

# How to Pay for Solar 101

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# Agenda

- Caveats
- Scenarios
- Inspiration (Success Stories)
- What You Can Do

# Background

- In 2009 solar was \$10/W installed
- Today solar is  $\frac{1}{4}$  of that
  - ~\$2.50/W for residential
  - ~\$1.50-\$2/W for large commercial
- Panel price only  $\frac{1}{3}$  to  $\frac{1}{4}$  of job cost, so 30% tariff only ~10% hit
- 30% tax credit in 2018-19
  - 26% in 2020, 22% in 2021
- New tax laws allow 100% depreciation in year 1



# Caveats

- Numbers approximate to show methods
  - Residential more expensive than commercial
  - Ignores install angle, shading, rack versus roof
- I am not a lawyer or an accountant
- Tax laws have and will change
- Assumes no Solar Renewable Energy Credit (SREC) market in VA

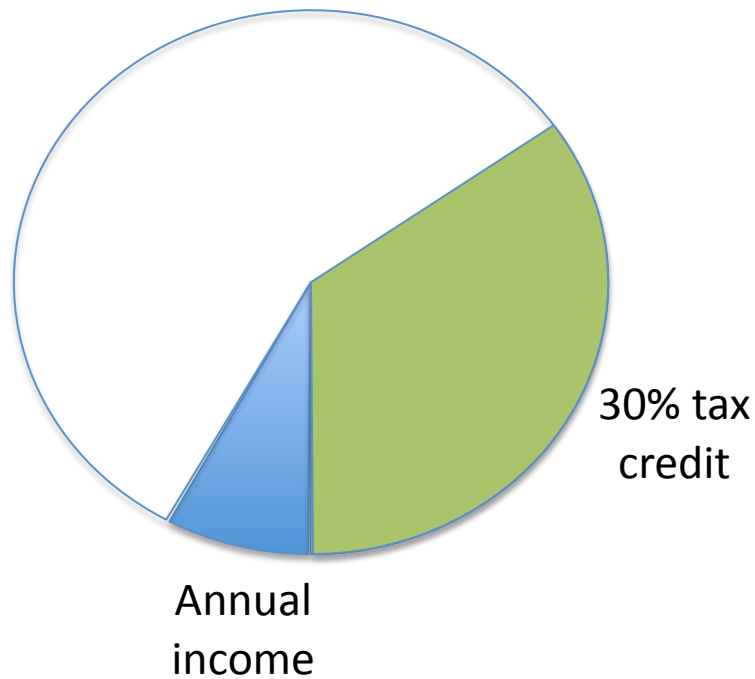
# Simple Solar (no taxes)



Annual  
income

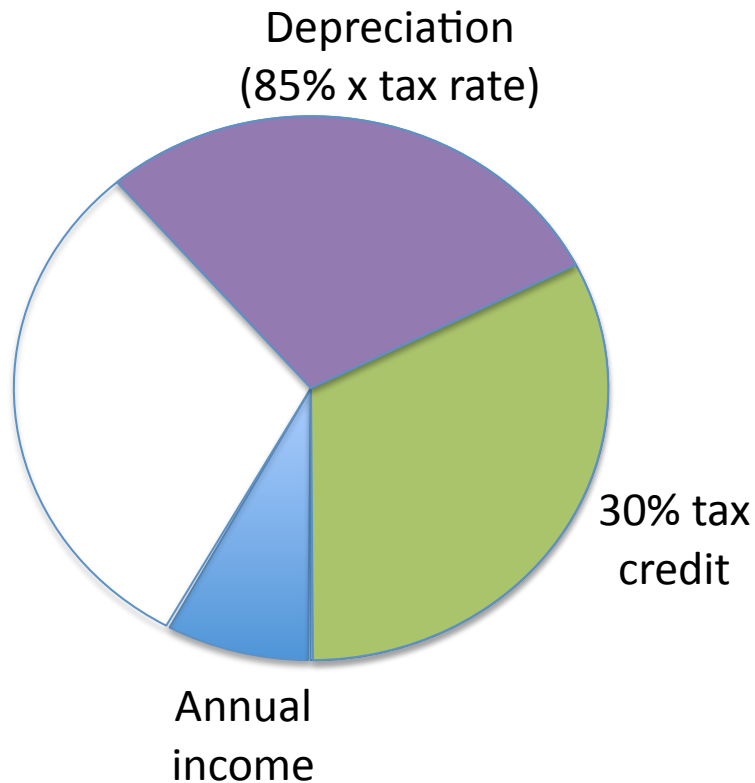
- Annual income  $\sim 1/12^{\text{th}}$  of purchase price
- $\sim 12$  year payoff time (longer for residential)

# Individual Solar



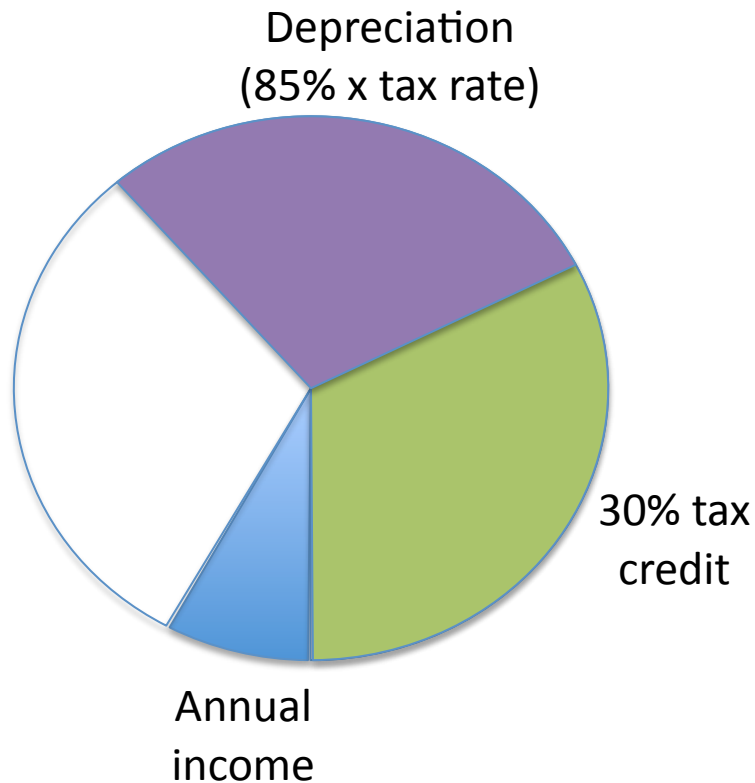
- Annual income  $\sim 1/12^{\text{th}}$  of purchase price
- 30% tax credit
  - Assumes enough tax to take credit
- $\sim 8$  year payoff time

# Business (Commercial) Solar



- Annual income  $\sim 1/12^{\text{th}}$  of purchase price
- 30% tax credit
  - Assumes enough tax to take credit
- $\sim 31\%$  savings in depreciation
  - 85% x tax rate
- Can feed forward
- $\sim 5$  year payoff time

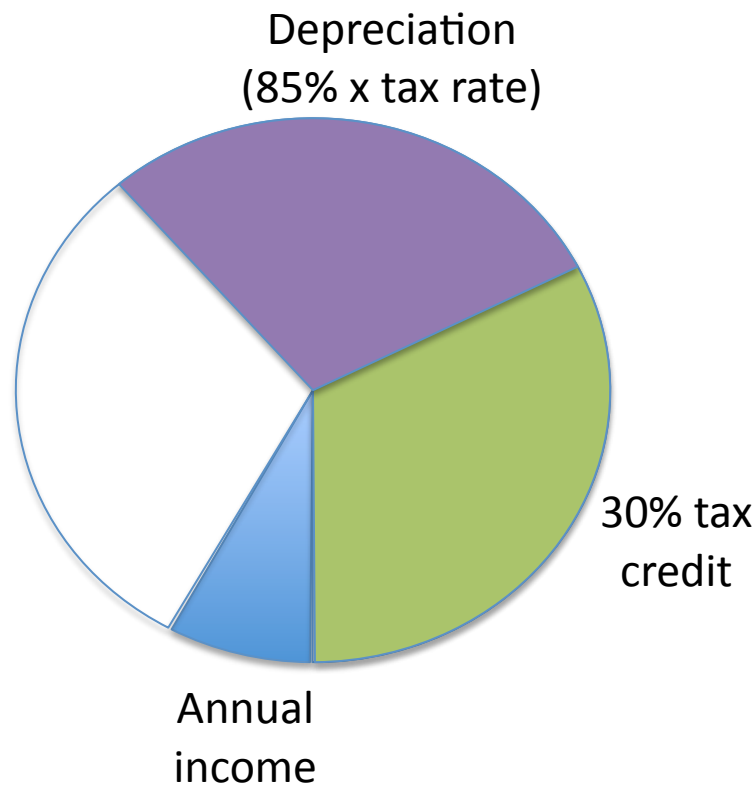
# Solar on Non-Profit



- Individual buys panels
- Annual income for electricity paid from non-profit to individual (via PPA)
- 30% tax credit
  - *Only against passive income*
- ~31% savings in depreciation
  - *Only against passive income*
- Both can be fed forward 20 years
- ~5 year payoff time
- Panels donated to non-profit after payoff



# Solar on Non-Profit using LLC

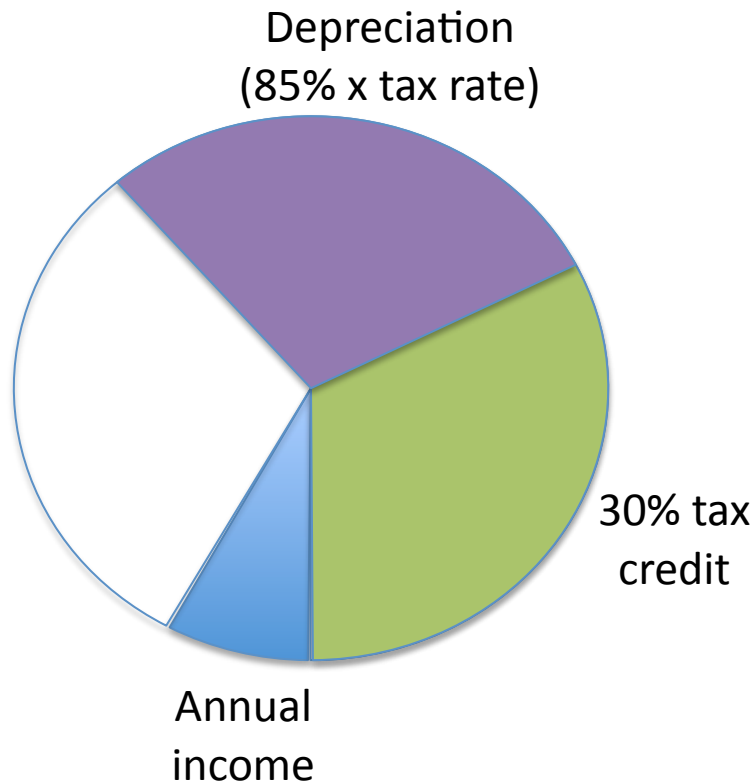


- LLC formed of individuals
- Annual income for electricity paid from non-profit to LLC (via PPA)
- All benefits pro-rate to individuals based on contribution
- 30% tax credit
  - *Only against passive income*
- ~31% savings in depreciation
  - *Only against passive income*
- Both can be fed forward 20 years
- ~5 year payoff time
- Panels can be donated to non-profit after payoff

# Pros/Cons

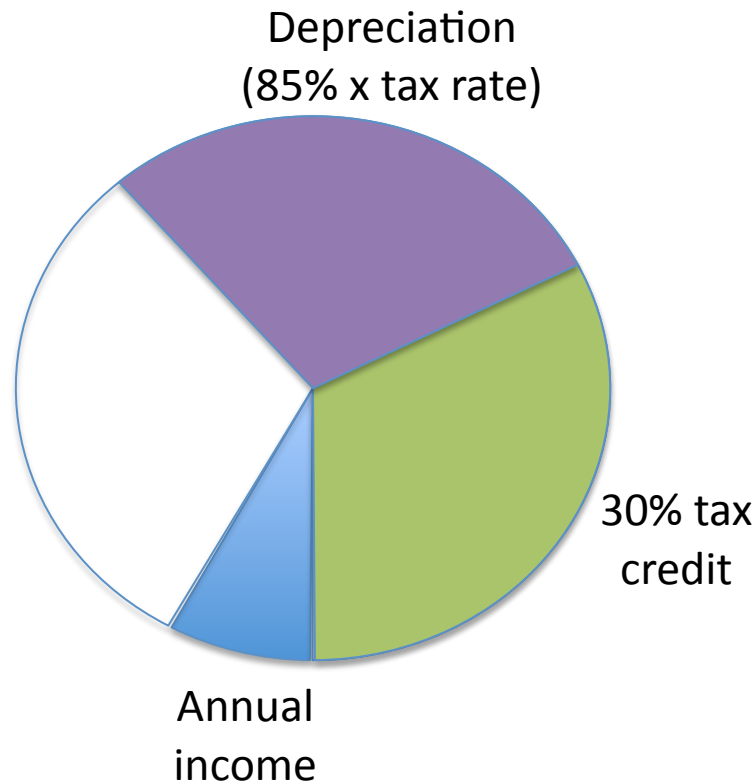
- The beauty of these two methods:
  - Solar on non-profit at no net cost to anyone
  - Non-profit never pays more than they are paying now for electricity
  - Investors get their money back in 5 years
  - Non-profit gets free solar panels in 5 years
  - Anyone with passive income gets the tax benefit
- Cons:
  - Requires passive income to work (could loan to someone who has passive income)

# Installer Solar



- Any entity whose business is solar can take tax credits on an installation (no matter where)
- Installer installs and owns panels (on any entity)
- Payment for electricity from customer to installer
- 30% tax credit
- ~31% savings in depreciation
- Both can be fed forward 20 years
- ~5 year payoff time

# Installer Solar using Loan



- Individual provides loan to installer
- Installer installs and owns panels (on any entity)
- Annual income of electric savings paid from customer to installer
- 30% tax credit
- ~31% savings in depreciation
- Both can be fed forward 20 years
- ~5 year payoff time
- Installer pays loan back to individual (can front-load payback due to 100% depreciation year 1)

# Commercial Solar Funding

- Many solar companies provide solar install at no upfront cost
- Suntribe/Secure Futures, Solar City, SunPower, REEL, etc.
- Payoff time longer since these are for-profit companies

# Success stories

- CDs with Virginia Community Capital for solar



# Installation at Norfolk Academy

- ~\$1M array using LLC of parents
- First building done
- Remainder to done this summer

# Advice

- Be patient – it took me six years to get this implemented at Norfolk Academy
- Make sure to work through a spreadsheet and timeline with your numbers
- Make the agreement as simple as possible
  - The more details you put in, the more things others will want to nail down, and the less trust there is
- Timing is important
  - Late year install will get tax credit sooner but have low initial production
  - Spring install will have high initial production but have to wait a year for tax credits



# What Can You Do

- Install your own solar
- Put solar on your favorite non-profit and get your money back in 5 years
- Form an LLC to solarize your favorite non-profit
- Encourage anyone you know with passive income to use this method to install solar
- Loan money to an installer to put in solar

# More Info

- <http://www.the-mcelroys.com/>
- <https://www.solarunitedneighbors.org/virginia/>
- <http://solarizeva.org>
- <https://solarpowerrocks.com/virginia/>
- <http://www.solar-nation.org/virginia>
- I can provide:
  - Template LLC
  - Template PPA
  - Email me at [rma@cox.net](mailto:rma@cox.net)



Questions?

