2016. Evaluation and statistical optimization of methane oxidation using rice husk amended dumpsite soil as biocover. Waste management (New York, N.Y.) 53, 136-143.
- Bal, L.M., Satya, S., Naik, S.N., Meda, V., 2011. Review of solar dryers with latent heat storage systems for agricultural products. Renewable and Sustainable Energy Reviews 15(1), 876-880.
- Bal, L.M., Satya, S., Naik, S.N., 2010. Solar dryer with thermal energy storage systems for drying agricultural food products: A review. Renewable and Sustainable Energy Reviews 14(8), 2298-2314.

Barako, M.T., Lingamneni, S., Katz, J.S., Liu, T., Goodson, K.E., Tice, J., 2018. Optimizing the design of composite phase change materials for high thermal power density. 124(14), 145103.

Ben Romdhane, S., Amamou, A., Ben Khalifa, R., Saïd, N.M., Younsi, Z., Jemni, A., 2020. A review on thermal energy storage using phase change materials in passive building applications. *Journal of Building Engineering*, 101563.

Biswas, K., Lu, J., Soroushian, P., Shrestha, S., 2014. Combined experimental and numerical evaluation of a prototype nano-PCM enhanced wallboard. *Applied Energy* 131, 517-529.

Biwole, P.H., Eclache, P., Kuznik, F., 2013. Phase-change materials to improve solar panel's performance. *Energy and Buildings* 62, 59-67.

Bloemer, J.W., Eibling, J.A., Irwin, J.R., Löf, G.O.G., 1965. A practical basin-type solar still. *Solar Energy* 9(4), 197-200.

Buratti, C., Barbanera, M., Lascaro, E., Cotana, F., 2018. Optimization of torrefaction conditions of coffee industry residues using desirability function approach. *Waste management* (New York, N.Y.) 73, 523-534.

Cárdenas-Ramírez, C., Jaramillo, F., Gómez, M., 2020. Systematic review of encapsulation and shape-stabilization of phase change materials. *Journal of Energy Storage* 30, 101495.

Chaichan, M.T., Kazem, H.A., 2018. Single slope solar distillator productivity improvement using phase change material and Al₂O₃ nanoparticle. *Solar Energy* 164, 370-381.

Chen, Z., Yao, Y., Zheng, Z., Zheng, H., Yang, Y., Hou, L.a., Chen, G., 2013. Analysis of the characteristics of heat and mass transfer of a three-effect tubular solar still and experimental research. *Desalination* 330, 42-48.

Cooper, P.I., Read, W.R.W., 1974. Design philosophy and operating experience for Australian solar stills. *Solar Energy* 16(1), 1-8.

Dashtban, M., Tabrizi, F.F., 2011. Thermal analysis of a weir-type cascade solar still integrated with PCM storage. Desalination 279(1), 415-422.

Dincer, I., Rosen, M., 2010. Thermal Energy Storage: Systems and Applications, Second Edition.

Dsilva Winfred Rufuss, D., Suganthi, L., Iniyar, S., Davies, P.A., 2018. Effects of nanoparticle-enhanced phase change material (NPCM) on solar still productivity. Journal of Cleaner Production 192, 9-29.

Dunkle, R.V., 1961. International development in heat transfer. In: ASME proceedings. International heat transfer, University of Colorado., 895.

Eibling, J.A., Talbert, S.G., Löf, G.O.G., 1971. Solar stills for community use—digest of technology. Solar Energy 13(2), 263-276.

El-Samadony, Y.A.F., El-Maghlany, W.M., Kabeel, A.E., 2016. Influence of glass cover inclination angle on radiation heat transfer rate within stepped solar still. Desalination 384, 68-77.

El-Sebaii, A.A., 2004. Effect of wind speed on active and passive solar stills. Energy Conversion and Management 45(7), 1187-1204.

El-Sebaii, A.A., Al-Ghamdi, A.A., Al-Hazmi, F.S., Faidah, A.S., 2009a. Thermal performance of a single basin solar still with PCM as a storage medium. Applied Energy 86(7), 1187-1195.

El-Sebaii, A.A., El-Bialy, E., 2015. Advanced designs of solar desalination systems: A review. Renewable and Sustainable Energy Reviews 49, 1198-1212.

El-Sebaii, A.A., Ramadan, M.R.I., Aboul-Enein, S., Salem, N., 2008. Thermal performance of a single-basin solar still integrated with a shallow solar pond. Energy Conversion and Management 49(10), 2839-2848.

El-Sebaii, A.A., 2000. Effect of wind speed on some designs of solar stills. Energy Conversion and Management 41(6), 523-538.

- El-Sebaii, A.A., Yaghmour, S.J., Al-Hazmi, F.S., Faidah, A.S., Al-Marzouki, F.M., Al-Ghamdi, A.A., 2009b. Active single basin solar still with a sensible storage medium. Desalination 249(2), 699-706.
- Farid, M.M., Husian, R.M., 1990. An electrical storage heater using the phase-change method of heat storage. Energy Conversion and Management 30(3), 219-230.
- Farid, M.M., Khudhair, A.M., Razack, S.A.K., Al-Hallaj, S., 2004. A review on phase change energy storage: materials and applications. Energy Conversion and Management 45(9), 1597-1615.
- Fernández, J., Chargoy, N., 1990. Multi-stage, indirectly heated solar still. Solar Energy 44(4), 215-223.
- Fujita, A., Kurose, R., Komori, S., 2010. Experimental study on effect of relative humidity on heat transfer of an evaporating water droplet in air flow. International Journal of Multiphase Flow - INT J MULTIPHASE FLOW 36, 244-247.
- Garg, H.P., Mann, H.S., 1976. Effect of climatic, operational and design parameters on the year round performance of single-sloped and double-sloped solar still under Indian arid zone conditions. Solar Energy 18(2), 159-163.
- Garg, H.P., Mullick, S.C., Bhargava, Vijay K., 1985. Solar thermal energy storage. D.Reidel Publishing Co, 1-81.
- Huang, M.J., Eames, P.C., Norton, B., 2006. Phase change materials for limiting temperature rise in building integrated photovoltaics. Solar Energy 80(9), 1121-1130.
- Ibrahim, A.G.M., Allam, E.E., Elshamarka, S.E., 2015. A modified basin type solar still: Experimental performance and economic study. Energy 93, 335-342.
- Kabeel, A.E., Omara, Z.M., Essa, F.A., Abdullah, A.S., Arunkumar, T., Sathyamurthy, R., 2017. Augmentation of a solar still distillate yield via absorber plate coated with black nanoparticles. Alexandria Engineering Journal 56(4), 433-438.

Kabeel, A.E., 2009. Performance of solar still with a concave wick evaporation surface. *Energy* 34(10), 1504-1509.

Kabeel, A.E., Abdelgaiad, M., 2017. Observational study of modified solar still coupled with oil serpentine loop from cylindrical parabolic concentrator and phase changing material under basin. *Solar Energy* 144, 71-78.

Kabeel, A.E., Hamed, A.M., El-Agouz, S.A., 2010. Cost analysis of different solar still configurations. *Energy* 35(7), 2901-2908.

Kalidasa Murugavel, K., Sivakumar, S., Riaz Ahamed, J., Chockalingam, K.K.S.K., Srithar, K., 2010. Single basin double slope solar still with minimum basin depth and energy storing materials. *Applied Energy* 87(2), 514-523.

Kalidasa Murugavel, K., Chockalingam, K.K.S.K., Srithar, K., 2008. Progresses in improving the effectiveness of the single basin passive solar still. *Desalination* 220(1), 677-686.

Kalidasa Murugavel, K., Srithar, K., 2011. Performance study on basin type double slope solar still with different wick materials and minimum mass of water. *Renewable Energy* 36(2), 612-620.

Kalogirou, S., 1997. Survey of solar desalination systems and system selection. *Energy* 22(1), 69-81.

Kandasamy, R., Wang, X.-Q., Mujumdar, A.S., 2008. Transient cooling of electronics using phase change material (PCM)-based heat sinks. *Applied Thermal Engineering* 28(8), 1047-1057.

Kant, K., Shukla, A., Sharma, A., Kumar, A., Jain, A., 2016a. Thermal energy storage based solar drying systems: A review. *Innovative Food Science & Emerging Technologies* 34, 86-99.

Kant, K., Shukla, A., Sharma, A., Biwole, P.H., 2016b. Heat transfer studies of photovoltaic panel coupled with phase change material. *Solar Energy* 140, 151-161.

Kant, K., Shukla, A., Sharma, A., 2016c. Ternary mixture of fatty acids as phase change materials for thermal energy storage applications. *Energy Reports* 2, 274-279.

Kibria, M.A., Anisur, M.R., Mahfuz, M.H., Saidur, R., Metselaar, I.H.S.C., 2015. A review on thermophysical properties of nanoparticle dispersed phase change materials. *Energy Conversion and Management* 95, 69-89.

Kline, S.J., McClintock, F.A., 1953. Describing uncertainties in single-sample experiment. *ASME Mech Eng* 75.

Kudish, A.I., Evseev, E.G., Walter, G., Priebe, T., 2003. Simulation study on a solar desalination system utilizing an evaporator/condenser chamber. *Energy Conversion and Management* 44(10), 1653-1670.

Kumar, S., Tiwari, G.N., 1996. Performance evaluation of an active solar distillation system. *Energy* 21(9), 805-808.

Lane, G.A., 1975. Heat of fusion systems for solar energy storage. In: Proceedings of the workshop solar energy storage subsystems for the heating and cooling of building, 43-55.

Lane, G.A., D. N. Glew, 1975. Heat of fusion system for solar energy storage. In:Proceedings of the workshop on solar energy storage subsystems for the heating and cooling of buildings. Virginia, 43-55.

Lawrence, S.A., Tiwari, G.N., 1990. Theoretical evaluation of solar distillation under natural circulation with heat exchanger. *Energy Conversion and Management* 30(3), 205-213.

Li, Y., Darkwa, J., Kokogiannakis, G., Su, W., 2019. Phase change material blind system for double skin façade integration: System development and thermal performance evaluation. *Applied Energy* 252, 113376.

Mahian, O., Kianifar, A., Heris, S.Z., Wen, D., Sahin, A.Z., Wongwises, S.J.N.E., 2017. Nanofluids effects on the evaporation rate in a solar still equipped with a heat exchanger. 36, 134-155.

Malik, M.A.S., Tiwari, G.N., Kumar, A. and Sodha, M.S., 1982. Solar Distillation: A Practical Study of a Wide Range of Stills and Their Optimum Design, Construction and Performance. Pergamon Press, Oxford.

Mouchot, A., 1869. The Solar Heat and Its Industrial Applications (In French), Gauthier-VUlars. Paris. 238.

Naveenkumar, R., Gurumoorthy, G., Kunjithapatham, G., Anbu chellappan, R., Bharath, A., Ravichandran, M., 2020. Impact of adding various nano materials in the efficiency of single slope solar still: A review. Materials Today: Proceedings.

Nebbia, G., Menozzi, G.N., 1968. Early experiments on water desalination by freezing. Desalination 5(1), 49-54.

Omara, Z.M., Kabeel, A.E., Essa, F.A., 2015. Effect of using nanofluids and providing vacuum on the yield of corrugated wick solar still. Energy Conversion and Management 103, 965-972.

Parsa, S.M., Rahbar, A., Koleini, M.H., Aberoumand, S., Afrand, M., Amidpour, M., 2020. A renewable energy-driven thermoelectric-utilized solar still with external condenser loaded by silver/nanofluid for simultaneously water disinfection and desalination. Desalination 480, 114354.

Prakash, P., Velmurugan, V., 2015. Parameters influencing the productivity of solar stills – A review. Renewable and Sustainable Energy Reviews 49, 585-609.

Radhwan, A.M., 2005. Transient performance of a stepped solar still withbuilt-in latent heat thermal energy storage. Desalination 171(1), 61-76.

Rai, S.N., Dutt, D.K., Tiwari, G.N., 1990. Some experimental studies of a single basin solar still. Energy Conversion and Management 30(2), 149-153.

Ranjan, K.R., Kaushik, S.C., 2016. Economic feasibility evaluation of solar distillation systems based on the equivalent cost of environmental degradation and high-grade energy savings. International Journal of Low-Carbon Technologies 11(1), 8-15.

- Sahota, L., Tiwari, G.N., 2016. Effect of Al₂O₃ nanoparticles on the performance of passive double slope solar still. *Solar Energy* 130, 260-272.
- Sampathkumar, K., Arjunan, T.V., Pitchandi, P., Senthilkumar, P., 2010. Active solar distillation—A detailed review. *Renewable and Sustainable Energy Reviews* 14(6), 1503-1526.
- Sarbu, I., Sebarchievici, C., 2018. A Comprehensive Review of Thermal Energy Storage. *Sustainability* 10(1).
- Sarhaddi, F., Farshchi Tabrizi, F., Aghaei Zoori, H., Mousavi, S.A.H.S., 2017. Comparative study of two weir type cascade solar stills with and without PCM storage using energy and exergy analysis. *Energy Conversion and Management* 133, 97-109.
- Sharma, A., Tyagi, V.V., Chen, C.R., Buddhi, D., 2009. Review on thermal energy storage with phase change materials and applications. *Renewable and Sustainable Energy Reviews* 13(2), 318-345.
- Sharma, A., Shukla, A., Chen, C., Dwivedi, S., 2013. Development of phase change materials for building applications. *Energy and Buildings* 64, 403–407.
- Sharshir, S.W., Elsheikh, A.H., Peng, G., Yang, N., El-Samadony, M.O.A., Kabeel, A.E., 2017. Thermal performance and exergy analysis of solar stills – A review. *Renewable and Sustainable Energy Reviews* 73, 521-544.
- Shukla, A., Sharma, A., Kant, K., 2016. Solar Greenhouse With Thermal Energy Storage: a Review. *Current Sustainable/Renewable Energy Reports* 3(3), 58-66.
- Shukla, S.K., Sorayan, V.P.S., 2005. Thermal modeling of solar stills: an experimental validation. *Renewable Energy* 30(5), 683-699.
- Singh, A.K., Tiwari, G.N., 1993. Thermal evaluation of regenerative active solar distillation under thermosyphon mode. *Energy Conversion and Management* 34(8), 697-706.

Singh, H.N., Tiwari, G.N., 2004. Monthly performance of passive and active solar stills for different Indian climatic conditions. Desalination 168, 145-150.

Su, W., Darkwa, J., Kokogiannakis, G., 2017. Development of microencapsulated phase change material for solar thermal energy storage. Applied Thermal Engineering 112, 1205-1212.

Su, W., Darkwa, J., Kokogiannakis, G., 2020. Numerical thermal evaluation of laminated binary microencapsulated phase change material drywall systems. Building Simulation 13(1), 89-98.

Su, W., Darkwa, J., Kokogiannakis, G., 2015. Review of solid–liquid phase change materials and their encapsulation technologies. Renewable and Sustainable Energy Reviews 48, 373-391.

Tabrizi, F.F., Dashtban, M., Moghaddam, H., 2010. Experimental investigation of a weir-type cascade solar still with built-in latent heat thermal energy storage system. Desalination 260(1), 248-253.

Taghvaei, H., Taghvaei, H., Jafarpur, K., Karimi Estahbanati, M.R., Feilizadeh, M., Feilizadeh, M., Seddigh Ardekani, A., 2014. A thorough investigation of the effects of water depth on the performance of active solar stills. Desalination 347, 77-85.

Talbert, S.G., Eibling, J.A., Löf, G.O.G., 1970. Manual on solar distillation of saline water. National Technical Information Service, Springfield, VA, USA OSW R&D report no. 546, 263.

Tan, F.L., Tso, C.P., 2004. Cooling of mobile electronic devices using phase change materials. Applied Thermal Engineering 24(2), 159-169.

Tiwari, G.N., 2013. Solar energy – Fundamentals, design, modeling and applications. Narosa Publishing House.

- Tiwari, G.N., Garg, H.P., 1984. Studies on various designs of solar distillation systems. *Solar & Wind Technology* 1(3), 161-165.
- Tiwari, G.N., Kupfermann, A., Aggarwal, S., 1997. A new design for a double-condensing chamber solar still. *Desalination* 114(2), 153-164.
- Tiwari, G.N., Shukla, S.K., Singh, I.P., 2003a. Computer modeling of passive/active solar stills by using inner glass temperature. *Desalination* 154(2), 171-185.
- Tiwari, G.N., Saxena, P., Thakur, K., 1994. Thermal analysis of active solar distillation system. *Energy Conversion and Management* 35(1), 51-59.
- Tiwari, G.N., Singh, H.N., Tripathi, R., 2003b. Present status of solar distillation. *Solar Energy* 75(5), 367-373.
- Tripathi, R., Tiwari, G.N., 2006. Thermal modeling of passive and active solar stills for different depths of water by using the concept of solar fraction. *Solar Energy* 80(8), 956-967.
- Tyagi, V.V., Buddhi, D., 2007. PCM thermal storage in buildings: A state of art. *Renewable and Sustainable Energy Reviews* 11(6), 1146-1166.
- Wheeler, N.W., Evans, W.W., 1870. Evaporating and distilling with solar heat. US Patent No. 102633.
- Yadav, S., Sudhakar, K., 2015. Different domestic designs of solar stills: A review. *Renewable and Sustainable Energy Reviews* 47, 718-731.
- Yousef, M.S., Hassan, H., 2019. An experimental work on the performance of single slope solar still incorporated with latent heat storage system in hot climate conditions. *Journal of Cleaner Production* 209, 1396-1410.
- Yousef, M.S., Hassan, H., Kodama, S., Sekiguchi, H., 2019. An experimental study on the performance of single slope solar still integrated with a PCM-based pin-finned heat sink. *Energy Procedia* 156, 100-104.

Zalba, B., Marín, J.M., Cabeza, L.F., Mehling, H., 2003. Review on thermal energy storage with phase change: materials, heat transfer analysis and applications. *Applied Thermal Engineering* 23(3), 251-283.

Zanganeh, P., Goharrizi, A.S., Ayatollahi, S., Feilizadeh, M., 2019. Productivity enhancement of solar stills by nano-coating of condensing surface. *Desalination* 454, 1-9.