

Bulletin for The Rotary Club of Kalamazoo
January 14, 2018

Call to Order

The meeting was called to order by Club President Jeannie Brandenberger.

The Invocation

The Invocation was offered by Rotarian Aaron Winters.

The Arts News

The Arts News was presented by D. Terry Williams.

ARTbreak Video: Art of the Game, Ukiyo-e Heroes, Part 1.

*Presented by Kalamazoo Institute of Arts at Kalamazoo Institute of Arts Tuesday, Jan 08, 2019,
Noon Free*

Rock of Ages: Presented by Miller Auditorium at Western Michigan University

Wednesday, Jan 16, 2019, 7:30 pm, Ticketed Event

Emporium Presents: Jesse Cook at the Kalamazoo State.

Presented by Kalamazoo State Theatre at Kalamazoo State Theatre

Wednesday, Jan 16, 2019

8 pm \$34.50 - \$49.50

Book Discussion: The Lives of the Surrealists

Presented by Kalamazoo Institute of Arts at Kalamazoo Institute of Arts

Wednesday, Jan 16, 2019 2 pm

Live Improv Comedy by Crawlspace Eviction

Presented by Crawlspace Theatre Productions

at Crawlspace Comedy Theatre in Historic First Baptist Church Building

Friday – Saturday, Jan 18 - Jan 19, 2019 8 pm \$13

Jeremiah Downes & Friends: Live at Farmers Alley.

Presented by Farmers Alley Theatre at Farmers Alley Theatre

Friday – Saturday, Jan 18 - Jan 19, 2019, 7:30 pm, \$10-\$25

Russian National Ballet: Sleeping Beauty

Presented by Miller Auditorium at Western Michigan University - Miller Auditorium

Sunday, Jan 20, 2019, 3 PM Ticketed Event

Crescendo Student Recital

Presented by Crescendo Academy of Music at First Presbyterian Church

Sunday, Jan 20, 2019, 2 pm, Free

Angel of the People Mover by Emilio Rodriguez

Presented by Queer Theatre Kalamazoo at Queer Theatre Kalamazoo

Thursday – Sunday, Jan 17 - Jan 20, 2019, Times Vary, Donations Accepted

IF BEALE STREET COULD TALK

Presented by Kalamazoo Film Society at Celebration! Cinema, Crossroads

Jan 11 - Jan 24, 2019, 11:50 am – Midnight \$7

ON THE BASIS OF SEX

Presented by Kalamazoo Film Society at Celebration! Cinema, Crossroads

Jan 11 - Jan 24, 2019, 11:50 am – Midnight , \$7

Crescendo Community Voices

Presented by Crescendo Academy of Music at Crescendo Academy of Music

Thursdays, Jan 17 - Mar 21, 2019, 4 pm, \$30 – 10 week sessions

Tenderly: The Rosemary Clooney Musical

Presented by Kalamazoo Civic Theatre at Parish Theatre

Jan 11 - Jan 27, 2019, 7:30 pm & 2 pm, \$15 - \$25

Visiting Rotarians

Kim Lewis from Gull Lake

Guests of Rotarians

Allison Hammond - Jonathan Kraker from Midwest Enterprises
Deb Harris Introduced Hilliary Kerr from Bronson Hospital
Mary Zoeller introduced Juan Salinas from Honor Credit Union
Joe Brogger, Greg Aires from Discover Kalamazoo
Keith Mumma introduced Tom Stobie

Songs

Tim Kilmartin regaled us with his version of "Here Comes the Sun", and ushered us into a new era of technology with a karaoke sing-along.

Announcements

Birthdays Jim Coyle Terry Bullard, Joe Brogger and several others that I did not catch. Happy Birthday to you unknowns as well.

Jeannie Brandenburg announced that there would be a Club Assembly next week and topics would be based on the feedback we gave at the club meeting last year.

Business Club Meeting Sponsor

None today.

Membership Minute

Bonnie Sexton talked about the benefits of signing up to sponsor meetings. Sponsors will have a 2-3 minute opportunity to talk about their company or organization, place items on the tables, and have their logo displayed on the website, and on the screen at the meeting.

5:01 Next Tuesday

Dan Systma reminded us about this event to be held at the Stamped Robin. The meeting will begin at one minute after five and will run until Dan has to leave for his lumberjack shift.

Happy Bucks

Steve Disterhouse - I could not determine why Steve was happy.

DG Jim Cupper - District 6360 has committed DDF funds to make it a Peace Builder District.

Dan Systma - When the power went out, he was able to keep his house warm because he is a lumberjack and had plenty of firewood. (Funny, he doesn't look like a lumberjack...)

Mary Remmert - WMU Business Expo tomorrow 1-5pm be there or be square.

Aaron Winters - Will have a second grandchild. He is very happy.

Amy Remmert - her laptop crashed. Now she has a brand new laptop with all software and she is getting a new water heater today. (She is not a lumberjack either)

The Program

Rayline introduced Conner T. Field and Samuel T. Field from Helios Solar, LLC who will speak on the Business Case for Solar Solutions. Kalamazoo Nature Center generates 1/3 of their power through solar energy. one ground based and one rooftop based.

Suppose it became possible to buy a device that would produce all of the electrical energy that you use at your business for the rest of your life...

Three Questions:

1. Would you be interested in buying the device?
- 2.
2. How much should it cost?
- 3.
3. What would be your required simple payback period or rate of return on your investment?

Motivations for Solar Energy

- Energy Independence
 - As a nation
 - As an individual
- Geopolitics
- Scarcity of Resources
- Environmental Concerns
- Financial Benefits

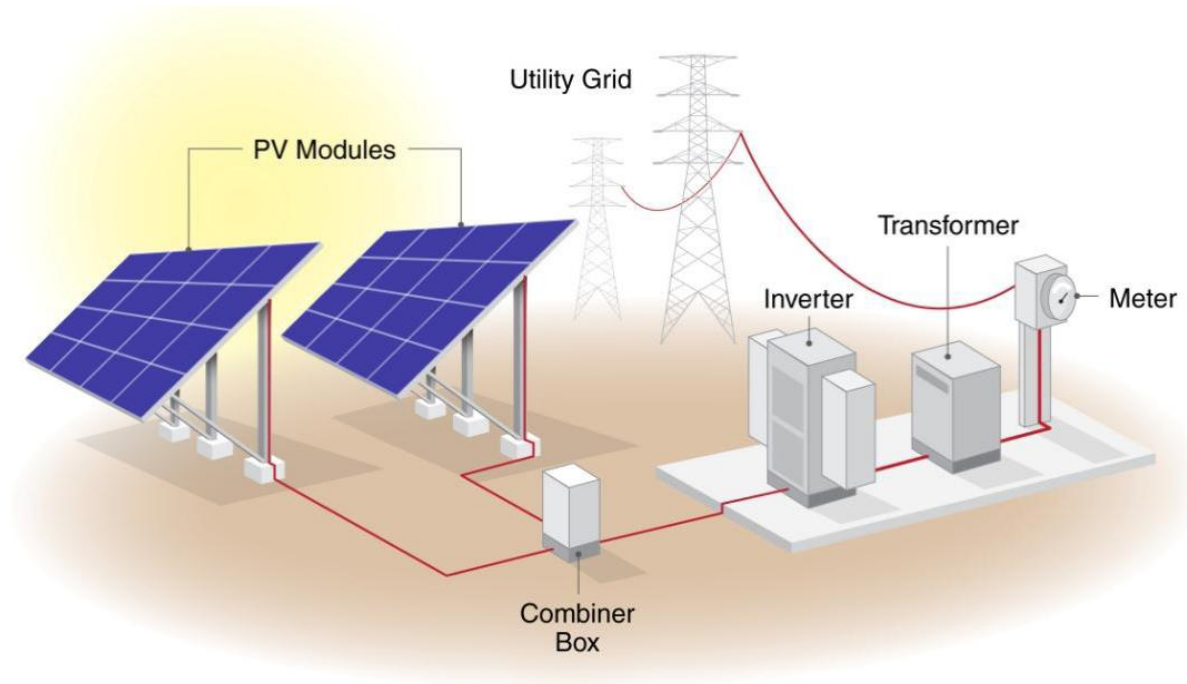
Solar Cells and Modules

- Electricity from the Sun
 - Solar Cells absorb quanta of electromagnetic radiation in the form of photons emitted by the sun
 - Upon absorption, each photon transfers its energy to an electron-hole pair
 - Built in electric field within solar cell drives electron and hole through external load circuit to supply DC electric power
- Enough solar energy strikes the Earth every hour to supply all of the world's energy consumption for over a year.
 - More than 132TWh per hour, every hour of every day

Solar Photovoltaic System Components

Economic Factors

- Cost Components
 - Installation Cost (panels, electrical equipment, balance of system)
 - Interconnection Cost
 - Site Cost
 - Property Taxes
 - Insurance
 - Operations and Maintenance
- Value Components
 - Value of Electricity
 - Federal Tax Credits



- Accounting Treatment, Accelerated Depreciation
- Renewable Energy Credits and Requirements

Example Commercial Project

- Cost Components
 - Installation Cost
 - \$2.31 per Watt of Capacity

- Interconnection Cost
 - Feed through Customer's meter to eliminate separate interconnection
- Site Cost
 - Occupies side area near grain dryer/storage
- Property Tax Treatment
 - Equipment Classified as Industrial Personal Property
- Insurance
 - Roll into business package
- Operations and Maintenance
 - Landscaping, inspections, etc
- Value Components
 - Value of Electricity
 - Consumers Energy "1100 GS Com" Rate
 - 2018 Average Cost per kWh: \$.121
 - Federal Tax Credits
 - 30% Investment Tax Credit
 - Accounting Treatment, Accelerated Depreciation
 - 179 Deduction (100% first year) or 5yr MACRS
 - Renewable Energy Credits and Requirements
 - Simple Payback
 - Estimated to be as short as 8 ½ years with about 65% in the first year
 - Internal Rate of Return 13.54 % Unlevered – CALCULATED AFTER TAX

Meeting Adjourned

Meeting was adjourned by President Jeannie Brandenberger

Submitted by Jim Cupper