



EMFACTTM Introduction

Terri Goldberg

Northeast Waste Management Officials'
Association (NEWMOA)

September 2010

- What is EMFACTTM?
- What reports can EMFACTTM produce?
- EMFACTTM features
- How to get started?



- EMFACT™ is an acronym for **Energy & Materials Flow & Cost Tracker**
- Collaboration between :
 - Northeast Waste Management Officials' Association (NEWMOA)
 - Massachusetts Office of Technical Assistance & Technology (MA OTA)
- **Free** software tool
 - www.newmoa.org/prevention/emfact/register.cfm



EMFACT™ Team

Sponsors:

- NEWMOA
- MA OTA

Consultants:

- Sullivan International
- EMARIC

Funders:

- U.S. EPA ORD Collaborative Science & Technology for Sustainability Network
- EPA Region 2



Environmental Management Accounting or Materials Accounting enhances the ability of manufacturers & others to:

- **make decisions**
- **set priorities**

related to consumption of resources through tracking & analyzing their flow & associated costs



- Identify **priority chemicals** & examine opportunities for reductions
- Assist with **LEAN & green** - reducing waste & associated costs
- Addresses demands for greater **transparency** in supply chains
- Help implement **pollution prevention**
- Small & medium-sized firms have not had software tool for materials accounting



- A fully developed, **easy-to-use, & well-documented** energy, materials, chemicals, releases, & associated costs tracking & data analysis software tool
- Well-developed **training support materials** & a **user's guide**
- Online **downloadable free access**
- **Training**



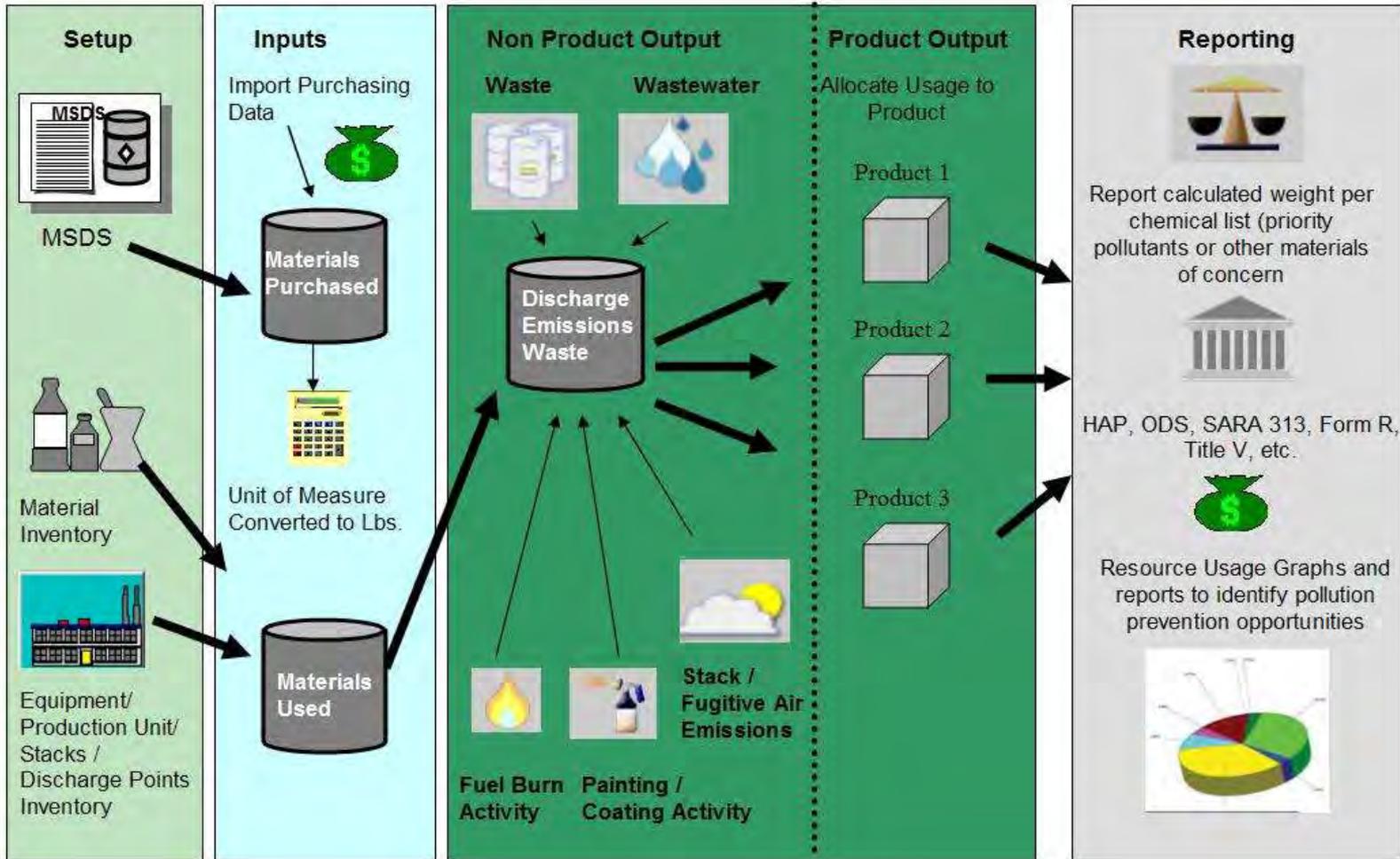
- In Phase 1 - designed to help users understand & analyze their materials (including water & fuels) & chemical use in one or more facilities
- Designed to help track fuels, (i.e., oil, natural gas, coal, or bio-based fuels); treats these material inputs the same as others



Phase 2:

- Enhance to enable users to track & evaluate use & purchasing of electricity & identify GHG emissions & reduction opportunities
- Seeking support for upgrades

EMFACT™ Design Concept





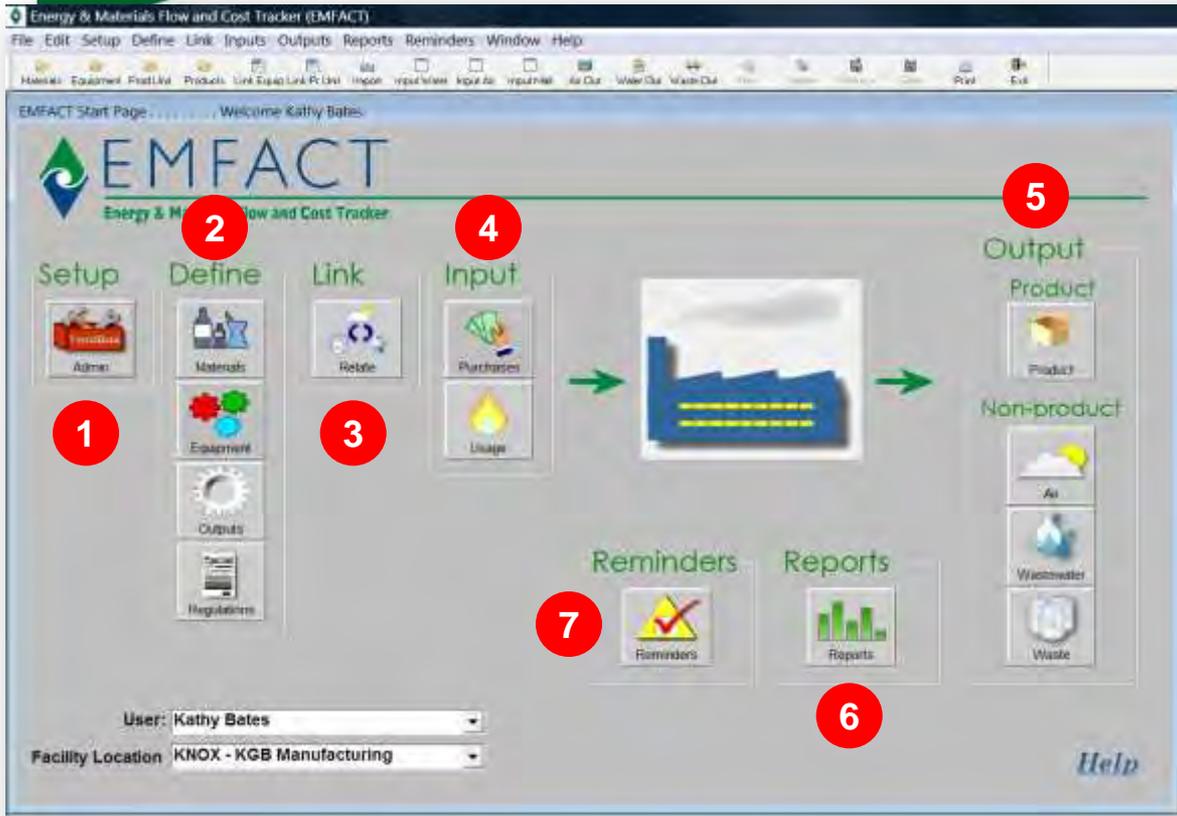
EMFACT - Procedure Flow

The Energy & Materials Flow and Cost Tracker (EMFACT) is an easy-to-use, well-documented tool to assist the small and medium size enterprise manage their fuel, water and materials usage. Using EMFACT, companies can track air emissions, wastewater, solid/hazardous waste, and related costs associated with the day-to-day operations of their business. Several reports are available to assist, along with a calendar to set up due dates and reminders.

The purpose of this document is to provide a high level overview of the entire EMFACT process. Refer to specific training and documentation for additional details.



NEWMOA EMFACT™ Dashboard



The EMFACT™ **Dashboard** displays seven distinct areas of functionality accessed via **icons** or **Toolbar** menus:

1. Setup
2. Define
3. Link
4. Input
5. Output
 - Product
 - Non-product
6. Reports
7. Reminders

EMFACT™ Toolbar





- Designed to enable data input & data analysis & reports based on equipment, production unit, or entire facility – maximizes **flexibility** depending on user interests & needs
- **Manages lists** of equipment, materials, & chemicals
- **Pre-populated** with numerous lists – focusing on federal regulatory lists & thousands of CAS numbers

- Includes **21 boiler plate reports** to help users track products, air, water, & waste
- Filters enable user to define report parameters
- **SEARCH** window enables searching by a variety of fields - output can be saved to Excel
- **Reports Procedure Guide:**
www.newmoa.org/prevention/emfact/ReportGuide.pdf

- Materials & chemicals **purchased & used** *per equipment, production unit, facility*; costs
- Materials & chemicals **purchased & used** *incorporated into **product vs. non-product** output*; costs
- Non-product output reports for air emissions, including 12- month rolling averages
- Water pollutant outputs as well as water usage
- Waste activity reports; grouped by waste type



- Mass Balance Reports available at many levels
- **Complex reports to generate** – need all inputs & outputs in same units (pounds)
- Helps user to ensure units are consistent & appropriate conversions are made
- Resource use efficiency graphs

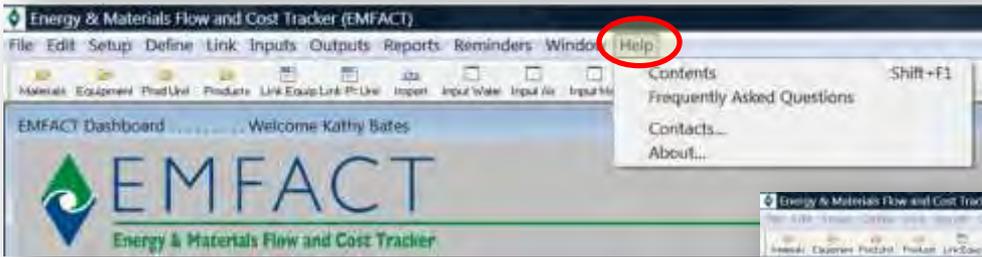
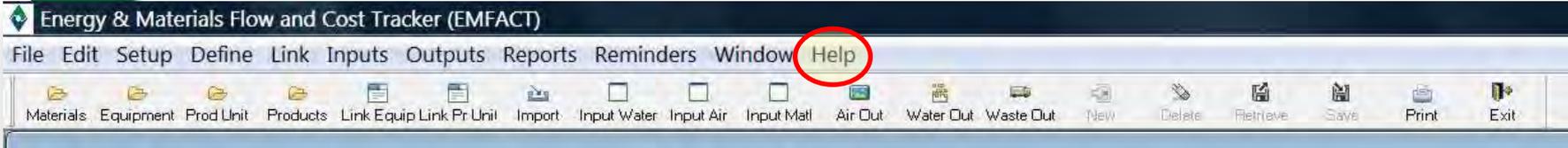


Lists of regulated chemicals:

- SARA 313
- Hazardous Air Pollutants (HAPs)
- Ozone Depleting Substances – Classes I & II
- Ability for users to add chemical lists

Reminders:

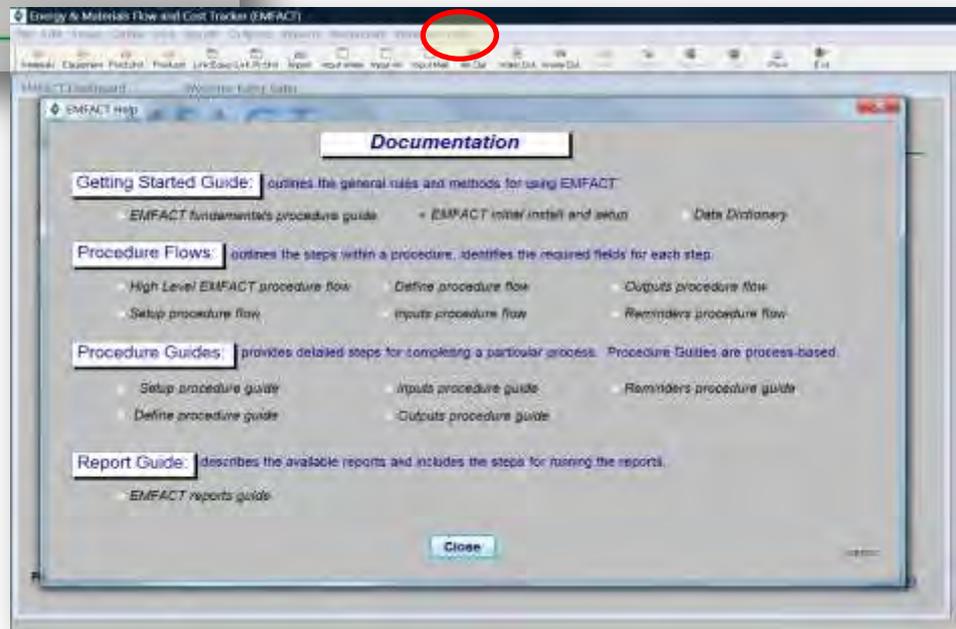
- Screens to list & describe **permits**
- **Calendar with event reminders** (e.g., permit renewal)



Example – “Contents” displays EMFACT™ documentation; click the button next to the documentation to view, print, or download (Adobe PDF)

Toolbar - Help

Help menu on the Toolbar provides access to various EMFACT™ help resources



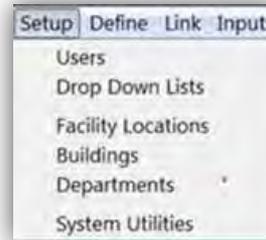
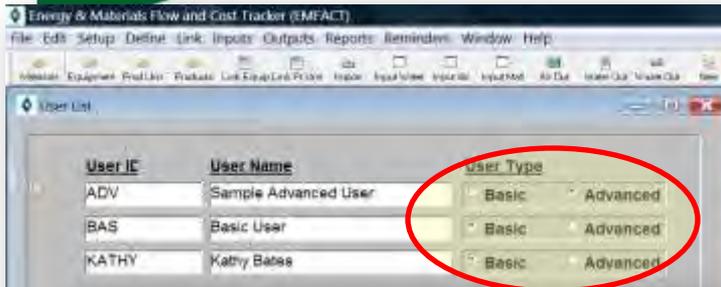


“**Cue Cards**” are provided for users to guide them through the logical series of tasks associated with EMFACT™ windows

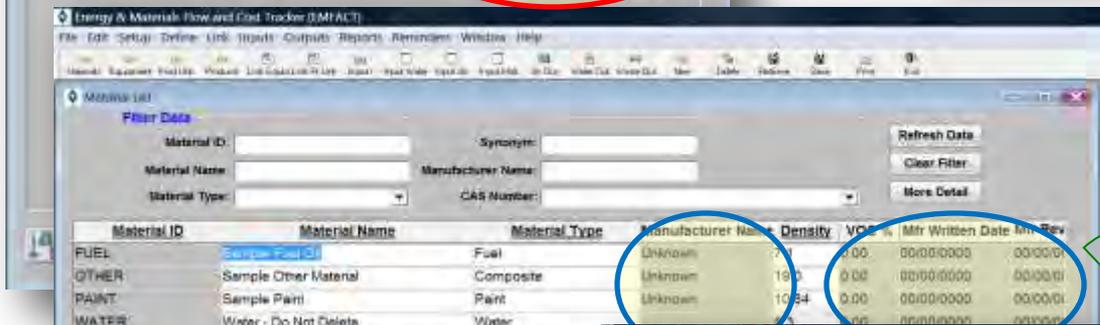
Cue Cards are displayed when users click a **dashboard** icon

To access a window **without** using Cue Cards, select the desired functionality from the **Toolbar** menus

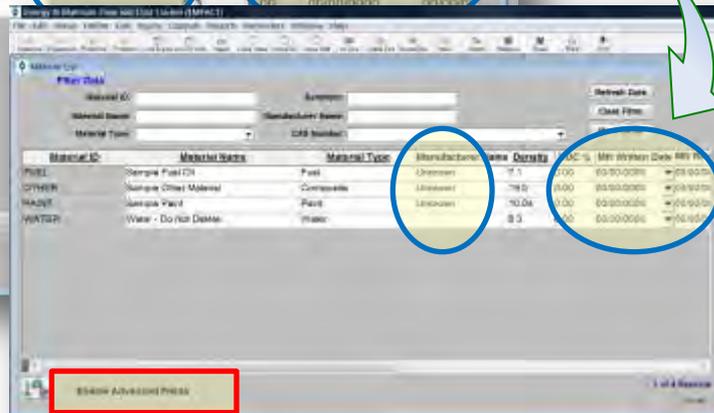
Each Cue Card contains a series of questions. Users click **Yes** or **No** to the questions. When answering **Yes**, the appropriate EMFACT™ window will display. If answering **No**, the prompt advances to the next question.



Access **Setup** → **Users** to indicate if a user has a **Basic** or **Advanced** permission level as a default



Advanced users have access to more data entry fields. **Basic** users default to less data entry fields



Click the **Enable Advanced Fields** checkbox and the additional data entry fields will change from gray to white

NEWMOA EMFACT™ Binoculars



Equipment Links for: EQ1000
Equipment ID: EQ1000 Name: Equipment 1000
Building: 1A Manufacturing Building
Location: Updated: 11/02/2000

Materials Products Air Source Emissions Air Factors Discharge Water Poll Waste

Material ID Material Name Material Type Manufacturer Name Active? Update Date

Search For Materials

Material ID: Material Name: sa
CAS: Chemical:
Mfr.: Trade:

Material ID	Material Name	Manufacturer Name
FUEL	Sample Fuel Oil	Unknown
OTHER	Sample Other Material	Unknown
PAINT	Sample Paint	Unknown

Don't Show Inactive Materials Number of Materi

Select This Material Search For Materials Save As Print Cl

Enter **Search Criteria** and click **Search for Materials**.

Records with matching criteria will be displayed.

Select the desired **Material ID** and click **Select This Material**.

Yellow Binoculars Button

Fields that are “searchable” will have the **Yellow Binoculars** icon next to them



Click the **Yellow Binoculars** icon. The appropriate Search window will open

Equipment Links for: EQ1000
Equipment ID: EQ1000 Name: Equipment 1000
Building: 1A Manufacturing Building
Location: Updated: 11/02/2000

Materials Products Air Source Emissions Air Factors Discharge Water Poll Waste

Material ID Material Name Material Type Manufacturer Name

PAINT Sample Paint PAINT Unknown

In this example, the **Search For Materials** window is launched



Energy & Materials Flow and Cost Tracker (EMFACT)

File Edit Setup Define Link Inputs Outputs Reports Reminders Window Help

Calendar Event List

Filter Data

Event Name: Due Date: > 00/00/0000 Refresh Data

Location: Reminder Date: > 00/00/0000 Clear Filter Data

Event Status: Open Recurring? No More Detail

Dept:

Due Date	Event No.	Site Code	Event Name	Event Location	Init Reminder	Final Reminder	Event St
03/21/2008	0000001	ABC	Permit Expiration for: 2008-0001		00/00/0000	00/00/0000	Open
03/12/2008	0000002	ABC	Permit Renewal Due for: 2008-0001		00/00/0000	00/00/0000	Open
03/05/2008	0000003	ABC	Permit Renewal Start for: 2008-0001		00/00/0000	00/00/0000	Open
03/31/2008	0000004	ABC	Permit Expiration for: 2008-0001		00/00/0000	00/00/0000	Open
06/30/2008	0000005	ABC	Permit Expiration for: 2008-0001		00/00/0000	00/00/0000	Open
09/30/2008	0000006	ABC	Permit Expiration for: 2008-0001		00/00/0000	00/00/0000	Open
12/31/2008	0000007	ABC	Permit Expiration for: 2008-0001		00/00/0000	00/00/0000	Open

Reminders Window Help

- Calendar Reminder List
- Calendar Reminder Details
- View Calendar Events Coming Due

Reminders

The **Reminders** feature enables users to track the renewal and expiration dates of permits, regulations, etc.

When permits and regulations are first set up, users have the option of entering the **Issue**, **Expiration**, **Renewal Due** and **Renewal Start Dates**

When this is done, EMFACT automatically creates calendar events and reminders

Users can also set up independent calendar events for other reasons (e.g., audit reminders, etc.)

Energy & Materials Flow and Cost Tracker (EMFACT)

File Edit Setup Define Link Inputs Outputs Reports Reminders Window Help

Materials Equipment Product Product Link Equip Link P/L Inv Input Input Water Input Air Input FMS Air Out Water Out Water Out Report Save Print Exit

Calendar Event Detail: 0000005

Event No.: 0000001 Site Code: ABC Due Date: 03/31/2008 Status: Open

Name: Permit Expiration for: 2008-0001 Location:

Desc:

Contact Person: BAS Basic User Last Update: 02/29/2008

Event Filename GO

Reminder

Initial Reminder Date: Responsible Department:

Final Reminder Date:

Recurring Event

Recurring: Yes No Frequency: of Occurrences: Event No.:

Create Recurring Events

Event No.	Event Name	Final Reminder	Due Date	Status
0000004	Permit Expiration for: 2008-0001		03/31/2008	Open
0000005	Permit Expiration for: 2008-0001		05/30/2008	Open
0000006	Permit Expiration for: 2008-0001		09/30/2008	Open
0000007	Permit Expiration for: 2008-0001		12/31/2008	Open

Reminders Window Help

- Calendar Reminder List
- Calendar Reminder Details
- View Calendar Events Coming Due

1 of 4 Records

Reminders

The Event Details

window provides a full screen view of all fields available to manage events



➤ Paint line example –

www.newmoa.org/prevention/emfact/PaintLineProdUnitExample_Sep08.pdf

➤ Training slides –

www.newmoa.org/prevention/emfact/EMFACTWorkshopIntrotoEMFACT.pdf

➤ All support materials –

www.newmoa.org/prevention/emfact/register.cfm

- Developing case studies
- Developing online e-learning
- Seeking funding for Phase 2 expansions & upgrades



- More on what is EMFACT™ –
newmoa.org/prevention/emfact/about.cfm
- Downloading (including registration) –
newmoa.org/prevention/emfact/register.cfm

Terri Goldberg

NEWMOA

(617) 367-8558 x302

tgoldberg@newmoa.org

www.newmoa.org

newmoa.org/prevention/emfact/